







# TRANSACTIONS

OF THE

TYNESIDE



NATURALISTS' FIELD CLUB.

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\* \* The Committee of the TYNESIDE NATURALISTS' FIELD CLUB  
beg to state that the authors alone are responsible for  
the facts and opinions entertained in their respective  
papers.

ADDRESS TO THE MEMBERS OF THE TYNESIDE  
NATURALISTS' FIELD CLUB,

DELIVERED AT THE FIFTH ANNIVERSARY MEETING, HELD IN THE  
COMMITTEE ROOM OF THE LITERARY AND PHILOSOPHICAL SOCIETY,  
NEWCASTLE, MARCH 22, 1851. BY DENNIS EMBLETON, Esq.,  
M.D., PRESIDENT.

GENTLEMEN,— Happily the President of a small republic of Naturalists is not liable, like the head of larger political commonwealths, to very serious stress of mind, either from the cares and labours of office, on the one hand, or from the harassings of an untiring and relentless opposition on the other.

The occupiers of this chair, at least, after having all enjoyed their position in harmony and peace, have hitherto retired, with considerable honor, amid the thanks of the constituency.

The chief duty, indeed, devolving upon your President, is that marked out by the 9th rule of our constitution; namely, "to provide, at the end of his term of office, an Address, containing a written summary of the proceedings of the Club, at the several Field Meetings; together with such observations, from himself, as he may deem conducive to the welfare of the Club, and the promotion of its objects."

At the end of this, our first Lustrum, I shall not be considered, I trust, as transgressing the spirit of that Rule, if I attempt, in addition to the customary report, a brief review of the whole of our past efforts, and of our present condition; and endeavour to find therein some grounds for our encouragement, some instructive indications for our future course.

In the first place, the reports of our Field and other meetings must be brought up to the present time.

At our last Anniversary, an evening meeting and six excursions were planned; but, unfortunately, the weather, on three of our Field days, proved so unpropitious, that the meetings were rendered either altogether, or very nearly abortive; whilst, on

the other days, no great success attended the researches of those ambitious of new discoveries. Altogether then, our Field Meetings, for the past year, make a sorry figure; yet I trust evidence enough is adducible to substantiate the assertion that, in the intervals of the meetings, both at Newcastle, and elsewhere, the Club has not unsuccessfully wooed both the Flora and the Fauna of the district.

OUR SECOND EVENING MEETING was held in one of the rooms of the Literary and Philosophical Society, on Thursday, the 4th of April, and was attended by many of our most influential and industrious members. The Rev. R. C. Coxe, Vicar of Newcastle, being called to the chair, a continuation of the papers by Ralph Carr, Esq., "On the Composite Names of Places, chiefly of Anglo-Saxon derivation," was read, in the absence of the author, by Mr. Storey. Mr. James Hardy presented to the Club a printed copy of his "Essay on Insects, injurious to the Turnip Crop," for which a vote of thanks was awarded to him. Two small papers were contributed by myself, "On the short Sun Fish," and "On the Old English or Black Rat." These were illustrated by prepared skins, skeletons, &c., and by drawings of the digestive and other organs, from the accurate pencil of Mr. Albany Hancock. Conversations on the subjects of the papers, and on other interesting topics ensued; afterwards Messrs. J. Taylor, jun., Gainsford Bruce, and W. Daggett, of Newcastle, were elected members.

On the 4th of May, at a Committee meeting, for making arrangements for the Field Meetings, and other business, the names of Messrs. W. Trueman, Durham; E. I. J. Browell, East Boldon; and M. W. Lambert, Newcastle, were added to the list of members.

THE FIRST FIELD MEETING of the year, was held at Stanley Burn, on Friday, the 17th of May; but the attendance of members on this excursion was thin. The weather proved sufficiently fine to allow of a pleasant ramble along the wooded, picturesque banks of the burn; towards evening, however, rain compelled the party to seek shelter at the small inn, near the Wylam station, where they frugally dined. The plants gathered on this occasion, were chiefly of the common species.

THE SECOND FIELD MEETING took place at Staward Peel, on

the 14th June, when nearly thirty members were present. The heavy rain, which fell during the greater part of the day, rendered any very extensive botanical or other investigation of this most interesting and famous locality impossible. The principal plants observed were the following:—*Cochlearia officinalis*, *Cerastium vulgatum*, *Vicia sylvatica*, *Hieracium murorum*, *H. prenanthoides*, *Taxus baccata*, *Habenaria viridis*, *Neottia Nidus-avis*, *Avena pubescens*, *Ophioglossum vulgatum*, *Botrychium Lunaria*, and *Asplenium Adiantum-nigrum*. Mr. Bold obtained examples of the following beetles:—*Omasus Orinomus*, on Langley Common, *Deliphium tectum*, *Megarthus depressus*, *Telephorus lituratus*, *Aplotarsus rufipes*, *Polydrusus cervinus*, *Apion subulatum*, &c. Mr. Thomas Belt took also a few *Lepidoptera*.

The majority of the party, on their return, followed the downward course of the romantic and rugged Allen, and all, drenched to the skin, hungry, and weary, gained, at dinner time, the hospitable Anchor Inn, at Haydon Bridge; where, I have heard, the wardrobes of both host and hostess were laid under contribution to furnish forth dry clothing, for the weather-beaten Naturalists.

The following members were elected:—The Revds. R. H. Baxter, M.A., Vicarage, Seaham; T. Finch, B.A., and W. T. Shields, Morpeth; and Messrs. Jos. Leithart, Thomas Belt, G. C. Warden, W. B. Scott, H. Smiles, Newcastle; Mr. Robert Vint, Sunderland; and Mr. A. S. Moffat, Bewick Folly, near Alnwick.

THE THIRD FIELD MEETING was at the Northumberland Loughs, on Friday, July 5th. The party, which was rather small, ascended from Bardon Mill, as on a former occasion, to Chesterholm; visited the Roman Station; the *milliarium*, still standing, as of yore, by the side of the ancient road, leading eastward from the station; and the collection of antiquities of the neighbourhood, preserved in the prettily situated residence of the late Rev. Anthony Hedley. They then proceeded onwards, climbing, successively, the minor ridges of outcropping strata, running east and west, till at length they gained the crowning line of basaltic crags, on whose sharp and jagged crest, stand ruinous fragments of the famous Roman Barrier. The northern perpendicular face of the crags, which shows well here and there the columnar form of basalt, forms a

secure dam for the waters flowing southward, from the northern waste of bogs and mosses. The rocky bases of the crags, the margins of the loughs or tarns, and the bogs in the vicinity were examined, but nothing new was met with.

The party returned, in detached groups, to a late dinner at Haydon Bridge, and elected the following members:—The Revds. S. B. Maughan, Morpeth; and J. M. Mason, Jarrow; Messrs. Thomas Gray, John Fenwick, Thomas Burnett, jun., and W. J. Hardcastle, of Newcastle; W. Depledge, Gateshead; A. S. Donkin, M.D., Morpeth; W. B. Ferguson, James Allison, jun., and H. Allison, Monkwearmouth; and Robert Brown, solicitor, Sunderland.

THE FOURTH FIELD MEETING, appointed to be held at Holy Island, July 24th, did not take place, owing to the unfavourable state of the weather. The next day fixed was the 7th of August, when eight members attended. They separated into two parties, one alighting at Belford, the other at Beal; the greater part of the Island, with the ruined Abbey and Castle, having been visited, some members passed over to St. Cuthbert's Island. On their return, a good fish dinner was done justice to, at a small Inn, on Holy Island, and the party regained the main land. Five of the number spent the night at Bamburgh, and next morning, having been kindly furnished with the necessary order from Mr. Smeddle, Steward at the Castle, took boat at North Sunderland, for the Fern Islands. Several of these were coasted, and the pinnacles, one of the outer group, and basaltic like the rest, were especially noticed for their peculiar tower-like character, and for their affording, to the Guillemot, secure breeding places. This pleasing excursion terminated the meeting. The usual plants were collected on Holy Island; and Messrs. P. Laws, East Heddon; J. Shield, jun., Stote's Hall; J. Salmon, South Shields; Matthew Brumell, M.R.C.S., Morpeth; C. Thompson, Jun., Winlaton; and B. Barkus, M.D., Gateshead, were elected members.

THE FIFTH FIELD MEETING, on the 16th of August, was at the Fourstones Station of the Newcastle and Carlisle Railway. The party, which was not large, proceeded at once to the elegant seat of Nathaniel Clayton, Esq., and were kindly conducted, by Mr. John Clayton, over the remains of his extensive Roman Cavalry Station

Cilurnum. The ruined Hypocaust ; Ærarium ; the foundations of the ancient bridge, over the North Tyne ; the situation of the Roman Cemetery ; and the bold and extensive outline of the Station itself, as well as the valuable collection of sculptured and inscribed stones, carefully preserved by Mr. Clayton, were all attentively noted. For an accurate account of this remarkable station, and its memorabilia, I would refer to the Rev. J. C. Bruce's interesting and erudite work, "On the Barrier of the lower Isthmus," recently published. From Chesters, the gratified party took their way over the Common, to Haughton Castle ; and after having examined the embattled gateway and exterior, were politely conducted over the interior, by the lady resident in that edifice. Without doubt this castle is one of the most curious specimens of mediæval architecture that can be seen. It impresses the spectator with the idea of its being an ecclesiastical edifice, encased within a feudal castle ; and, by modern hands, converted into a habitable and very delightful mansion. It would form an admirable study for any of our architectural or antiquarian members, and a good subject of a paper for our Transactions. Revolving in their minds the probable history of this castle, the party were ferried over the river to Barwesford, on their way to Gunnerton Crags, a minor outbasseting of the great whin-sill, and a continuation, to the north-east, of the range from Sewingshields, Crag Lough, &c. Here some rather good botanizing ground exists. Hence the party returned through Humshaugh to Fourstones, to dine, and to listen to the reading of an abstract of a paper by Mr. Albany Hancock and myself, on the anatomy of Doris, a Nudibranchiate Mollusk. The chief feature, in this paper, was the discovery of a sympathetic or ganglionic system of nerves in Doris and other Mollusks, and of other organs in Doris hitherto undescribed. The following plants were obtained during the day: *Dianthus deltoides*, *Geranium columbinum*, *G. lucidum*, *Spiræa Filipendula*, *Rosa rubiginosa*, *Scabiosa columbaria*, *Gentiana campestris*, *Origanum vulgare*, *Cynoglossum officinale*, *Allium vineale*, probably the var. *compactum*, and *Asplenium Adiantum-nigrum*. *Daucus carota* was found, in great profusion, in a field near Walwick Grange. The following new members were enrolled:—The Rev. H. B. Tristram, M.A.,

Castle Eden; Joseph Backhouse, Esq., Consett Hall; and G. W. Stable, Esq., Jesmond.

THE SIXTH FIELD MEETING was appointed to be held at Hartlepool, September 5th. The weather was wet, and only two or three members attended. They proceeded as far as Castle Eden, and there, being joined by one or two more, spent the day with the Rev. H. B. Tristram; walking in the dene, and examining Mr. Tristram's collection of rare birds, and enjoying his hospitality. Rowland Burdon, Esq., Castle Eden, was elected a member of the Club.

To Mr. Storey, our assiduous Secretary, and to Mr. Thomas Belt, I mainly owe the botanical part of the reports of our summer's excursions just concluded. To Mr. Storey, again, I am indebted for the following interesting communication, relative to the proceedings of our botanical friends, in the intervals of the meetings of the Club:—

“During the past year, very considerable attention has been paid to the botany of this immediate vicinity. Within a circuit of five miles, round Newcastle, the following species have been noticed, and the habitats recorded: *Ononis spinosa*, *Peplis Portula*, *Silene pratensis*; *Daucus Carota*, plentiful; *Pulicaria dysenterica*, *Lycopus Europæus*, *Mentha rubra*, Sm. *Potamogeton perfoliatus*, *P. pectinatus*, *Sparganium natans*, *Typha latifolia*, and, in considerable abundance, *T. angustifolia*; *Scirpus lacustris*, *Nasturtium terrestre*, and *Myriophyllum spicatum* have been met with near Blaydon; and, in Ravensworth woods, *Callitriche pedunculata*, DC. and *Quercus intermedia*, Don. both new to the Flora of Durham. By the side of the Team, *Scrophularia aquatica*, of luxuriant growth; some of the plants being about six feet in height. On the banks of the Blyth, about fourteen miles from Newcastle, I collected very beautiful examples of *Juncus maritimus*, and in the same locality, *Fœniculum officinale*, a species which had been introduced in ballast, was growing in great quantity. On the alluvial deposits of the Blyth, I observed, what will probably prove to be the *Zostera angustifolia*, Reich.; but, as the season appeared to be too far advanced for procuring fruit, the plant could not be, with certainty, determined.

On a short botanizing excursion, in company with Mr. Thornhill and Mr. D. Oliver, jun., *Stachys ambigua* was found near Lamesley. Mr. Oliver, who has this year discovered, in Ireland, a plant new to the Flora of the British Isles, the *Naias flexilis*, Rostk., has also detected, on the Town Moor of Newcastle, *Juncus diffusus*, Hoppe, a plant not hitherto known to grow in Northumberland.

In the month of August last, Mr. Joseph A. Marshall collected, in flower, near Scotswood, fine examples of *Utricularia vulgaris*. I subsequently visited the station, and found the plant in profusion. In the same month, Miss Clayton, of Chesters, very obligingly sent, for my inspection, a large example of *Bovista gigantea*, which was subsequently shown to some of our members. This fungus measured, in circumference 3 feet  $3\frac{2}{5}$  inch; in depth  $7\frac{1}{10}$  inch; and weighed 5lb. avoirdupois.

But it is not in this district only, that our Botanists have exerted themselves; during the past year, some, in the north of Northumberland, have not been idle. The following species, given on the authority of my friend Mr. George Tate, F.G.S., have recently been found, and, for the most part, in the neighbourhood of Alnwick:—*Ranunculus hirsutus*, *Hippurus vulgaris*, *Crepis succisæfolia*, *Serratula tinctoria*, *Melampyrum pratense*, *b. montanum*, Johnst., *Calamintha acinos*, *Neottia Nidus-avis*, *Juncus maritimus*, *Blysmus rufus*, *Scirpus maritimus*, *Carex muricata*, *Sesleria cærulea*. The particular habitats of these species will be named in the Floral list to be published in our Transactions."

Mr. Bold has kindly furnished me with the following note on the Entomology of the past summer:—"On looking over my journal, for 1850, I find that, from ill health, and an unfavourable season, I have very little to note. Owing to the cold and snow, in April and May, I did not collect, and it was not till the 2nd of June, that I saw any white butterflies; even so late as July 11th, I find a note to the effect, that the few flies, in the windows, appear to be half torpid with cold." Mr. Bold then enumerates the beetles taken at the Staward Peel meeting, which have already been given under that head, after which he proceeds—"In the latter part of June, and in the beginning of September, I got specimens

of *Zantholinus tricolor*, amongst vegetable refuse, and, on the 19th of July, caught a worn specimen of the Humming-bird, Hawk-moth (*Macroglossa stellatorum*) feeding on some verbenas in the garden, at Long Benton. Such is the very sorry account of my insect doings, in 1850. I can only hope that *better fortune* awaits me in 1851."

Mr. Alder has obtained from the stomach of a Codfish, at Cullercoats, a species of Cuttlefish, new to Great Britain. It is the *Sepia biserialis* of Verany, and probably synonymous with the *Sepia Rupellaria* of Ferussac, the bone or gladius of which was found a few years ago on the Irish coast.

Mr. Albany Hancock declares that only one other Mollusk has been caught in our toils.

On Ornithology, Mr. John Hancock reports that of the Fulmar (*Procellaria glacialis*, Linn.), a northern species, a fine specimen was found alive on the coast near Whitburn, on the 11th of October last, by William Hutchinson, fisherman. It was in a feeble state when obtained, and died the following day. That Mr. Charles Adamson, on the 28th of November last, shot, at Prestwick Carr, a female of the Gadwall, (*Anas Strepera*, Linn.) This is the first well-attested occurrence of this species in Northumberland.

THE THIRD EVENING MEETING, the final one of the year, was held yesterday evening, in the Museum of the Natural History Society. Though the weather was, unfortunately, again unfavourable, about the usual number of members attended, with several of their ladies. Close attention was given to another part of Mr. Carr's work, "On the Composite Names of Places, chiefly of Anglo-Saxon derivation," by which the value of such researches, both in a philological and æthnological sense was amply demonstrated. Mr. Storey read an abstract of his Paper on the Flora of our immediate vicinity, and also handed in a notice, by Mr. Albany Hancock, of the discovery of *Diphyllidia lineata*, an Infero-branchiate Mollusk, procured by the Rev. G. C. Abbes from the fishermen, at Whitburn. This animal has only, once before, been taken in the British Seas, namely, off the Shetland Islands.

Thanks were voted to Mr. Carr and to Mr. Storey for their valuable papers, and the members afterwards examined a beautiful

collection of *Algæ* and *Corallines* kindly offered for their inspection by Miss Errington. Numerous examples of dried British flowering Plants, and of British and Foreign Ferns, contributed by Mr. Daniel Oliver, jun., and myself, were laid on the tables. Several important illustrated works on Natural History, were exhibited, and a very agreeable Naturalist's Soirée was spent.

The annual report of our meetings having now been brought up, let us see what has resulted from our five years' association. The Club was founded in 1846, and since that time it has printed five parts of *Transactions*, forming a goodly volume of 438 pages, with eight copperplate. This volume, in addition to the account of the foundation, and the rules of the Club, notices of the various Field Meetings, included in the President's annual Addresses, list of Members, and Index, contains sixteen original Papers, and three Catalogues of certain portions of the Fauna of the district; namely, of the Mollusca; of the Insects, Part I., and of the Permian Fossils, with a notice of the Magnesian Limestone district. Of the sixteen Papers, ten are on Zoology, two on Botanical subjects, three on Geology, and one on local Glossology. Beside the above valuable contents, will be found sixteen abstracts or notices only, of other interesting communications on various branches of Natural History.

Over and above this printed Volume, the Club has in hand, ready for the press, a further large portion of the Catalogue of Insects, and the following papers, namely:—

Parts II. and III. of the local Glossology.

Abstract of a Paper on the Anatomy of Doris.

On the short Sun Fish.

On the Old English or Black Rat.

An Enumeration of Plants growing within five miles of Newcastle.

Notice of the discovery of the Mollusk, *Diphyllidia lineata*.

These, with the present Address, will probably occupy, of our second volume, two parts, the printing of which will come under the consideration of a Committee; but it is to be hoped, that ere long, they will be in the hands of our members.

It is due to the kindly feeling of one of my predecessors in this Chair, that I should here mention his handsome offer of bearing

the expense of printing the second part of his paper, "On the Composite Names of Places," &c. This timely aid in our present temporary financial debility, I am sure, the Club will duly appreciate, and accept, from Mr. Carr, with an unanimous and cordial vote of thanks. And now that we are escaping our early difficulties through such liberality, and the increase of subscriptions, let us and other young Clubs remember, and let older and more influential and dignified societies recollect, that one great means of adding to our usefulness is to keep our finances free from embarrassment.

From what has been already said, it will appear that, considering our members are, with few exceptions, engaged in professional or commercial affairs, and our district has been previously explored by many able Naturalists, there has been no lack of contributions to our *Transactions*. Let us, in the next place, ascertain the quality of these contributions, and how they stand the test of public criticism?

The *Literary Gazette*, of December 14, 1850, after dwelling on the delight of social Natural History excursions, and holding up Newcastle as a model for the interest she has long taken in Natural History, ends an interesting article thus, "We cannot but here offer our thanks to the Tyneside Club, for the very agreeable and useful volume which this fifth part concludes. Like its forerunners, it contains matter popularly interesting and scientifically valuable, and we venture to say that these *Transactions* will occupy an important position in the Natural History literature of our country. We need not say to the Club, go on, we are sure they will, and that they will kindle a spirit of love to science, which will continue in the district in which they now meet. But we say to others, do likewise. Manchester, Liverpool, Birmingham, Leeds, Sheffield, what are you doing? Forget not, amid the smoke and hubbub of your machinery and commerce, that the making of clothes and tools is not the only end for which man was ordained. Around you, on every side, are the sea, the rivers, the hills, the fields, all teeming with beauty, which to understand and to appropriate will be to refresh you, and to fit you better for the toils and cares of those pursuits which now—for the want of breathing time,

and of hours to feel and know that there are things higher and better than those which so entirely engross you—threaten to crush and destroy the nobler and better faculties of your souls.”

The *Botanical Gazette*, for the present month, contains the following notice of our *Transactions*. “The present part concludes the 1st vol. of these Transactions, which contain Papers of a high character. There is little in this portion relating to Botany, almost all the memoirs being Zoological, still, in a sketch of the doings of the past year, we see that the botanical members are not inactive; and we have but to repeat the good wishes we have expressed towards the Club on a former occasion, and again to hold it up as an example to Naturalists in other parts of the country.”

The *Phytologist*, for February last, compliments the Club by claiming to be “the first periodical that invited the attention of Naturalists to the published *Transactions* of this energetic and praiseworthy band of Naturalists, and, at the same time, ventured to hold up the example to observers in other parts of the country, and to express his humble opinion that it was worthy of all imitation.”

In these extracts, and I will not recall past eulogies which have been reported to you on each anniversary, we find sufficient evidence that the labours of the Club have not been devoid of value; sufficient assurance that they have not gone unappreciated; and sufficient stimulus to urge us on to more frequent and persevering, and, therefore, it is to be hoped, more successful efforts in the delightful study of those elevating sciences, which we are banded together to cultivate. Let us endeavour that the high and spontaneous encomiums bestowed upon our first, be better merited in every succeeding volume.

But, Gentlemen, let us apply another and more searching test to our *Acta*. How far have we really carried the landmarks of our local science beyond their old position? How many species of living animals and plants have we added to the lists of five years ago? What geological or antiquarian discoveries have we achieved? Through the kindness of my friends around, I am enabled to give distinct categorical answers to those questions.

ANIMAL KINGDOM.—In the vertebrate Sub-Kingdom, no Mam-

mals new to the district have been found ; one, however, the black Rat, which was thought to be extinct, has been noticed as still occurring in it. Four species of Birds, new to the two counties, are enumerated; namely, the Thrush Nightingale (*Sylvia turdoides major*), the Fulmar (*Procellaria glacialis*, Linn.), the Gadwall (*Anas strepera*, Linn.), and the White Stork (*Ciconia alba*, Linn.); the first of these is new also to Britain.

One Reptile, new to the district, the Red Viper (*Coluber Chersea*) has been recorded. Of Fishes, the Black Fish (*Centrolophus Pompilius*) is new to our coasts. The Ribbon Fish (*Gymnetrus Banksii*) was at first thought to be new, but further research has shown that it is occasionally found. The short Sun Fish (*Orthorogiscus Mola*), though not new, is comparatively rare; but has been, with the Ribbon Fish, newly described.

In the Molluscan Sub-Kingdom, Messrs. Alder and Hancock report sixty species, of which nineteen are altogether new to science, seven, new to Great Britain, and thirty-four new to our district.

In the Articulate Sub-Kingdom, Messrs. Hardy and Bold, besides "a century of unrecorded Coleoptera," declare a return of new Insects so large, and yet so indeterminate, owing partly to the absence of previous lists, that I am compelled to omit this class altogether in the enumeration. Of Crustacea, two species, new to the district, have been pointed out by Mr. Richard Howse, jun.; and Mr. Albany Hancock has done us the honour of introducing to our notice, an entirely new order of Articulata, belonging to the class Cirripedia; the order he has named *Cryptosomata*, and the new animal, the only representative of the only genus, *Alcippe Lampas*.

In the Radiate Sub-Kingdom, Messrs. Alder and Hancock report the acquisition of six species new to science, and one new to Durham and Northumberland. Of Sponges, according to Mr. Albany Hancock, four species altogether new, and one new to the coasts of our two counties, have been discovered; they belong to the singular and almost altogether new group of "boring sponges."

VEGETABLE KINGDOM.—Our indefatigable Secretary, Mr. Storey, informs me of six species of plants, new to our limits, discovered by himself; four added by Mr. Daniel Oliver, jun.; one by Mr. John

Thompson; and one by Mr. George Tate. These twelve new species belong to the seven following natural Orders, viz:—to Hypericaceæ, one; to Leguminiferæ, one; to Haloragææ, three; to Amén-tiferæ, one; to Fluviales, four; to Juncaceæ, one; to Filices, one. Besides these discoveries, many new Habitats of our rarer plants have been added by the above named gentlemen. Hence our local Botany has been materially advanced.

Thus, then, I am enabled to state, that, during its five year's existence, the Tyneside Naturalists' Field Club has contributed to our Zoology, one new Order, and eighty Species, of which twenty-nine are new altogether; eight new to Great Britain; and forty-three new, within the range of our researches; and it must be borne in mind that in this summary, the Class of Insects is omitted, since no definite report of the numerous discoveries of Insects, has been received.

To our local Botany, the Club, as above stated, has contributed twelve new species.

In general Geology, it must be confessed that our observations have fallen short of discovery; nevertheless, the Club has made itself more or less familiar with several of the most important features of the two counties; thus, the neighbourhood of Shotley Bridge, and of Allenheads, in which the lower members of the Carboniferous series are well seen, have been explored. Mr. Hutton, in the former locality, having kindly acted as our chief informant; Mr. Sopwith, in the latter, having been our instructor and hospitable entertainer.

At the former place, the Mountain Limestone, the lowest member of the Carboniferous group, covered first by the Millstone Grit, there of great thickness, and next by the lower strata of the true Coal Measures, was, with its concomitants, well observed in section, along the banks of the Derwent. In this district, both coal and lead are wrought, the latter even in the Millstone Grit.

At the latter locality, was found again the Mountain Limestone, with its metalliferous veins; but thrown up here to the west, by the Burtree-Ford Dyke, which runs nearly north and south, and bounded to the north by the Great Stublick Dyke, which, running nearly east and west, throws down the Coal Measures to the north.

On the visit to Allenheads, through the kindness of Mr. Sopwith, the various processes of lead-mining, washing, and smelting, and the extraction of silver from the lead, were witnessed in full operation.

The Club has also examined the rock which lies, in succession, immediately over the Coal Measures; namely, the Magnesian Limestone, or Permian system, of Murchison. The peculiarities of this system, near Cullercoats, where it is thrown down to the north by the great ninety fathom Dyke, were remarked. The capping of the Coal Sandstones, by this system, at Tynemouth-Castle cliff, and the endless modifications of form, assumed by the Magnesian Limestone, were examined and admired, in a delightful walk from Marsden Rock to Roker, near Sunderland.

Lastly, the course of the Great Whin Sill, the ancient grand disturber of our strata, where it basets out in the irregular range of Crags, from Thirlwall to Gunnerton, has been travelled over during different excursions, and the extreme north eastern end of this singular basaltic stratum, which Mr. Hutton (*Trans. Nat. Hist. Soc. Durh. and Northd.*, vol. ii.) has traced and lucidly described for 100 miles—from Westmoreland to Holy Island—has also claimed our attention at “the castled crags” of Dunstanborough and Bamborough, and at the Fern and Holy Islands. The metamorphic action of the basalt upon the Mountain Limestone, which accompanies the basalt throughout its above mentioned course, has been both described in his geological paper, in our volume, and demonstrated personally to the Club, by our respected fellow member, Mr. George Tate, of Alnwick. The Mountain Limestone has also been touched upon by Mr. Loftus, now on the government surveying expedition in Persia, in his paper on “Diluvial Action,” as seen near Belsay.

And here, I believe, I shall be acting in accordance with the feelings of our entire Society, if I express publicly that we are under great obligations to our esteemed friend, Mr. John Thompson, whose self-acquired, extensive, and accurate knowledge of the Botany, Geology, and Antiquities of our district, particularly of the Tyneside, has been, in the kindest manner, at the service of all.

In Antiquities, the only branch which has, as yet, shown proof

of cultivation at our hands, is that in which Mr. Carr has laboured, namely, the study of the remains of the old languages of the North of England, with a view of advancing the science of Philology, by the construction of an Archaic and Orthographical map of North-umberland; a work which will have a peculiar interest and value.

It now only remains for me to bring into one short review the names of those places, all of them famous, at least, in local story, at which, in our wanderings, we have not unthoughtfully lingered, or by which we have not unregretfully passed. Thus the Roman Wall has been traced from the North Tyne to the Tippald, and its stations of Cilurnum, Procolitia, Borcovicus, Vindolana, Æsica Magna, and Amboglanna, and their intermediate castra, explored. Thus we have viewed the romantic Peel of Staward, the Castles of Thirlwell, Langley, Haughton, and Hexham, with its venerable Abbey; Dilston, Prudhoe, and others, each contributing its own interesting portion to the mass of historic associations that crowd the dale of Tyne. Thus we have seen the ruins of Morpeth, Bothal, and Mitford Castles, and Newminster Abbey, on the Wansbeck; and the dilapidated remains of Dunstanborough and Warkworth. We have visited, too, the restored strongholds of Alnwick and of Bamborough, now the abodes of wealth, learning, and charity. We have, moreover, rambled in kindly sociality, and with mutual instruction, through the sylvan and picturesque scenery of Gibside, and of the delightful denes of Castle Eden, Dipton, Hazleden, Horden, Ryhope, and Whittle. We have, lastly, been down to the swampy basin of Prestwick, of ornithological fame, and ascended to the heights of the rainy but beautiful and health-giving Gilsland.

I have now laid before the members of the Club, I trust, sufficient extrinsic evidence of our having hitherto followed a good path; and I congratulate them that, at least in the account rendered of their discoveries, ample intrinsic proof has been adduced that their labours have not been hitherto in vain; and yet it must not be concealed that the Club is in reality numerically weak in workers; for the number of discoverers and other contributors to our stock of papers is only about the tenth part of the the whole number of members, namely, 150.

Let us now turn our attention to the future, and see what lies before us to be done. I find that at the first general meeting of the Club, in May, 1846, there was passed a resolution—"That collections of specimens of the Natural History of the district be formed, and placed, with the consent of the Natural History Society, in their Museum; and that such collections shall become the property of that Society. Further, that the Club undertake the formation and publication of correct lists of all the natural productions of the district, with such observations as their authors may deem necessary. Also, that a succinct account of the Geology of the district be formed."

The collections contemplated have not yet been systematically begun. In the Animal Kingdom, the Catalogue of the Vertebrata is still wanting, but that of the Mollusca, by Mr. Alder, has been for some time in print. Then, as Messrs. Hardy and Bold's list will only comprise Insects, the remaining classes of the Articulata require to be taken in hand. The list of Radiata, also, is not yet drawn out. It is also desirable that some investigation of the Infusoria should be commenced, an important group of microscopic organisms, which are now being partitioned out as germs of Vegetable or animal existences, or classed as complete forms among the lower sub-kingdoms of the animal scale.

To Mr. Storey the list of plants has been confided, and already a large amount of time and labour expended, has enabled him to make good progress in its formation.

It is matter of great regret, that whilst our local systematic Botany has been fast advancing towards its culminating point, the now highly important sciences of Botanical Anatomy and Physiology should have found in our Club only a very small number of cultivators. Let us confidently anticipate that at the end of our second Lustrum the number will be found largely increased.

The Permian system, of Murchison, is the only part of the Geology of our district which has been described at length.

Unquestionably the fossil Flora—too much neglected since the publication of Lindley and Hutton's work in 1831-37—and the fossil Fauna, too, though less rich, will yield a plentiful geological harvest.

Let us believe, in the last place, that our Antiquarian brethren of the Club will not long withhold the interest that would largely accrue to our *Transactions*, from their important contributions, extracted from the relics of the successive occupiers of our territory.

Such, gentlemen, is our past progress, such our future work. Let us now, in conclusion, glance at the great ends we have in view, and the ways and means employed in their attainment. The Student of Natural History does not go forth merely to enjoy a healthful summer day's ramble over hill and dale, or to pick up isolated scraps of information about plants and animals; but to amass stores of well-digested knowledge, to be turned to the material benefit of his kind, and to search into the truth of nature; to be enabled to demonstrate the ways of God to man, and thus to promote the glory of God, and to contribute to the good of man.

Every discovery of a new mineral, vegetable, or animal, or of a new organ in any living being, is a step, however small, towards these great results; even the verification, by the tyro, of any new item of science may be said to help us on in the same direction.

The cultivation of our scientific field demands various implements and processes, and requires all possible aids and appliances. Our excursions bring us at once face to face with nature, and then come to the help of the eye and hand, in their multifarious research, the hammer, the pick, the spade, the net, the dredge, the knife, the vasculum. Much is thus obtained, both of matter and knowledge; and these might, perhaps, be turned to greater general profit in Zoology and Botany, than has hitherto been the case, by somewhat curtailing the extent of our day's wanderings, and providing for the giving of some explanatory *viva voce* address, at any convenient time, during the ramble, or at any place which, from the peculiarity of its characters and productions, might seem to require it. Such notices of Geological features have already been given with great benefit to the Club. Much more, however, of information remains to be extracted from the day's collection, when we reach home; for we are not field Naturalists exclusively. The specimens are to be carefully examined, compared, classified, and preserved; new forms, organs, or tissues are to be carefully studied, now with the unaided eye, now with the

potent help of the microscope, or by the assistance of mechanical or chemical means, the processes involving much time, labour, and thought.

The internal structure, as well as the external form and properties of natural bodies, claims our investigation; a knowledge of both is required to enable us to understand the adaptation of the creature to the world around it, and to determine its true position in the scale of life; the former is more important indeed, than the latter, and is that which more particularly characterizes the organism, and on which its properties and manifestations mainly depend. It is a much easier task to assemble and group living animals according to external characters only, and in that path undoubtedly much of detail has been successfully worked out; but the masters of Natural History have, ever since the great enunciation, "the blood is the life," betrayed their consciousness of the high value of internal structure as a basis of classification.

Aristotle arranged all animals as *Anaima* or *Enaima*, or those with and those without blood: after his time it was found more in accordance with nature, to class, under the former of these names, the animals with colourless blood, and under the latter those with red blood. The genius of Lamarck seized upon the vertebral or spinal column, as a standard, and, at once, the whole of the animal scale stood ranged in two great sub-divisions.

Cuvier more recently perceived the paramount importance of the nervous system, and this enabled him to divide Lamarck's *Invertebrata* into three sub-kingdoms.

Since the time of Lamarck, Cuvier, and Hunter, the importance of the internal structure of animals has been more fully acknowledged, and hence our science has progressed with increasing rapidity. The ignorance of the necessity of the combined study of internal structure and external character continues however, up to the present time, to be evidenced by the hosts of imperfect arrangements which have been promulgated to the confusion and despair of the student, and which are monuments of human ingenuity and impatience. It must, however, be a source of pride to us that the true method of study has been so clearly and so successfully illustrated as it is in the first volume of our *Tran-*

sactions, and especially by the admirable article on "the Fresh Water Bryozoa."

Repeated and well verified observation of both interior and exterior, must be followed by correct reasoning and careful deduction, and the results recorded by faithful delineation and clear description; and we shall be gratified in finding that, healthful and instructive as our field excursions undoubtedly are, the consequent closet studies are more productive of the finer results of science, and more prolific of those higher and purer enjoyments which surely flow from the proper investigation of the unknown things of nature; and thus shall we hope to keep alive, along the banks of our busy Tyne, that love and that study of nature which have long, and not undeservedly, been attributed to the inhabitants of Newcastle.

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Mr. Carr read the concluding part of his paper on the "Composite Names of Places"; after which the following gentlemen were elected members:—George Robinson, M.D., Eldon Square; Capt. Moody, R.E., Carlton Terrace; Mr. J. B. Falconar, jun., Picton House; Mr. Frederick J. Peck, 12, Brandling Place; Mr. G. B. Richardson, Clayton Street; Mr. G. A. Hutton, Bigg Market; Mr. James Forster, Sedgwick Place, Gateshead; Mr. Thomas Stephens, M.R.C.S., Dockwray Square, North Shields; Rev. Joseph Depledge, Chester-le-Street; and Rev. Cuthbert John Carr, Witton Gilbert.

The days and places for the Field Meetings were fixed as under:—

<i>Friday,</i>	<i>May 30th,</i>	<i>.....</i>	<i>Bywell and Riding Mill.</i>
<i>————</i>	<i>June 20th,</i>	<i>.....</i>	<i>Durham and Finchale.</i>
<i>Wednesday,</i>	<i>July 23rd</i>	<i>.. ..</i>	<i>Allenheads.</i>
<i>————</i>	<i>Aug. 20th,</i>	<i>.....</i>	<i>Staward Peel.</i>
<i>Friday,</i>	<i>Sept. 12th,</i>	<i>.....</i>	<i>Roker and Whitburn.</i>
<i>————</i>	<i>Oct. 3rd,</i>	<i>.....</i>	<i>Corbridge and Stagshaw</i>

The under-mentioned gentlemen were appointed office-bearers for the ensuing year:—

## PRESIDENT.

ROBERT INGHAM, Esq.

## VICE-PRESIDENTS.

DENNIS EMBLETON, M.D.

MR. WILLIAM KELL.

REV. J. F. BIGGE, B.A.

## TREASURER.

MR. THOMAS BURNET.

## SECRETARY.

JOHN STOREY, F.B.S.E.

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REV. G. COOPER ABBES, B.A.

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MR. T. J. BOLD.

MR. R. Y. GREEN.

MR. GEORGE TATE, F.G.S.

MR. ROBERT CURRIE.

MR. EDWARD MATHER.

MR. THOMAS JEFFERSON.

MR. D. OLIVER, JUN.

I.—*A Catalogue of the Insects of Northumberland and Durham*  
(Part ii.) By JAMES HARDY, and THOMAS JOHN BOLD.

[Presented, at the Anniversary Meeting, March 1, 1850.]

STIRPS 3. BRACHELYTRA, *Latr.*

FAMILY 1. STAPHYLINIDÆ, *Leach*,\*

SUB-FAMILY 1. STAPHYLINIDES, *Mannerheim.*

SECTION 1. STAPHYLININI GENUINI, *Erichson.*

119. STAPHYLINUS, *Linnæus.*

SUB-G. CREOPHILUS, *Kirby.*

1. S. MAXILLOSUS, *Linn.*

*Gyll. Ins. Suec.*, ii., 279.—*Erichson, Gen. et Spec. Staph.*, 348.—*Hardy, Ber. Club Proc.*, ii., 235.—*Creophilus maxillosus, Steph. Illust., Mand.*, v., 202.

Abundant in carcasses, &c., and on the coast under decaying sea-weed.

SUB-G. TRICHODERMA, *Stephens.*

2. S. NEBULOSUS, *Fab.*

*Gyll. Ins. Suec.*, ii., 282.—*Steph. Illust., Mand.*, v. 204.—*Erichson, Gen. et Spec. Staph.*, 360.—*Trichoderma nebulosum, Steph. Manual*, No. 3051.

Rather rare: "Twizell."—*P. J. Selby, Esq.* Long Benton and Jesmond, in May; and in Fungi at Gibside, in September.—*T. J. B.* Winlaton Mill and Marsden, in June.—*J. H.*

According to Mr. Westwood, *Trans. Ent. Soc. Lon.*, iv., 45, this, and not the following species, is the *Staphylinus murinus* of the Linnæan cabinet.

3. S. MURINUS, *Fab.*

*Gyll. Ins. Suec.*, ii., 283.—*Steph. Illust., Mand.*, v. 205.—*Erichson, Gen. et Spec. Staph.*, 361.—*Trichoderma murinum, Steph. Manual*, No. 3052.

Rare: "Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.* Gibside, in June.—*J. H.* Mr. John Hancock has also specimens taken within the district.

\* By J. Hardy.

4. *S. PUBESCENS*, *De Geer*.

*Gyll. Ins. Suec.*, ii., 284.—*Steph. Illust., Mand.*, v. 205.—*Curt. Brit. Ent. pl.*, 758.—*Erichson, Gen. et Spec., Staph.*, 372.—*Hardy, Ber. Club Proc.*, ii., 235.—*Trichoderma pubescens, Steph. Manual*, No. 3053.

Of frequent occurrence. Black Fell.—*Mr. A. Hancock*. Gosforth, Long Benton, Ravensworth, Gibside; and very common on the sea-coast near South Shields, Marsden, and the vicinity of Hartlepool, in April.

It feeds upon Aphodii, Tachini, and other coprophageous insects.

## SUB-G. STAPHYLINUS.

5. *S. CÆSARIUS*, *Cederheim*.

*Erichson, Gen. et Spec. Staph.*, 378.—*Heer, Fn. Col. Helv.*, i., 250.—*Staphylinus erythropterus, Gyll. Ins. Suec.*, ii., 293.—*Steph. Illust., Mand.*, v., 205.

Rare: "Twizell."—*P. J. Selby, Esq.* Gibside, and near Bensham.—*J. H. Woods* above Gibside.—*T. J. B.* June.

6. *S. ERYTHROPTERUS*, *Linn.*

*Erichson, Gen. et Spec. Staph.*, 377.—*Heer, Fn. Col. Helv.*, i., 251.—*Hardy, Ber. Club Proc.*, ii., 236.—*Staphylinus castanopterus, Grav. Micr.*, 10.—*Gyll. Ins. Suec.*, ii., 295.—*Steph. Illust., Mand.*, v., 206.

Not unfrequent. "Twizell."—*P. J. Selby, Esq.* Black Fell.—*Mr. A. Hancock*. Dunston, Bensham, Gibside, Gateshead Fell, Ravensworth, &c.

It usually appears in May, but in the Ravensworth woods, it has occurred under bark as early as January 27.

7. *S. STERCORARIUS*, *Oliv.*

*Gyll. Ins. Suec.*, ii., 296.—*Steph. Illust., Mand.*, v., 206.—*Erichson, Gen. et Spec. Staph.*, 380.—*Hardy, Ber. Club Proc.*, ii., 236.

"Twizell."—*P. J. Selby, Esq.* Newcastle.—*Mr. Albany Hancock*. Sunderland.—*Mr. W. Peacock*.

8. *S. LATEBRICOLA*, Grav.

*Erichson, Gen. et Spec. Staph.*, 382.—*Heer, Fn. Col. Helv.*, i., 252.—*Hardy, Ber. Club. Proc.*, ii., 236.—*Staphylinus æriceps, Steph. Illust., Mand.*, v., 206.

Taken at Twizell by *P. J. Selby, Esq.*

120. *OCYPUS*, Kirby.

SUB-G. *GOËRIUS*, Leach.

1. *O. OLENS*, Müll.

*Erichson, Gen. et Spec. Staph.*, 405.—*Hardy, Ber. Club Proc.*, ii., 237.—*Staphylinus olens, Gyll. Ins. Suec.*, ii., 286.—*Goërius olens, Steph. Illust., Mand.*, v., 208.

Common on the sea coast, and elsewhere, especially in autumn.

2. *O. BRUNNIPES*, Fab.

*Erichson, Gen. et Spec. Staph.*, 410.—*Hardy, Ber. Club Proc.*, ii., 237.—*Staphylinus brunnipes, Gyll. Ins. Suec.*, ii., 289.—*Steph. Illust., Mand.*, v., 207.

Not uncommon. "Twizell."—*P. J. Selby, Esq.* Prestwick Car, Long Benton, Boldon, Marsden. April—August.

3. *O. FUSCATUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 411.—*Hardy, Ber. Club Proc.*, ii., 237.—*Staphylinus morio, Gyll. Ins. Suec.*, ii., 228.—*Goërius Morio, Steph. Illust., Mand.*, v., 209.—*Staphylinus Cantianus, Kirby, Steph. l.c.*, v., 207.—*Goërius confinis, Kirby, Ib. l.c.*, v., 211.—*Staphylinus semipolitus, Holme, Trans. Ent. Soc. Lond.*, iii., 118.

Rare: In decayed wood, near Axwell Park, and on the sand links near South Shields.—*T. J. B.* Under stones near Marsden.—*J. H.* April.

*Staphylinus punctulatus*, of Marsham, cited in the Berwickshire Club's Proceedings, after Gyllenhal and Erichson, as a synonyme of this species, appears rather to be *Ocypus similis* of Fabricius.

4. *O. CUPREUS*, Rossi?

*Erichson, Gen. et Spec. Staph.*, 412?—*Heer, Fn. Col. Helv.*, i., 255?—*Staphylinus acneocephalus, Steph. Illust., Mand.*

v., 207 ?—*Wils. and Dunc, Ent. Edinensis*, 311 !—*Ocypus picipennis*, *Hardy, Ber. Club Proc.*, ii., 238.

Common on the coast, and in dry upland situations, in spring and autumn.

When describing this species in the Berwickshire Club's Proceedings, I mentioned circumstances in which I could not reconcile it with Erichson's description of *O. picipennis*. Having, through the kindness of the Rev. W. Little, obtained the sight of a French example of *O. picipennis*, I am now able, in some measure, to rectify my error. There still, however, exists some discrepancy, which cannot be removed without specimens; from none of the descriptions of *O. cupreus*, nor of *Staphylinus aeneicollis*, with which it is synonymous, mentioning the bronzed elytra, nearly concolorous with the head and thorax. It stands in probably the most of British collections as *Staphylinus aeneocephalus*.

SUB G. TASGIUS, *Leach*.

5. *O. ATER*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 416.—*Hardy, Ber. Club Proc.*, ii., 239.—*Staphylinus fuscatus*, *Gyll. Ins. Suec.*, iv., 474.—*Goërius fuscatus*, *Steph. Illust., Mand.*, v., 210.—*Goërius*, *Kirbii*, *Leach, Steph., l.c.*, v., 210 ?—*Tasgius confinis*, *Curt. Brit. Ent.*, fol. 438.

Rare. On the sand banks near Hartley, in September, and at the foot of the cliffs at Tynemouth Castle, in August.—*T. J. B.*

SUB-G. ANODUS, *Nordmann*.

6. *O. MORIO*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 417.—*Hardy, Ber. Club Proc.*, ii., 239.—*Staphylinus Morio*, *Gyll. Ins. Suec.*, iv., 373.—*Ocypus similis*, *Steph. Illust., Mand.*, v., 211.—*O. picipes*, *Steph., l.c.*, v., 212.—*O. angustatus*, *Kirby, Ib., l.c.*, v. 212. (*mas*)—*Emus angustatus*, *Boisd. et Lacord. Faun. Ent. Paris*, i., 369.

Not uncommon on the coast, and in dry inland pastures and heaths. "Twizell."—*P. J. Selby, Esq.* Coast near Monkshouse, Hartley, Whitley, South Shields, Gateshead Fell, Cleadon Hills, &c. April—September.

121. PHILONTHUS, *Leach*.1. P. LAMINATUS, *Creut.*

*Steph. Illust., Mand., v.*, 226.—*Erichson, Gen. et Spec. Staph.*, 430.—*Hardy, Ber. Club Proc.*, ii., 240.—*Staphylinus laminatus, Gyll. Ins. Suec.*, ii., 298.—*Philonthus æneus, Steph. Illust., Mand., v.*, 227.—*Ph. coxatus, Curt. Brit. Ent.*, fol. 610 (*immaturus*).

Generally distributed. March—October.

2. P. CHALCEUS, *Steph.*

*Steph. Illust., Mand., v.*, 227.—*Staphylinus intermedius, De Jean, Boisd. et Lacord. Faun. Ent. Paris*, i., 338.—*Philonthus intermedius, Erichson, Gen. et Spec. Staph.*, 429.

*Var.* With the oblique punctures on each side of the disk of the thorax placed nearly in a line.

*Philonthus æratus, Kirby, Steph. Illust., Mand.*, v. 228.

A single specimen of the variety was taken near Hartlepool, in April. It is a male, and has the head and thorax minutely punctulate as in *Ph. laminatus*, and *Ph. scutatus*, and the fourth abdominal segment beneath is prolonged at the apex, as in the males of those species.—*J. H.*

3. P. SPLENDENS, *Fab.*

*Steph. Illust., Mand., v.*, 227.—*Erichson, Gen. et Spec. Staph.*, 429.—*Hardy, Ber. Club Proc.*, ii., 240.—*Staphylinus splendens, Gyll. Ins. Suec.*, ii., 297.

Common.

4. P. ÆNEUS, *Rossi.*

*Erichson, Gen. et Spec. Staph.*, 437.—*Steph. Manual*, No. 3133.—*Hardy, Ber. Club Proc.*, ii., 240.—*Staphylinus æneus, Gyll. Ins. Suec.*, ii., 314.—*Philonthus puncticollis, Kirby, Steph. Illust., Mand.*, v. 228.—*Philonthus politus, Steph. l.c.*, v., 228.

Under garden refuse, &c. Abundant.

5. P. CARBONARIUS, *Gyll.*

*Philonthus carbonarius, Erichson, Gen. et Spec. Staph.*, 437.—*Steph. Manual*, No. 3134.—*Heer, Fn. Col. Helv.*, i., 259.—

*Staphylinus carbonarius*, *Gyll. Ins. Suec.*, ii., 310.—

*Philonthus microcephalus*, *Steph. Illust. Mand.*, v., 229.

Rare. "Twizell."—*P. J. Selby, Esq.* Long Benton.—*T. J. B.* Ravensworth woods.—*J. H.*

This very much resembles females of *Ph. ceneus*, but the sides of the thorax are more slightly impressed, the elytra are of a deeper green, and the abdomen above is more distinctly, and by no means so thickly punctate, nigro-pubescent, metallico-versicolorous. The anterior tarsi are simple in both sexes. Gyllenhal's name was given to a variety, which has not occurred within the district, but Erichson has adopted it to designate the typical representatives of the species.

6. *P. SCUTATUS*, *Erich.*

*Erichson, Gen. et Spec. Staph.*, 438.—*Hardy, Ber. Club Proc.*, ii., 241.—*Philonthus cognatus*, *Steph. Illust. Mand.*, v., 229.—*Ph. lucens*, *Ib., Manual*, No. 3136.

Under stones, and in moss. "Twizell."—*P. J. Selby, Esq.* Long Benton, and elsewhere.—*T. J. B.* Ravensworth woods.—*J. H.* It is a perennial insect.

7. *P. DECORUS*, *Grav.*

*Steph. Illust. Mand.*, v., 230.—*Erichson, Gen. et Spec. Staph.*, 442.—*Hardy, Ber. Club Proc.*, ii., 241.—*Staphylinus decorus*, *Gyll. Ins. Suec.*, ii., 241.

In moss in woods. Common. April—October.

8. *P. POLITUS*, *Fab.*

*Erichson, Gen. et Spec. Staph.*, 443.—*Steph. Manual*, No. 3135.—*Hardy, Ber. Club Proc.*, ii., 242.—*Staphylinus politus*, *Gyll. Ins. Suec.*, ii., 317.—*Philonthus maculicornis*, *Kirby, Steph. Illust. Mand.*, v., 229.—*Ph. melanopterus*, *Wilkin, Ib., l.c.*, v., 229.

Common : on the coast near Monkshouse, and among moss in woods.

9. *P. MARGINATUS*, *Fab.*

*Steph. Illust. Mand.*, v., 233.—*Curt. Brit. Ent. pl.* 610.—*Erichson, Gen. et Spec. Staph.*, 444.—*Hardy, Ber. Club*

*Proc.*, ii., 242.—*Staphylinus marginatus*, *Gyll. Ins. Suec.*, ii., 322.

Common.

10. *P. UMBRATILIS*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 445.—*Heer. Fn. Col. Helv.*, i., 261.—*Hardy, Ber. Club Proc.*, ii., 242.—*Staphylinus*, subfuscus, *Gyll. Ins. Suec.*, ii., 236.—*Philonthus subfuscus*, *Steph. Illust. Mand.*, v., 233.

Not Common. "Twizell."—*P. J. Selby, Esq.* Budle Crag, and banks of Wooller Water, below Langleyford. Hartlepool and South Shields.—*J. H.* On a hot bed, Long Benton.—*T. J. B.* April—September.

11. *P. VARIUS*, *Gyll.*

*Erichson, Gen. et Spec. Staph.*, 447.—*Steph. Manual*, No. 3141.—*Hardy, Ber. Club Proc.*, ii., 242.—*Staphylinus varius*, *Gyll. Ins. Suec.*, ii., 321.—*Philonthus carbonarius*, *Steph. Illust. Mand.*, v. 230.—*Ph. chalcopterus*, *Marsh. Ib., l.c.*, 231.—*Ph. picipes*, *Kirby, Ib., l.c.*

Common, in moss and under stones. March—October.

12. *P. ALBIPES*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 449.—*Heer, Fn. Col. Helv.*, i., 261.—*Hardy, Ber. Club Proc.*, ii., 242.—*Staphylinus albipes*, *Gyll. Ins. Suec.*, ii., 327.—*Philonthus nitens*, *Steph. Illust. Mand.*, v., 236 ?—*Quedius caliginosus*, *Ib., l.c.*, v., 223.

Rare. "Twizell."—*P. J. Selby, Esq.* Long Benton.—*T. J. B.* In a field near Swalwell.—*J. H.* April.

In Mr. Bold's examples, the legs are more testaceous than mine but they do not come up to the bright colour observable in continental specimens. The same remark is applicable to British specimens of *Philonthus fulvipes*, and *Ph. inquinatus*, Kirby (*Ph. rubidus*, Erich.), in which the legs and the base of the antennæ are usually dusker than descriptions would lead us to expect

13. *P. XANTHOLOMA*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 452.—*Hardy, Ber. Club Proc.*, ii., 243.—*Staphylinus xantholoma*, *Gyll. Ins. Suec.*, ii.,

323.—*Cafius xantholoma*, *C. lateralis*, *C. littoralis*, et *C. tessellatus*, *Steph. Illust., Mand.*, v., 246. 247.

Beneath sea-weed on the coast, very abundant Feb.—Oct.

14. *P. FUCICOLA*, *Leach*.

*Erichson, Gen. et Spec. Staph.*, 454.—*Hardy, Ber. Club Proc.*, ii., 243.—*Cafius Fucicola*, *Curt. Brit. Ent. pl.* 322.—*Steph. Manual*, No. 3172.

Beneath sea-weed at Marsden.—*J. H.* May.

15. *P. CEPHALOTES*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 455.—*Heer, Fn. Col. Helv.* i., 263.—*Hardy, Ber. Club Proc.*, ii., 245.—*Staphylinus cephalotes*, *Gyll. Ins. Suec.*, ii., 320.—*Bisnius cephalotes*, *Staph. Illust., Mand.*, v., 247.—*Bisnius rotundiceps*, *Kirby, Steph., l.c.*, v., 248.

Coast at Hartlepool, and in Ravensworth woods.—*J. H.* In a cellar at Newcastle, also at Long Benton.—*T. J. B.* April.

16. *P. FIMETARIUS*, *Grav.*

*Steph. Illust., Mand.*, v. 232.—*Erichson, Gen. et Spec. Staph.*, 456.—*Hardy, Ber. Club Proc.*, ii., 245.—*Staphylinus fimetarius*, *Gyll. Ins. Suec.*, ii., 324.—*Philonthus lucidus*, *Steph. Illust., Mand.*, v. 232.

Not unfrequent in garden refuse; under dead birds, &c. "Twizell."  
—*P. J. Selby, Esq.* Coast at Hartlepool and South Shields, Ravensworth, and Swalwell, and at Long Benton. March—September.

When first exposed to view, it often grasps some neighbouring object with its mandibles, and remains perfectly quiescent and deadlike; till, finding everything still, it suddenly rushes off, and disappears.

17. *P. SORDIDUS*, *Grav.*

*Steph. Illust., Mand.*, v. 233.—*Erichson, Gen. et Spec. Staph.*, 456.—*Hardy, Ber. Club Proc.*, ii., 245.—*Staphylinus sordidus*, *Gyll. Ins. Suec.*, ii., 326.

Not Common. "Twizell."—*P. J. Selby, Esq.* Hartlepool, South Shields, Marsden, Ravensworth, Long Benton, Budle Crag, and coast near Shoreston. April—September.

18. *P. SANGUINOLENTUS*, Grav.

*Steph. Illust., Mand.*, v., 238.—*Erichson, Gen. et Spec. Staph.*, 467.—*Hardy, Ber. Club Proc.*, ii., 246.

Rare. "Twizell."—*P. J. Selby, Esq.* Near Tynemouth, and at Long Benton.—*T. J. B.* June.

19. *P. BIPUSTULATUS*, Panz.

*Steph. Illust., Mand.*, v., 238.—*Erichson, Gen. et Spec. Staph.*, 468.—*Staphylinus bipustulatus, Gyll. Ins. Suec.*, ii., 339.

A single specimen was taken on the links at Hartlepool, in April.—*J. H.*

20. *P. VARIANS*, Payk.

*Erichson, Gen. et Spec. Staph.*, 470.—*Hardy, Ber. Club Proc.*, ii., 246.—*Staphylinus opacus, Gyll. Ins. Suec.*, ii., 340.—*Philonthus lituratus, Kirby, Steph. Illust., Mand.*, v., 238.—*Ph. aciculatus, Ib., l.c.*, v., 238.

*Var. a.* Larger, entirely deep black, except the anterior coxæ, which are testaceous.

*Staph. aterrimus, Marsh. Ent. Brit.*, i., 513.—*Philonthus aterrimus Steph. Illust., Mand.*, v., 235.

*Var. b.* With the legs fuscous.

*Philonthus punctiventris, Kirby, Steph. Illust., Mand.*, v., 235.—*Ph. opacus, Ib., l.c.*, v., 236.

*Var. c.* With the underside of the first joint of the antennæ testaceous or piceous.

*Philonthus obscuripennis, Kirby, Steph., Illust., Mand.*, v., 237.—*Ph. longicornis, Kirby, Steph., l.c.*

*Var. d.* Black, immaculate.

*Philonthus intaminatus, Kirby, Steph. Illust., Mand.*, v., 235.

*Var. e.* Black, elytra fuscous, with the tip ferruginous, legs fuscous, excepting the testaceous anterior coxæ.

*Staphylinus agilis, Grav. Mon.*, 77.—*Gyll. Ins. Suec.*, ii., 341.—

*Philonthus agilis, Steph. Illust., Mand.*, v., 237.—*Gabrieus suaveolens, Kirby, Steph., l.c.*, v., 249?

Generally distributed. "Twizell."—*P. J. Selby, Esq.* Sea coast near Bamburgh, Wooler, Long Benton, Ravensworth, Gibside, South Shields, Hartlepool, &c. March—July.

21. *P. VENTRALIS*, Grav.

*Steph. Illust. Mand.*, v., 237.—*Erichson, Gen. et Spec. Staph.*, 473.—*Hardy, Ber. Club Proc.*, ii., 247.—*Staphylinus ventralis, Gyll. Ins. Suec.*, ii., 334.

Not common. On a hot-bed, Long Benton.—*T. J. B.* Budle Crag, and Hartlepool.—*J. H.* April—September.

22. *P. DISCOIDEUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 474.—*Heer, Fn. Col. Helv.*, i., 268.—*Hardy, Ber. Club Proc.*, ii., 248.—*Staphylinus discoideus, Gyll. Ins. Suec.*, ii., 331.—*Quedius discoideus, Steph. Manual*, No. 3109.—*Q. suturalis, Steph. Illust. Mand.*, v., 224.

In garden refuse, &c., not rare. Long Benton, Ravensworth, and Gibside. Sea-coast at Budle, Bamburgh, Hartley, Whitley, South Shields, and Marsden. April—September.

23. *P. SPLENDIDULUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 478.—*Heer, Fn. Col. Helv.*, i., 269.—*Staphylinus splendidulus, Gyll. Ins. Suec.*, ii., 348.—*Staphylinus nanus, Grav. Mon.*, 96.—*Gyll. Ins. Suec.*, ii., 347.—*Gabrius nanus, Steph. Illust. Mand.*, v., 251.—*Gabrius albipes, Ib., l.c.*, v., 252.

Three specimens taken at Long Benton.—*T. J. B.* June—September.

24. *P. MICANS*, Grav.

*Steph. Illust. Mand.*, v., 240.

"Twizell."—*P. J. Selby, Esq.* In a dried-up marsh near Dunstanborough Castle. June.—*J. H.*

25. *P. FULVIPES*, Fab.

*Erichson, Gen. et Spec. Staph.*, 485.—*Heer, Fn. Col. Helv.*, i., 270.—*Hardy, Ber. Club Proc.*, ii., 248.—*Staphylinus fulvipes, Gyll. Ins. Suec.*, ii., 343.—*Philonthus rubripennis, Kirby, Steph. Illust. Mand.*, v., 239.

On the borders of gravelly brooks. "Twizell."—*P. J. Selby, Esq.* Wooler Water.—*J. H.*

26. *P. ATERRIMUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 492.—*Heer, Fn. Col. Helv.*, i., 271.—*Hardy, Ber. Club Proc.*, ii., 249.—*Staphylinus aterrimus, Gyll. Ins. Suec.*, ii., 349.—*Gabrieus aterrimus, Steph. Illust., Mand.*, v., 250.—*Gabrieus pallipes, Kirby, Steph., l.c.*, v., 250.

In moist situations, rather rare. "Twizell."—*P. J. Selby, Esq.* Shoreston, Wooler, Cramlington, Long Benton, Gibside, Ravensworth, South Shields, Marsden, Hartlepool. March—September.

27. *P. MINAX*, Kirby.

*Steph. Illust., Mand.*, v., 241 (*mas.*)—*Philonthus Watsoni, Kirby, Steph., l.c. (fœm.)*—*Ph. impressicollis, Steph., l.c.*, v., 436, (*var.*)—*Bisnius puncticollis, Howitt, Steph., l.c.*, v., 439 (*mas.*)—*Philonthus parumpunctatus, Erichson, Gen. et Spec. Staph.*, 499.—*Hardy, Ber. Club Proc.*, ii., 249. *Staphylinus punctus, Gyll. Ins. Suec.*, ii., 346.

"Twizell."—*P. J. Selby, Esq.* Budle Crag and Hartlepool.—*J. H. Prestwick Car and Long Benton.—T. J. B.* April—July.

122. *QUEDIUS*, Leach.1. *Q. LATERALIS*, Grav.

*Steph. Illust., Mand.*, v., 216.—*Erichson, Gen. et Spec. Staph.*, 525.—*Hardy, Ber. Club Proc.*, ii., 251.—*Microsaurus lateralis, Curt. Brit. Ent.*, pl., 638.—*Steph. Manual*, No. 3082.—*Philonthus lateralis, Heer, Fn. Col. Helv.*, i., 273.

"Twizell."—*P. J. Selby, Esq.*

2. *Q. FULGIDUS*, Fab.

*Erichson, Gen. et Spec. Staph.*, 525.—*Hardy, Ber. Club Proc.*, ii., 251.

*Var. a.* Black, with elytra concolorous.

*Staphylinus nitidus, Grav. Micr.*, 31.—*Quedius nitidus, Steph. Manual*, No. 3087.—*Staphylinus variabilis, Gyll. Ins. Suec.*, ii., 303.—*Quedius variabilis, Steph. Illust. Mand.*, v., 218.—*Philonthus variabilis, Heer, Fn. Col. Helv.*, i., 273.

*Var. b.* Black, with elytra red, the legs, arms, and margins of the abdominal segments often rufo-piceous.

*Staphylinus fulgidus*, *Fab. Syst. El.*, ii., 596.—*Philonthus fulgidus*, *Heer, Fn. Col. Helv.*, i., 273.—*Quedius hæmopterus*, *Kirby, Steph. Illust., Mand.*, v., 217.—*Q. hæmorrhous*, *Kirby, Steph. l.c.*—*Q. rufitarsis*, *Marsh. Steph., l.c.*, v., 220.—*Emus floralis*, *Boisd. et Lacord. Faun., Ent. Paris*, i., 380.

In cellars, and under refuse near houses, and in shady woods. Newcastle, Sunderland, Long Benton, Ravensworth. April—October.

3. *Q. IMPRESSUS*, *Panz.*

*Steph. Illust., Mand.*, v., 219.—*Erichson, Gen. et Spec. Staph.*, 530.—*Hardy, Ber. Club Proc.*, ii., 252.—*Staphylinus impressus*, *Gyll. Ins. Suec.*, ii., 307.

Not uncommon. February.—November.

4. *Q. MOLOCHINUS*, *Grav.*

*Wils. and Dunc., Ent. Edinensis*, 314.—*Erichson, Gen. et Spec. Staph.*, 535.—*Hardy, Ber. Club Proc.*, ii., 253.—*Staphylinus molochinus*, *Gyll. Ins. Suec.*, ii., 302.—*Quedius picipennis*, *Steph. Illust., Mand.*, v., 216.

In moss, and beneath stones; not very frequent. "Twizell."—*P. J. Selby, Esq.* Summit of Hedgehope (2,347 feet), Long Benton, Dunston, Ravensworth, Gateshead Fell, Marsden.

When immature, the elytra are of a bright pale red, like that of *Var. b.* of *Q. fulgidus*; but in this species they are much more punctate. The scutellum is also punctate, and the thorax is wider than the elytra, the sides not obliquely impressed.

5. *Q. FRONTALIS*, *Nordm.*

*Erichson, Gen. et Spec. Staph.*, 536.—*Hardy, Ber. Club Proc.*, ii., 253.—*Quedius tristis*, *Steph. Illust., Mand.*, v., 215.—*Emus tristis*, *Boisd. et Lacord. Faun. Ent. Paris*, i., 376.

Common in dry fields.

6. *Q. FULIGINOSUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 537.—*Hardy, Ber. Club Proc.*, ii., 253.—*Staphylinus tristis*, *Gyll. Ins. Suec.*, ii., 301.—*Quedius picicornis*, *Kirby, Steph. Illust., Mand.*, v., 215.—*Q. gracilis*, *Steph., l.c.*

Common in damp woods, &c., throughout the season.

7. *Q. PICIPES*, Mannerh.

*Erichson, Gen. et Spec. Staph.*, 537.—*Steph. Manual*, No. 3084.—*Hardy, Ber. Club Proc.*, ii., 253.—*Quedius pyrrhopus*, *Kirby, Steph. Illust., Mand.*, v., 228.—*Philonthus gracilicornis*, *Heer., Fn. Col., Helv.*, i., 274.

In moist woods, and damp situations. Long Benton, Ravensworth, Gibside, Marsden. February—June.

8. *Q. RUFICOLLIS*, Kirby.

*Hardy, Ber. Club Proc.*, ii., 254.—*Raphirus ruficollis*, *Steph. Illust., Mand.*, v., 244,—*Manual*, No. 3125.

Long Benton.—*T. J. B.* A specimen has also been taken by Mr. Albany Hancock. It usually occurs under moss in fir woods.

9. *Q. PELTATUS*, Erich.

*Erichson, Gen. et Spec. Staph.*, 540.—*Hardy, Ber. Club Proc.*, ii., 255.—*Raphirus attenuatus*, *Steph. Illust., Mand.*, v., 242.—*Quedius præcox*, *Erichson, Kaefer der Mark Brand.*, i., 492.—*Philonthus præcox*, *Heer., Fn. Col. Helv.*, i., 278.

Rare. In marshy situations in the Ravensworth woods, and in the woods above Swalwell.—*J. H.* January—October.

10. *Q. SEMIOBSCURUS*, Marsh.

*Hardy, Ber. Club Proc.*, ii., 255.—*Raphirus semiobscurus*, *Steph. Illust., Mand.*, v., 241.—*Quedius umbrinus*, *Erichson, Gen. et Spec. Staph.*, 541.—*Staphylinus maurorufus*, *Gyll. Ins. Suec.*, ii., 309.

By the marshy margins of rivulets and ditches, not rare. Ravensworth woods, Swalwell, Long Benton. February—March.

11. *Q. MAURORUFUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 542.—*Hardy, Ber. Club Proc.*, ii., 256.—*Raphirus maurorufus, Steph. Manual*, No. 3116.—*Staphylinus præcox, Gyll. Ins. Suec.*, ii., 310.—*Raphirus præcox, Steph. Illust., Mand.*, v., 245.

In the same situations with the preceding, but rarer. Ravensworth, Gibside, and in the woods above Swalwell.—*J. H.* In moss from Cramlington.—*T. J. B.* In spring.

12. *Q. PICIPENNIS*, Steph.

*Hardy, Ber. Club Proc.*, ii., 256.—*Raphirus picipennis, Steph. Illust., Mand.*, v., 243.—*Quedius semiobscurus, Erichson, Gen. et Spec. Staph.*, 544.

Rare. In moss from Ravensworth woods, and under stones on Gateshead Fell.—*J. H.* Long Benton.—*T. J. B.* February—June.

13. *Q. ATTENUATUS*, Gyll.

*Wils. and Dunc., Ent. Edinensis*, 315.—*Erichson, Gen. et Spec. Staph.*, 546.—*Hardy, Ber. Club Proc.*, ii., 257.—*Staphylinus attenuatus, Gyll. Ins. Suec.*, ii., 311.—*Raphirus nitipennis, Leach, Steph. Illust., Mand.*, v., 242.

Not common. Ravensworth woods, Dunston, and Gateshead Fell.—*J. H.* January—November.

14. *Q. BOOPS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 548.—*Hardy, Ber. Club Proc.*, 257.—*Staphylinus Boops, Gyll. Ins. Suec.*, ii., 312.—*Raphirus Boops, Steph. Illust., Mand.*, v., 242.

Under stones and among moss. Ravensworth, Swalwell, South Shields, Budle Crag, Homildon Hill, Yeavering Bell, Hedgehope, &c. March—July.

15. *Q. FUSCIPES*, Kirby.

*Niger nitidus; capite thoraceque nigro-æneis; antennis pedibusque fuscis, his geniculus tarsisque ferrugineis; elytris piceo-æneis, sat fortiter crebre punctatis; fronte inter oculos punctis 4 transversalibus impresso; scutello lævissimo.* Long.  $2\frac{3}{4}$  lin.

*Raphirus fuscipes, Steph. Illust., Mand.*, v., 243. — *Ib.*

*Manual*, No. 3122.—*Raphirus nigricornis*, *Holme, Trans. Ent. Soc. Lond.*, iii., 127?

About the size of large specimens of *Q. Boops*, more of the habit of *Q. attenuatus*; the head less than in *Q. Boops*, and the eyes scarcely prominent. Black, shining; head, thorax, and scutellum polished and shining, nigro-æneous; elytra also shining, piceous, subæneous. Antennæ longer than in *Q. sciutillans*, not quite so long as the head and thorax, slightly thickened towards the apex, third joint scarcely thinner and very slightly longer than the second, the rest gradually shortening, and somewhat thicker, ninth and tenth nearly transverse, the last largest, obliquely truncate and acuminate at the apex beneath; dask fuscous, the basal joint beneath, and the base and apex of the three first joints above ferruginous. Palpi fuscous, apical joint acute. Mouth piceous. Head about the size of that of *Q. attenuatus*, narrower than the thorax, rotundate, rather convex, with four small but deepish punctures placed transversely between the eyes, of which the inner is close on the margin itself, and two larger placed obliquely behind the eyes on each side, of which the largest is nearest the eye; sides behind the eyes extremely finely punctulate. Eyes large, scarcely prominent, nearly in the same arc as the sides of the head. Thorax rather narrower than the elytra, convex, somewhat narrowed, compressed, and deflexed at the anterior angles, the length about equal to its breadth at the base, sides slightly, base and posterior angles strongly rounded; dorsal series of three small oblique punctures, of which the two posterior in each row are placed very near, more approximating than in other species, before the middle of the disk, the anterior smallest, rather approaching the apex, and situated nearer the second, than the first, or all nearly equidistant; then outwards are two minute punctures on each side, placed in a line, and rather apart; then two deep approximating punctures towards the anterior angles, and one within, close upon each angle. Scutellum polished and smooth. Elytra about the length of the thorax, widest towards the apex, slightly convex above, depressed along the suture, more deeply at its apex, strongly, somewhat thickly, but not quite closely punctate, thinly griseous pubescent, shining piceo-æneous,

the apex narrowly more dilute. Abdomen moderate, not the length of the anterior part of the body, narrowed gradually from the base to the apex; rather dull, black, somewhat metallic versicolorous above, thickly and finely punctulate, with a long, rather dense, somewhat shining, griseous pubescence; apex of the fourth and fifth segments above, and the margins of those beneath sometimes obscure ferruginous. Legs fusco-rufescent; femora and tibiæ in the middle fuscous; their bases and apices narrowly, and the tarsi rufous; anterior tarsi strongly dilated.

Near a dung heap on Budle Crag.—*J. H.* One specimen taken at Long Benton, in April.

The description is taken from the specimen captured at Long Benton, compared with another from Edinburgh. It is quite distinct from *Q. scintillans* described in the Berwickshire Club's Proceedings, ii., 258, to which, following Stephens, it was doubtfully referred. *Raphirus nigricornis*, of Holme, may be a specimen with a pair of the punctures obliterated, or placed out of view.

SECT. 2. STAPHYLININI XANTHOLININI, *Erichson*.

123. OTHIUS, *Leach*.

1. *O. FULVIPENNIS*, *Fab.*

*Erichson, Gen. et Spec. Staph.*, 295.—*Steph. Manual*, No.

3195.—*Staphylinus fulminans*, *Gyll. Ins. Suec.* ii., 357.—

*Othius fulgidus*, *Steph. Illust., Mand.*, v., 253.

Common in moss, in woods, and elsewhere.

2. *O. MELANOCEPHALUS*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 295.—*Steph. Manual*, No.

3199.—*Staphylinus melanocephalus*, *Gyll. Ins. Suec.*, ii.,

360.—*Othius angustus*, *Kirby, Steph., Illust., Mand.*, v., 255.

*Var.* more obscure, the thorax fuscous.

*Othius ater*, *Steph. Illust., Mand.* v., 255.—*Othius ustulatus*, *Steph. l.c.*

Under moss in woods and barren places; sometimes also under bark. "Twizell."—*P. J. Qelby, Esq.* Budle Crag, Homildon Hill, Hedgehope, Long Benton, Hartley, Ravensworth, Swalwell, Marsden.—February—November.

The dark varieties occur principally in shady fir plantations, and the hill specimens are somewhat larger than those of the lowlands.

3. *O. PILICORNIS*, Payk.

*Qteph. Illust., Mand., v., 254.*—*Erichson, Gen. et Spec. Staph., 296.*—*Staphylinus pilicornis, Gyll. Ins. Suec., ii., 359.*—*O. alternans, Steph. Illust., Mand., v., 254.*—*O. glabricornis, Kirby, Steph., l. c.*

Under bark of trees, especially pines. "Twizell."—*P. J. Selby, Esq.* Whitsunbank Hill, Greencroft, Gosforth, Ravensworth; and once from the sea-coast, at Marsden. February—November.

124. *XANTHOLINUS*, Dahl.

1. *X. FULGIDUS*, Fab.

*Erichson, Gen. et Spec. Staph., 319.*—*Steph. Manual, No. 3206.*—*Staphylinus pyropterus, Gyll. Ins. Suec., ii., 356.*—*Gyrophypnus pyropterus, Steph. Illust., Mand., v., 258.*

Rare. Tyneside, and Long Benton, in May.—*T. J. B.*

2. *X. GLABRATUS*, Grav.

*Erichson, Gen. et Spec. Staph., 319.*—*Steph. Manual, No. 3207.*—*Gyrophypnus cruentatus, Steph. Illust., Mand., v., 260.*

Common. Twizell, Long Benton, Shields, Marsden, Hartlepool, &c. April—October.

Monstrous individuals occasionally occur, with the punctures of the head and thorax nearly effaced, and the surface much disfigured. These are usually found under heaps of rubbish, and appear to have acquired this malformation while the imago was in a soft, compressible state, and not free to arrive at its full development.

3. *X. PUNCTULATUS*, Payk.

*Erichson, Gen. et Spec. Staph., 328.*—*Steph. Manual, No. 3209.*—*Staphylinus punctulatus, Gyll. Ins. Suec., ii., 353.*—*Gyrophypnus punctulatus, Steph. Illust., Mand., v., 263.*

*Var.* Elytra, antennæ, and legs rufo-piceis, or rufo-testaceous, the anus and the margin of the fifth abdominal segment above testaceous.

*Staphylinus ochraceus*, *Gyll. Ins. Suec.*, ii., 352.—iv., 480.—

*Gyrophypnus ochraceus*, *Steph. Illust., Mand.*, v., 263.—

*Xantholinus ochraceus*, *Heer., Fn. Col. Helv.*, i., 245.

Common. The variety is rare, and has occurred at Long Benton, Ravensworth, and Gibside.

Small varieties have the thoracic punctures in the dorsal series multiplied; and those in the lateral arcs are often very numerous. *Xantholinus angustatus*, and *X. quadratus*, *Steph.*, appear to be formed from these diversities. The lighter coloured examples, named *X. ochraceus*, have the difference of colour in their favour, and the head is less triangular, with the posterior angles rather more rounded, than in the type.

#### 4. X. TRICOLOR, *Fab.*

*Erichson, Gen. et Spec. Staph.*, 331.—*Steph. Manual.*, No.

3208.—*Gyrophypnus tricolor*, *Steph. Illust., Mand.*, v.,

261.—*G. affinis*.—*Ib.*, l.c.

Under stones; not common. Long Benton.—*T. J. B.* Near Marsden.—*J. H.* April—July.

#### 5. X. LINEARIS, *Oliv.*

*Erichson, Gen. et Spec. Staph.*, 332. — *Steph. Manual*,

No. 3212.—*Gyrophypnus linearis*, *Steph. Illust., Mand.*,

v., 261.—*Staphylinus longiceps*, *Gyll. Ins. Suec.*, ii., 350.—

*Gyrophypnus longiceps*, *Steph. Illust., Mand.*, v., 262.—

*Staphylinus ochraceus*, *Grav. Micr.*, 43.—*Xantholinus*

*ochraceus*, *Boisd. et Lacord. Faun. Ent. Paris*, i., 416.

Common.

### 125. LEPTACINUS, *Erichson.*

#### 1. L. PARUMPUNCTATUS, *Gyll.*

*Erichson, Gen. et Spec. Staph.*, 335.—*Staphylinus parum-*

*punctatus*, *Gyll. Ins. Suec.*, iv., 481.—*Gyrophypnus*

*parumpunctatus*, *Steph. Illust., Mand.*, v., 262.—*Gyro-*

*hypnus semistriatus*, *Kirby, Steph.*, l.c.

Rather rare. "Twizell."—*P. J. Selby, Esq.* Near a hot bed at Long Benton.—*T. J. B.* September.

2. *L. BATYCHRUS*, *Knoch.*

*Erichson, Gen. et Spec. Staph.*, 335.—*Steph. Manual*, No. 3218.—*Staphylinus batychrus*, *Gyll. Ins. Suec.*, iv., 480.—*Gyrophypnus batychrus*, *Steph. Illust., Mand.*, v., 263.—*Gyrophypnus quadrisulcus*, *Kirby, Steph., l.c.*, v., 264.—*Gyrophypnus diaphanus*, *Marsh., Steph., l.c.*, v., 259.—*Gyrophypnus longicollis*, *Kirby, Steph., l.c.*—*Xantholinus episcopalis*, *Boisd. et Lacord. Faun. Ent. Paris*, i., 416.

Hot-beds and dung-heaps. "Twizell."—*P. J. Selby, Esq.* Long Benton.—*T. J. B.* Ravensworth.—*J. H.*

Very variable in the number of punctures which constitute the thoracic series, which appears to depend upon the size of the specimen, and the length of its thorax. In some examples, various supernumerary punctures are found crowded together in some part of the range, as if the dimensions of the individual did not allow of their being arranged in extension. *Gyrophypnus apicalis*, Kirby, judging from the description, appears to belong to this species or the preceding.

3. *L. LINEARIS*, *Grav.*

*Heer, Fn. Col. Helv.*, i., 243.—*Gyrophypnus sulcifrons*, *Kirby, Steph. Illust., Mand.*, v., 260.—*Gyrophypnus pusillus*, *Steph. Illust., Mand.*, v., 264.

In the same places with the preceding, but much more frequent. Long Benton.—*T. J. B.* Under sea-weed at Marsden.—*J. H.* May.

This, which *Erichson* accounts a variety of the preceding, is very uniform in its characters, and often occurs without the other accompanying it.

SUB-FAMILY 2. PÆDERIDES.

126. *CRYPTOBIUM*, *Mannerheim.*

1. *C. FRACTICORNE*, *Payk.*

*Steph. Illust., Mand.*, v., 271., pl. xxvii., f. i.—*Erichson, Gen. et Spec. Staph.*, 575.—*Lathrobium fracticorne*, *Gyll. Ins. Suec.*, ii., 369.

"Twizell."—*P. J. Selby, Esq.*

## 127. LATHROBIUM, Grav.

## 1. L. BRUNNIPES, Fab.

*Gyll. Ins. Suec.*, ii., 366.—*Steph. Illust., Mand.*, v., 266.—

*Erichson, Gen. et Spec. Staph.*, 588.

In moist meadows and woods. Common.

## 2. L. ELONGATUM, Linn.

*Gyll. Ins. Suec.*, ii., 363.—*Steph. Illust., Mand.*, v., 267.—

*Erichson, Gen. et Spec. Staph.*, 589.—*Lathrobium atriceps*,

*Kirby, Steph. Illust., Mand.*, v., 267, (*immatur.*)

In similar places with the preceding, and equally common.

This species, as well as the next, is often confounded with *L. rufipenne*, apparently a very rare British insect. It is nearly similar in colour to *L. elongatum*, but is a much smaller, and more linear insect (about the size of *L. multipunctum*); the head is more deeply punctate, and its sides, as well as those of the thorax, are straighter; the thorax, also, is more oblong, and the elytra are longer, than in that species. From *L. fulvipenne* it is much more distinct.

## 3. L. FULVIPENNE, Grav.

*Gyll. Ins. Suec.*, ii., 365.—*Steph. Illust., Mand.*, v., 267.—

*Erichson, Gen. et Spec. Staph.*, 590.

Under stones, generally distributed: has been taken near the summit of Hedgehope.

## 4. L. MULTIPUNCTUM, Grav.

*Gyll. Ins. Suec.*, iii., 705.—*Steph. Manual*, No. 3233.—

*Erichson, Gen. et Spec. Staph.*, 591. — *Lathrobium punctato-striatum*, Kirby, *Steph. Illust., Mand.*, v., 268.

"Twizell."—*P. J. Selby, Esq.* Under rejectamenta on the banks of the Derwent, above Winlaton Mill.—*J. II.*

## 5. L. QUADRATUM, Payk.

*Gyll. Ins. Suec.*, ii., 367.—*Steph. Illust., Mand.*, v., 266.—

*Erichson, Gen. et Spec. Staph.*, 595.—*Lathrobium pilosum*,

*Boisd. et Lacord. Faun. Ent. Paris*, i., 426.

Long Benton.—*T. J. B.* Near Sunderland.—*Mr. W. Peacock.*

128. LITHOCHARIS, *Dejean*.1. L. OCHRACEA, *Grav.*

*Boisd. et Lacord. Faun. Ent. Paris*, i., 432.—*Erichson, Gen. et Spec. Staph.*, 623.—*Sunius ochraceus, Steph. Illust., Mand.*, v., 275.—*Pæderus rubricollis, Gyll. Ins. Suec.*, ii., 376.—*Sunius rubricollis, Steph. Illust., Mand.*, v., 275.

Budle Crag, and near a marsh at Dunstanborough Castle.—*J. H.* In hot beds, at Long Benton.—*T. J. B.* May—August.

129. STILICUS, *Latreille*.1. S. RUFIPES, *Müller*.

*Niger, antennis pedibusque rufis vel rufo-piceis; thorace obsolete carinato, creberrime punctato; elytris subtiliter punctatis, apice plus minusve piceis.* Long.  $2\frac{1}{2}$ — $2\frac{3}{4}$  lin.

*Erichson, Gen. et Spec. Staph.*, 631.—*Rugilus rufipes, Heer, Fn. Col. Helv.*, i., 231.—*Rugilus immunis, Kirby, Steph. Illust., Mand.*, v., 278?—*Rugilus orbiculatus, var., Ib. Manual*, No. 3251?

Black, slightly shining, elytra more shining, head and thorax opaque, finely and shortly pubescent. Antennæ one half longer than the head, scarcely thickened towards the apex, third joint somewhat longer than the second, 4—10 gradually shorter, 4—6 sub-obconic, 7—10 nodose, the last slightly larger, rufous, the apex more dilute. Palpi rufous. Labrum piceo-rufescent, "its apex in the middle acutely bidenticulate;" oral parts rufous beneath, their slight pubescence rufous. Mandibles rufo-piceous. Head large, of the breadth of the elytra, orbiculate, very thickly and strongly punctate, longitudinally subrugulose, a very short smooth shining line on the crown; slightly pubescent. Thorax somewhat mitre-shaped, wider than in the following species, one half narrower than the elytra, a little longer than broad, obliquely narrowed in front, slightly narrowing to the base, the sides somewhat straight; moderately convex, very thickly and strongly punctate, subrugose, with a narrow longitudinal shining line, slightly elevated posteriorly, not quite reaching the base, and disappearing towards the apex, slightly canaliculate; on each side of which posteriorly the disk is slightly depressed. Elytra a little

longer than the thorax, subquadrate, sparingly and finely punctate, most so at the apex, the punctures of various sizes; depressed on each side of the suture towards the base, and again slightly before the base, within the shoulders; fusco-piceous, shining, slightly subæneous, the apex by degrees subdilute; shortly griseous pubescent. Abdomen black, rather shining, thickly and very finely punctate, with a fine rather abundant griseous down, the apex and the margin of the fifth segment sometimes piceous. Legs red or rufo-testaceous; the tips of the femora occasionally somewhat darker.

Rare. At South Shields, and on the banks of the Derwent, near Axwell.—*J. H. May*.

This is larger than any other British species I have examined.

2. *S. AFFINIS*, *Erich.*

*Niger, antennis fusco-rufescentibus, pedibus testaceis, femoribus apice tibiisque infuscatis; thorace carinato; elytris subæneis, subtiliter punctatis, apice testaceis.* Long. 2-2½ lin.

*Erichson, Gen. et Spec. Staph.*, 633.—*Rugilus affinis, Heer, Fn. Col. Helv.*, i., 232.

About the size, or slightly larger than *S. orbiculatus*, black, head and thorax opaque, shortly and finely pubescent, elytra shining subæneous. Antennæ a little longer than the head, subincrassate towards the apex, third joint longer than the second, scarcely one half longer, 4-10 gradually shorter and thicker, piceo-rufous, or obscure rufescent, the basal joint sometimes darkened above, the apex having a testaceous ring. Maxillary palpi rufo-piceous, third joint fuscous. Labrum piceous, the margin rufescent. Head scarcely of the breadth of the elytra, orbiculate, very thickly and strongly punctate, longitudinally rugulose, with a smooth shining line on the front. Thorax almost twice as narrow as the elytra, shaped nearly as in the last, obliquely narrowed in front, and gently towards the base, a little longer than broad, moderately convex, very thickly and strongly punctate, with a broader central longitudinal line, finely canaliculate throughout, though less distinct in front. Elytra a little longer than the thorax, more transverse, or wider in proportion to the

thorax, than in some other species, sparingly and finely punctate, more obsoletely at the apex, the punctures more equal than in *S. rufipes*, depressed at each side of the suture, nigro-piceous sub-aeneous, shining, apical margin testaceous, better marked than in *S. orbiculatus*, sparingly pubescent. Abdomen very thickly and finely punctulate, shining, with a distinct, short appressed pubescence. Legs testaceous, the anterior and intermediate coxæ, piceous, posterior red, sometimes all rufescent, the femora at the apex and the tibiæ more or less saturate with fuscous, tarsi rufescent. In damp situations, not common. At Budle Crag, South Shields, Marsden, and on the banks of the Derwent, near Axwell.—*J. H.* April—May.

3. *S. ORBICULATUS*, *Payk.*

*Erichson, Gen. et Spec. Staph.*, 634.—*Rugilus orbiculatus*, *Steph. Illust., Mand.*, v., 278.—*Heer, Fn. Col. Helv.*, i., 232.

Rare. Under stones, at South Shields, and on the Derwent.—*J. H.* Long Benton, and Cullercoats.—*T. J. B.*

SUB-FAMILY 3. STENIDES, *Mannerheim.*

130. *DIANOUS*, *Leach.*

1. *D. CÆRULESCENS*, *Gyll.*

*Curt. Brit. Ent.*, pl. 107.—*Erichson, Gen. et Spec. Staph.*, 689.—*Steph. Manual*, No. 3260.—*Stenus cærulescens*, *Gyll. Ins. Suec.*, ii., 463.—*Dianöus rugulosus*, *Steph. Illust., Mand.*, v., 436.

Rare. One specimen found in the Ouseburn Dean, in April.—*T. J. B.*

131. *STENUS*, *Latreille.*

DIV. 1. *Tarsi with the fourth joint simple.*

SUB-DIV. a. *Abdomen margined.*

\* *Elytra spotted.*

1. *S. BIGUTTATUS*, *Linn.*

*Gyll. Ins. Suec.*, ii., 464.—*Steph. Illust., Mand.*, v., 302.—*Erichson, Gen. et Spec. Staph.*, 690.

Banks of streams, Gosforth, Tyne side, banks of the Derwent

above Winlaton Mill, and near the monument at Gibside, with the next species. June.

2. *S. GUTTULA*, Mühler.

*Erichson, Gen. et Spec. Staph.*, 691.—*Steph. Manual*, No. 3263.—*Stenus Kirbyi*, *Gyll. Ins. Suec.*, iv., 499.—*Curt. Brit. Ent.*, pl., 164.—*Steph. Illust., Mand.*, v., 302.

On the banks of gravelly streams. Wooler Water, the Till, the Tyne and Derwent, up to the foot of Cheviot, and elsewhere.

3. *S. BIMACULATUS*, Gyll.

*Gyll. Ins. Suec.*, ii., 466.—*Steph. Illust. Mand.*, v., 301.—*Erichson, Gen. et Spec. Staph.*, 692.—*Stenus Juno*, *Grav. Micr.*, 154.—*Boisd. et Lacord. Faun. Ent. Paris*, i., 441.

Under rejectamenta, &c. in marshes. Wooler, Dunston, Ravensworth woods, Swalwell, &c. February—July.

\*\* *Elytra immaculate. Legs black.*

4. *S. JUNO*, Fab.

*Gyll. Ins. Suec.*, ii., 467.—*Steph. Illust., Mand.*, v., 303.—*Erichson, Gen. et Spec. Staph.*, 694.—*Stenus Boops*, *Grav. Mon.*, 226.—*Boisd. et Lacord. Faun. Ent. Paris*, i., 447.

In marshes, and by the sides of ponds. Ravensworth woods, Dunston, and abundant at Gosforth, on pond plants. January—June.

This species is frequently named *Stenus lineatulus*, Kirby, but that is probably referable to *St. asphaltinus*, Erich., which has been taken in Kent, by Mr. Janson.

5. *S. BUPHTHALMUS*, Grav.

*Gyll. Ins. Suec.*, ii., 475.—*Steph. Illust., Mand.*, v., 296.—*Erichson, Gen. et Spec. Staph.*, 699.—*Stenus canaliculatus*, *Boisd. et Lacord. Faun. Ent. Paris*, i., 449.

In marshy places. Banks of the Till, Ravensworth woods and Gibside.—*J. H. Gosforth.*—*T. J. B.* January—July.

6. *S. ATRATULUS*: *Plumbeo-niger, nitidulus, albido-pubescent, fortiter profunde punctatus; capite coleopteris fere dimidio angustiore, fronte leviter bisulcato, interstitio sub*

*carinato* ; *thorace angusto, oblongo-ovato, æquali, in disco posteriore foveola impresso* ; *elytris thorace longioribus* ; *abdomine densius punctato*. Long.  $1\frac{1}{4}$ — $1\frac{1}{2}$  lin.

*S. atratulus*, *Erich., Gen. et Spec. Staph.*, 701.—*Heer, Fn. Col. Helv.*, i., 219, 19.

Three specimens near the Wooler Water, above Turvielaws, in June.—*J. H.*

With the appearance, and almost the puncturing of *St. nigrutilus*, but with a distinct margin to the abdomen ; rather small, narrowish, black, shining, with a fine whitish pile ; antennæ black, shortish ; palpi black, the first joint testaceous ; head somewhat broader than the thorax, about half or less of the breadth of the elytra, deeply and thickly but not very strongly punctate, the front with two lateral rather shallow depressions, with the interval moderately elevated longitudinally ; thorax slightly convex, narrowish, rounded before the middle, contracting posteriorly, rather strongly, deeply, and thickly punctate, furnished behind the middle with a short shining elongate foveola ; elytra more than double the width of the thorax, and about a third longer, depressed lengthways along the suture, and slightly towards the disc and the sides behind the shoulders, rather strongly, thickly and deeply punctate ; abdomen gradually narrowing towards the apex, thickly, but more finely punctate ; legs black, tarsi shortish.

7. *S. MELANOPUS*, *Marsh.*

*Steph. Illust., Mand.*, v., 299.—*Stenus nitidus*, *Boisd. et Lacord. Faun. Ent. Paris.*, i., 450.—*Erichson, Gen. et Spec. Staph.*, 703.

Not common. Ravensworth woods.—*J. H.* At Gosforth, on the bottom of the lake, where the water was dried up.—*T. J. B.* February—July.

8. *S. PUSILLUS*, *Kirby.*

*Steph. Illust., Mand.*, v., 301.—*Stenus exiguus*, *Erichson, Gen. et Spec. Staph.* 706.

Not uncommon in moss. Ravensworth woods, above Swalwell, Long Benton, &c. January—May.

9. *S. NANUS*, *Steph.*

*Steph. Illust., Mand., v.*, 301.—*Stenus pusillus*, *Erichson, Gen. et Spec. Staph.*, 705.—*Heer, Fn. Col. Helv.*, i., 221.

Not rare in moss. Ravensworth, Gibside, Long Benton, &c. January and February.

\*\*\* *Elytra immaculate. Legs pitchy or testaceous.*

10. *S. BOOPS*, *Gyll.*

*Gyll. Ins. Suec.*, ii., 469.—*Heer., Fn. Col. Helv.*, i., 216.—*Steph. Illust., Mand., v.*, 293.—*Stenus nigricornus*, *Kirby, Steph., l.c.*—*Stenus clavicornis*, *Steph., l.c.*, 294.—*Stenus speculator*, *Boisd. et Lacord., Faun. Ent. Paris*, i., 415.—*Erichson, Gen. et Spec. Staph.*, 706.

A common species, not confined to damp soils. "Twizell."—*P. J. Selby, Esq.* Shoreston, Wooler, Long Benton, Dunston, Ravensworth, South Shields, Gateshead Fell, Marsden, &c. February—June.

SUB-DIV. b. *Abdomen not margined.*11. *S. NIGRITULUS*, *Gyll.*

*Gyll. Ins. Suec.*, iv., 502.—*Erichson, Gen. et Spec. Staph.*, 719.—*Stenus unicolor*, *Kirby, Steph. Illust., Mand., v.*, 286.

Two specimens, probably taken at Long Benton.—*T. J. B.* On the borders of a dung heap, near a pool on the top of Budle Crag.—*J. H.*

It varies considerably in size, the larger specimens being about the dimensions of *St. bupthalmus*.

DIV. 2. *Tarsi with the fourth joint bilobed.*SUB-DIV. a. *Abdomen margined.*12. *S. BINOTATUS*, *Liungh.*

*Gyll. Ins. Suec.*, ii., 474.—*Boisd. et Lacord. Faun. Ent. Paris*, i., 448.—*Erichson, Gen. et Spec. Staph.*, 721.—*Heer, Fn. Col. Helv.*, i., 223.—*Stenus lævior*, *Kirby, Steph. Illust., Mand., v.*, 297.

Borders of ponds. Gosforth, Long Benton, Boldon Flats.—*T. J. B.* May—June.

13. *S. PUBESCENS*, Kirby.

*Steph. Illust., Mand.*, v., 297.—*Stenus subimpressus*, *Erichson, Gen. et Spec. Staph.*, 722.—*Heer, Fn. Col. Helv.*, i., 223.

"Twizell."—*P. J. Selby, Esq.* On *Equiseta*, and other plants in ponds, at Gosforth.—*T. J. B.* May—June.

14. *S. PALLITARSIS*, Kirby.

*Steph. Illust., Mand.*, v., 298.—*Stenus binotatus*, *Var. b. Gyll. Ins. Succ.*, iv., 500.—*Stenus plantaris*, *Erichson, Gen. et Spec. Staph.*, 722.—*Heer, Fn. Col. Helv.*, i., 223.

A single specimen taken in the woods on the Team, near Ravensworth, and two others in a marsh on the Till.—*J. H.*

15. *S. NITIDUS*, Kirby.

*Steph. Illust., Mand.*, v., 300.—*Stenus phæopus*, *Kirby, Ib.*, 288 ? (*forte male descript.*)—*S. plancus*, *Erichson, Gen. et Spec. Staph.*, 723.

"Twizell."—*P. J. Selby, Esq.* Ravensworth woods.—*J. H.* Gosforth and Long Benton.—*T. J. B.* January—May.

16. *S. PICIPES*, Kirby.

*Steph. Illust., Mand.*, v., 288.—*Stenus rusticus*, *Erichson, Gen. et Spec. Staph.*, 724.—*Stenus obliquus*, *Heer, Fn. Col. Helv.*, i., 224.

In damp places; not common. Ravensworth woods.—*J. H.* Gosforth and elsewhere.—*T. J. B.* January—July.

17. *S. NITIDIUSCULUS*, Kirby.

*Steph. Illust., Mand.*, v., 292.—*Stenus tempestivus*, *Erichson, Gen. et Spec. Staph.*, 724.

In very wet marshes, and on the borders of rivulets. "Twizell."—*P. J. Selby, Esq.* Ravensworth woods, and near South Shields.—*J. H.* Gosforth and Long Benton.—*T. J. B.* Ryhope Dean.—*Mr. W. Peacock.* March—July.

18. *S. IMPRESSUS*, Germ.

*Germ. Spec. Ins.*, 36.—*Erichson, Gen. et Spec. Staph.*, 728.—*Heer, Fn. Col. Helv.*, i., 224.—*Stenus Aceris*, *Steph.*

*Illust., Mand., v., 292.*—*Boisd. et Lacord. Faun. Ent. Paris, i., 445.*

Common. "Twizell."—*P. J. Selby, Esq.* Summit of Hedgehope (2347 feet), Cramlington, Gibside, Ravensworth, Boldon Flats, &c. March—October.

It sometimes occurs in flowers, or rambling over the foliage of shrubs.

19. *S. PROBOSCIDEUS, Gyll.*

*Gyll. Ins. Suec., ii., 476.*—*Heer, Fn. Col. Helv., i., 225.*—

*Stenus ossium, Kirby, Steph. Illust., Mand., v., 290.*—

*Stenus canaliculatus, Kirby, Ib., l.c., 294.*—*Stenus palustris, Erichson, Gen. et Spec. Staph., i., 729.*

Not uncommon in boggy situations. Long Benton, Gosforth and Boldon Flats.—*T. J. B.* On the upper part of Hedgehope, Gibside, Ravensworth woods, and Marsden.—*J. H.* April—July.

20. *S. PALLIPES, Grav.*

*Boisd. et Lacord. Faun. Ent. Paris, i., 416.*—*Erichson,*

*Gen. et Spec. Staph., 731.*—*Heer, Fn. Col. Helv., i., 225.*—

*Stenus immunis, Marsh. Steph., Illust., Mand. v., 290.*

Rare. Gibside and Ravensworth woods, in moss.—*J. H.* January.

21. *S. FLAVIPES, Kirby.*

*Steph. Illust., Mand., v., 289.*—*Stenus filum, Erichson,*

*Gen. et Spec. Staph., 731.*

Rare. Long Benton and Boldon Flats.—*T. J. B.* Near Dunstanborough Castle, Gibside, and Ravensworth. — *J. H.* Ryhope dean.—*Mr. W. Peacock.* March.

SUB-DIV. b. *Abdomen not margined.*

22. *S. TARSALIS, Liungh.*

*Gyll. Ins. Suec., ii., 472.*—*Steph. Illust., Mand., v., 286.*—

*Erichson, Gen. et Spec. Staph., 732.*—*Heer, Fn. Col. Helv.,*

*i., 226.*—*Stenus nigriclavus, Kirby, Steph. Illust., Mand.,*

*v., 285.*—*St. rufitarsis, Kirby, Ib., l.c.*—*St. flavitarsis,*

*Wilkin. Ib., l.c.*

In damp bogs. Taken at "Twizell," by *P. J. Selby, Esq.*

23. *S. OCLATUS*, Goetze.

*Gyll. Ins. Suec.*, ii., 471.—*Steph. Illust., Mand.*, v., 282.—

*Erichson, Gen. et Spec. Staph.*, 733.

In damp places; common. Budle Crag, Twizell, Gosforth, Long Benton, Ravensworth, &c. May and June.

24. *S. FULVICORNIS*, Kirby.

*Steph. Illust., Mand.*, v., 284.—*Stenus paganus*, *Erichson,*

*Gen. et Spec. Staph.*, 742.

Rare. Gibside and Ravensworth.—*J. H.* A specimen taken within the district.—*T. J. B.* January.

25. *S. BRUNNIPES*, Kirby.

*Steph. Illust., Mand.*, v., 285.—*Stenus latifrons*, *Erichson,*

*Gen. et Spec. Staph.*, 743.—*Heer, Fn. Col. Helv.*, i., 227.

At the roots of grass, and among moss; common everywhere. This species feeds upon *Acari* and *Poduræ*.

## SUB-FAMILY 4. OXYTELIDES.

SECT. 1. OXYTELINI GENUINI, *Erichson*.132. *BLEDIUS*, *Leach*.1. *B. OPACUS*, *Block*.

*Erichson, Gen. et Spec. Staph.*, 771.—*Heer, Fn. Col. Helv.*,

i., 210.—*Hesperophilus hæmopterus*, *Kirby, Steph. Illust.,*

*Mand.*, v., 310.—*Bledius castaneipennis*, *Ziegl. Boisd. et*

*Lacord. Faun. Ent. Paris*, i., 457.

Rare: two specimens were dug out of sand on the banks of the Derwent, near Axwell Park.—*J. H.* Abundant in the estuary of the Tees.—*Rev. G. T. Rudd.* June.

2. *B. SUBTERRANEUS*, *Merkel*.

*Niger, sub-opacus, pedibus pallidis, femoribus nigri-cantibus, thorace, leviter canaliculato, subtiliter obsoleteque punctato.*

Long.  $1\frac{3}{4}$  lin.

*Erichson, Gen. et Spec. Staph.*, 777.—*Heer, Fn. Col. Helv.*, i., 210.

Black, head, thorax, and elytra sub-opaque, the last with a conspicuous short griseous pubescence abdomen shining. Antennæ somewhat longer than the head, gradually thickened outwardly,

third joint thinner, and one-half longer than the second, the rest of the joints short, 6—10 transverse, the last largest, rotundate, nearly obtuse; black, the two basal joints sometimes piceous. Mandibles prominent, slender, slightly arcuate, rufous. Palpi piceo-testaceous, third joint nigro-piceous. Head short, sub-triangular, narrower than the thorax, finely and obsoletely scattered punctate, the front down the middle rather elevated, longitudinally but obsoletely depressed on each side at the base of the antennæ. Eyes very prominent. Thorax sub-semicircular, the front being rather wider, almost one-half narrower than the elytra, a little shorter than broad, the sides neatly rounded, sinuate narrowed behind the middle, posterior angles obtuse, sub-prominent, base and sides slightly margined; convex above, opaque, rather thickly, finely, and obsoletely punctate, very finely canaliculate. Elytra almost double the length of the thorax, rather convex, somewhat widest posteriorly, exterior angles rather rounded, slightly shining, thickly and finely punctate, clothed with a shining griseous down. Abdomen deeper black, more shining, very finely and thickly punctate. Legs piceo-testaceous, or testaceous, the femora sometimes fuscous.

On the banks of the Derwent, above Winlaton Mill. On those of Wooler Water, below Langleyford, and near Wooler, and of the Till.—*J. H.* June.

It burrows under the sand, raising little heaps like worm casts, and comes abroad towards evening. Where I met with it, it was preyed on by a colony of *Formica rufa*. It occurs on several of the Berwickshire rivers, and has, I believe, likewise been taken in Ireland, by Mr. Halliday.

133. *PLATYSTETHUS*, *Mannerheim*.

1. *P. MORSITANS*, *Payk.*

*Steph. Illust., Mand., v.*, 312.—*Erichson, Gen. et Spec. Staph.*, 782.—*Oxytelus morsitans, Gyll. Ins. Suec.*, ii., 451.—*Platystethus trilobus, Steph. Illust., Mand., v.*, 312.—*Pl. sulcatus, Marsh, Ib., l.c.*, 313.—*Pl. brunnipennis, Ib., l.c.*—*Platystethus pallidipennis, Heer, Fn. Col. Helv.*, i., 207.

Common.

## 134. OXYTELUS, Grav.

## 1. O. RUGOSUS, Fab.

*Steph. Illust., Mand., v., 316.*—*Erichson, Gen. et Spec. Staph., 786.*—*Oxytelus carinatus, Gyll. Ins. Suec., ii., 452.*—*Steph. Illust., Mand., v., 315.*—*Heer, Fn. Col. Helv., i., 203.*

*Var. O. pulcher, Grav. Micr., 107.*—*Steph. Illust., Mand., v., 315.*—*O. terrestris, Boisd. et Lacord. Faun. Ent. Paris, i., 462.*

Common.

In winter, it often occurs in moss, or in the soil; in the pith of reeds and thistles, or under bark.

## 2. O. SCULPTUS, Grav.

*Erichson, Gen. et Spec. Staph., 788.*—*Heer, Fn. Col. Helv., i., 205.*—*Oxytelus antennatus, Kirby, Steph. Illust., Mand., v., 317.*

Under garden rubbish, &c. "Twizell."—*P. J. Selby, Esq. Long Benton.*—*T. J. B. Budle Crag.*—*J. H. March—July.*

## 3. O. SCULPTURATUS, Grav.

*Gyll. Ins. Suec., ii., 456.*—*Steph. Illust., Mand., v., 317.*—*Erichson, Gen. et Spec. Staph., 790.*

Common, everywhere.

## 4. O. NITENS, Marsh.

*Steph. Illust., Mand., v., 316.*—*Oxytelus luteipennis, Erichson, Gen. et Spec. Staph., 792.*

Ravensworth, Gateshead Fell, and under sea-weed at Marsden.—*J. H. Prestwick Car.*—*T. J. B. March—July.*

## 5. O. FLAVIPES, Steph.

*Steph. Illust., Mand., v., 318.*

Beneath sea-weed at Newton-by-the-Sea, near Beadnell, Hartley, Cullercoats, Tynemouth, Marsden, and Hartlepool. February—May.

This very distinct species is related to *O. politus* of Erichson.

6. *O. NITIDULUS*, Grav.

*Steph. Illust., Mand., v.*, 319.—*Erichson, Gen. et Spec. Staph.*, 795.—*Oxytelus ruficrus*, Kirby, *Steph. Illust., Mand., v.*, 320.

Near North Sunderland, Wooler, on the Till, Ravensworth woods, and rather abundant at Marsden.—*J. H.* Newcastle.—*T. J. B.* May.

7. *O. PALLIPES*, Kirby.

*Steph. Illust., Mand., v.*, 319.—*Oxytelus depressus*, Gyll. *Ins. Suec.*, ii., 457.—*Oxytelus complanatus*, *Erichson, Gen. et Spec. Staph.*, 795.

In dung, &c. Near Beadnell, South Shields, Marsden, and Hartlepool.—*J. H.* Long Benton.—*T. J. B.* March—May.

Much resembling *O. sculpturatus*, but smaller, the interstices of the sulci of the thorax narrower, more elevated, carinated, head, thorax, and elytra opaque. In *O. sculpturatus* the posterior tibiæ are spinose after the middle; in this they are not visibly spined. The head, thorax, and elytra are longitudinally strigose.

8. *O. DEPRESSUS*, Grav.

*Steph. Illust., Mand., v.*, 318.—*Erichson, Gen. et Spec. Staph.*, 796.—*Heer, Fn. Col. Helv.*, i., 206.—*Oxytelus opacus*, Kirby, *Steph. Illust., Mand., v.*, 321.—*O. pusillus*, Leach, *ib.*, l.c.

Common.

135. *TROGOPHLEUS*, Mannerheim.1. *T. BILINEATUS*, Kirby.

*Erichson, Gen. et Spec. Staph.*, 806.—*Carpalinus bilineatus*, *Steph. Illust., Mand., v.*, 324., pl. xxvii., f. 4.—*Oxytelus corticinus*, Gyll. *Ins. Suec.*, ii., 645.

Under garden rubbish, dung heaps, and by the banks of rivulets. Ravensworth woods.—*J. H.* Long Benton.—*T. J. B.* Jan.—May.

2. *T. FULIGINOSUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 808.—*Carpalinus fuliginosus*, *Steph. Illust., Mand., v.*, 325.

On the banks of the Till, below Weetwood Bridge. July.—*J. H.*

3. *T. PUSILLUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 811.—*Heer, Fn. Col. Helv.*, i., 202.—*Aleochara pusilla*, *Gyll. Ins. Suec.*, ii., 409.—*Tænosoma pusillum*, *Steph. Illust., Mand.*, v., 323.—*Oxytelus fuliginosus*, *Gyll. Ins. Suec.*, ii., 460.—*Carpalimus picipennis*, *Kirby, Steph., Illust., Mand.*, v., 325?

In similar places with the preceding. Long Benton.—*T. J. B. Budle*, North Sunderland, Wooler water, and the banks of the Till.—*J. H. May*—July.

SEC. 2. OXYTELINI COPROPHILINI, *Erichson*.\*136. *COPROPHILUS*, Latreille.1. *C. STRIATULUS*, Fab.

*Steph. Illust., Mand.*, v., 345.—*Erichson, Gen. et Spec. Staph.*, 816.—*Heer, Fn. Col. Helv.*, i., 199.—*Omalium rugosum*, *Gyll. Ins. Suec.*, ii., 233.—*Anthobium rugosum*, *Boisd. et Lacord. Faun. Ent. Paris*, 469.

Rare. From the sea coast at Hartlepool.—*J. H.* Under sea weed, near Sunderland.—*Mr. W. Peacock*.

137. *MICRALYMMMA*, Westwood.1. *M. BREVIPENNE*, Gyll.

*Erich. Gen. et Spec. Staph.*, 820.—*Omalium brevipenne*, *Gyll. Ins. Suec.*, ii., 234.—*Micralymma Johnstonis*, *Westw. Mag. of Zool. and Bot.*, ii., 130, pl. iv, f. 1.—*Steph. Manual*, No. 3414.

Under stones between tide marks, between Budle and the Heather House, and more sparingly in the fissures of a shady sandstone, near Monkshouse, in July.—*J. H.*

*Mr. Halliday* remarks that this species was described about the period of Linnæus. I have not been able to find its earliest appellation thus referred to. *Schiodte* has described a second species from Greenland, with terrestrial habits.

138. *SYNTOMIUM*, Curtis.1. *S. ÆNEUM*, Müller.

*Erichson, Gen. et Spec. Staph.*, 821.—*Heer, Fn. Col. Helv.*, i., 199.—*Omalium æneum*, *Gyll. Ins. Suec.*, iv., 466.—

\* *Schiodte* is of opinion that this section should be united to the *Omalides*.

*Syntomium nigro-æneum*, *Curt. Brit. Ent.*, pl. 228.—  
*Steph. Illust., Mand.*, v., 329.

In moss from damp places. Gosforth, Long Benton, and  
Gibside.—*T. J. B.* Ravensworth woods.—*J. H.* February.

SUB-FAMILY 5. PHLEOCHARIDES.

139. PHLEOCHARIS, *Mannerheim*.

1. *P. SUBTILISSIMA*, *Mannerh.*

*Steph. Manual*, No. 3375.—*Erichson, Gen. et Spec. Staph.*,  
845.

Under bark of mountain ash, and other trees in Ravensworth  
woods; and under bark of paling, at Gibside.—*J. H.* March—  
October.

SUB-FAMILY 6. OMALIDES.

140. ANTHOPHAGUS, *Grav.*

1. *A. CARABOIDES*, *Linn.*

*Gyll. Ins. Suec.*, ii., 192.—*Erichson, Gen. et Spec. Staph.*,  
850.—*Heer, Fn. Col. Helv.*, i., 195.—*Lesteva Caraboides*,  
*Steph. Illust., Mand.*, v., 360.

On shrubs, and among herbage. "Twizell."—*P. J. Selby*,  
*Esq.* "Castle Eden dean."—*Ormsby's Durham*. Gosforth,  
Gibside, &c. June.

2. *A. TESTACEUS*, *Grav.*

*Steph. Illust., Mand.*, v., 361.—*Erichson, Gen. et Spec. Staph.*,  
851.—*Heer, Fn. Col. Helv.*, i., 194.—*Anthophagus Cara-*  
*boides, var. c.*, *Gyll. Ins., Suec.*, ii., 192.

On the leaves of underwood. Gibside.—*J. H.* June.

The elytra are longer than in the preceding, and the thorax is  
more quadrate, and not so much narrowed posteriorly. *Gyllenhal*  
considers that the differences are to be attributed to the robustness  
of the specimens, whence also arises the deeper puncturing of the  
head and thorax.

3. *A. ALPINUS*, *Fab.*

*Erich. Gen. et Spec. Staph.*, 849.—*Heer, Fn. Col. Helv.*, i.,  
196, 6.—*Lesteva alpina, Steph. Illust., Mand.*, v., 361.

Under stones, at the summit of Hedgehope (2347 feet) in July.—  
*J. H.*

The specimens taken are all males, and have their heads armed with sharp horns. One specimen has the antennæ testaceous; in the others the tip of these is pitchy, as in foreign examples. The mouth is red, and the head and thorax are black, excepting the rufous margins of the latter.

141. GEODROMUS, *Heer*.

1. G. PLAGIATUS, *Fab.*

*Heer, Fn. Col. Helv.*, i., 572.—*Geobius plagiatus*, *Ib.*, *l.c.*, i., 193.—*Anthophagus plagiatus*, *Gyll. Ins. Suec.*, ii., 195.—*Erichson, Gen. et Spec. Staph.*, 852.—*Lesteva plagiata*, *Steph. Illust., Mand.*, v., 362.

*Var.* With the elytra black, concolorous.

*Anthophagus nigrita*, *Müller, Germ. Mag.*, iv., 226.—*Lesteva globulicollis*, *Mannerh. Brach.*, 56.—*Steph. Illust., Mand.*, v., 360.

A specimen of the variety has occurred on the banks of the Derwent, near the monument at Gibside.—*J. H.*

142. LESTEVA, *Latreille*.

1. L. BICOLOR, *Fab.*

*Erichson, Gen. et Spec. Staph.*, 855.—*Anthophagus obscurus*, *Gyll. Ins. Suec.*, ii., 196.—*Lesteva, obscura*, *Steph. Illust. Mand.*, v., 361.—*Heer, Fn. Col. Helv.*, i., 192.

On the banks of gravelly streams. Common.

In a small shady glen near Winlaton, I observed great numbers on the border of the rivulet, feeding upon drowned *Hilaræ* and other *Diptera*, that are accustomed to hover over pools.

2. L. IMPRESSA, *Kirby*.

*Steph. Illust., Mand.*, v., 363.—*L. punctata*, *Erichson, Gen. et Spec. Staph.*, 857.

Under herbage, in the wettest swamps. Near Wooler, Ravensworth woods, and the woods above Swalwell.—*J. H.* January.

To adapt it to its situation, it appears to have, like *L. bicolor*, an oily coat to repel moisture.

143. ARPEDIUM, *Erichson*.

1. A. BRACHYPTERUM: *Piceum, parum nitidum, parce pubescens, capite thoraceque subquadrato parce subtiliterque punctatis, hoc utrinque profunde foveolato, elytris crebre fortius punctatis.* Lon.  $1\frac{2}{3}$  lin.

*Erich. Gen. et Spec. Staph.*, 859.—*Omalium brachypterum, Grav. Micr.*, 114, 5.

Under stones, in peaty soil, near the summit of Hedgehope.—*J. H.*

Body oblong, sub-depressed, piceous or ferrugineo-piceous, rather shining, abdomen still more splendid, with a sparing, bristled, and rather distinct pubescence; head sub-triangular, about one-third less than the thorax, slightly convex along the middle, sparingly, finely, and obsoletely punctate, rather smooth anteriorly, front between the eyes with two minute deep longitudinal striæ, and anteriorly between the antennæ with two more obsolete foveolæ, black, the mouth piceous; antennæ slender, scarcely thickened outwardly, about the length of the head and thorax, rather pilose, and as well as the maxillary palpi rufo-piceous; labial palpi testaceous; thorax sub-quadrato, about the width of the base of the elytra, a little shorter than broad, with the sides slightly rounded, the base and apex truncate, all the angles rounded, above slightly convex, sparingly and obsoletely punctulate, the puncturing more conspicuous on the sides and the posterior angles, a minute rounded deep fovea on each side at the lateral margin a little before the middle, fusco-piceous or ferruginous; scutellum sparingly, finely, and obsoletely punctate; elytra one half longer than the thorax, wedge-shaped, broadest backwardly, the outer angles rounded, rather flattish, with a longitudinal depression on each side of the scutellum, thickly and rather strongly punctate; abdomen still increasing in width after the termination of the elytra, and then narrowed at the apex; about the length of the anterior part of the body, shining, very minutely thickly and obsoletely punctulate, nearly glabrous, the sides broadly margined; legs rufo-testaceous.

I have met with this rare insect, in the collections of Dr. Greville and the Rev. W. Little, who probably took it in the

Scottish Highlands. This, however, is the first time it is recorded as British.

2. *A. SUBPUBESCENS*, Kirby.

*Omalium subpubescens*, *Steph. Illust., Mand.*, v., 350.—

*Arpedium humile*, *Erichson, Gen. et Spec. Staph.*, 860.—

*Arpedium myops*, *Haliday, Entomologist*, 187.

On the flowers of broom and furze. North Sunderland, Budle Hills, Embleton, Wooler, foot of Hedgehope, wood above Winlaton Mill.—*J. H. Long Benton*.—*T. J. B.* June.

Haliday was the first to notice the generic relations of the British insect, and the anomalous circumstance of its being destitute of ocelli. *Erichson's A. humile*, from the Uralian mountains, was a solitary example, and appears to have been immature.

144. *ACIDOTA*, Leach.

1. *A. CRENATA*, Fab.

*Steph. Illust., Mand.*, v., 358, pl. xxvi. f. 6.—*Boisd. et*

*Lacord. Faun. Ent. Paris*, i., 476.—*Erichson, Gen. et*

*Spec. Staph.*, 861.—*Omalium crenatum*, *Gyll. Ins. Suec.*, ii., 230.

A pair from the woods above Ravensworth Castle.—*J. H. February*.

145. *OLOPHRUM*, *Erichson*.

1. *O. PICEUM*, *Gyll.*

*Erichson, Gen. et Spec. Staph.*, 864.—*Steph. Manual*, No.

3409.—*Omalium piceum*, *Gyll. Ins. Suec.*, ii., 200.—

*Anthobium piceum*, *Steph. Illust., Mand.*, v., 341.

Under withered leaves, &c., in such swampy places as *Chrysosplenium alternifolium* flourishes. Long Benton, Gosforth, Ravensworth, Swalwell, and on the coast near South Shields. February—May.

146. *LATHRIMÆUM*, *Erichson*.

1. *L. ATROCEPHALUM*, *Gyll.*

*Erichson, Gen. et Spec. Staph.*, 870.—*Steph. Manual*, No.

3403.—*Omalium atrocephalum*, *Gyll. Ins. Suec.*, 463.—

*Anthobium atrocephalum*, *Steph. Illust., Mand.*, v., 342.—

*Anthobium melanocephalum*, *Marsh, Ib., l.c.*, v., 341.—*A. longipenne*, *Kirby, Ib., l.c.*?—*A. unicolor*, *Marsh, Ib., l.c.*, 343? (*jun.*?)

In humid situations, under herbage; also under bark, and at the sap of felled trees. "Twizell."—*P. J. Selby, Esq.* Cramlington, Gosforth, Long Benton, Gibside, Ravensworth. January—September.

147. *DELIPHRUM*, *Erichson*.

1. *D. TECTUM*, *Payk.*

*Erichson, Gen. et Spec. Staph.*, 872.—*Steph. Manual*, No. 3402.—*Omalium tectum*, *Gyll. Ins. Suec.*, ii., 203.—*Boisd. et Lacord. Faun. Ent. Paris*, i., 487.—*Anthobium tectum*, *Steph. Illust., Mand.*, v., 340.

At sap of felled trees; in horse dung, &c. "Twizell."—*P. J. Selby, Esq.* Long Benton, Heaton, Gosforth, Gibside, Ravensworth, South Shields. March—May.

148. *PHLÆONOMUS*, *Heer*.

1. *P. INFLATUS*, *Gyll.*

*Heer, Fn. Col. Helv.*, i., 185.—*Omalium inflatum*, *Gyll. Ins. Suec.*, iii., 700.—*Erichson, Gen. et Spec. Staph.*, 883.—*Lathrimæum inflatum*, *Steph. Manual*, No. 3408.

Rare. Under decayed bark of trees, in the upper parts of Ravensworth woods.—*J. H.* February—October.

2. *P. IOPTERUS*, *Kirby*.

*Omalium iopterum*, *Steph. Illust., Mand.*, v., 349.—*Omalium sordidum*, *Ib. l.c.*—*Omalium lucidum*, *Erichson, Gen. et Spec. Staph.*, 881.—*Phlæonomus lucidus*, *Heer, Fn. Col. Helv.*, i., 185.—*Omalium brunneum*, *var. b.*, *Gyll. Ins. Suec.*, ii., 227.—*Omalium mesomelas*, *Holme, Trans. Ent. Soc. Lond.*, iii., 128?

Under bark of trees and paling. Ravensworth woods and Gibside.—*J. H.* January.

3. *P. PUSILLUS*, *Gyll.*

*Heer, Fn. Col. Helv.*, i., 186.—*Omalium pusillum*, *Gyll. Ins. Suec.*, ii., 220.—*Steph. Illust., Mand.*, 353.—*Erichson, Gen. et Spec. Staph.*, 879.

Under the bark of *Pinus sylvestris*. "Twizell."—*P. J. Selby, Esq.* Long Benton and Gosforth.—*T. J. B.* May—September.

149. OMALIUM, *Gravenhorst*.

1. *O. RIVULARE*, *Payk.*

*Gyll. Ins. Suec.*, ii., 214.—*Steph. Illust., Mand.*, v., 354.—*Erichson, Gen. et Spec. Staph.*, 875.—*Heer, Fn. Col. Helv.*, i., 176.

Common, especially on the flowers of *Allium ursinum*. June.

2. *O. LÆVIUSCULUM*, *Gyll.*

*Gyll. Ins. Suec.*, iv., 464.—*Erichson, Gen. et Spec. Staph.*, 887.—*Omalium læve, Steph. Illust., Mand.*, v., 352.

Common beneath sea-weed, along the coast. Budle Bay, Beadnell, Newton-by-the-Sea, Hartley, Tynemouth, South Shields, Marsden, Sunderland. February—September.

Distinguished from *O. rivulare*, by the fineness of its puncturing.

3. *O. EXIGUUM*, *Gyll.*

*Gyll. Ins. Suec.*, ii., 218.—*Steph. Illust., Mand.*, v., 350.—*Erichson, Gen. et Spec. Staph.*, 876.

One specimen on the sand at South Shields.—*J. H.* May.

4. *O. OXYACANTHÆ*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 877.—*Omalium piceum, Kirby, Steph. Illust., Mand.*, v., 354.

"Twizell."—*P. J. Selby, Esq.* Beneath sea-weed at Shields and Marsden.—*J. H.* Newcastle and Cullercoats.—*T. J. B.* May.

5. *O. FOSSULATUM*, *Erich.*

*Erichson, Gen. et Spec. Staph.*, 877.—*Heer, Fn. Col. Helv.*, i., 176.—*Omalium caesum, Gyll. Ins. Suec.*, ii., 215.—*Steph. Illust., Mand.*, v., 354.

Not unfrequent. "Twizell."—*P. J. Selby, Esq.* Long Benton, Ravensworth, Marsden, Swalwell. May.

6. *O. CONFORMATUM*, *Hardy.*

*Nigrum, nitidum, sublineare, pedibus testaceis, antennis elytrisque subnigris, capite thoraceque creberrime punctatis;*

*hoc dorso foveolis duabus sub-oblongis, parum profundis impresso, basin versus subangustato, margine laterali non explanato.* Long. 1—1½ lin.

Sublinear, of the size of *O. exiguum*, to which it is nearly allied, but the head and thorax are less deeply impressed, and the elytra less deeply punctured; with the foveæ of *O. rivulare*. Black, shining. Antennæ of the length of the head and thorax, slightly thickened towards the apex, 9th and 10th joints sub-transverse, the last rather larger, abruptly acuminate; black, or nigro-piceous in the middle. Palpi nigro-piceous. Head rather flattish, thickly and rather finely punctate, two deepish rounded foveæ behind between the eyes, and two approximating more obsolete sublinear impressions anteriorly between the base of the antennæ, the apex of the head not smooth. Thorax transverse, subquadrate, of the shape of that of *O. rivulare*, considerably narrower than the elytra, nearly one half of their breadth at the apex, thickly and finely punctate as in the head; the sides slightly, the anterior angles considerably rounded, slightly narrowest towards the base, base truncate, posterior angles nearly right angled; slightly convex transversely, the back with two sub-arcuate, rather shallow, sub-oblong foveæ, widest and deepest behind, narrowing and vanishing in front, with a third obverse-lanceolate, more obsolete, intermediate foveæ at the apex, and the trace of a fourth triangular, still more shallow one at the base before the scutellum; sides anteriorly narrowly margined, at the middle, on each side, rather strongly impressed, by which means a triangular flattened space is formed at each of the posterior angles. Scutellum smooth. Elytra more than double the length of the thorax, sometimes widest externally, lateral margin very narrow, exterior angles rounded; not quite flat, slightly longitudinally depressed on each side along the suture, and at the base near the shoulders; very thickly and rather strongly punctate, concolorous, or slightly fuscous. Abdomen very obsoletely punctulate, rather dull. Legs testaceous, the femora sometimes dusky.

Very nearly allied to *O. cæsum*, Erich., *O. oxyacanthæ*, Gyll., which appears to be more opaque, and has the sides of the thorax flattened out.

At a dead hare, in Ravensworth woods, and also at South Shields.—*J. H.* March—May.

This species has also occurred in Berwickshire, and there are specimens in Mr. Walker's collection probably taken near London.

7. *O. FLORALE*, *Payk.*

*Steph. Illust., Mand.*, v., 350.—*Erichson, Gen. et Spec. Staph.*, 879.—*Omalium Viburni*, *Gyll. Ins. Suec.*, ii., 224.—*Steph. Illust., Mand.*, v., 351.

On the flowers of broom, hawthorn, &c. Swalwell, dean above Winlaton Mill, Gibside, and under sea-weed at South Shields.—*J. H.* Long Benton.—*T. J. B.* April—June.

8. *O. PUSILLUM*, *Gyll.*

*Gyll. Ins. Suec.*, ii., 218.—*Steph. Illust., Mand.*, v., 353.—*Erichson, Gen. et Spec. Staph.*, 879.—*Phlænomus pusillus*, *Heer, Fn. Col. Helv.*, i., 186.

Long Benton, Gosforth.—*T. J. B.* May—September.

150. *XYLODROMUS*, *Heer.*

1. *X. CONCINNUS*, *Marsh.*

*Heer, Fn. Col. Helv.*, i., 567.—*Omalium concinnum*, *Steph. Illust., Mand.*, v., 347?—*Erichson, Gen. et Spec. Staph.*, 886.

Under rubbish, and in shops and cellars. Newcastle, Gateshead, Long Benton. June—October.

It often appears on windows. Our insect agrees better with *Erichson's* description of *Omalium concinnum*, than with *O. deplanatum*, to which specimens are often referred. The elytra are always longitudinally substrigose. *Stephens'* description is so indefinite, that it is difficult to decide as to which of the two closely allied species it belongs.

151. *ANTHOBIUM*, *Leach*

1. *A. TRIVIALE*, *Erich.*

*Nigro-piceum, ore, antennis pedibusque testaceis; thorace transverso, angulis posticis rectis; elytris fuscis, confertim sat fortiter punctatis, thorace duplo longioribus, in utroque sexu truncatis.* Long.  $1\frac{1}{2}$  lin.

*Erichson, Gen. et Spec. Staph.*, 892.—*Heer, Fn. Col. Helv.*, i., 180.—*Omalium Primulæ, Kirby, Steph. Illust., Mand.*, v., 356?

About double the size of *A. minutum*, more elongate, with the habit of an *Omalium*, nigro-fuscous, rather shining, glabrous, abdomen indistinctly pubescent. Antennæ longer than the head and thorax, rather slender, slightly thickened towards the apex, (the last five joints); testaceous, the base rather palest, pilose. Mouth and palpi testaceous. Head triangular, much less than the thorax, two minute foveæ between the eyes, and two rather shallow ones at the base of the antennæ, margin of the apex elevated, a very slightly elevated transverse bent ridge crossing the middle of the head before the ocelli, scarcely punctate, at the border of each eye finely longitudinally strigose; black, slightly shining. Eyes very prominent. Thorax transverse, truncate cordate, or subquadrate, a little narrower than the elytra, scarcely one half longer than broad, the sides rounded, slightly margined, more distinctly at each of the posterior angles, consequent on a very obsolete lateral impression, slightly narrowed towards the base, base and apex truncate, anterior angles rounded, posterior angles right angled, bluntish; slightly convex, scatteredly and rather finely punctate, an obsolete rounded impression at the base before the scutellum; rather shining, fuscous black, lateral margins rufescent. Scutellum smooth. Elytra more than twice as long as the thorax, widest behind, the sides deflexed, apex slightly, external apex obliquely rounded, interiorly truncate in both sexes, thickly and strongly punctate, at the apex narrowly smoothened, and with the puncturing finer, some of the punctures next the apex, suture shewing a tendency to arrangement in a series, rather widely depressed along the suture, and slightly near the shoulders; fusco-rufescent, apical and sometimes the lateral margins more dilute, shining. Abdomen, behind the elytra, about half their length, exceedingly finely punctulate, black, somewhat shining, apex testaceous, in the female with two very short styles.

This agrees so closely with Stephens' description of *Omalium Primulæ*, that I cannot but regard it as the same; but since it is placed in his division, with "*the thorax deeply foveolated*," there

is room for doubt. In Switzerland, *A. triviale* frequents the primrose, whence it has been likewise named by Chevrier, *Omalium Primulæ*. Kirby found his *O. Primulæ*, "abundant in the flowers of the common primrose, in May, 1809; when first captured it has a most fetid odour." (*Steph. Illust., Mand., v., 357.*) See also Kirby and Spence, *Introd. to Entomology*, ii., 242.

Taken in the flowers of the Guelder Rose (*Viburnum Opulus*); and of the Hawthorn, at Gibside.—*J. H.* May and June.

2. *A. TORQUATUM*, Marsh.

*Steph. Illust., Mand., v., 339.*—*Anthobium mucronatum*, Kirby, *Ib., l.c., (fœm.)*—*Omalium montivagum*, Chevrier, Heer, *Fn. Col. Helv., i., 184.*—*Anthobium scutellare*, Erichson, *Gen. et Spec. Staph., 895.*—*Anthobium nigri-ventre*, *Steph. Illust., Mand., v., 343?*

In flowers of furze and broom; common. Budle, Twizell, Tynemouth, Gibside, &c. June and July.

3. *A. SORBI*, Gyll.

*Steph. Illust., Mand., v., 338.*—*Erichson, Gen. et Spec. Staph., 895.*—*Omalium Sorbi*, Gyll. *Ins. Suec., ii., 206.*

*Var. Silpha lutea*, Marsh. *Ent. Brit., i., 128.*—*Anthobium luteum*, *Steph. Illust., Mand., v., 338.*

In flowers of hawthorn, mountain ash, broom, &c.; very common. June and July.

4. *A. MINUTUM*, Fab.

*Erichson, Gen. et Spec. Staph., 896.*—*Steph. Manual, No. 3398.*—*Anthobium Ranunculi*, *Ib. Illust., Mand., v., 337.*—*An. picipenne*, Kirby, *Ib. l.c.*

In the flowers of the Ranunculaceæ, common.

SUB-FAMILY 7. PROTEINIDES.

152. *PROTEINUS*, Latreille.

1. *P. BRACHYPTERUS*, Fab.

*Steph., Illust., Mand., v., 334.*—*Erichson, Gen. et Spec. Staph., 903.*—*Omalium brachypterum*, Gyll. *Ins. Suec., ii., 207.*—*Proteinus ovalis*, Kirby, *Steph. Illust., Mand., v., 335.*

In Fungi, and decaying substances, not uncommon. Gibside, Axwell, Ravensworth, South Shields, &c.

153. MEGARTHURUS, Kirby.

1. M. DEPRESSUS, Payk.

*Erichson, Gen. et Spec. Staph.*, 905.—*Heer, Fn. Col. Helv.*, i., 171.—*Omalium depressum, Gyll. Ins. Suec.*, ii., 210.—*Megarthus pusillus, Steph. Illust., Mand.*, v., 333.—*Omalium macropterum, Grav. Mon.*, 215, viz. *Megarthus* id., *Steph. l.c.*?

In Fungi, cow-dung, &c. Budle Crag, Prestwick Car, Long Benton, Gibside, Ravensworth, South Shields. June—October.

2. M. SINUATOCOLLIS, De Jean.

*Erichson, Gen. et Spec. Staph.*, 905.—*Phlæobium sinuato-colle, Boisd. et Lacord. Faun. Ent. Paris*, i., 493.—*Megarthus depressus, Steph. Illust. Mand.*, v., 332?

In Fungi. Gibside and elsewhere. July.

In this species there is a blunt tooth on the sides of the thorax, behind the middle.

3. M. DENTICOLLIS, Beck.

*Erichson, Gen. et Spec. Staph.*, 906.—*Megarthus marginatus, Steph. Illust., Mand.*, v., 333, (*fem.*) — *Megarthus emarginatus, Kirby, Ib. l.c.*, 332?—*Phlæobium marginicolle, De Jean, Boisd. et Lacord. Faun. Ent. Paris*, i., 493.—*Megarthus marginicollis, Heer, Fn. Col. Helv.*, i., 171.

In garden rubbish, &c. Long Benton.—*T. J. B.* Gibside.—*J. H.* March—August.

The male has the intermediate femora thickened, and the tibiæ slightly bent; the posterior femora are also thickened, the trochanters strongly dilated, the tibiæ emarginate before the apex, and the apex is furnished with a claw.—(*Erichson.*)

SUB-FAMILY 8. MICROPEPLIDÆ.

154. MICROPEPLUS, Latreille.

1. M. PORCATUS, Fab.

*Steph. Illust., Mand.*, iii., 55.—*Erichson, Gen. et Spec. Staph.*, 911.—*Omalium porcatum, Gyll. Ins. Suec.*, ii., 211.

In garden rubbish, and in damp places, not uncommon.

2. *M. STAPHYLINOIDES*, Marsh.

*Steph. Illust., Mand.*, pl. xvi., f. 6.—*Manual*, No. 990.—*Erichson, Gen. et Spec. Staph.*, 913.—*Nitidula Staphylinoides*, Marsh. *Ent. Brit.*, i., 137.

Flying over old thatch and dung at Long Benton.—*T. J. B.* Under stones near Marsden.—*J. H.* May—October.

Stephens' description of *M. Staphylinoides*, as Mr. Haliday observes (*Entomologist*, 187), is chiefly taken from Gyllenhal, whose insect was the *M. Tesserula* of Curtis, which has the interstices between the ridges on the elytra smooth, while they are punctate in *M. Staphylinoides*. It is perhaps owing to this error, that *M. Tesserula*, which is represented with the interstices "very minutely punctured," is found in Mr. Selby's List of the Insects found on Twizell estate.

## SUB-FAMILY 9. TACHYPORIDES.

155. *HYPOCYPTUS*, Schuppel.1. *H. LONGICORNIS*, Payk.

*Boisd. et Lacord. Faun. Ent. Paris*, i., 521.—*Steph. Manual*, No. 2975.—*Erichson, Gen. et Spec. Staph.*, 215.—*Cypharufipes*, *Steph. Illust., Mand.*, v., 187.

In Fungi, &c. "Twizell."—*P. J. Selby, Esq.* Gibside, Shields, Hartlepool. April—September.

156. *CONURUS*, Stephens.1. *C. LITTOREUS*, Linn.

*Curt. Brit. Ent.*, pl. 762.—*Erichson, Gen. et Spec. Staph.*, 219.—*Steph. Manual*, No. 2981.—*Tachyporus cellaris*, *Gyll. Ins. Suec.*, ii., 244.—*Conurus cellaris*, *Steph. Illust., Mand.*, v., 189.—*Tachinus angularis*, *Ib., l.c.*, 193.

Under decayed bark of trees in damp places, rare. Woods on the Team, near Ravensworth, and on the Derwent, near Swalwell.—*J. H.* April.

2. *C. PUBESCENS*, Grav.

*Steph. Illust., Mand.*, v., 189.—*Erichson, Gen. et Spec. Staph.*, 221.—*Tachyporus pubescens*, *Gyll. Ins. Suec.*, ii., 243.—*Conurus Marshami*, *Steph. Illust., Mand.*, v., 189.

Under bark and rubbish, in damp places ; common within the district round Newcastle.

3. *C. PYRRHOPTERUS*, *Steph.*

*Steph. Illust., Mand.*, v., 434. — *Conurus obscuripennis*, *Kirby, Ib., l.c.*, v., 191? — *Conurus lividus*, *Erichson, Gen. et Spec. Staph.*, 229.

Common, on sandy sea coasts. March—September.

This species is uniformly of a rufo-testaceous hue.

157. *TACHYPORUS*, *Grav.*

1. *T. OBTUSUS*, *Linn.*

*Steph. Illust., Mand.*, v., 182. — *Erichson, Gen. et Spec. Staph.*, 232. — *Tachyporus analis*, *Gyll. Ins. Suec.*, ii., 239. — *Steph. Illust., Mand.*, v., 182. — *T. melanurus*, *Marsh., Ib., l.c.*, 183.

*Var. ? T. nitidicollis*, *Steph., l.c.*, 184.

In moss, common.

2. *T. HYPNORUM*, *Fab.*

*Steph. Illust., Mand.*, v., 184. — *Erichson, Gen. et Spec. Staph.*, 234. — *Tachyporus marginatus*, *Gyll. Ins. Suec.*, ii., 237. — *Steph. Illust., Mand.*, v., 183. — *T. nitidulus*, *Marsh., Ib. l.c.*, 184. — *T. subtestaceous*, *Ib. l.c.*, 183. (*Immat.*)

In moss, common.

The young immature testaceous varieties are found about midsummer.

3. *T. CHRYSOMELINUS*, *Linn.*

*Gyll. Ins. Suec.*, ii., 236. — *Steph. Illust., Mand.*, v., 181. — *Erichson, Gen. et Spec. Staph.*, 235. — *T. merdarius*, *Steph. Illust., Mand.*, v., 182. — *T. marginellus*, *Marsh., Ib., l.c.*

In moss, common.

4. *T. PYRRHOPTERUS*, *Kirby.*

*Steph. Illust., Mand.*, v., 181.

Not common. In moss from Ravensworth and Gibside.—*J*

*H.* January.

5. *T. RUFICOLLIS*, Grav.

*Steph. Illust., Mand.*, v., 180.—*Erichson, Gen. et Spec. Staph.*, 239.—*Heer, Fn. Col. Helv.*, i., 288.

Not very common; in moss, from Gibside, Long Benton, Ravensworth, and the sea coast. January.

Erichson describes the antennæ as entirely testaceous; but in our specimens the apex is black or nigro-fuscous, with the base testaceous. In other respects the characters given are those of our insects.

6. *T. PUSILLUS*, Grav.

*Gyll. Ins. Suec.*, ii., 241.—*Steph. Illust., Mand.*, v., 180.—*Erichson, Gen. et Spec. Staph.*, 239.—*T. atriceps*, *Steph. Illust., Mand.*, v., 181.—*T. nigripennis*, *Ib.*, l.c., 180.

In moss, not uncommon. "Twizell."—*P. J. Selby, Esq.* Shoreston, Ravensworth, Gibside, Gosforth, South Shields, Marsden. January—August.

7. *T. BRUNNEUS*, Fab.

*Erichson, Gen. et Spec. Staph.*, 241.—*Tachyporus nitidulus*, *Gyll. Ins. Suec.*, ii., 242.—*Boisd. et Lacord. Faun. Ent. Paris*, i., 517.—*Heer, Fn. Col. Helv.*, i., 290.

In moss, not very common. Gosforth, Long Benton, Gibside, Ravensworth. January—June.

Under this species and the preceding, the greater number of the species enumerated in Stephens' first section are probably to be arranged as varieties.

158. *TACHINUS*, Grav.1. *T. SILPHOIDES*, Linn.

*Gyll. Ins. Suec.*, ii., 267.—*Steph. Illust., Mand.*, v., 194.—*Erichson, Gen. et Spec. Staph.*, 245.

Abundant in hot beds, also in horse dung. "Twizell."—*P. J. Selby, Esq.* Cheviot.—*Dr. Johnston.* Long Benton, Gibside, South Shields, &c. June.

2. *T. RUFIPES*, Linn.

*Steph. Illust., Mand.*, v., 196.—*Erichson, Gen. et Spec. Staph.*, 254.—*Tachinus pullus*, Grav. *Micr.*, 140.—*Gyll. Ins.*

*Suec.*, ii., 262.—*Steph. Illust., Mand.*, v., 196.—*T. apicalis*,  
*Ib. l.c.*, 195.—*T. fulvipes*, *Ib. l.c.*—*T. pallens*, *Gyll. Ins.*  
*Suec.*, ii., 259.—*Steph. Illust., Mand.*, v., 198. (*Immat.*)

Common.

3. *T. HUMERALIS*, *Grav.*

*Gyll. Ins. Suec.*, ii., 257.—*Boisd. et Lacord. Faun. Ent.*  
*Paris*, i., 507.—*Erichson, Gen. et Spec. Staph.*, 256.—  
*Tachinus cinctus*, *Marsh., Steph. Illust., Mand.*, v., 197.—  
*T. scapularis*, *Ib. l.c.*

In carcasses, Fungi, &c. "Twizell."—*P. J. Selby, Esq.* Gib-  
 side, Ravensworth, Long Benton, South Shields, &c. June—  
 November.

4. *T. SUBTERRANEUS*, *Linn.*

*Gyll. Ins. Suec.*, ii., 252.—*Steph. Illust., Mand.*, v., 198.—  
*Erichson, Gen. et Spec. Staph.*, 259.

Not uncommon. It is usually a vernal insect, appearing in  
 February.

5. *T. MARGINELLUS*, *Fab.*

*Gyll. Ins. Suec.*, ii., 265.—*Steph. Illust., Mand.*, v., 194.—  
*Erichson, Gen. et Spec. Staph.*, 263.—*Tachinus laticollis*,  
*Grav. Micr.*, 141.—*Steph. Illust., Mand.*, v., 194.

Common. February—November.

6. *T. COLLARIS*, *Grav.*

*Gyll. Ins. Suec.*, ii., 266.—*Steph. Illust., Mand.*, v., 193.—  
*Erichson, Gen. et Spec. Staph.*, 264.—*Tachinus corticinus*,  
*Grav. Micr.*, 141.—*Steph. Illust., Mand.*, v., 193.

Not common. "Twizell."—*P. J. Selby, Esq.* Long Benton,  
 and South Shields.—*T. J. B.* March—June.

7. *T. ELONGATUS*, *Gyll.*

*Gyll. Ins. Suec.*, ii., 251.—*Steph. Illust., Mand.*, v., 199.—  
*Erichson, Gen. et Spec. Staph.*, 265.—*Tachinus aterrimus*,  
*Steph. Illust., Mand.*, v., 199.

Not common. "Twizell."—*P. J. Selby, Esq.* Banks of Wooler  
 water, and in the woods, above Winlaton Mill.—*J. H.* August.

159. BOLETOTBIUS, *Leach*.1. B. ANALIS, *Payk.*

*Erichson, Gen. et Spec. Staph.*, i., 269.—*Heer, Fn. Col. Helv.*, i., 297.—*Megacronusanalis, Steph. Illust., Mand.*, v., 165.—*Tachinus analis, Gyll. Ins. Suec.*, ii., 269.

In moss and under stones. "Twizell."—*P. J. Selby, Esq.*  
Long Benton, Wolsington, South Shields, Gateshead Fell, Marsden,  
Ravensworth. January—August.

2. B. FORMOSUS, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 271.—*Megacronus formosus, Steph. Illust., Mand.*, v., 167, pl. xxvi., f. 5.

Rare. One specimen taken in a quarry near Fugar Bar.—*J. H.* November.

3. B. CASTANEUS, *Steph.*

*Megacronus castaneus, Steph. Illust., Mand.*, v., 166.—*Boletobius rufus, Erichson, Gen. et Spec. Staph.*, 273.

Rare. One specimen taken at Long Benton.—*T. J. B.*

4. B. ATRICAPILLUS, *Fab.*

*Steph. Illust., Mand.*, v., 172.—*Erichson, Gen. et Spec. Staph.*, 276.—*Tachinus atricapillus, Gyll. Ins. Suec.*, ii., 273.

In Fungi: common. This, according to Zetterstedt and Westwood is the true Linnæan *Staph. lunulatus*.

5. B. TRIMACULATUS, *Payk.*

*Steph. Illust., Mand.*, v., 172.—*Erichson, Gen. et Spec. Staph.*, 279.—*Tachinus trimaculatus, Gyll. Ins. Suec.*, ii., 275.

*Var. Boletobius trinotatus, Erichson, Gen. et Spec. Staph.*, 279.

In Fungi, under bark, and on trunks of trees. "Twizell."—*P. J. Selby, Esq.* Gibside, Ravensworth, woods above Swalwell.  
April—October.

6. B. ANGULARIS, *Steph.*

*Steph. Illust., Mand.*, v., 173.—*Boletobius exoletus, Erichson, Gen. et Spec. Staph.*, 280.

In Agarics. Gibside, woods on the Derwent, above Winlaton,  
and Gosforth. August.

7. *B. PYGMÆUS*, *Panz.*

*Steph. Illust., Mand., v., 174.*—*Erichson, Gen. et Spec. Staph., 280.*

In Agarics, common. "Twizell."—*P. J. Selby, Esq.* Gosforth, Gibside, Ravensworth, &c. July and August.

Stephens has given several other species, but they may nearly all be reduced to varieties of *B. angularis*, and *B. pygmæus*.

160. *MYCETOPORUS*, *Mannerheim.*1. *M. LONGULUS*, *Mannerh.*

*Elongatus, niger, nitidus; antennis nigris, basi testaceis; thorace nigro, disco utrinque puncto uno alterove impresso; elytris rubris, scutello, summo basi plerumque, et margine exteriori nigris, utrinque tribus seriebus punctorum obsitis, harum stria dorsali regulari; abdomine longo, nigro, crebre fortiter punctato, margine postico segmentorum tenuiter, apiceque, rufo-piceis; pedibus rufis, femoribus posticis interdum nigricantibus.* Long.  $2\frac{1}{2}$  lin.

*Boisd. et Lacord. Faun. Ent. Paris, i., 503.*—*Erichson, Gen. et Spec. Staph., 283.*—*Heer, Fn. Col. Helv., i., 296*—*Mycetoporus nigricollis, Steph. Illust., Mand., v., 434?*

Under moss, in shady and damp places. "Twizell."—*P. J. Selby, Esq.* Prestwick Car, Gibside, Ravensworth. — *J. H. South Shields and Gosforth.*—*T. J. B.* January—May.

This is usually considered as *M. splendens*. From the abstract given of its character, any further description here will be unnecessary.

2. *M. LEPIDUS*, *Knoch.*

*Erichson, Gen. et Spec. Staph., 284.*—*Steph. Manual, No. 3020.*—*Tachyporus lepidus, Gyll. Ins. Suec., ii., 247.*—*Ischnosoma lepidus, Steph. Illust., Mand., v., 169.*

*Var. Ischnosoma punctato-striatus, Steph. l.c.*

In similar places with the preceding. Ravensworth, Gibside, Shields, Hartlepool.—*J. H.* In the dried-up bed of the lake at Gosforth.—*T. J. B.* March—July.

3. *M. SPLENDIDUS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 287.—*Steph. Manual*, No. 3023.—*Ischnosoma splendidus*, *Steph. Illust., Mand.*, v., 170.—*Tachyporus splendidus*, *Gyll. Ins. Suec.*, ii., 249.

Rare. Coast near Monkhouse, and in moss from the low part of the Ravensworth woods.—*J. II.* March.

## SUB-FAMILY 10. ALEOCHARIDES.

## SECT. 1. GYMNUSIDA, Heer.

## 161. MYLLÆNA, Erichson.

1. *M. DUBIA*, Grav.

*Erich. Gen. et Spec. Staph.*, 210.—*Steph. Manual*, No. 2931.—*Gymnusa dubia*, *Steph. Illust., Mand.*, v., 430.—*Centroglossa conuroides*, *Matthews, Ent. Mag.*, v., 195, f. 1.—*Steph. Manual*, No. 2934.

Among gravel, under the foot bridge over Caer burn, on the way to Langleyford.—*J. H.*

2. *M. GRACILIS*, Heer.

*Ferrugineo-vel piceo-testacea, subnitida, cinereosericea, elytri fortiter transversis, thoracis angulis posticis obtusiusculis. abdomine, margine segmentorum posticorum, anoque testaceis, exceptis, nigricante; antennis pedibusque testaceis*  
Long. 1—1 $\frac{1}{4}$  lin.

*Heer, Fn. Col. Helv.*, i., 303.

Intermediate in size betwixt *M. minuta* and *dubia*, somewhat shining, rather thickly finely griseous pubescent, head, thorax, and elytra of a dull ferruginous. Antennæ scarcely longer than the head, shorter than in *M. dubia*, thin, scarcely thickened outwardly, apical joint rather large, shortly rotundate ovate, abruptly pointed, dull testaceous. Mouth and palpi testaceous; third joint of the latter with its apex rather pointed. Head inclined, subtriangular, rostrum much sharpened; much less than the thorax; above convex, rather dusky ferruginous. Thorax of a considerable size, at the middle broader than the elytra, narrowed anteriorly; sides slightly widened, rounded before the middle, as well as the anterior angles deflexed, base truncate, posterior angles nearly right angled, rather blunt; considerably convex transversely,

finely shortly pubescent, rather shining, testaceous, or with the disk more obscure. Elytra almost narrower than the thorax, and much shorter, transverse, slightly convex, apex sinuate, slightly cut out at the exterior angles; very minutely and closely punctulate, piceo-ferruginous, sometimes duskier. Abdomen longer than the anterior part of the body, at the base of the breadth of the elytra, gradually narrowed towards the apex, fuscous black, edges of the segments sometimes narrowly, half of the fifth, and the apical one entirely, ferruginous, the sides and the apex setulose; clothed with rather a dense, shining, silky, fine, griseous pubescence. Legs testaceous.

In damp places. Sides of the Derwent, and in the Ravensworth woods.—*J. H.* March—June.

An active insect, found in swamps, running out of view like a *Conurus*. At first I was dubious in referring our insect to the Swiss species, from the brighter colour ascribed to the latter. In Mr. Wollaston's collection, however, there is a specimen from the Isle of Wight, almost entirely testaceous; and the Rev. W. Little has furnished me with a Continental type of Heer's insect, identical with my specimens. Of *Myllæna grandicollis* of Kiesenwetter, said likewise to be of a ferruginous hue (*Ray Soc. Reports*, 1847, p. 328). I have not had an opportunity of consulting the description.

#### SECT. 2. HOMALOTIDA, *Heer*.

##### 162. GYROPHENA, *Mannerheim*.

###### 1. *G. COMPLICANS*, *Kirby*.

*Erichson, Gen. et Spec. Staph.*, 184.—*Encephalus complicans*, *Steph. Illust., Mand.*, v., 164, pl. xxvi., f. 4.

Rare. Woods above Swalwell.—*J. H.* In moss from Cramlington. *T. J. B.* March—June.

"This is a very singular little animal, in some circumstances agreeing with *Agathidium*. By applying closely its head to its breast, and covering its elytra with its abdomen, it assumes the appearance of a minute shining black stone."—*Kirby*.

###### 2. *G. NANA*, *Payk*.

*Erichson, Gen. et Spec. Staph.*, 184.—*Steph. Manual*, No.

2872.—*Aleochara nana*, *Gyll. Ins. Suec.*, ii., 414.—*Steph.*

*Illust., Mand.*, v., 152.—*A. fasciata*, *Marsh, Ib., l.c.*, 151.

In Agarics. Greencroft and Gosforth.—*T. J. B.* Woods above Swalwell.—*J. H.* June.

163. OLIGOTA, *Mannerheim.*

1. O. PUSILLIMA, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 179.—*Steph. Manual*, No.

2865.—*Aleochara pusillima*, *Gyll. Ins. Suec.*, iv., 491.—

*Steph. Illust., Mand.*, v., 431.

Rare. In moss, under rubbish, &c. Ravensworth woods.—*J.*

*H.* Newcastle.—*T. J. B.* March—July.

164. PHYTOSUS, *Rudd.*

1. P. SPINIFER, *Rudd.*

*Curt. Brit. Ent.*, pl. 718.—*Steph. Manual*, No. 3333.—

*Erichson, Gen. et Spec. Staph.*, 178.

Under decaying sea-weed, or in the sand which it covers.

Hartley.—*T. J. B.* Monkhouse, near Beadnell, South Shields, and Marsden; also under stones below high water mark, near the Heather houses.—*J. H.* April—August.

The males occur much more numerous than the females.

165. ALEOCHARA, *Gravenhorst.*

1. A. FUSCIPES, *Fab.*

*Gyll. Ins. Suec.*, ii., 430.—*Steph. Illust., Mand.*, v., 160.—

*Erichson, Gen. et Spec. Staph.*, 163.

In carcases, &c. "Twizell."—*P. J. Selby, Esq.* Coast near Shoreston, Tyneside, Gateshead Fell, &c. July.

2. A. NITIDA, *Grav.*

*Gyll. Ins. Suec.*, ii., 435.—*Steph. Illust., Mand.*, v., 159.—

*Erichson, Gen. et Spec. Staph.*, 167.—*Aleochara Cursor*,

*Kirby, Steph. Illust., Mand.*, v., 159.—*Holme, Trans.*

*Ent. Soc. Lond.*, ii., 62.

Under dung and sea-weed, especially on the coast. "Twizell. — *P. J. Selby, Esq.* Budle, North Sunderland, Hartley, South Shields, Ravensworth, Marsden, Hartlepool. April—July.

3. *A. LANUGINOSA*, Grav.

*Gyll. Ins. Suec.*, ii., 432.—*Steph. Illust., Mand.*, v., 157.—*Erichson, Gen. et Spec. Staph.*, 168.

Common.

4. *A. MÆSTA*, Grav.

*Erichson, Gen. et Spec. Staph.*, 170.—*Steph. Manual*, No. 2890.—*Aleochara concolor*, Kirby, *Steph. Illust., Mand.*, v., 153.—*Aleochara fumata*, *Gyll. Ins. Suec.*, ii., 434.

Not so common as the preceding. "Twizell."—*P. J. Selby, Esq.* Long Benton, Ravensworth, South Shields. May.

5. *A. RUFICORNIS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 170.—*Aleochara Daltoni*, *Steph. Illust., Mand.*, v., 161.—*Ceranota Daltoni*, *Ib., Manual*, No. 2906.

In woods, rare. In moss, from Gosforth woods.—*T. J. B. Ravensworth* woods.—*J. H.* June.

6. *A. MORION*, Grav.

*Steph. Illust., Mand.*, v., 155.—*Erichson, Gen. et Spec. Staph.*, 175.—*A. exigua*, *Steph. Illust., Mand.*, v., 433.

Rare. Budle Crag, Wooler haugh, Bamburgh, Embleton, and South Shields.—*J. H.* Cullercoats and Prestwick Car.—*T. J. B.* April—July.

The legs, as well as the base of the antennæ, are pitchy in our specimens.

7. *A. OBSCURELLA*, Grav.

*Gyll. Ins. Suec.*, ii., 403.—*Erichson, Gen. et Spec. Staph.*, 176.—*Polystoma obscurella*, *Steph. Manual*, No. 2758.—*Aleochara dubia*, *Steph. Illust., Mand.*, v., 112?—*A. micans*, Kirby, *Ib., l.c.*, 113.—*A. Kirbii*, *Ib., l.c.*, 113.—*A. sericea*, Leach, *Ib., l.c.*, 155.

Under sea-weed, common on the sea-coast.

## 166. OXYPODA, Mannerheim.

1. *O. UMBRATA*, Gyll.

*Erichson, Gen. et Spec. Staph.*, 144.—*Aleochara umbrata*, *Gyll. Ins. Suec.*, ii., 424.—*Steph. Illust., Mand.*, v., 148?

Under garden rubbish, Fungi, &c. Ravensworth, Hartlepool,

and near Swalwell.—*J. H.* Ouseburn dean and Long Benton.—*T. J. B.* April—August.

2. *O. LONGIUSCULA*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 144.—*Steph. Manual*, No.

2914.—*Aleochara longiuscula*, *Gyll. Ins. Suec.*, iv., 485.

Under herbage and rubbish, in damp places. On the banks of the Team, near Ravensworth, and on the sea coast at Marsden and Hartlepool.—*J. H.* March.

3. *O. ALTERNANS*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 145.—*Steph. Manual*, No.

2920.—*Aleochara alternans*, *Gyll. Ins. Suec.*, ii., 419.—

*Steph. Illust., Mand.*, v., 432.—*A. concinna*, *Leach, Ib. l.c.*, 141.

In Agarics. Near Axwell.—*T. J. B.* Ravensworth woods.—*J. H.* August—November.

4. *O. TESTACEA*, *Erich.*

*Elongata, rufo-testacea, subtiliter sericeo-pubescent, thorace brevi, leviter convexo, abdomine distinctius punctato, segmentis intermediis basi fusciscentibus.* Long.  $1\frac{1}{2}$  lin.

*Erichson, Gen. et Spec. Staph.*, 146.

Small, elongate, somewhat less than *Homalota circellaris*, shaped not unlike a *Tachyporus* or a *Myllæna*, dilute rufo-testaceous, rather shining, clothed with a fine, depressed griseo-sericeous down, more conspicuous on the abdomen. Antennæ short, not so long as the head and thorax, much thickened externally, base thin, 2nd joint a little larger than the 3rd, 4—10 shorter, strongly transverse, very compact, forming a club, the last largest, subglobose, obtuse at the apex, testaceous, hue of the apex deepest. Head sub-ovate, not large, closely applied to the thorax, piceo-rufous, very finely punctate. Thorax equal in breadth with the elytra, considerably shorter than broad, not very much narrowed in front, sides slightly, base scarcely rounded, anterior angles obtuse, deflexed; transversely convex, shining testaceous red. Elytra scarcely longer than the thorax, sides parallel, very thickly and finely punctulate, ferrugineo-testaceous. Abdomen elongate,

at base of the width of the elytra, parallel, narrowed and rather subulate towards the apex, very thickly and finely punctate, obscure rufo-testaceous, intermediate segments sometimes with the base dusker, the apex more dilute. Legs testaceous.

Sometimes entirely testaceous.

Closely allied to the German *O. ferruginea*, but more robust, lighter coloured, the antennæ stouter.

Rare. In moss, brought from Ravensworth woods.—*J. H. March*.

5. *O. BREVICORNIS*, Kirby.

*Steph. Manual*, No. 2917.—*Aleochara brevicornis*, *Ib. Illust. Mand.*, v., 149.—*Oxypoda cuniculina*, *Erichson, Gen. et Spec. Staph.*, 149.—*Heer, Fn. Col. Helv.*, i., 320.

Under rubbish, &c. "Twizell."—*P. J. Selby, Esq.* Woods on the Team, South Shields, and Marsden.—*J. H. March*—June.

6. *O. LENTULA*, *Erich.*

*Brevis, nigra, subopaca, subtiliter pubescens, antennis brevibus, gracilioribus, nigri, pedibus nigro-piceis, thorace transverso, basi supra scutellum vix impresso.* Long 1 lin. et plus.

*Erichson, Gen. et Spec. Staph.*, 150.

Much resembling *O. brevicornis*, but smaller, darker, the antennæ less thickened; black, thickly and very finely punctulate, slightly sericeous pubescent, sub-opaque, abdomen slightly shining. Antennæ short, about the length of the head and thorax, very slightly thickened towards the apex, 3rd joint slightly shorter than the 2nd, the rest short, slightly transverse, the last somewhat thicker than the two preceding, and about their united length, subovate, obtuse; black, the base obscure piceous. Palpi nigro-piceous. Head ovate, small, the front convex. Thorax behind nearly of the breadth of the elytra, a little narrowed anteriorly, anterior angles sub-deflexed, transverse, the length scarcely equal to half the breadth, the sides strongly, the base slightly rounded; slightly convex, the base scarcely foveolated,

the back with a very obsolete longitudinal depression. Elytra considerably longer than the thorax, above not quite flat, broadest at the apex, concolorous. Abdomen rather short, not quite of the length of the anterior part of the body, finely punctulate, more distinctly pubescent, slightly narrowed at the apex, the apex piceous, edges of the segments beneath, concolorous. Legs piceous, tibiæ and tarsi more dilute.

Darker than Erichson's description would lead us to infer, but appears to differ in no other respect. Wooler, South Shields, and on the Team, near Ravensworth.—*J. H. March.*

167. HOMALOTA, *Mannerheim.*

1. *H. GRAMINICOLA*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 81.—*Bolitochara graminicola*, *Steph. Manual*, No. 2785.

Under moss and rubbish, in damp places. In the marshy woods on the Team, below Ravensworth.—*J. H. January—March.*

2. *H. NIVALIS*: *Sub-linearis, nigra, nitida, subdepressa; antennis nigris, articulo primo piceo; thorace coleopteris latitudine subæquali, ad basin obsolete foveolato; abdomine segmentis tribus primis crebre, ceteris sparsim punctatis; pedibus piceis.* Long.  $1\frac{1}{4}$  lin.

*H. nivalis*, *Kiesenwetter, secund. Exampl. penes me.*

Beneath stones in mossy soil, towards the summit of Hedgehope.—*J. H.*

Allied to *H. graminicola*, but considerably smaller, and having the antennæ somewhat differently constructed; black, shining, sub-depressed, sub-linear, with a thin dark griseous pubescence; antennæ about the length of the head and thorax, less gracile than in *H. graminicola*, the joints rather closely set, and considerably thickened towards the tip, the thickened joints short cup-shaped, the terminal one larger, slightly lengthened-ovate, scarcely as long as the two preceding, the tip acuminate, black, the first joint piceous or nearly concolorous; palpi black, the minute apical joint piceous; head somewhat rounded, narrower than the thorax, very finely punctulate, with, in some specimens,

a very slight depression near the crown; thorax anteriorly about the breadth of the thorax, slightly narrowed posteriorly, very finely and rather thickly punctulate, with a very obsolete depression at the base, which is produced along the back anteriorly till about the disk; elytra sub-depressed, short, about the length of the thorax, black, scarcely piceous, more strongly and thickly punctured; abdomen sub-parallel, narrower towards the apex, the first three segments rather strongly and thickly punctate, the next three smooth, with a few scattered punctures, the sixth, in the male, roughened, with raised points, the apex piceous; legs piceous; the tibiæ and tarsi rufescent.

*H. graminicola* is a much larger insect, and scarcely so depressed, with longer and more slender antennæ, and with the elytra more unequal and more strongly punctate, and markedly broader than the thorax.

The Continental example of Kiesenwetter's species that I have cited, came from Paris, and is, unfortunately rather imperfect. It is a small female, and seems identical with our specimens. I am unable to refer to the author's description.

3. *H. VICINA*, Kirby.

*Aleochara vicina*, Steph. *Illust., Mand.*, v., 116.—*Bolitochara vicina*, Steph. *Manual*, No. 2807.—*Homalota umbonata*, Erichson, *Gen. et Spec. Staph.*, 82.

Rare. "Twizell."—*P. J. Selby, Esq.* Links, near Shoreston, woods above Swalwell, and at Marsden.—*J. H.* March—Aug.

4. *H. ALGÆ*, Hardy.

*Linearis, nigra, subnitida, tenuiter griseo-pubescent, confertim punctata, antennis nigris, basi piceis; pedibus piceis, tarsis flavis; thorace subquadrato, subtiliter omnium tenue longitudinaliter impresso; elytris quadratis, utrinque apice exteriore in denticulum minuta in productis; abdominis apice sub-piceo.* Long.  $1\frac{1}{3}$  lin.

*Dilutiora antennis fusco ferrugineis, basi, ore, pedibus anoque testaceis.*

*Aleochara carbonaria*, Kirby, Steph. *Illust., Mand.*, v., 123?—

*A. subpubescens*, Kirby, *Ib. l.c.*?

In the dark specimens, very much resembling *Tachyusa foveola*, in shape and colouring, but much less, with more evident puncturing, and the colour somewhat deeper. Linear, black, rather shining, abdomen more shining, with a slight griseous down, more distinct upon the elytra. Antennæ rather short, of the length of the head and thorax, rather slender at the base, not very much thickened externally, 2nd and 3rd joints slender, sub-elongate nearly equal, the rest short, separate, 4th very small, 7—10 incrassate, 9th and 10th sub-transverse, the apical still larger, rotundate ovate, shortly acuminate; black, the three basal joints scarcely piceous; or, in the variety, externally more or less fuscous, the basal joints ferrugineo-testaceous. Palpi piceous at the apex; mouth rufo-piceous; in the variety, mouth, mandibles, and palpi at the base testaceous, apical joint of the last, fuscous. Head very little narrower than the thorax, sub-rotundate, rather convex behind, thickly and finely punctate, more widely on the forehead, front with a minute obsolete longitudinal foveolet. Thorax not much narrower than the base of the elytra, sub-rotundate, short, rather shorter than broad, scarcely narrowed behind, the angles more than the sides rounded, base slightly rounded, sub-convex, base scarcely impressed, the back with an obsolete rather slender depression or channel, sometimes imperceptible, thickly, closely, and finely punctate. Elytra quadrate, the sides straight, about a third longer than the thorax, not quite flat, shoulders rather prominent, the apex at the exterior angles slightly excavated, and the angle produced into a distinct prominent tooth-like process; very thickly, closely, finely, but distinctly punctate, clothed with a more distinct griseous pubescence, less shining, concolorous. Abdomen narrower than the apex of the elytra, sub-parallel, shining, of a deeper black, first three segments above finely and thickly punctate, 4th with fewer punctures, 5th smoother but scarcely less punctate than the 4th, 6th again thickly punctate, the apex scarcely piceous; in the variety, apical half of the 5th, the 6th entirely, and the anus ferruginous. Legs nigro-piceous, femora and tibiæ darkest, anterior tibiæ sometimes rufo-piceous; tarsi flavescent; in the variety entirely ferrugineo-testaceous.

In one specimen, the 6th segment above has in the middle, a

little before the apex, a slight elevation, to which behind there is a shining depressed margin. It is one of the more dilute specimens, and is probably a male.

Under sea-weed at Marsden.—*J. H. Hartley*.—*T. J. B.* March and April.

This is, perhaps, the *Aleochara carbonaria*, Kirby, which Holme (*Trans. Ent. Soc. Lond.*, iii., iii.) represents as being found under sea-weed in the south of England; the description given by Stephens, however, is insufficient to allow of its being recognized.

5. *H. CALLICERA*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 84.—*Callicerus Spencii*, *Steph. Illust. Mand.*, v., 165.—*Curt. Brit. Ent.*, pl. 443.—*Callicerus obscurus*, *Steph. Manual*, No. 2778.—*C. hybridus*, *Hal. Curt. Brit. Ent.*, fol. 443.—*Aleochara terminalis*, *Kirby, Steph., l.c.*, v., 121.

Rare. Budle Crag, Homildon Heugh, Whitsunbank Hill, and at the borders of fields above Swalwell.—*J. H.* February.

Taken by sweeping, and occurred only in the early part of spring.

6. *H. ELONGATULA*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 89.—*Aleochara elongatula*, *Gyll. Ins. Suec.*, ii., 398.—*Steph. Illust., Mand.*, v., 127.—*Aleochara terminalis*, *Gyll. Ins. Suec.*, ii., 397.—*A. teres*, *Gyll., l.c.*, ii., 390.

In damp situations, not common. Ravensworth woods, Marsden, and between the fissures of decayed magnesian limestone, and among gravel, on the beach of a little bay, south of the links at South Shields, where a run of water comes over the bank.—*J. H. Long Benton*.—*T. J. B.* April.

On the sea coast, it was feeding on a species of *Coelopa*.

7. *H. IMMERSA*, *Erich.*

*Linearis, depressa, nigra, nitida; antennarum basipedibusque testaceis; fronte, thoraceque subquadrato late impressis, supra parce punctatis; elytris crebrius distinctius punctatis.*  
Long.  $\frac{3}{4}$ —1 lin.

*Erichson, Gen. et Spec. Staph.*, 96.

Flat, black, linear, sparingly and indistinctly pubescent. Antennæ slender, of the length of the head and thorax, 3rd joint very minute, shorter than the 2nd, 4—10 nearly equal, very minute, transverse obconic, the last very considerably larger, ovate; dark piceous, the base pale testaceous. Head of the breadth of the thorax, and a little shorter than it, transverse subquadrate, rather abruptly contracted before the eyes, flat, the whole front impressed; viewed laterally, having an obsolete longitudinal central channel, vanishing anteriorly; finely and sparingly punctate. Thorax subquadrate, anteriorly a little narrower than the elytra, somewhat dilated before the middle, rather narrowed towards the base, finely and sparingly punctate, flat, with a broad shallow depression from the base to beyond the middle. Elytra nearly one half longer than the thorax, and very considerably broader than its base, flat, the sides straight, concolorous (fusco-testaceous, *Er.*), thickly and distinctly punctate. Abdomen narrower than the elytra, sub-parallel, or wider towards the apex, the last segment alone narrowed, the first four segments rather strongly impressed across the base, black, shining, the apex piceo-testaceous, with a scattered almost invisible punctulation. Femora nigro-piceous, their apices, the tibiæ, with a slight duskiness in the middle of the posterior ones excepted, dilute piceo-testaceous.

Rare. Under the bark of mountain ash at Ravensworth, in spring.—*J. II.* March.

8. *H. CIRCELLARIS*, *Grav.*

*Erichson, Gen. et Spec. Staph.*, 98.—*Aleochara circellaris*, *Gyll. Ins. Suec.*, ii., 388.—*Bolitochara circellaris*, *Steph. Manual*, No. 2784.—*A. cingulata*, *Kirby, Steph. Illust. Mand.*, v., 126.

In moss, generally diffused.

9. *H. RUFESCENS*, *Kirby.*

*Aptera, nigra, thorace, antennarum basi apiceque, pedibus, anoque rufis, elytris sat fortiter punctatis, sublacunosis, abdomine postice sublatiore.* Long. 1 lin.

Var. *Nigra, abdominis apice, pedibus, antennarum basi rufis.*

*Aleochara rufescens*, *Steph. Illust., Mand.*, v., 128.—*Bolitochara circellaris*, var. *Ib. Manual*, No. 2784.

Closely allied to *H. circellaris*, but smaller, head and thorax shorter, the elytra more deeply punctate, not quite so depressed, the abdomen somewhat wider towards the apex, the penultimate segment of the abdomen above in the male, with a short elevated shining ridge, instead of a prominent tooth; the colours also brighter. Shining, nearly glabrous. Antennæ slightly longer than the head and thorax, gradually thickened exteriorly, not so stout as in *H. circellaris*, dusky, ferruginous, the base and apical joint paler, or in dark specimens, rufous only at the base, the joints short, compact, the last rounded, abruptly acuminate. Mouth and palpi testaceous. Head short, closely applied to the thorax, narrowed anteriorly, black, finely punctate. Thorax about the breadth of the elytra, somewhat orbicular, the apex truncate, sides and base nearly equally rounded, bright rufous or concolorous, convex above, thickly and finely punctate, the base obsoletely foveolated. Elytra short, about the length of the thorax, and somewhat broader, scarcely depressed, as a whole, surface, especially in the male, deeply depressed behind the scutellum, and longitudinally on the disk behind the shoulders thickly, rather strongly, and distinctly punctate, black. Abdomen rather narrowed towards the base, and becoming wider towards the tip, the apex abruptly narrowed, first four segments thickly and finely punctate, but more distinctly than in *H. circellaris*, 5th smoother, obsoletely punctate, the male marked with a raised shining ridge in the middle, which is nearly one half of the length of the segment; the apex, and sometimes the two basal joints rufous.

In Polypori, and under bark, but never in moss. Ravensworth woods, Gibside, &c. March—November.

In some collections, this is named *Bolitochara inquinula*.

10. *H. BRUNNEA*, *Fab.*

*Erichson, Gen. et Spec. Staph.*, 98.—*Bolitochara brunnea*, *Steph. Manual*, No. 2802.—*Aleochara depressa*, *Gyll. Ins. Suec.*, ii., 401.

In Fungi. "Twizell."—*P. J. Selby, Esq. Gibside.*—*J. H.* August.

Varieties of this species form the *Aleochara cinnamomea*, *A. zonalis*, *A. atriceps*, *A. nigriceps*, and *A. thoracica*, of Stephens.—*Vide Manual, ubi sup.*)

11. *H. SERICANS*, *Grav.*

*Heer, Fn. Col. Helv.*, i., 327, 17.—*Aleochara sericans*, *Gyll.*

*Ins. Suec.*, ii., 404.—*Bolitochara sericans*, *Steph. Manual*, No. 2803.

Beneath sea-weed and stones, near the mouth of Waren water, at Budle.—*J. H.*

This is distinguished from *H. socialis*, with which Erichson, in his latest work, has combined it, by the shorter and much stouter antennæ, the last joint of which is thick ovate and bluntish at the tip, and the colour ferruginous or piceous; by the somewhat greater distinctness of its puncturing; by the roundness of the thorax, which is obsoletely channelled up the middle; and by the piceous or concolorous elytra.

12. *H. SOCIALIS*, *Payk.*

*Erichson, Gen. et Spec. Staph.*, 102.—*Aleochara socialis*,

*Gyll. Ins. Suec.*, ii., 406.—*Steph. Illust. Mand.*, v., 134.—

*Aleochara euryptera*, *Ib. Illust. Mand.*, v., 135.—*A.*

*xanthoptera*, *Kirby, Ib. l.c.*, 116.—*A. femorata*, *Marsh, Ib. l.c.*, 122.

In Fungi, at the sap of felled trees, &c. Common. Twizell, Gosforth, Ravensworth, Gibside, &c.

13. *H. AUTUMNALIS*, *Erich.*

*Linearis, nigra, nitidula, antennis nigro-fuscis, basi dilutioribus, pedibus testaceis, thorace postice canaliculato impressoque, abdomine supra segmentis quatuor primis creberrime punctatis.* Long.  $1\frac{1}{2}$  lin.

*Erichson, Gen. et Spec. Staph.*, 113.

Of the appearance of *H. elongatula* and *Tachyusa frontalis*, but smaller, nearly glabrous, antennæ shorter and thinner; head small, immersed in the thorax. Linear, elongate, sub-depressed,

black, shining, with very indistinct pubescence. Antennæ a little longer than the head and thorax, rather slender, slightly thickened at the apex, 2nd and 3rd joints sub-equal, the rest short, obconic, 7—10 slightly transverse, the last scarcely thicker, elongate ovate, moderately acuminate, black or nigro-fuscous, the basal joint, and the bases of the 2nd and 3rd piceous, or several of the basal joints testaceous. Palpi testaceous at the base, the tip fuscous. Head rotundate, sunk into the thorax, and narrower than it, rather convex, very finely punctulate, obsoletely longitudinally impressed. Thorax not quite of the breadth of the elytra, sub-quadrate, scarcely so long as broad, sides before the middle slightly rounded, scarcely narrowed behind, anterior angles rounded, posterior obtuse, sub-convex, an impression at the base connected with an elongate channel, which is sometimes obsolete anteriorly. Elytra considerably longer than the thorax, nearly equal in length and breadth, flattish, depressed down the suture, thickly and exceedingly finely punctulate, nigro-fuscous. Abdomen parallel, narrowed at the tip, which is piceous, above with the first four segments closely and thickly punctate, the two last segments more shining, sparingly punctate, with the punctures in one sex raised into granulations. Legs testaceous, posterior tarsi short.

In marshy situations, not uncommon. On the Team, at Ravensworth, Gibside, Marsden, Hartley, Long Benton, Dunstanborough Castle, banks of Wooler water, and of the Till. January—October.

14. *H. ANALIS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 114.—*Bolitochara analis Steph. Manual*, No. 2793.—*Aleochara inquinula, Kirby Steph. Illust., Mand.*, v., 128.—*A. foveolata, Ib. l.c.*—*A. nigro fusca, Ib. l.c.*, 129.

In moss, and at the roots of grass, common.

15. *H. ANGUSTA*, Steph.

*Aleochara angusta, Steph. Illust., Mand.*, v., 139.

Under sea-weed and stones, at South Shields, and Marsden.—*J. H. March.*

16. *H. CAUTA*, *Erich.*

*Nigra, nitidula, pedibus nigris vel fuscis, thorace transverso, leviter convexo, basi obsolete canaliculato, abdomineque supra basi confertim, postice parce punctato margine pilosellis.* Long 1— $1\frac{1}{4}$  lin.

*Erichson, Gen. et Spec. Staph.*, 122.—*Heer, Fn. Col. Helv.*, i., 335.—*Aleochara atricornis, Steph. Illust., Mand.*, v., 2830?

Somewhat of the shape of *H. longicornis*, but much smaller, more linear, and rather more shining. Black, shining, head, thorax, and elytra with a slight ænescent tint, sides of the thorax and abdomen with long projecting hairs. Antennæ of the length of the head and thorax, very thin at the base, the apex very slightly thicker, 3rd joint rather longer than the 2nd, 4—6 sub-globose, 7—10 sub-turbinate, not thicker than long, the last elongate, ovate, about the length of the two preceding, and appearing rather thicker, sub-acuminate; entirely black. Palpi black. Head narrower than the thorax, nearly rotundate, thickly and finely punctate, a minute round foveolet on the crown. Thorax narrower than the elytra, shorter than broad, sides and posterior angles slightly rounded, anterior angles strongly rounded, deflexed; above transversely convex, finely and thickly punctate, the base slightly impressed, with a short obsolete channel. Elytra a little longer than the thorax, its sides straight, not quite flat, very thickly and finely punctate, black, with the disk fusconigrous. Abdomen more shining, rather tapered towards the apex, the first four segments very thickly and closely punctate, the rest smoother, sparingly, and more obsoletely punctate, sides and apex bristly. Legs black or nigro-piceous, tibiæ piceous, or flavescent, tarsi more dilute; tibiæ with two short projecting hairs.

In carcases, dung, &c. Common. March—September.

17. *H. CELATA*, *Erich.*

*Nigra subnitida, pedibus fuscis vel nigris, thorace transverso, parum convexo, basi obsolete canaliculato, abdomine supra toto confertim punctato.* Long.  $\frac{3}{4}$  lin.

*Erichson, Gen. et Spec. Staph.*, 122.

Much resembling the preceding, but smaller, and still more linear, sub-depressed, of a deeper black, and less shining. Antennæ about the length of the head and thorax, thin, slightly thickened exteriorly, joints 4—10 very short, nodose, the last oblong-ovate, of the length of the two preceding, sub-acuminate, black. Palpi black. Head a little narrower than the thorax, rotundate, thickly but indistinctly punctate, a slight channel on the front above Thorax as in the preceding, sides not pilose. Elytra longer than the thorax, rather flat, thickly and finely punctate, black. Abdomen rather parallel, the sides scarcely pilose, thickly and very finely punctate throughout. Legs fuscous or black, tarsi yellowish, tibiæ, and the base of the femora, occasionally more dilute; bristles on the tibiæ imperceptible.

Common, in company with *H. cauta*.

18. *H. LONGICORNIS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 129.—*Heer, Fn. Col. Helv.*, i., 323.—*Aleochara longicornis*, *Steph. Illust., Mand.*, v., 114.

*Var. Aleochara consimilis*, Kirby, *Steph. Illust., Mand.*, v., 116.

*H. longicornis*, var. a., *Heer, Fn. Col. Helv.*, i., 323.

Not very common. Ravensworth, Gibside, and South Shields.—*J. H. Long Benton*.—*T. J. B. March*—June.

The tibiæ are furnished with two long bristles, and the sides of the thorax, and abdomen, and the apex of the latter are pilose. The elytra and femora are often nigro-piceous.

19. *H. LIVIDIPENNIS*, *Mannerh.*

*Erichson, Gen. et Spec. Staph.*, 129.—*Oxypoda lividipennis*, *Steph. Illust., Mand.*, v., 432.

Not common. Bamburgh, Beadnell, Wooler, above Swalwell, and at South Shields.—*J. H. Hartley* and *Long Benton*.—*T. J. B. March*—May.

20. *H. HYGROPHILA*: *Fusiformis; nigra, nitidula, creberrime punctulata; thorace transverso, suborbiculato, cumque elytris pariter minus convexis; his fusco-piceis vel nigris;*

*abdomine punctulato, segmentis ultimus vix lævioribus; ultimis duobus interdum piceo-testaceis; antennis rufo-testaceis, apicibus vix fusciscentibus; palpis pedibusque pallide testaceis.* Long. corp. lin.  $1\frac{1}{2}$ .

*Homalota hygrophila, Hardy, MSS.*

Under rubbish by the sides of streamlets; banks of the Team, Wooler water, &c.—*J. H.*

Spindle-shaped; black, shining; head sub-triangular, considerably narrower than the thorax, finely punctulate, not impressed; antennæ rather long and slender, longer than the head and thorax, gradually thickening outwardly, the last joint about the length of the two preceding, and not thicker than they, oval, and slightly pointed, rufo-testaceous, sometimes duskier towards the tips; palpi pale testaceous; thorax sub-orbicular, slightly transverse, all the angles rounded, the posterior sub-depressed, only slightly convex above, very finely and closely punctulate, the base not impressed; elytra sub-quadrate, a little broader behind, not much longer than the thorax, and, excepting the depression down the suture, nearly of the same degree of convexity; very thickly and more distinctly punctate, and less shining than the thorax, black or fusco-piceous, in the latter case deepest tinted towards the base, shortly griseous pubescent; abdomen gradually tapering from the base to the tip, black, shining, the apex of the penultimate, and the terminal one entirely sometimes testaceous or piceous; closely and thickly punctulate throughout; the base of the two last scarcely more obsoletely or sparsely; a few black hairs at the lateral margins of the segments and several around the apex; legs pale-testaceous.

168. *PHLOEOPORA, Erichson.*

1. *P. REPTANS, Grav.*

*Erichson, Gen. et Spec. Staph., 77.—Steph. Manual, No.*

*2774.—Aleochara reptans, Gyll. Ins. Suec., ii., 389.—*

*Aleochara confinis, Steph. Illust., Mand., v., 127.*

Not common. Under bark of Scotch fir, at Ravensworth, of the willow, above Swalwell, of a dead elm, near Dunston hill, and of paling, at Gibside.—*J. H. Gosforth.—T. J. B. Jan.—Aug.*

2. *PH. CORTICALIS*, Grav.

*Erichson, Gen. et Spec. Staph.*, 77.—*Steph. Manual*, No. 2775.—*Aleochara corticalis*, *Steph. Illust., Mand.*, v., 127.—*Aleochara teres*, *Ib. Lc.*, v., 117.

Under the bark of Scotch pine, on Whitsun Bank hill, in July.—*J. H.*

169. *TACHYUSA*, *Erichson*.1. *T. CONSTRICTA*, *Erich.*

*Erichson, Gen. et Spec. Staph.*, 70.—*Steph. Manual*, No. 2772.

Not unfrequent. On the Till, below Weetwood Bridge, in July.—*J. H.*

It runs about in the sunshine, on the fine sandy mud, with extreme celerity, carrying its abdomen curved upwards.

2. *T. CÆRULEA*, *Sahlberg*.

*Erichson, Gen. et Spec. Staph.*, 76.—*Aleochara cœrulea*, *Sahlb. Ins. Fenn.*, i., 351.—*Ischnopoda chalybea*, *Rudd, Steph. Manual*, No. 2767.—*Tachyusa chalybea*, *Erichson, Gen. et Spec. Staph.*, 916.

With the preceding, on the banks of the Till.—*J. H.*

I do not observe blue tints on the legs, but in other respects Sahlberg's description agrees well with the specimens. I possess a German type of Erichson's species.

3. *T. FOVEOLATA*, *Leach*.

*Aleochara foveola*, *Steph. Illust., Mand.*, v., 124.—*Tachyusa umbratica*, *Erichson, Gen. et Spec. Staph.*, 73.

Beneath decaying sea-weed, at Embleton Bay, Shoreston, South Shields, Marsden, and Hartlepool, and under rubbish in the Ravensworth woods, and above Swalwell.—*J. H.* March and April.

I have examined both German and French specimens of *T. umbratica*, with which our specimens entirely agree.

4. *T. UVIDA*, *Erich.*

*Nigra, subnitida, antennis pedibusque fuscis; abdomine lineari; minus subtiliter punctato, thorace subquadrato fronteque late canaliculato.* Long.  $1\frac{1}{2}$  lin.

*Erichson, Gen. et Spec. Staph.*, 916.

Coloured like *T. foveola* and *Homalota Algæ*, and about the size of the latter, black, rather shining, finely griseous pubescent; head, thorax, and elytra of the lurid black colour of *T. foveola*, abdomen deeper black, more shining. Antennæ longer than the head and thorax, slender, of nearly equal thickness throughout, 2nd and 3rd joints equal, the rest shortening, sub-cylindric, the last of moderate length, not so long as the two preceding, and scarcely thicker, bluntish, fuscous, the base more dilute. Palpi fuscous. Head of the breadth of the thorax, sub-quadrate, with the angles rounded, or sub-rotundate, in the hinder part rather transverse, narrowed in front of the antennæ, very thickly and finely, though distinctly, punctate, the whole front depressed, with a channel in the centre of the depression. Thorax posteriorly one half narrower than the elytra, its length about equal to its greatest breadth, broadest before the middle towards the anterior angles, and distinctly narrowed towards the base, the sides straight, the base slightly rounded, posterior angles obtuse, apex obliquely truncate on each side, anterior angles strongly rounded; sub-depressed, thickly and finely punctate, in the male deeply and rather widely channelled throughout, in the female more obsoletely, the channel ending in a fovea before the base. Elytra scarcely longer than the thorax, sub-quadrate, sub-depressed, very thickly and very finely punctate. Abdomen linear, shining, very thickly but much less finely punctate, the extreme apex piceous, and rather distinctly pubescent. Legs pale fuscous, the tibiæ and tarsi more dilute.

This differs from Erichson's description in the darker colour of the legs and antennæ, which, in his specimens were testaceous. To explain the discrepancy, it is only necessary to suppose that, like *Homalota Algæ*, and I may add *Philonthus Xantholoma*, it is liable to vary in this respect.

One specimen taken at Marsden, under decaying sea-weed, in company with *T. foveola* and *Homalota Algæ*. — J. H. March.

Specimens taken by Mr. Walker, at Plymouth, do not present any difference.

## 5. T. FRONTALIS, Kirby.

*Nigra, antennarum apice subincrassata, elytris fuscis, pedibus testaceis; fronte impressâ; thoracis basi transversim foveolatâ, dorso minime profunde canaliculato. Long.  $1\frac{1}{2}$  lin.*

*Aleochara frontalis, Kirby, Steph. Illust., Mand., v., III.—*

*Ischnopoda frontalis, Steph. Manual, No. 2769.—Tachyusa immunita, Erichson, Gen. et Spec. Staph., 916?*

Of the size, and much resembling *Homalota elongatula*; black, clothed with a short, rather thick fulvo-griseous down, somewhat shining, head, thorax and elytra dullest. Antennæ of the length of the head and thorax, gradually thickened outwardly, 2nd and 3rd joints sub elongate, sub-equal, the rest gradually shorter and thicker, obconic, the last rather large and stout, not so long as the two preceding, ovate, moderately acuminate, fusco-piceous, basal joints paler, especially at their bases, or testaceous. Palpi and mouth ferruginous. Head sub-orbiculate, not immersed in the thorax, the sides straightish, thickly and finely punctulate, rather convex behind, flattened anteriorly, the front with a deepish elongate fovea fading out anteriorly. Thorax a little narrower than the elytra, sub-depressed, rather narrowest posteriorly, sides rounded and slightly widened before the middle towards the anterior angles, which are deflexed, thickly and finely punctulate, a shallow obsolete channel down the back, ending in a transverse rather deep fovea. Elytra rather broad, longer than the thorax, flattish, somewhat unequal, depressed rather deeply behind the scutellum, and very slightly at the base within the shoulders, very thickly and almost indistinctly punctulate, dark fuscous. Abdomen broadish, rather narrowed at the tip, shining, first four segments thickly and finely punctulate, the last two more shining, the 5th nearly smooth, with a few punctures, and a few wide minute granulations, 6th also smoother, again thickly punctulate, the apex piceous. Legs testaceous.

I have a single specimen from a marsh in the Ravensworth woods; and others from the borders of rivulets in Berwickshire.—*J. H. March.*

## 6. T. FLAVITARSIS, Sahlb.

*Nigra, subnitida, subdepressa, subtilissime griseo-pubescens,*

*antennis gracilibus, elongatis, nigro-piceis; pedibus nigro-fuscis, tibiis ferrugineis, tarsis testaceis; capite impresso; thorace subquadrato, postice subangustato, leviter canaliculato.* Long.  $1\frac{3}{4}$  lin.

*Aleochara flavitarsis*, Sahlberg, *Ins. Fenn.*, i., 349.—*Aleochara ruficrus*, Kirby, *Steph. Illust.*, Mand., v., iii?

Of the habit of *T. frontalis*, sub-depressed, black, head, thorax, and elytra of the dull black colour of *T. foveola*, abdomen of a deeper black, still more shining. Antennæ longer than the head and thorax, sub-filiform, thin, first joint long, 3rd joint slightly thinner, and rather longer than the 2nd, 4th equal to the 7th, 5th and 6th slightly longer than these and equal, 8—10 obconic, slightly shorter and scarcely thicker, all the joints elongate, with their apices widest, and their bases finely narrowed, the apical one elongate ovate, not quite equal to the 9th and 10th taken together, gradually acuminate; fusco-piceous, tips of the two basal joints scarcely paler, mouth and palpi nigro-fuscous. Head not so broad as the hinder part of the thorax, orbiculate, very thickly and finely punctulate, slightly impressed or flattened between the eyes, with a deepish small round fovea on the front. Thorax sub-quadrato, always narrower than the elytra, broadest anteriorly, sides dilated a little behind the anterior angles, sub-deflexed, rounded before the middle, and the anterior angles rounded, considerably narrowed from behind the middle, base and apex truncate, posterior angles obtuse; very thickly and finely punctulate, with short indistinct pubescence, sub-depressed above, with a slender obsolete central channel ending in a shallow fovea before the scutellum. Scutellum small, thickly punctured. Elytra broader and longer than the thorax, its apex wider, emarginate at the apex of the suture, rather flattened, somewhat deeply depressed at the suture behind the scutellum, with a short griseous pubescence, very minutely and thickly punctulate. Abdomen broadish, behind the elytra of the length of the body, deeper black, shining, the first four joints thickly and finely punctulate, 5th and 6th shining, the former much depressed transversely across the base, and slightly at the sides, with a few minute granulations, 6th finely punctured, with a very obsolete longitudinal

narrow depression at its apex; thinly griseous pubescent, more densely round the apex. Legs elongate, all the femora compressed, the femora fusco-piceous. their tip more dilute, tarsi still more so, the apex lighter, tarsi testaceous; or gradually paler from the femora outwards; hinder tarsi elongate.

A single specimen taken near Long Benton, in March.—*T. J. B.* Among gravel, near the foot bridge over Caer burn, on the way to Langleyford.—*J. H.*

Sahlberg describes the last joint of the antennæ as obtuse at the apex, and the elytra convex above, which is not the case in our insects.

The tibiæ are usually testaceous, and the tint of the thighs varies from pitchy to black.

7. *T. CARBONARIA*, *Mannerh.*

*Atra, nitida, griseo-pubescent, antennis tenuibus nigris; pedibus geniculis, tibiis apice, et tarsis pallide ferrugineis; capite subimpresso; thorace subquadrato, postice foveolato.*  
Long.  $1\frac{1}{4}$  lin.

*Aleochara carbonaria, Sahlb. Ins. Fenn., i., 351.*

About the size of *T. atra*, but more convex, the antennæ shorter and less gracile; also resembling *Homalota graminicola*, but much more finely punctured. Leaden black, head, thorax, and elytra neatly punctured as if polished, shining, clothed with a rather dense shining griseous pubescence, which makes it duller in certain positions. Antennæ rather short, somewhat longer than the head and thorax, thinish, slightly thickened towards the apex, the joints short, obconic, 9th and 10th slightly thicker, not transverse, the last oblong ovate, about the length of the two preceding, and slightly thicker, slightly acuminate; entirely black. Palpi black, the base scarcely piceous. Head a little narrower than the thorax, sub-orbiculate, rather convex, slightly longitudinally foveolate on the front, very thickly and finely punctulate. Thorax short, scarcely longer than broad, somewhat narrower than the elytra, subquadrate, neither narrowed at the base nor the apex, the sides and the angles slightly rounded, sub-convex above, with a distinct fovea before the scutellum,

ending anteriorly in a very obsolete channel, which at length disappears, thickly and very finely punctulate, thinly griseous pubescent. Elytra longer than the thorax, rather transverse, and widest towards the apex, sub-convex, shoulders rather prominent, depressed behind the scutellum, very finely and closely punctulate, more thickly griseous pubescent. Abdomen a little narrower than the elytra, of a deeper black, not very long, sub-parallel, the apex abruptly narrowed, finely and thickly punctulate, with a distinct griseous pubescence, the first three segments with their bases transversely depressed, the others more convex. Legs moderate, black, joints of the femora and tibiæ, tibiæ at the tip narrowly, and the tarsi entirely, pale ferruginous; posterior tarsi shortish; basal joint sub-elongate.

A pair taken at Gosforth, on mud, in the bed of the Lake.—*T. J. B.* July.

Although unrecorded as a British insect, it occurs in various parts of the island. I have a pair taken on the border of a pond in Berwickshire; and have seen others found by Mr. Walker, at Plymouth, and by Mr. Janson, on the banks of the Brent, near London.

170. *CALODERA*, *Mannerheim*.

1. *C. NIGRICOLLIS*, *Payk.*

*Erichson, Gen. et Spec. Staph.*, 64.—*Steph. Manual*, No.

2752.—*Aleochara nigricollis*, *Gyll. Ins. Suec.*, ii., 384.—

*Steph. Illust. Mand.*, v., 125.

Under dead leaves, &c., rare. From the Ravensworth woods, in spring.—*J. H.*

2. *C. LONGITARSIS*, *Kirby*.

*Erichson, Gen. et Spec. Staph.*, 66.—*Aleochara longitarsis*

*Steph. Illust., Mand.*, v., 110.—*Ischnopoda longitarsis*,

*Steph. Manual*, No. 2765.

Under stones, decayed leaves, &c., by river sides. "Twizell."—*P. J. Selby, Esq.* Wooler, Bamburgh, Hartley, Long Benton, Prudhoe, sides of the Tyne and Derwent, dean near Winlaton, &c. May—July.

3. *C. RUBICUNDA*, *Erich.*

*Rufo-picea, subtilissime punctulata, subtiliter cinereo-pubes-  
cens, capite abdomineque segmentis 4 et 5 fuscis; thorace  
subovato, basi leviter foveolato, abdomine supra subtilissime  
punctato. Long.  $1\frac{1}{2}$  lin.*

*Erichson, Gen. et Spec. Steph., 66.*

Rather less than small individuals of *C. nigricollis*, much more finely punctulate throughout. Body piceo-testaceous, rather shining, with a slight fine pubescence. Antennæ straight, a little longer than the head and thorax, slender at the base, and gradually increasing to a moderate thickness outwardly, about that of those of *A. longitarsis*, the joints compact, 2nd and 3rd joints equal, the last large, oblong-ovate equal to the two preceding, its apex blunt; rufous, towards the base testaceous. Palpi and mouth dilute testaceous. Head a little narrower than the thorax, shortly ovate, the base rather strongly constricted, thickly and finely punctate, convex, piceous, shining, Thorax narrower than the elytra, rather long, the sides before the middle and the anterior angles rounded, rather narrowed from before the middle to the base, rather convex, thickly and very finely punctulate, with a very minute foveola before the scutellum, not so shining, dull ferrugineo-piceous. Elytra scarcely longer than the thorax, subdepressed, thickly and finely punctate, coloured like the thorax. Abdomen punctured equally finely with the rest of the body, first three segments above strongly depressed across the base, 4th and 5th nigro-fuscous. Legs pale testaceous.

One specimen from the Ravensworth woods.—*J. H.* April.

171. *OCALEA*, *Erichson.*1. *O. PICATA*, *Kirby.*

*Steph. Manual*, No. 2757.—*Aleochara picata*, *Steph. Illust.,  
Mand., v., 125.*—*Ocalea castanea*, *Erichson, Gen. et Spec.  
Staph., 60.*

Under herbage, and withered leaves, in damp woods. Ravensworth woods, and the woods above Swalwell.—*J. H.* March—November.

It sometimes causes its antennæ to vibrate like those of *Myr-*

*medonia canaliculata*, and occasionally puts on its threatening movements.

172. *BOLITOCHARA*, *Mannerheim*.

1. *B. LUNULATA*, *Payk.*

*Erichson, Gen. et Spec. Staph.*, 58.—*Steph. Manual*, No.

2780.—*Aleochara lunulata*, *Gyll. Ins. Succ.*, ii., 386—

*Steph. Illust., Mand.*, v., 124.

Under bark of decaying trees, and upon *Polyporus versicolor*.  
"Twizell."—*P. J. Selby, Esq.* Ravensworth woods, and Gibside.—  
*J. H.* February—November.

2. *B. OBLIQUA*, *Erich.*

*Erichson, Gen. et Spec. Staph.*, 59.—*Steph. Manual*, No.

2781.

Under bark of decayed trees, not unfrequent. "Twizell."—  
*P. J. Selby, Esq.* Gibside, Ravensworth, Gosforth. February—  
November.

It feeds upon *Rhizomorphi* and *Polyporus versicolor*. As well  
as the preceding species, it erects itself in defiance, in the manner  
of *Myrmedonia canaliculata*.

173. *FALAGRIA*, *Leach*.

1. *F. SULCATA*, *Payk.*

*Erichson, Gen. et Spec. Staph.*, 49.—*Steph. Manual*, No.

2740.—*Aleochara sulcata*, *Gyll. Ins. Succ.*, ii., 378.—

*Falagria sulcatula*, *Steph. Illust., Mand.*, v., 103.

Not common. On boards round hot beds, at Long Benton.—  
*T. J. B.* Ravensworth and Marsden.—*J. H.* March—May.

2. *F. THORACICA*, *Kirby*.

*Steph. Illust., Mand.*, v., 105.—*Curt. Brit. Ent.*, pl. 462.—

*Erichson, Gen. et Spec. Staph.*, 52.

"Castle Eden dean."—*Rev. G. T. Rudd*.

3. *F. OBSCURA*, *Grav.*

*Steph. Illust., Mand.*, v., 104.—*Erichson, Gen. et Spec.*

*Staph.*, 54.—*Aleochara obscura*, *Gyll. Ins. Succ.*, ii., 379.

Rare. On boards round hot beds, at Long Benton, and at Tynemouth.—*T. J. B.* July—August.

In one sex, the front is convex, and the disk of the thorax has usually a short line; in the other, the back part of the head, and the apex of the thorax, are impressed.

174. AUTALIA, *Leach.*

1. A. IMPRESSA, *Oliv.*

*Steph. Illust., Mand., v.*, 101.—*Erichson, Gen. et Spec. Staph.*, 47.—*Aleochara impressa, Gyll. Ins. Suec.*, ii., 381.—*Autalia plicata, Kirby, Steph. Illust., Mand., v.*, 101.—*A. ruficornis, Ib., l.c.*, 102.

In decaying Fungi, common. Twizell, Gosforth, Long Benton, Gibside, Ravensworth, &c.

2. A. RIVULARIS, *Grav.*

*Steph. Illust., Mand., v.*, 102.—*Erichson, Gen. et Spec. Staph.*, 47.—*Aleochara rivularis, Gyll. Ins. Suec.*, ii., 382.—*Antalia aterrima, Steph. Illust., Mand., v.*, 102.—*A. angusticollis, Ib. l.c.*

At sap of felled beech trees. Gosforth.—*T. J. B.* May. Wooler water, and at Budle Crag.—*J. H.* June.

175. MYRMEDONIA, *Erichson.*

1. M. CANALICULATA, *Fab.*

*Erichson, Gen. et Spec. Staph.*, 36.—*Aleochara canaliculata, Gyll. Ins. Suec.*, ii., 391.—*Astilbus canaliculatus, Steph. Illust., Mand., v.*, 106.

Common on the sandy sea coast, in moss in woods, and under stones on heaths; often tenanting the nests of ants, and preying on the inmates.

FAMILY 2. PSELAPHIDÆ, *Leach.*

176. BRYAXIS, *Knock.*

1. B. JUNCORUM, *Leach.*

*Steph. Illust., Mand., v.*, 90.—*Heer, Fn. Col. Helv.*, i., 358.

In bogs and marshy places. Ravensworth woods.—*J. H.* Winlaton mill.—*T. J. B.* January—May.

177. BYTHINUS, *Leach*.1. B. SECURIGER, *Reich*.

*Steph. Illust., Mand.*, v., 95.—*Heer, Fn. Col. Helv.*, i., 359.

In moss, from the Ravensworth woods, in spring.—*J. H.*

2. B. BULBIFER, *Reich*.

*Heer, Fn. Col. Helv.*, i., 359.—*Arcopagus bulbifer, Steph.*

*Illust., Mand.*, v., 94.

"Newcastle."—*G. Wailes, Esq.* In moss, from Ravensworth woods.—*J. H.*

3. B. CURTISII, *Leach*.

*Steph. Illust., Mand.*, v., 94.—*Heer, Fn. Col. Helv.*, i., 360.

In moss, from Gibside.—*J. H.* March.

4. B. GLABRICOLLIS, *Reich*.

*Arcopagus glabricollis, Steph. Illust., Mand.*, v., 93.

In moss, from the Ravensworth woods.—*J. H.* March.

5. B. PUNCTICOLLIS, *Denny*.

*Heer, Fn. Col. Helv.*, i., 360.—*Steph. Illust., Mand.*, v., 93.

In moss, not uncommon. "Newcastle."—*G. Wailes, Esq.* Gibside, Ravensworth, and Marsden.—*J. H.* Long Benton.—*T. J. B.* March.

178. TYCHUS, *Leach*.1. T. NIGER, *Payk*.

*Steph. Illust., Mand.*, v., 92.—*Heer, Fn. Col. Helv.*, i., 361.

In moss. "Newcastle."—*G. Wailes, Esq.* Long Benton and Cramlington.—*T. J. B.* Ravensworth woods.—*J. H.* Cleadon.—*Mr. W. Peacock.* March.

179. EUPLECTUS, *Leach*.1. E. NANUS, *Reich*.

*Heer, Fn. Col. Helv.*, i., 362.—*Pselaphus nanus, Gyll. Ins.*

*Suec.*, iv., 237.—*Euplectus Reichenbachii, Leach, Steph.*

*Illust., Mand.*, v., 97.

"Durham."—*Ormsby's Durham.* Ravensworth woods.—*J. H.*

2. E. MINUTUS, *Marsh*.

*Steph. Illust., Mand.*, v., 97.—*Euplectus sanguineus, Denny,*

*Monog. Psel.* 10.

"Durham."—*Ormsby's Durham.*

II.—*Observations on Composite Names of Places (chiefly in Northumberland) of Anglo-Saxon Derivation: being a Contribution of Materials towards the formation of an Archaic and Orthographical Chart of the County. (Part ii.)* By RALPH CARR, Esq.

[Read, Thursday, April 4, 1850.]

HOPE : *a short upland dale*, such as are generally situated near the head of the principal dale of a moorland stream, or diverge on either side, as short branches of the principal vale, and contain frequently the tributary burns. The hopes are much shorter than dales, and wider than gills. They are lost in most instances, ere long, in the hill-sides, but during their short extent form pastoral recesses of great beauty, and dear to all the natives of those wild tracts. They are most frequently watered by a rapid burn, but this is not essential. The hopes give their own names to the burns, and do not receive them from the latter. Thus we have Thornhope burn, not Thornburn hope; Harthope burn, not Hartburn hope; and so throughout: showing that the leading idea is taken from the conformation of the land, not from the stream that happens to accompany it.

I have not been able to trace the word distinctly in the Anglo-Saxon, though we can scarcely doubt that it existed in that tongue, nor do I despair of its yet being found. In the Old-Norse, we have *hóp*, *recessus*, *derivatio fluminis*, also the verb *hopa*, *to recede*, *withdraw*. The leading idea seems to be that of a recess or inlet. The Norsemen applied the expression to mouths of rivers, and to havens into which a stream discharged itself.

There is, in the County of Durham, at least one instance of this word occurring in a maritime situation—that of Ryhope; and at no great distance, though more inland, is Tunstall hope.

The moorland hopes, or side vales and vale heads, are spots of great attraction to all who are within reach of them, from their sheltered and often sunny position, their beautiful verdure, their

beds of bracken and blackberry, or thickets of short birch, thorn, and hazel, mingled with the fragrant raspberry and wild rose. Their names often bear allusion to the native trees and shrubs that clothe the slopes, or to the wild animals that formerly haunted those solitudes, and such names still speak pleasantly to the imagination of a sportsman, a naturalist, or a lover of the hills. Of such a character are Harehope, Harthope, Hindhope; Swinhope (from the wild boar;) Rowhope, (whether from the roe-deer or the rowen-tree;) Birdhope, Hawkhope, Oakhope, Thornhope, Birkhope, Hazlehope. Some appear to be from personal names, as Blenkins-hope, Kers-hope; written also without the hyphen, as, Blenkinsope, Kersope. Weardale, Tynedale, and the Scottish vales, on the other side of the Water-shed, are the centre of the tract over which this term is found to prevail. It extends but little into Yorkshire; but curiously enough it reappears in Derbyshire, where we find Glossop, Rushope, Ashope, and Hope woodlands.

We must not omit here to mention some indefensible corruptions of good old names, as Rodderup, properly Rotherhope, (A.S. Hrythera-hope, vale of cattle;) Harrup, for Harehope; Heslop, for Hazelhope; Howship, for Hows-hope, or perhaps House-hope; Herselop and Horsop, for Herdsel-hope or Hirselp-hope (from herdsel, a sheep fold;) and Pontop, for Pont-hope. In all such cases it is desirable to restore the final *e*, and to have recourse to the use of the hyphen, whenever the latter becomes necessary to prevent an undue coalition of consonants, tending to confuse the pronunciation and obscure the meaning, especially when uttered by strangers to our northern districts.

We may here observe that the name of Hedgehope, the second in elevation among the Cheviot hills, was thought by the late Mr. Hedley to be derived from A.S. *heah*, *high*, and *hope*: but such a combination could only form Heah-hope or High-hope. It is more likely, I think, to have been simply Heddes-hope (*heafodes-hôp*), from the rounded head-like summit which overhangs the hope or hollow at the foot of the hill.

Cleugh; Anglo-Saxon *cleofa*, *fissura*, a *cleft* or *chasm*. The cleughs are narrow and often rugged chasms, for the most part

among the moorlands. Those on the higher moors are among the wildest spots in the country, and their designations show them to have been the last resort and refuge of the wolf and wild cat, as they still are of the fox, the raven, and the falcon. We find accordingly Wolfsleugh, Cateleugh, Hartlawcleugh, Ravenscleugh, Corbiecleugh. In the peak of Derbyshire the word assumes the form of clough, and is of common occurrence.

Haugh: Anglo-Saxon *haga*, *agellus*, *prædium*; Old-Norse *hagi*, *pascua*, *pascuus*. In our northern English this well-known word is significant of the alluvial grass lands which skirt so many of our streams, and are often among the richest pastures of the country. It occurs in various composite names, as Fairhaugh, Humshaugh, Hindhaugh, &c., and is highly characteristic of the north country, having but little extension southwards.

Dale: Anglo-Saxon *dal*, is now characteristic of our northern nomenclature, though in Chaucer's time it was applied to certain river vales in the south of England. Like other names of places, these with this termination have often become surnames of persons, whose ancestors had proceeded from the places so denominated. Thus John of Weardale became John Weardale or Weardel, and and so Teasdale, Tyndal, and some others. It would be rash, however, to infer that Wardle is always to be deduced from Weardale, since it may have come from a very different origin, namely Ward-hill.

Gill: from the Old-Norse *gil*, with the same signification as our familiar word. It is of most frequent occurrence in names of places situated in portions of the country which supply many traces of a large infusion of Norse or Danish Elements into the popular idiom. Thus Thorsgill is not more evidently a name imposed by Danes than Baldersgarth and others of like character. Names composed with gill are prevalent in the South Western part of Northumberland, and in Cumberland, Westmoreland, Durham, and the North Riding.

Comb, or Coum; Anglo-Saxon *comb*, but this probably from the British or Welsh word *cum*. This latter is rendered by Pugh in his learned dictionary of the Welsh, as "A deep valley where the sides come together in a concave form." Bosworth in his

Anglo-Saxon Dictionary explains comb as "A low place enclosed with hills, a valley." Hence certain names of places situated in valleys and in combs, as Alcomb, Boscomb, Chilcomb, &c. Sometimes the names of the owner is annexed, as Comb-Basset, Comb-Raleigh. Sometimes *b* is changed into *p*, as Compton."

To this excellent account I may add, that such names, though less frequent than in the Southern and South Western Counties, are to be met with in the North also.

The situation of Comb-field, upon the Derwent, above Shotley Bridge, is in the bosom of the vale, at a point where it expands a little, and assumes, as it were, a cuplike conformation. It is bounded by varied and picturesque banks which appear to form almost a circle around Comb-field. Near the head of Chirdon-burn, there is a place called Greencomb Shield, but with the locality I am not acquainted. Another spot upon Tarsset-burn is called simply Comb.

It may be observed, that these places all lie in wild and remote tracts, where the British inhabitants must long have lingered, and which they probably never entirely left; remaining doubtless, until they were lost by intermarriage with the more powerful and more advanced, if not more civilized, invaders. When we cross the hills into the still more British region of Cumberland, the *coums* (as the word is there written) become more numerous in the nomenclature of localities.

Dene, A.S. *denu*, but believed to be a word of ancient British origin, is of frequent use to designate those beautiful sylvan ravines which abound in the north country; as *Shawdon Dene*, *Castle Eden Dene*, and numberless other instances. But the word is scarcely to be met with in close and proper composition. The term *den* which has been supposed to be the same, is now known to be entirely distinct. This latter will be considered hereafter in its proper place among the designations for woods and thickets, as it enters largely into our nomenclature as an element of composition.

In this place perhaps may be introduced an element of composition no longer extant as an independent word but of extended occurrence in names of places, since it may be distinctly traced

in probably every county of England, and is associated with many sites of singular beauty and of old historical renown.

There will be found a class of names terminating in *over*, *our*, *ore*, *or*, and *er*, as Bolsover, Windsor, Cumnor; the origin of which ending is the Anglo-Saxon word *ofer*, (in the dative *ofre*,) signifying a *bank* or *margin*. It is the German *ufer*, which has the same sense. This in the Low German is *over*, and occurs in the name of Hanover.

In *Doomsday Book* this termination generally appears in the form of the dative or ablative case with the final *e* as Calnovre or Calnouvre, Balcovre, Edensovre, now Edensor near Chatsworth, Belsovre, Essovre, &c., all in Derbyshire. In Yorkshire is mentioned Ulsigovere, from this element appended to the personal name Ulsig or Wolfsig, in later English, Wolsey. Shotover near Oxford, and Bolsover still retain their terminations uncontracted.

The stately site of Windsor itself was in early English days designated under the forms of Windlesovra, Windlesora, Windesora, Windesoure: the first part of the word alluding, it is thought, to the *Windels*, or basket-osiers, cultivated on the banks of the Thames. The arc of bulrushes even was expressed in Saxon by the term *windel*.

The truth is that old significant names, however humble and homely in their first origin, are never out of place, but lend themselves easily to the highest and most dignified associations. They spring from the vernacular speech of the country, bearing the traces of its old inflections, and perpetuating its archaic forms. Hence they possess an historical worth and weight which no modern coinage can attain. Thus it matters not, whether a North American town be called Athens, or Utica, or Buffalo; the stamp of modern vulgarity is there, proclaiming how low English taste had fallen in the days when we colonized those regions.

It is unfortunate that Bagsore, in Shropshire, because the *g* happens to be pronounced soft, has come to be written *Badger*. Had reference been made to *Doomsday Book*, some such compromise as Badgesor would have been preferred, so as to reconcile etymology and pronunciation as nearly as possible. As the study of national antiquities and language proceeds, names

that are so very corruptly written will inevitably be modified and corrected.

In Northumberland, from whence we have wandered too far, the only names that I can recollect as referable to this element, are Wooler (anciently Wolover, Wolowre, Wollore), and Lucker or Luckor, which I doubt not to be the place from which one Nich. De Leuknor, often mentioned in the Pipe-roll of Northumberland, received his title. It is obvious that in cases where the spelling is not definitely fixed, the forms in *or*, or *ore* (the dative case,) are preferable to that in *er*, though the latter cannot be regarded as corrupt. It is less eligible, however, because less distinct, and more likely to be overlooked or misunderstood.

Scar; in Old-Norse *skér*, a rock in the sea. Allied to this, probably, is our English adjective *sheer*: "Abrupt and sheer the mountains sink." Mr. Brockett well defines a scar to mean, "a bare and broken rock on the side of a mountain, or on the high bank of a river." I may add that many of the dangerous marine rocks on our coast are denominated scars, after the true Old-Norse usage. This word in its full form does not enter into close composition. But, if I mistake not, *car*, a word at first sight different, is merely the softened form of *scar*, when used as part of a compound name, and constituting an unaccented or feeble syllable, as in Bondycar, Redcar.

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III. — *On the two Species of Rat in England.* By DENNIS EMBLETON, Esq., M.D.

[Read, Thursday, April 4th, 1850.]

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*Vertebrata*, 1835, can only, with the same exclusion, enumerate sixty-one species.

It seems probable that, at the present day, there remain undiscovered few, if any, Mammalia indigenous in our island; but it may admit of question whether we have worked out a full and accurate knowledge of even the sixty-one species described by the latter author.

The external characters of the animals have been repeatedly, and, no doubt, correctly rendered; it is in their internal structure only that we can expect to find anything new; and our descriptions cannot be deemed complete if the account of the organs, concealed by the skin, be neglected or excluded.

During the past summer, I have examined our two species of rat, the *Mus Rattus*, Linn., and the *Mus Decumanus*, Pall., having had some specimens of the former sent over by some friends at Stockton, which is, as far as I know, the only locality in our district where the black rat is yet to be found. A few anatomical points have presented themselves, which are, perhaps, worthy of being recorded; partly because the black rat is becoming rarer, and possibly may, at no very distant period, become extinct in our island; partly because the points alluded to show that there are differences of internal structure which, independently of external characters, may be grounds sufficient for establishing a specific difference between the black and the brown rat; and partly, also, because I do not find these points noticed in any of the books on Natural History or Comparative Anatomy to which I have access.

Fearing to be too exclusively technical, I have prefixed to the anatomical details a few words on the history of our rats, which, like the dogs of the east, are the abhorred and unclean, but very useful scavengers of our dirty towns.

I will not, however, occupy your time with discussing the sanitary offices performed by rats, or attempt to explain their instinctive flight from the falling house or the sinking ship, or notice either their wonderful migrations, or their deadly feuds and massacres in times of scarcity, or their amazing fecundity, or their scrupulous cleanliness whenever their indiscriminate and voracious appetite is for a time appeased; or even their tender filial affection,

of which some very touching narratives are in print; but the history of the transportation and diffusion of one, and the conquest and destruction of another race of rats, forms a short chapter in animal geography, which may have interest enough to detain us a few moments, if it were merely to trace a certain occasional resemblance that exists between the movements, respectively, of rats and men.

I am not aware of any record of the existence of rats in our island, during the early historical periods; but it appears that the *black rat* was first noticed, during the middle ages, on the Continent of Europe, to which it had penetrated from some unknown region, conjectured to be America. Milne Edwards says it was not known to the ancients. Gesner, of Zurich, in his *Historia Animalium*, 1558, is the first modern author who describes and figures it. It is highly probable that it came over to England, from the Continent of Europe; and this opinion is strengthened by the information given by Mr. T. Bell, in his "*British Quadrupeds*," viz., that the name for the black rat, in *Welsh*, means *French mouse*.

About the year 1730, according to Pennant, when the black rat held undisputed possession of our drains, cellars, house and barn walls, stables, &c., there was brought, by ship, from India, a new species, larger, more powerful, and bolder than the old, and as soon as the strangers had gained a firm footing in the island, they began to war upon the natives, and as, in the case of man, the more vigorous race gradually overpowers the weaker, so in that of the rat, the stronger gradually overran the whole island; and now, after the lapse of 120 years, has not only long since completed the conquest of its predecessor, but has nearly extirpated it from the country.

The new species thus established is the brown, or Norway rat. Why this latter name was given to it does not appear; for it was so called before it really existed in the Scandinavian peninsula.

Of the two great parties of rats, contending for supremacy in England, during the last century, the black was called the Jacobite, the brown the Hanoverian, in obvious historic allusion.

It is not on record, that I can find, from what part of India the brown rat was brought hither; but in twenty years after its

arrival, we find it noticed as a stranger about Marly and Versailles, and then in Paris. Books on Natural History show that from that time to this the numbers of the brown rat, or *surmulot* in France, have gone on increasing, whilst those of the black species have been diminishing. Shaw, in 1801, states that in Paris the brown was much less frequent than the black, but we find the proportion very greatly in favour of the brown rat in the official account of the result of the famous *chasse aux rats*, held in the autumn of the year 1849.

The brown rat spread over France, though unequally, driving out or destroying the black, and passing at the same time eastward; but in 1766, on the word of Milne Edwards, had not penetrated into Russia. Shortly after that date, it was found to have arrived, in great numbers, from the west, on the banks of the Volga, near Astracan; to have passed that river, and gone further to the eastward. It occurs, it is said, plentifully, in Persia, but is wanting in Siberia. During the last hundred years, our vessels have given these scavengers a free passage, at their own risk, to America, Australia, New Zealand, and almost all other parts of the world, including, of course, their original India. We may venture to hope that our present brown rat, the conqueror of England, and many other parts of the world, as he is of moderate size, and can be kept under, may not be superseded, and conquered in his turn, by that other Indian rat, the Bandicoot, of the size of a rabbit, which might prove a really formidable and dangerous pest. The black rat, however, is not yet extirpated from Britain, any more than the Welshman, or the Highland celt; he continues to hold his own in some of the cellars and stables of London, and in which he is even sometimes more numerous than the brown; according to Mr. T. Bell, and, from the report of Dr. Fleming, he is very common in some parts of Edinburgh, and appears to live there even in harmony with the brown invader. In *Griffith's Cuvier*, we are told that the two species will live peaceably together, and even inhabit contiguous burrows; but this peace will probably continue only as long as food is plentiful, when it is scarce, the weak will inevitably fall a prey to the stronger.

The following description of the black rat of Pennant and Shaw,

the *Mus Rattus* of Gesner, Linnæus, Desmarest, and Fleming, was drawn up after the examination of several specimens:—

The first and largest was a female, its dimensions were, length of head and body, 7 inches; of head,  $1\frac{3}{4}$  inch; of tail, 8 inches.

Colour cinereous black, on the back and sides, belly, and other under parts of the body paler, a male was observed to be not so dark as the female. The fur is composed of two kinds of hair, as in rats generally, long and short, the long predominates on the back and sides, giving a glossy appearance to this fur, which that of the brown rat wants. The cinereous colour is owing to the admixture of black and white hairs, the white hairs are more numerous on the under parts of the body.

*Nose* rather sharp, *eyes* black round and bright, *whiskers* black and very long, the longest project as far as, or even beyond, the tips of the ears. *Ears* almost an inch long, large, ovate, expanded, delicate, black and naked, epidermis in minute pavement-like spots. *Tail*, black, in some round, in others squarish, and has about 180 rings of scaly epidermis, from under cover of these rings project backwards whorls of short stiff black hairs. *Mammæ*, five pairs, two pectoral, the first being placed between the fore legs, the second close to the lower margin of chest. Separated from the pectoral, by a considerable distance, are the other three pairs, of which the middle one is placed very near to the last. The two last lie between the hinder legs, and a very short way in advance of, and external to, the genital orifice. *Feet* of same colour as body and tail; five toes on both fore and hinder feet; but the thumbs on the fore feet are minute, rudimentary, and furnished with a small flattish delicate nail. All the other toes have claws. Length of sole, fore foot  $\frac{1}{8}$  inch; hinder foot, nearly  $1\frac{1}{2}$  inch. Five pads on sole of fore, six on that of hinder foot. *Teeth*, small, delicate, incisors two, molars six, in each jaw, the anterior molar the largest. *Length of skull*,  $1\frac{5}{8}$  inch; of lower jaw,  $\frac{7}{8}$  inch.

INTERIOR:—*Abdomen*. *Liver*, 6-lobed, two lobes much larger than the rest. No gall bladder.

*Pancreas*, of considerable size, diffused. *Spleen*, narrow, thin,  $1\frac{1}{2}$  inch long.

*Stomach*, of rather simple form, like others of the Rodent family, larger curvature very great, lesser extremely small, as the cardia and pylorus lie very near together; left end of stomach a good deal produced, pylorus not strongly marked outside. Greatest length of stomach, when moderately inflated,  $2\frac{1}{2}$  inches; greatest breadth,  $1\frac{1}{4}$  inch. The left end of the stomach is lined by cuticle, and the edge of this cuticle projects about  $\frac{1}{8}$  inch, all round into the cavity of stomach, marking off the cardiac  $\frac{2}{3}$ , from the pyloric  $\frac{1}{3}$ ; it surrounds the cardiac orifice, and projects towards the pylorus, along the lesser curve of the stomach, for rather more than  $\frac{1}{4}$  inch, in the form of a small spade-shaped flap. Surface of cardiac part of stomach white, and rather warty looking, cuticle easily detached, showing a smooth white surface beneath. Pyloric part of stomach, lined by epithelium, red, highly vascular, delicate and rugose.

*Small intestine* coiled a good deal, but smooth, and pretty uniform in size, measures 3 feet 1 inch long, diameter about  $\frac{1}{8}$  inch. Duct. hepaticus enters duodenum at about  $1\frac{1}{2}$  inch below pylorus, mucous membrane of this part of intestine rather obscurely reticular and villous.

*Large intestine*  $9\frac{1}{2}$  inches long, length of cœcum, along greater curve, nearly 3 inches. *Total length of alimentary canal*, about 4 feet. Diameter of colon, at 2 inches below cœcum,  $1\frac{1}{4}$  inch. The cœcum is curved almost in a circle round the termination of the small intestine, it is by far the most capacious part of the canal below the stomach. Where the ilium joins the colon, the latter becomes dilated, and beyond the junction the cœcum widens out to  $\frac{5}{8}$  inch diameter, it then bends at once upon itself, and ends in a blunt cul de sac that projects about 1 inch beyond the entrance of the ilium into the colon. This latter part is provided with two series of fine projecting folds of the mucous membrane, obliquely arranged, one on each side of the tube, these colic valvulæ conniventes are broadest at their middle, and fade gradually away towards each end; thus the two series are separated by two plain lines running along the intestinal wall, one of these corresponds to the attachment of the mesentery, the other to the opposite part of the wall of the tube. There are about two dozen folds in each series. The fæces in the colon are of a greenish black hue, and become

divided into elongated pellets, after passing away from the valvular part of the canal.

The *anus* is placed close under the tail, quite behind, and apart from, the genital aperture.

The *kidneys* are very convex, unlobulated, and of considerable size. The supra-renal bodies, yellowish white, large.

*Uterus* bilobed, with a coiled Fallopian tube, ovoid shaped ovary. The right horn held three, the left five *fœtuses* advanced in development. Organs of chest, and head not examined.

The brown rat is altogether a larger and stronger animal, measuring in length of head and body 9 or 10 inches, or even more, with a tail not so long in proportion as the black rat, being scarcely so long as the head and body together. Head larger and stronger in proportion.

*Colour of body* yellowish brown, gradually passing into white on all the under parts of the body, of the two kinds of hair the undergrowth predominates, and thus the fur feels thicker, but softer, than on the black rat. *Muzzle* blunter and broader. *Eyes* much the same as in the black species. *Whiskers* black and white, though chiefly black; on the whole, not so long as in the other species. *Ears* about  $\frac{3}{4}$  inch long, therefore shorter, they are more broadly ovate, and nearly covered on both surfaces with short hair, colour of skin of ears much lighter than in black rat. *Tail* round, has at least 200 rings of epidermic scales, with whorls of hair as in the *M. Rattus*, only the hairs are dark brown, and the rings of scales and skin of tail white, instead of black. *Mammæ*, alike in the two species. *Feet*, pale flesh-coloured beneath, covered with white hair above. Digits and pads of soles alike in both species; length of sole of fore foot  $\frac{3}{4}$  inch, of hinder  $1\frac{3}{4}$  inch. *Teeth* same in number and disposition, but larger, more robust, and the lower jaw also somewhat larger in proportion to the skull, and of rather different form from that in the black rat.

All the viscera larger; stomach shaped a good deal like that of black rat, but its left end produced into a distinct bulbous-like pouch, between which and the rest of the organ is a marked constriction.

The cuticular lining of left end seems to vary in extent in

different individuals, but has the same projecting valve-like free edge at its cessation towards the right end of stomach, and the pylorus more strongly marked than in the other species. *Liver* has same divisions, there is the same want of gall bladder, and the ductus hepaticus opens into duodenum, about 2 inches below pylorus. *Pancreas, spleen, kidneys,* and supra-renal bodies like those in the the other rat.

The *small intestine* is 4 feet 8 inches long, *cæcum* 3 inches. *large intestine* 7 $\frac{3}{4}$  inches. Total length, therefore, of alimentary canal about 5 feet 6 inches, against 4 feet in the black rat. The cæcum of the brown rat is less capacious than that of the other rat, shorter and less curved; the small intestine longer, and the large intestine shorter. The valvular folds of the colon are from 24 to 36 pairs in the brown rat, about 24 in the black, but their number seems to vary, and to increase with the size of the animal.

The female genitalia are similar in the two species. The male parts in both species, as in other *Rodentia*, are very complicated, but there are differences of detail peculiar to each species of rat.

#### EXPLANATION OF PLATES I. AND II.

- FIG. I.—Stomach of Black Rat.  
 — II.—Cæcum, &c., of ditto.  
 — III.—Stomach of Brown Rat.  
 — IV.—Cæcum, &c., of ditto.

#### IV.—On the short Sunfish, (*Orthrageriscus Mola*.)—By DENNIS EMBLETON, Esq., M.D.

[Read, Thursday, April 4th, 1850.]

FROM Pliny, we learn that the Sunfish was known to the ancients by the name of pig; he says "Apion maximum piscium tradit esse porcum, quem Lacedæmonii Orthrageriscum vocant: grunnire eum, cum capiatur." Young pigs were called in Sparta, ὀρθραγορίσκους, (from ὀρθρος tempus matutinum, and ἄγορεύω

vendere,) because they were carried about for sale early in the morning. Gesner, who gives this derivation, was the first, in 1558, to describe and figure the short and the oblong Sunfish, the latter being about twice as long as broad; he says he has heard the grunting of the fish, and seen its phosphorescence by night, it grows to the size of four, five, or six cubits. He adverts to its being taken in various parts of the Mediterranean, and once off the Cape de Verde Islands. He had heard of one that was said to be as big as two oxen, and so strong that even ships were overwhelmed by the resistless stroke of its fins!

La Cépède, in 1798, names the fish *Tetrodon Lune*. It is called, he says, Sun or Moon, from its disk-like form and phosphorescence. It reflects the sunlight strongly, so that it is bright, even in day time, but in the dark it shines with a phosphoric splendour all its own. Shoals of the fish have been seen at night, presenting a most interesting tremulous illumination, beneath the agitated waves of the ocean. It makes a well-marked purring sound like the *Tetrodons*. It attains a diameter of 12 feet; one, said to be 25 feet long, was caught, in 1735, off the Irish coast. Its weight is said to reach 300 or even 500 pounds. La Cépède believes the short and the oblong to be varieties of the same species.

Shaw calls the sunfish *Cephalus*, from its resemblance to the head of a fish, and mentions a new species, *C. Pallasianus*, as inhabiting tropical seas, and being only a few inches long.

In Griffiths' *Cuvier* the old name has been restored, and a specific one, *Mola*, added, derived from one name of the fish at and about Marseilles, namely *mole*.\* Two other species are noticed, but scarcely any description of them given.

Professor Jacob has given in the *Dublin Philosophical Journal*, 1836, the most detailed account of the anatomy of the Sunfish that I have met with, and in the second volume of *Professor Owen's Lectures on Comparative Anatomy*, are to be found many valuable facts relating to its internal structure.

This curious fish, which vies occasionally, as it would appear,

\* Other French names are *Molebout* and *Bout*; it seems probable that the term *bout* may be the origin of the English terminal *but*, occurring in names of fishes, as in *Holibut*.

in bulk with the huge sharks and rays, is, in several particulars of its confirmation, closely allied to, and was long ranked with, the *Tetrodons* and *Diodons*, or balloon and globe fishes, though it wants the power of inflating itself which these possess. It is now included with them in the family *Gymnodontes* of the *Plec-tognathi*, or Sixth Order of Fishes in the arrangements of Cuvier and Owen. It is found in the Mediterranean, and in the Atlantic, from the Cape of Good Hope to the northern parts of the North Sea, including all the coasts of the British Isles.

Our specimen was caught about five miles off Cullercoats, in September, 1849, by a fisherman, who found it, still alive, lying on its side, on the surface of the water. It was rather a small specimen, and weighed 17 lbs. Its colour, a steel grey, was said to have been at first very brilliant, it grows silvery white towards the mouth and the abdominal border, blackish grey towards the dorsal ridge and tail. Head not distinguishable from trunk. Skin scaleless, and spineless, thick, rough, much wrinkled, and closely studded with minute bony particles beset with short sharpish points.

Lateral line absent. Dimensions of body as follows:—From tip to tip of fins, 2 feet 6 inches; from lips to farthest point of tail, 1 foot 9 inches; depth of body just in front of dorsal and anal fins, 1 foot  $2\frac{1}{2}$  inches; greatest thickness of body (just above and behind the eye) 4 inches. Mouth very small, on median horizontal line. Jaws undivided, palate and lingual teeth wanting. Jaw-teeth, a pair of strong horny or bony beaks consolidated with the jaws, upper beak enclosing the lower when the mouth is shut. Lips thin, and partially exposing the teeth. Tongue, large, fleshy, and firm, filling the floor of the mouth, its whole surface, particularly at the point, studded with numerous papillæ. At the back of the mouth are three rows of sharp, thorn-like pharyngeal teeth, projecting backwards on each side, above these an oval rough callosity. Of the fins, the pectoral is attached on the horizontal median line, 7 inches behind the lips, is thin and inclined gently backwards, upper border arched, fifth ray the longest.

The *dorsal* and *anal* lie so far back, that a perpendicular drawn through the anterior border of their bases, strikes the horizontal

median line at 13 inches from the front of mouth, and 8 inches in front of end of tail. They are continuous behind with the caudal, which forms the posterior, convex, sharp, and scalloped, border of the fish; along the bases of these fins, runs a continuous band of soft pliant skin.

	inch.		inch.		inch.
Length of pectoral fin	$2\frac{3}{4}$	Breadth .....	$2\frac{1}{4}$	Number of rays	13
Ditto of dorsal .....	$9\frac{3}{4}$	Ditto.....	4	Ditto .....	17
Ditto of anal.....	$9\frac{1}{2}$	Ditto.....	4	Ditto .....	16
Ditto of caudal .....	$3\frac{3}{4}$	Ditto .....	$10\frac{1}{2}$	Ditto .....	14

This account agrees with that of Jenyns, but not with those of Yarrell and Fleming. The anal and dorsal rays, after passing straight on for some distance, bend successively backwards, and divide into numerous divergent filaments terminating at the posterior border of the fin, which is very thin, and finely scalloped. The anus is about an inch in front of the anal fin. The lower edge of the body is thinner and sharper than the upper. A little above the mouth is an oval rough hard callosity, slightly projecting—a sort of snout. The eye is placed nearly half-way between the point of the mouth and the branchial aperture, the palpebral opening is elliptical, long diam.  $1\frac{1}{8}$  inch, shorter ditto  $\frac{3}{4}$  inch. The eyeball, which is nearly flat in front, is large, sub-elliptical, and has a diam. much greater than the palpebral opening. Iris small, dark blue, with a white rim round the inner margin, pupil elliptical, with long diameter horizontally placed. Choroid gland and pecten, as described by Cuvier, were not examined. Two minute nasal apertures on each side, elliptical in a direction nearly vertical, are placed  $\frac{7}{8}$  inch in front of the eye, and close together. The posterior is only half the size of the other. The branchial aperture is partially guarded by a fold of skin directed backwards, and is covered by a fold of branchiostegal membrane, the posterior free border of which rests on the scapula. This aperture lies directly in front of the pectoral fin, its long diameter, vertical, is  $\frac{7}{8}$  inch, its short, horizontal,  $\frac{1}{2}$  inch. It leads into a capacious branchial chamber, which, with its walls, forms the bulk of the apparently enormous head of the fish. The size of the branchial chamber, compared with that of its external openings, is very

remarkable. There are five gill-arches, that farthest back is about half the size of the rest, which are very largely developed.

The abdominal cavity is large, much compressed, and of an irregularly triangular shape, the superior angle or apex lying just above the top of the pectoral fin, the posterior just behind the anus, the anterior  $7\frac{1}{2}$  inches in front of this, and beneath the branchial chamber. The greater part of the cavity is occupied by a well-defined packet of intestine, enveloped in peritonæum, and by the liver.

The *Liver* is very unequally divided into two lobes, the left being the larger. The *Gall Bladder* is large, and attached to the right lobe. The hepatic duct joins the cystic, at the posterior edge of the gall bladder, and the common bile duct,  $2\frac{1}{2}$  inches long, runs backwards, and opens into the alimentary tube at a point about  $4\frac{1}{4}$  inches from the top of the œsophagus, a curious arrangement, which will be more fully noticed below. The colour of the liver is an obscure olive, varied with reddish flesh colour. There is no *pancreas* and no *air bladder*. The *spleen* lies in contact with the gall bladder, and anterior end of the stomach, is small, soft, most friable, and of the usual colour.

The *œsophagus*, one inch in diameter, is about  $2\frac{1}{2}$  inches long, 2 inches of which lie in the abdomen, beyond this the tube, slightly dilated, passes backwards, nearly horizontally, between the lobes of the liver for 5 inches; it is then bent suddenly upon itself, and passing downwards and forwards, enters the packet of intestines; from this, after a good many convolutions, the canal passes backwards and downwards to the anus, which is large, and externally projecting. The whole length of the canal is 7 feet 6 inches. It is only when it is laid open that its peculiarities can be well seen. Its lining, or mucous membrane, for a short distance below the pharyngeal teeth, is smooth and uniform, then occurs an irregular circular line, the termination of the cuticle. Below this, the mucous membrane is longitudinally plicated, and the canal somewhat contracted, being 2 inches in diameter, but with thicker walls, the plicæ here and there coalesce, and have a series of smaller folds running across their intervals. This disposition of the surface extends for  $2\frac{1}{2}$  inches from the cuticular border,

and appears to mark out the extent of the œsophagus. The plicæ are then succeeded by an irregularly honey-combed membrane, extending for about  $3\frac{1}{4}$  inches further. The tube at this part has a diameter of  $2\frac{3}{4}$  inches, and its walls are thick and fleshy. The meshes of the mucous membrane are elongated in the direction of the canal, and enclose a still finer pattern of net work. A quantity of thick tenacious mucus, like what is usually found in the stomach of other fishes, was seen adherent to the folds at the upper part of this region of the tube. The duct from the liver opens here on a stout papilla, placed at the distance of only  $1\frac{3}{4}$  inch from the bottom of the œsophagus, at the right side, and where the tube is widest. There is no constriction, no pyloric valve, either above or below the entrance of the bile duct. Villi are found scattered over the inner surface, beginning, though sparingly at first, just below the œsophagus, gradually increasing in quantity and in size for 3 or 4 inches downwards. They are found, also, on the papilla of the bile duct. The net work of rugæ dies out a short way below the entrance of the bile duct, and is gradually succeeded and replaced by a beautiful shaggy pile of villi, measuring nearly  $\frac{1}{4}$  inch in length. This change seems to mark the end of the gastric, and the commencement of the intestinal portion of the tube. The stomach, then, is between 4 and 5 inches long, and is peculiar in possessing villi, and permanent folds of the lining membrane, in receiving the secretion of the liver into its cavity, and also in not presenting any well-marked dilatation, or anything like a pyloric constriction. Indeed, the canal downwards almost imperceptibly diminishes in calibre, and in thickness of its walls, for half its length; it then remains rather small to within about 1 foot of the anus, after which it is irregularly sacculated for about 3 inches, and at 5 inches from the orifice there is a narrow, obliquely placed, valvular fold of the lining membrane. The villi gradually diminish in length and number towards the sacculated portion of the intestines, below which they are replaced by a minute reticulation, which is continued to within an inch or two of the orifice.

Cuvier, in the *Règne Animal*, merely mentions that the gall duct opens into the stomach. Professor Jacob gives a figure of

the gall duct opening, just below a small dilatation, which he names stomach, into the duodenum, beneath which is a slight constriction, marking off the duodenum from the rest of the alimentary tube. The Professor, in noticing the existence of villi on the lining membrane of the stomach, points them out as not remarkable for their abundance, but he mentions the unusual length of those in the duodenum.

Our illustrious countryman, Ray, had long ago said that the gall duct opens into the gastric cavity. From the examination of the specimen before us, it must, I think, fairly be concluded that Ray and Cuvier are correct, and their opinion is not altogether unsupported by analogy, for according to Professor Owen, (*Lectures* vol. ii. p. 244,) in the Bream, "the short cystic duct is found opening into the fore part of the cardiac portion of the stomach". This latter anatomist shows us also, that the want of a distinct gastric compartment is chiefly confined to the lower fishes, as the Lampreys, Myxines, and Sandprides, and in the Lancelet, the lowest of all, it is especially remarkable; that a reticulate lining membrane rarely occurs in fishes, it is met with, however, in the Sturgeon, and in the Gymnotus; and that villi in the stomach are found more rarely still. It appears then, that the Sunfish is rather an exception to the rule as regards its gastric structure, and it would almost seem as if the characters of an intestine had, in this fish, been continued up unusually high, so as to deprive the stomach of a part of its speciality, and reduce gastric digestion almost to its minimum.

Judging from the conformation of the mouth, teeth, and tongue, one would be led to suppose the food of the Sunfish to be soft, easily taken, not bulky, but of some sapidity; from the enteric form of the stomach, from the presence of gastric villi, from the bile entering this part of the canal, and from the absence of pyloric valve and pancreas, one would infer that the food is such as to require little solution or digestion, that, indeed, it is susceptible of being at least partially absorbed as soon as it has been swallowed. The structure of the mucous membrane, of the rest of the intestinal tube, shows it to be an apparatus highly organised for absorption, but the tube is not very long, and has

none of those complications that are met with in many fishes. All these things being considered it must be concluded that the food of the Sunfish consists most probably not of Fuci, as Mr. Couch thinks, but of naked or thin shelled mollusks, small, tender crustacea, or the spawn of these and of fishes; indeed, I find that Donovan states that fragments of testacea and small crabs have been found in the stomach. This sort of food would easily be found among the fissures of rocks at the bottom of the sea of which the Sunfish is most probably a denizen. The alimentary canal of our specimen contained merely a quantity of uniform creamy looking fluid and mucus.

Two Entozoa, colourless, subpellucid, in form like elongated hydatids or cysts, about  $1\frac{1}{2}$  inch long, were found among the folds of the packet of intestines, also in the branchial chamber attached to the gill rays were detected, as is not uncommonly the case, two or three specimens of the parasite *Entomostrakon, Cecrops Latreillei*.

URINARY AND REPRODUCTIVE ORGANS; *the Kidneys*, six inches long, occupy the usual position, and are somewhat enlarged at both ends; the ureters, coming out of their lower surfaces at about  $1\frac{1}{2}$  inch from the posterior end and running backwards converge to the median line, and unite into one tube which enters the bladder at the termination of the upper  $\frac{1}{2}$  of its posterior surface.

*The bladder* is elliptical, and about the size of a hen's egg, it tapers below to a short urethra which opens externally, behind, and distinct from, the anus. There are no suprarenal glands. The reproductive organs in this specimen are not in a state of activity, they are pale and shrunken, but consist of a pair of small tubes, distinct above, and tapering to points about the middle of the bladder, united below, where they open as one into the urethra just within its external orifice. They lie as usual between the intestine and the urinary organs.

THE HEART is small, as is its venous sinus; two oblique semilunar valves lie between this and the auricle. The auricle is large, its inner surface shows slender, but pretty strong reticulations of fleshy columns. Four semilunar valves, of nearly equal

size, arranged in one row, guard the auriculo-ventricular orifice. The ventricle is thick, fleshy, and strong, its fleshy columns short and thick. The aortic opening has four semilunar valves, two of which are large, two very small. The bulbus arteriosus is small, but fleshy and strong. No opening between the pericardium and the peritoneum is apparent. The vascular system was not further pursued.

*The nervous system* was not examined, but from the second volume of *Professor Owen's Lectures on Comparative Anatomy*, we learn that the spinal cord is found "shrunk into a short, conical, and according to Arsaki, gangliated appendage of the encephalon. In the Diodons, which much resemble the *Orthratoriscus*, there is a long cauda equina. The cerebellum is an oblong, single, longitudinally fissured ganglion, in front of which are a pair of large optic lobes, a much smaller pair of cerebral ganglia, and a minute pair of olfactory lobes supported by slender pedicles.

When the skin, abdominal muscles, and viscera have been removed, the body presents two broad compressed masses, the head and the trunk, united by a very narrow isthmus, the upper part of the spine. The dorsal muscles, separated on the median line by a thin ligamentum nuchæ, arise from the occiput and from a fibrous membrane attached to the side of the bodies of the vertebræ, and which runs down as far as the posterior part of the abdominal cavity, beyond this the muscular bundles arise from the upper half of the bodies of the vertebræ, and from the neural spines and interspinous bones. These muscles all converge towards the base of the dorsal fin; the vertebral, which overlap the occipital bundles, are inserted upon a series of strong tendons, which go to be attached to the fin rays; the occipital mass of fibres passes backwards and is partly inserted upon the vertebræ, and partly upon the series of tendons of the fin rays just mentioned. The muscles for the anal fin arise from the lower half of the bodies of the vertebræ behind the abdomen, and from the hæmal spines and interspinous bones, and converge to be inserted upon a series of tendons attached to the rays of the anal fin. Small short muscular bundles pass backwards from the bodies and processes of the posterior vertebræ, diverging to the different portions of the caudal fin. The abdominal muscles are thin.

We have here strong apparatus for the rapid lateral motion of all the large fins, and for drawing forward and spreading the rays of the dorsal and anal fins, and further, for the vertical, as well as horizontal, motion of the head and spine.

The bones generally are light, spongy and soft. Some of the cranial bones, and the bodies of the vertebræ, are the hardest. There are eighteen or nineteen spinal vertebræ, of which several caudal ones are cartilaginous. The first five behind the skull have their neural spines very short, inclined backwards, and imbricated upon each other, but this part of the spine is very flexible in all directions. Nearly all the other vertebræ have their neural spines very long and straight. At the tenth vertebræ the hæmal spines commence, and are at once of full size. There are no transverse processes. The interspinous bones are long, particularly the hæmal, flattened and featherlike at their proximal, narrow towards their distal ends, which present a small head for articulation with the fin rays.

The great apparent size of the head is owing almost entirely to the unusual developement of the bones of the hyoid apparatus, the opercular pieces, and the scapula. The branchiostegal rays are five in number, long and attenuated. The maxillary and præmaxillary bones are ankylosed.

Circumstances have occurred which have prevented a more detailed description of the bones of the cranium.

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V.—*Summary of Observations on the Anatomy of Doris, a Nudi-branchiate Mollusk.* By ALBANY HANCOCK, Esq., and DENNIS EMBLETON, Esq., M.D.

[Read, August 16th, 1850.]

We have proposed to ourselves to communicate to the Club the principal points of the Anatomy of Doris. The following species have been examined, and are referred to:—*D. tuberculata*, *D. tuberculata*, Verany, *D. Johnstoni*, *D. tomentosa*, *D. repanda*, *D.*

*coccinea*, *D. verrucosa*, *D. pilosa*, *D. bilamellata*, *D. aspera*, *D. depressa*, but *D. tuberculata* has been taken as the type of the genus, and as the standard of comparison for the rest.

*The digestive organs* come first; the mouth in all the species is a powerful muscular organ, provided with a prehensile tongue, beset with siliceous spines, which, when the organ is fully developed, are arranged in a median and two lateral series; most frequently the median series is wanting, in those species, in which the median series is not developed, there are two principal forms of tongue, one, as in *D. tuberculata*, broad, consisting of many rows, the other, narrow and strap like, as in *D. bilamellata*, with only two rows. In addition to the tongue, certain species possess a prehensile spinous collar on the buccal lip, and some of these have also rudimentary horny jaws. The mode of development of the lingual spines is quite analogous to that of the teeth in the Vertebrata. In that division of the genus of which *D. bilamellata* is typical, the mouth has, opening into its upper wall, a well-characterised, lentil-shaped gizzard.

*The Œsophagus* varies in length and form; in some it is dilated at its commencement, forming a crop; in others it is simply dilated previously to penetrating the liver mass.

*The Stomach*, has two forms; one, as in *D. tuberculata*, is very large, receiving the Œsophagus behind, giving off the intestine in front, and lying in front of the liver, the other is received within the mass of the liver, and is very small.

*The liver* in all is bulky, mostly bilobed, and variously coloured, and pours its secretion by one or more very wide ducts into the cardiac end of the stomach.

A small lamellated pouch—a rudimentary, *Pancreas* is attached in some species to the cardiac, in others, to the pyloric end of the stomach.

*The intestine* is short, of nearly the same calibre throughout, rather sinuous in its course, and terminates at a nipple-formed anus in the centre of the branchial circle.

*The reproductive organs* are male, female, and hermaphrodite; the male organs consist of a penis and testis, the latter is connected by its external end to the penis, by its internal to the oviduct.

In some species the testis is a loosely convoluted tube, of no great extent, in others it is complicated with a fusiform mass of minute, densely-packed, and convoluted tubule. Two species are in addition provided with a provocative stiletto, to which is attached a gland.

The female organs are, ovarium, oviduct, and mucus-gland. The ovarium is spread over the surface of the liver, in the form of a branched duct with terminal ampullæ.

The oviduct is always a good deal dilated as it nears the mucus-gland, is more or less convoluted, and previously to passing into that organ, it has its communication first with the testis, and then with the androgynous apparatus. The mucus-gland is voluminous, formed of a convoluted tube arranged in two masses, one imbedded in the other, the tube being differently disposed in each. This gland secretes the mucous nidus for the ova, on their passage from the oviduct to the exterior.

The androgynous apparatus is a tube or vagina opening from the exterior into the oviduct, having one or two diverticula spermathecæ communicating with it in its course.

On the right side of the body, beneath the cloak, and not far from the anterior extremity, opens a common vestibule, which receives the orifices from the three parts of the reproductive organs the male orifice being anterior to the others.

In the connexion of the testes with the oviduct, we recognise the channel whereby self-impregnation may be effected, which, from the solitary habits of many of the species, may not unfrequently be rendered necessary.

The spermatozoa are developed within large and fusiform spermatophora, which are observable in the spermathecæ. The spermatic filaments themselves, fully formed, are found in vast abundance in the dilated part of the oviduct, they have been, likewise, detected in the ovary itself. When fully grown, they are elongated, slender, and waved, having at one end a small, curved, fusiform enlargement.

*Organs of circulation and respiration.*—The circulatory organs are a systemic heart, arteries, lacunæ, and veins. The existence of true capillaries in the liver mass seems probable. There is also

a second heart having a portal character. The systemic heart lies immediately beneath the dorsal skin, in front of the respiratory crown, and made up of an auricle and ventricle, enclosed within a pericardium. An aorta branches off to supply all the viscera and the foot; on the stomach, genitalia, and other organs, a fine arterial network has been demonstrated. From all the viscera, except the liver mass, comprising liver, ovarium, and renal organ, the blood finds its way into the intervisceral spaces, and general abdominal cavity, from which it passes into orifices on the sides of the abdominal walls, and enters an extended network of canals or lacunæ, forming a spongy tissue in the substance of the skin. This tissue is on each side drained by a venous trunk canal, which passes backward, increasing in calibre as it goes, and penetrating the inner surface of the skin behind the ventricle of the heart, debouches into the posterior lateral angle of the auricle, as a distinct isolated vein. This is the systemic circle, and it is evident that the blood running in it is returned to the heart without having passed through a special respiratory organ.

It is that blood only which is returned from the liver mass that circulates through the branchiæ. On the liver mass vascular injection shows a very close reticulation of minute arterioles, and we are inclined to believe that in this organ there is a true capillary system, the blood is undoubtedly conveyed away from the liver by veins, ending in a common hepatic trunk, which passes directly backwards to the branchiæ. But this is not the whole of the hepatic circulation, for venous blood also is thrown into the liver mass, and that by means of the second or portal heart. This heart lies beneath the pericardium, and is the vesicle of Cuvier, which he thought opened at the orifice, by the side of the anus. This heart is a ventricle, and receives venous blood from the pericardium, as from an auricle. Venous blood reaches the pericardium through numerous minute orifices on its floor, these communicate with the general abdominal cavity; below, the heart is continued into a tube, the numerous branches of which form with each other, and with branches of the hepatic artery, a complicated net-work upon the walls of a branched cavity, situated on the dorsal aspect of the liver mass, (liver and ovarium).

This cavity is that of the renal organ. It is lined with a very beautiful glandular tissue, and opens externally at the small orifice above mentioned as situated close to the anus. The blood from the network on the walls of this renal organ passes into the tissue of the liver, and thus, with the rest of the blood of the liver, is carried backwards by the great hepatic trunk vein to the branchiæ.

It will be observed that the renal organ, the liver, and, probably the ovarium, all receive a supply of venous, as well as of arterial blood: the arterial blood is sent to them by the systemic heart along the aorta, the venous by the second heart along a system of vessels, which may fairly be said, as well as this heart itself, to have a portal character, inasmuch as they convey blood which has already arrived at the venous stage of the systemic circulation.

This is the first notice in the mollusca of a portal apparatus which, in them, as in the lower fishes, subserves the renal and the hepatic organs.

At the root of the branchial crown there are, within the skin, two concentric canals, the inner receives from the front the great hepatic vein, and communicates with the outer by means of channels, which run up the inner and down the outer side of the branchial leaflets. The outer circle opens freely in front by a wide short canal, into the posterior margin of the systemic auricle, on the median line. This is the course of the branchial circulation.

It is, then, apparent that in these mollusks there is a triple circulation. First, the systemic, in which the blood propelled along arteries to the viscera and foot, is returned, with the exception of that from the liver mass, to the heart, through the skin. There it becomes partially aerated, the skin being provided with vibratile cilia, and otherwise adapted as an instrument of respiration. Second, the portal: in which venous blood from the system is driven, by a special heart, to the renal and hepatic organs, and probably to the ovarium, whence it escapes, doubly venous, with the rest of the blood which has been supplied to these organs from the aorta, and which is therefore only singly venous, to the

branchiæ. Third, the branchial circulation, in which flows only the more deteriorated blood, brought by the hepatic vein, but in which also that blood undergoes the highest degree of purification, capable of being effected in the economy, namely in the special organ of respiration.

This triple circulation has not, so far as we are aware, been heretofore described as existing in the Molluscan Sub-Kingdom. From the fact of the blood in *Doris* being returned to the heart in a state of partial aeration, it is clear that this animal is on a par with the higher crustaceans, and from the blood arriving at the heart in the same condition, according to the researches of Garner and Milne Edwards into *Astrea* and *Pinna*, the great Triton of the Mediterranean, *Haliotis*, *Patella*, and *Helix*, it can scarcely be doubted that this arrangement will be found throughout the mollusca. In the brachiopods, according to the observations of Professor Owen, the blood must be assumed to be returned to the heart in the same condition, since no special respiratory organ exists in these animals, with the exception of *Lingula*, in which it is in a rudimentary state. From a consideration of the facts cited it may be deduced that the skin or mantle is, in the mollusca, the fundamental organ of respiration, and that a portion of that envelope becomes evolved into a speciality, as we trace upwards the development of the respiratory powers.

*Organs of innervation.*—These are in two divisions; one corresponding to the cerebro-spinal system, the other to the sympathetic, or ganglionic, system, of the vertebrata. The existence of the latter is now, for the first time, fully established. The first system is made up of seven pairs of ganglia, and a single one, with fifteen pairs of nerves, and four single nerves. The pairs of ganglia are symmetrically placed with regard to each other, and to the median line. The single ganglion, not before described, has been named visceral. Of the seven pairs, five are supra-œsophageal, two infra-œsophageal; the single ganglion is attached to the under surface of the supra-œsophageal ganglia of the right side.

Of the supra-œsophageal ganglia three are large; the anterior pair, the cerebroid, supports the olfactory and the optic ganglia, and also the auditory capsule. The cerebroids supply with nerves the

oral tentacles, the lips, and the channel of the mouth. The olfactory give their nerves to the dorsal tentacles, which we consider as organs of smell. The posterior, or branchial, ganglia distribute nerves to the whole of the mantle, and a branch on each side to the branchial sympathetic system.

The lateral or pedial ganglia supply the foot. The visceral is attached to the branchial ganglion of the right side, and sends off four nerves, which go to the sympathetic ganglia of the organs of reproduction, the stomach, the hearts, and the branchia. The cerebroids are connected with both pedial and branchial ganglia, and these two last with each other. The cerebroids communicate with each other across the median line. There are three nervous collars around the œsophagus; the first passes from one cerebroid ganglion to the other, the second from the same to the buccal ganglia of the infra-œsophageal, the third is composed of three strands, two of which pass from pedial to pedial ganglion, the third from the left branchial to the visceral. The infra-œsophageal are two symmetrical pairs, buccal and gastro-œsophageal. These give off six pairs of nerves. The former ganglia supply nervous twigs to the buccal mass and tongue, the latter to the salivary glands, œsophagus, and stomach. The two chief nerves from these ganglia are applied to the œsophagus, and these communicate freely with the œsophageal sympathetic plexus, and terminate in ganglia of the sympathetic system at the cardiac end of stomach. These are the stomato-gastric nerves of previous authors, and correspond to the gastric portions of the par vagum of the Vertebrata.

There are twenty-one pairs of nerves, and four single nerves given off from the above œsophageal ganglia.

*The sympathetic system* exists, and is more or less demonstrable in the skin, the buccal mass, and on all the internal organs. It consists of a vast number of minute and distinct ganglia, varying in size and form, the largest quite visible to the naked eye, of a bright orange colour like the ganglia around the œsophagus, and interconnected by numerous delicate, white, nervous filaments, arranged in more or less open plexuses. This beautiful system is connected, as already indicated, with both sets of œsophageal ganglia.

Around the œsophagus is a very delicate open network of twigs, and scattered ganglia, connected, as above stated, with the nerves of the par vagum. This plexus is in connexion, above, with the buccal, and below, with the gastric. Around the cardiac end of the stomach is a chain of ganglia and nerves. Two of the largest ganglia receive the gastro-œsophageal nerves, or par vagum, and one of them receives besides a branch of one of the four nerves emanating from the visceral ganglion, and thus these gastric centres are brought into relation with the supra-œsophageal.

From the cardiac chain of ganglia off-sets pass forward on the stomach and pancreas, and backwards on the hepatic duct into the liver, joining a complicated interlacement of numerous filaments and small ganglia, on all these parts, particularly on the under surface of the stomach. This we name gastro-hepatic plexus.

Towards the pyloric end of stomach, the ganglia are thickly strewn, and present the appearance of another collar or chain around that part. From this there is a continuous and minute plexus of nerves and ganglia, down the whole intestinal tract to the anus. This is the intestinal plexus.

The branchial or branchio-cardiac plexus is composed of rather large and irregularly-formed ganglia, lying across and in front of the branchial crown. Twigs pass backwards from this plexus, to the branchial leaflets, and forwards to the hearts. Two branches are received from the visceral, and one on each side from the branchial supra-œsophageal ganglion.

Slight traces of a renal plexus have been noticed.

Networks, varying somewhat in character, have been observed upon the base of the penis, the female channel, the mucus gland, and the oviduct. These are brought into communication with the supra-œsophageal ganglia, and with the gastro-hepatic and sympathetic plexus, by means of branches of the visceral ganglion.

The ganglia of the sympathetic system seldom contain more than a few nerve globules. These are granular, nucleated, nucleolated and coloured like those of the œsophageal centres, but generally have two caudate prolongations. These are, to all appearance, continuous with the nerve tubules. Having found the sympathetic nervous systems in several species of *Doris*, in

*Eolis papillosa* and in *Arion ater*, we believe it to exist in all the more highly organized mollusca.

The supra-œsophageal nervous centres in the mollusca are, in some instances, so concentrated, as to have led to the idea that they form only one mass; in others, the ganglion are more or less distinct, and separate from each other. *Doris* is taken as the representative of one class, *Aplysia* of the other, and on comparison of both the supra and infra-œsophageal ganglia of these classes with each other, we find a perfect correspondence between them, with the exception of the visceral ganglia. The single one in *Doris* is represented in *Aplysia* by a pair of ganglia, situated in the posterior part of the body, near the root of the branchiæ. The supra-œsophageal ganglia, in the *Lamelli-branchiata*, appear homologous with those of *Doris*.

Having determined the existence of a true sympathetic or organic nervous system in *Doris*, we feel ourselves more in a position to trace a parallelism between the œsophageal nervous centres of *Doris*, and other mollusks similarly organized, and the cerebro-spinal system of the Vertebrata, and accordingly we find that there is a very close correspondence between them, even to the individual pairs of ganglia, of which they respectively consist; the general result being, that the whole of the ganglia grouped around the œsophagus, in the above Mollusks, answers to the *Encephalon*, and a small portion of the *Enrachidion* of the Vertebrata.

*Organs of the senses.*—The auditory capsules are microscopic, composed of two concentric vesicles, the inner enclosing numerous oval, nucleated otolithes. The eyes are minute, black dots beneath the skin, attached each by a pedicle to a small ganglion. They are made up of a cup of pigment, receiving from behind the nerve, and lodging in front the lens, having in advance of it a cornea, the whole enclosed by a fine capsule. We believe that we have shown the dorsal tentacles to be the olfactory organs. The organs of touch are, the general surface of the skin, but more particularly the oral tentacle or veil. Taste is most probably located in the lips and channel of the mouth, the tongue being a prehensile organ, and ill-adapted as the seat of such a function.

In conclusion, we have only to state our conviction that the *Doridæ* rank with the most highly-organized *Gasteropods*, and that the genus, as at present understood, will require to be broken up into several groups.

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VI.—*Notice of the occurrence, on the Durham Coast, of Diphyllidia lineata.* By ALBANY HANCOCK, Esq.

[Read, March 21, 1851.]

IN the early part of last year, the Rev. G. C. Abbes brought to me a small mollusk which he had obtained from the boats at Whitburn. On examination, this creature proved to be *Diphyllidia lineata*, a most interesting addition to the marine fauna, not only of the district, but of England. It has occurred only once before in the British seas; in September, 1849, a single specimen having been dredged off Shetland by Mr. Barlee. These two, the only British examples, are much smaller than those obtained in the Mediterranean, and are more attenuated in form. Thinking, therefore, that our specimen might possibly be a distinct species, I was induced to examine its internal structure; and Mr. Alder having kindly supplied individuals of the true *D. lineata*, a strict comparison was instituted, and has resulted in determining that the two forms are identical.

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VII.—*An Enumeration of Plants, indigenous and naturalized, occurring within five miles of Newcastle-upon-Tyne.* By JOHN STOREY, F.B.S.E.; Corresponding Member of the Botanical Society of London, &c.

[Read, March 21, 1851.]

EARLY in the month of March, 1850, I received a communication from Mr. Hewett Cottrell Watson, author of the *Cybele*

*Britannica*,\* inquiring if I could furnish him with a list of all the plants growing within a circle, having Newcastle for its centre, of six or eight miles in diameter. Believing that, from the botanical materials in my possession, and from other sources of information within my reach, I could draw up such a catalogue of Newcastle plants, as would meet the wishes of Mr. Watson, I at once signified my willingness to undertake the task. Considering, however, the area proposed as too circumscribed, a circle, having a radius of five miles, was substituted for one of four. For some years, it had been my practice to enter in a note-book, the names of the species of which I had collected examples, either for my own Herbarium, or for distribution among my friends and correspondents. But I found, on looking over my memoranda, that no record existed of numerous plants which, from their very general occurrence, could scarcely be absent from our vicinity. Many of these I had, no doubt, often noticed in both counties; yet, in the absence of such proofs as alone could satisfy my own mind, I saw that a personal survey of the district, in question, was indispensable. Accordingly, in the end of March last, I commenced my observations, my first excursion being to Heaton Dene, where I met with several desiderata. It is unnecessary to mention the different localities examined; it will be sufficient to state that after many pleasant rambles, in almost every direction, I had registered, at various periods, nearly four hundred and fifty species and varieties. The remaining species are given partly on the authority of Mr. John Thornhill; the Flora of the late Mr. Winch, in particular; the unarranged collection of the late Mr. William Robertson, lately purchased by the Natural History Society of Northumberland, Durham, and Newcastle-upon-Tyne; and of the Herbarium of Miss M. Hancock.† Having premised these remarks, it may be proper here to exhibit, in a tabular form, the number of species, in each natural order, within our limits. The nomenclature used

\* Or "*British Plants and their Geographical Relations*." A very valuable work, of which the first two volumes have been published; the third is in the press.—*March*, 1852.

† Since this was written, Mr. Thomas Belt, a Member of our Club, has favoured me with a few additional habitats.

is that of the *Cybele Britannica*, and of the *London Catalogue of British Plants*, published under the direction of the Botanical Society of London; Second Edition.

Orders.	Species.					Orders.	Species.				
	Indigenous.	Doubtfully Native.	Introduced.	Varieties.	Total.		Indigenous.	Doubtfully Native.	Introduced.	Varieties.	Total.
Ranunculacæ .....	15	..	..	..	15	Brought forward..	195	27	19	14	255
Nymphæacæ .....	..	..	1	..	1	Compositæ .....	48	3	..	2	53
Papaveracæ .....	3	4	..	..	7	Campanulacæ .....	2	..	1	..	3
Cruciferæ .....	18	5	4	1	28	Ericacæ .....	6	..	..	..	6
Resedacæ .....	1	1	..	..	2	Illicacæ .....	1	..	..	..	1
Cistacæ .....	1	..	..	..	1	Jasminacæ .....	1	..	1	..	2
Violacæ .....	4	1	..	1	6	Apocynacæ .....	..	..	1	..	1
Droseracæ .....	1	..	..	..	1	Gentianacæ .....	2	..	1	..	3
Polygalacæ .....	1	..	..	..	1	Convolvulacæ .....	..	2	..	..	2
Caryophyllacæ .....	21	3	..	2	26	Solanacæ .....	1	1	1	..	3
Linacæ .....	2	..	1	..	3	Scrophulariacæ .....	21	..	1	1	23
Malvacæ .....	3	..	..	..	3	Orobanchacæ .....	1	..	..	..	1
Hypericacæ .....	6	..	..	..	6	Lamiacæ .....	22	..	2	4	28
Aceracæ .....	..	1	..	..	1	Boraginacæ .....	7	1	1	..	9
Geraniacæ .....	7	..	2	..	9	Pinguiculacæ .....	2	..	..	..	2
Oxalidacæ .....	1	..	..	..	1	Primulacæ .....	8	1	1	..	10
Celastracæ .....	1	..	..	..	1	Plantaginacæ .....	4	..	..	..	4
Leguminiferæ .....	21	2	3	1	27	Chenopodiaceæ .....	6	..	2	..	8
Rosacæ .....	25	1	..	8	34	Polygonacæ .....	13	..	..	..	13
Onagracæ .....	5	..	1	..	6	Euphorbiacæ .....	4	..	1	..	5
Haloragacæ .....	6	..	..	..	6	Urticacæ .....	4	..	1	..	5
Lythracæ .....	2	..	..	..	2	Amentiferæ .....	10	1	1	7	19
Cucurbitacæ .....	1	..	..	..	1	Coniferæ .....	..	1	1	..	2
Portulacacæ .....	1	..	..	..	1	Orchidacæ .....	8	..	..	..	8
Illecebracæ .....	1	..	..	..	1	Iridiacæ .....	1	1	..	..	2
Berberacæ .....	..	1	..	..	1	Amaryllidacæ .....	..	..	2	..	2
Grossulariacæ .....	1	2	..	1	4	Liliacæ .....	3	..	..	..	3
Crassulacæ .....	..	1	1	..	2	Trilliaceæ .....	1	..	..	..	1
Saxifragacæ .....	4	..	..	..	4	Tamacæ .....	1	..	..	..	1
Araliacæ .....	2	..	..	..	2	Alismacæ .....	3	..	..	..	3
Umbelliferæ .....	23	2	4	..	29	Fluviales .....	6	..	..	..	6
Loranthacæ .....	..	..	1	..	1	Aracæ .....	8	..	..	..	8
Caprifoliacæ .....	3	2	..	..	5	Juncacæ .....	10	..	..	4	14
Rubiaceæ .....	9	..	..	..	9	Cyperacæ .....	20	..	..	..	29
Valerianacæ .....	3	1	1	..	4	Gramina .....	53	1	6	6	66
Dipsacæ .....	3	..	1	..	4	Filices .....	14	..	..	1	15
	195	27	19	14	255	Pteridioides .....	8	..	..	..	8
							503	39	43	39	624

## ANALYSIS OF THE FOREGOING TABLE.

Pratal .....	32	Brought forward ..	261
Pascual .....	65	Viatical .....	55
Ericetal .....	24	Agrestal .....	66
Uliginal .....	34	Glareal .....	46
Lacustral .....	23	Rupestal .....	11
Paludal .....	65	Septal .....	78
Inundatal .....	18	Sylvestral .....	99
		Littoral .....	8
	261	Total of species and	
		varieties .....	624

DICOTYLEDONES ..... 430

MONOCOTYLEDONES..... 133

FERNS AND ALLIED PLANTS ..... 22

Total of species ..... 585

## BALLAST-HILL PLANTS.

## NATURALIZED SPECIES.

Sinapis muralis.	Foeniculum vulgare.
Geranium pyrenaicum.	Pastinaca sativa.
rotundifolium.	Dipsacus sylvestris.
Medicago maculata.	Artemisia vulgaris.
Eryngium campestre.	Beta maritima.
Cynosurus echinatus.	

SPECIES IMPERFECTLY NATURALIZED.—*Lepidium ruderales*, *Reseda lutea*, a chalk plant; *Melilotus alba*, *Oenothera biennis*, "from North America;" *Solanum nigrum*, *Cynoglossum officinale*, *Salsola Kali*, *Mercurialis annua*, *Phalaris canariensis*, and *Glyceria rigida*.—Of these ten, seven are recorded by Mr. Winch, in his *Flora*, published in the *Transactions of the Natural History Society*, in 1832. But, although they still attract the notice of the botanist, the frequency of their presence among us is owing chiefly to their repeated importation among ballast.

The total number, therefore, of species ascertained to grow within the given circle, embracing an area of seventy-eight and a half square miles, is 585. And, if to these we add some species of the genera *Rubus*, *Salix*, and *Rosa*, and a few others, which future examinations of the ground will probably bring to light, 620 species will doubtless be found as a pretty close approxima-

tion to the actual number. This estimate will appear large when we keep in view the somewhat unpromising aspect of the locality under consideration. For if any one, unacquainted with the neighbourhood, will take the trouble to inspect a large map of the Newcastle coal-field, he will perceive, at a glance, how much the surface of the country is intersected with roads, wagon-ways, and railways; and if there be taken into the account, the ballast-heaps, and coal-heaps; the multitude of cinder-ovens, collieries,\* glass-works, and alkali-works, it will excite surprise, that, under circumstances apparently so unfavourable to vegetation, the phænogamous plants and ferns, springing up around us, should equal in number, two fifths of the entire British Flora.

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\* On Bell's map of the "*Great Northern Coal-Field, in the Counties of Northumberland and Durham,*" published in 1850, there are laid down, within our area, no fewer than fifty-two Collieries and Coal-pits.

ADDRESS TO THE MEMBERS OF THE TYNESIDE  
NATURALISTS' FIELD CLUB,

READ AT THE SIXTH ANNIVERSARY MEETING, HELD IN THE  
COMMITTEE ROOM OF THE LITERARY AND PHILOSOPHICAL SOCIETY,  
NEWCASTLE - UPON - TYNE, APRIL 5TH, 1852. BY ROBERT  
INGHAM, Esq., PRESIDENT.

GENTLEMEN,—There are three main characteristics of our Society; the study of Natural History in all its branches; the study of the Antiquarian History of the district, in all its branches likewise, (comprising the relics of the language and customs of the various races of our predecessors, as well as the material evidence of their residence in the sites of our present homes); and, thirdly, the prosecution of these studies, not exclusively in the closet or by solitary investigations, but socially, by "Clinical Lectures," to use the hospital term, where objects of interest can be examined on the spot of their occurrence, and theory can be corrected by eyesight. It will now be my duty, in compliance with established practice, to read you a summary of what has been done in the preceding year, at our several meetings; and the Secretary of our society has collected and arranged for me ample memorials of our proceedings for that purpose.

But it has also been the practice in these presidential speeches to add some remarks connected with the objects of the society, and not simply descriptive of the operations on our field days. It would be clearly out of place if I were to attempt, with my limited knowledge of Natural History, to occupy your time by any speculations on what you have discovered or observed. Neither have I any thing to proffer on the subject of antiquities which I could suppose capable of enlarging your information upon the subject. I would rather add a few remarks upon what I think may introduce a new topic of interest into our rambles, and which has some connection, although a fantastic one, with our twofold functions as naturalists and antiquaries.

I think it would be worth the while to inquire into and to note any traditions, however extravagant and wild they may seem, which are found lingering in the remoter scenes of our visits, and refer to the supposed physical character of the country in old times, and of the creatures then living in it. Lawyers are sometimes said to be hard of belief, and to raise cavils at evidence in court, on which in ordinary life we act readily. It must, I doubt, be admitted that, knowing the sway of interest and passions, we are loath to accept, in its full colour and dimensions, any fact from a partisan witness; but our experience, on the other hand, leads to the belief that cases entirely of invention are rare; there is a kernel of truth in every statement, and what we have to guard against is what men embellish, not what they invent. To carry this into our special pursuit, I think we may find that some physical fact of interest lies at the core of many distorted and inflated traditions. I should like to see registered such wild stories as those of Conyers and the Serpent; the Linton Worm, in Roxburghshire; the Dragon of Wantley; the Wormhill at Lumley; or the tale, cited from *Procopius*, by Mr. Bruce, in his exhaustive work on the Roman Wall, of the swarms of serpents that infested the county beyond that barrier. I know that modern ingenuity has tried to find some allegory or heraldic emblem under these ancient stories; but I confess my belief that they actually shadow out the existence in early times, when our island was swamp and forest, of some gigantic monsters of the serpent tribe, like the *Aboma* of Surinam, described by Stedman as amphibious, and frequenting low and marshy places, and which have disappeared from Europe as the primitive jungle has been cleared away. It is strange, otherwise, that there should be such uniformity in the characteristics of these traditions. It is not the Phoenix of Egypt, or the Roc of the Arabian tales which we hear of, but always some enormous reptile; and even when there is no legendary account of their ravages, we may trace the popular belief in the names of ancient places, as the Drachenfels on the Rhine, and the Draclaw, or the Dragonlaw, which is noticed in one of Mr. Carr's interesting papers on our local etymology.

It may be worth a sentence or two to consider what is the

testimony of remote classical times to the universality of this belief.\* Not to dwell on the accounts, plainly fabulous, reported by Ælian, of the Dragons of India and Ethiopia, nor on the history given by several authors of the monstrous serpent which obstructed the troops of Regulus, in Africa, I would remark that Pliny, in his 8th book, considers that tale credible, because there had been killed on the Vatican Hill, in the time of Claudius, only 20 or 25 years before Pliny wrote, a boa-serpent of such dimensions as to have swallowed an infant entire, which was found in the animal when opened. This is nearly contemporary testimony, and is, I think, conclusive of the existence then, in Italy, of some enormous reptile which has now become extinct; and it countenances my supposition that, in our country, these wild legends of worms and dragons may have their origin in a like physical fact. Aristotle mentions also, in his 8th book, that on the coast of Africa, serpents had been reported to have pursued vessels near the coast, and to have upset them. We have not indeed heard of sea-serpents in the Mediterranean; but I confess my opinion that the evidence we already have on the subject would convince any honest jurymen of the fact of their existence in other seas, though our men of science, from what I think an excess of scepticism, doubt, or rather deny it. I will not fatigue you by the details, but will simply remind you that the existence of some serpent-form monsters of the deep had been attested by three independent bodies of evidence before we had the positive testimony of Capt. M'Quhae, R.N., viz.: the evidence of the witnesses who had observed it in the Scotch Sea Loughs; that of the Norwegians, whose testimony is summed up and credited by

\* Since this address was delivered, I have read in the proceedings of our sister society, the "Berwickshire Naturalists' Club," a paper of great ingenuity and research, by Dr. Charles Wilson, on "*Linton and its Legends*," his inference being that, if there were any physical foundation for those stories, it was probably to be found in some accidental denudation of strata presenting to the rude natives, in remote times, skeletons of the *Megalosaurus* in such perfection and fulness of its giant proportions, as must never be looked for in our days; but, in corroboration of the view I have ventured to take, I would cite the *Life of the late Mr. Surtees, of Mainsforth*, recently published by the Surtees Society, in which it appears to have been the belief both of Mr. Surtees and Sir Walter Scott that these traditions referred to some extinct animal of the serpent kind inhabiting swamps, it being generally in the neighbourhood of some pool or flooded country that the site of these traditions is placed.—See "*Surtees Society*," vol. xxix., p. 98.

Sir Arthur Brooke; and the reports of the intelligent American eye-witnesses, collected and examined by Sir Charles Lyell. Sir Charles states, that when in America, he believed in the existence of the sea-serpent, but, on his return to England, he relapsed into the incredulity which is, as I have hinted, too much in vogue with British philosophers, and required, as Professor Owen requires, the evidence of some portion of the skeleton of the animal cast on the shore. But is this reasonable? Fossil animals, submerged in scalding mud by some catastrophe of our planet, and petrified in the course of ages, may now be preserved through all time; but how soon do the remains of a recent skeleton waste away on exposure. We have no doubt of the existence of wolves and beavers in our northern country, not more than a few centuries ago, yet we do not find any skeleton or bone of them in our fields; and I cannot think, therefore, that it is a reasonable test to require of the existence of sea-serpents at the present day, or of the traditionary worms in former times, that we have none of their remains to submit to the osteologist. Let me give another instance in which I think we may find a foundation of truth in what naturalists of late have rejected as fabulous; I mean the unicorn. Whenever that animal is written of, it is now said to refer to the rhinoceros; and that the one-horned Indian ass of the ancients is mere fiction. In the edition of Pliny, published in Paris, in 1829, there is an elaborate note by Cuvier, in which he says that the English seem more desirous than any other people of finding the unicorn in nature, because it is one of the supporters of the royal arms; and he considers that what has been taken for a unicorn, has either been an imperfect representation of the rhinoceros or an animal with two horns, as the *Oryx*, shown in profile. As to this, I would refer you to the engravings of the obelisk in the Nineveh antiquities, of which a copy is in the Newcastle library. There is, in one row of animals, a bull, a unicorn, and an animal of the stag kind. The unicorn has its single horn projecting from the forehead, not from the nose, as the rhinoceros has; it is less bulky than the wild bull, whereas the rhinoceros would be bulkier; and the Assyrian artist never meant to show a profile view of a pair of horns, because he has tried to represent in the

sculpture both horns of the bull and both horns of the stag, between which two-horned animals the unicorn is placed.

It is time that I should pass from these speculations, which are too flimsy, I fear, for our practical society, to the record of our substantial doings in the past year, according to the authentic documents furnished me by Mr. Storey.

THE FIRST FIELD MEETING of the year was held at Bywell and Riding Mill, on the 30th of May, when nearly 30 members were present, and, the weather proving remarkably fine, it was a day of much enjoyment. By permission of Mr. Beaumont, the party inspected the woods and grounds at Bywell; several students of antiquity lingered round the parish churches and the old castle; whilst the botanical section examined the woods and river-banks on both sides of the Tyne, and collected several interesting plants mostly in full flower, of which the following are the principal:—*Trollius europæus*, *Thlaspi alpestre*, *Cochlearia officinalis*, *Draba verna*, *Cardamine amara*, *Arabis thaliana*, *A. hirsuta*, *Arenaria trinervis*, *Malva moschata*, *Geranium phœum*, *Euonymus europæus*, *Astragalus glycyphyllos*, *Prunus Padus*, *Rosa spinosissima*, *Ribes rubrum*, *Myrrhis odorata*, *Origanum vulgare*, *Lysimachianemorum*, *Armeria maritima*, *Salix pentandra*, *Juniperus communis*, *Orchis mascula*, *Paris quadrifolia*, *Scirpus lacustris*, *Carex paniculata*, *Equisetum Telmateia*, *E. limosum*, and *E. hyemale*.

After a long and pleasant ramble, the party, to the number of 26, sat down to an excellent dinner at the inn, at Riding Mill, and 20 new members were elected.

It is to be regretted, that, in our local histories, there are no details of the ancient condition of Bywell, and of the origin of the twin parishes of St. Peter and St. Andrew. Both parishes compose but one township, and are evidently, therefore, a subdivision since the Saxon æra, and of the Castle itself, familiar as its aspect is to every lover of scenery as a favourite subject with our artists, but little is known historically. The barony passed from the Baliols to the Nevilles, and possibly some armorial shield may be discovered on the building to speak to its date.

THE SECOND MEETING was held at Durham, on the 20th of June, and was attended by 23 members. The great attraction of the

day was a survey of the ruins of Finchale Abbey, and to listen to a very elaborate and instructive paper, read to them on the spot, by Mr. Sidney Gibson, in which he entered, with much lucid detail, into the legendary history of the founders of the Abbey, and into the evidence of their hospitalities and of the manners of the times, derived from the publications of the Surtees Society. On the motion of Dr. Embleton, the thanks of the meeting were given to Mr. Gibson for his interesting paper; and to Mr. John Storey jun., for his kindness in furnishing plans and drawings illustrative of the past condition of the Abbey. The only drawback to the success of the day was the uncertain state of the weather, which, after a few delusive gleams about noon, settled down to rain, and prevented our party from enjoying the rare beauty of the scene immediately around the Abbey, and in the Kepier and Franklyn woods, of which the very names are suggestive of antiquarian associations. The botanists observed some interesting plants, viz.:—*Geranium sylvaticum*, *Saxifraga granulata*, *Ægopodium Podagraria*, *Lactuca muralis*, *Veronica montana*, and *Carex vulpina*.

AT THE THIRD FIELD MEETING, on the 23rd of July, the party consisted of the following gentlemen, viz.:—R. S. Coward, H. Smiles, T. Jefferson, John Thompson, George Thompson, John Coppin, George Oliver, E. I. J. Browell, W. Sawyer, Thomas Walton, J. W. Swinburne, Dr. Barkus, Rev. H. F. Woolrych, Robert Ingham, Rev. Angus Bethune, Captain Collinson, John Storey, John Storey, jun., W. Depledge, Thomas Belt, and Thomas Coates.

They arrived at Allenheads, about 11, and during breakfast the proposed arrangements of the day were explained by Mr. Sopwith, and, by permission of Mr. Beaumont, every facility was afforded to the members of the society for viewing the mines and mining district in the vicinity of Allenheads. The party was divided into three groups, one of which, twelve in number, entered the lead mines by an adit, or level, in waggons drawn by horses, and, after travelling half a mile, descended to the deeper parts of the mine by means of the hydraulic engine and machinery, lately erected by Messrs. W. G. Armstrong & Co., of Newcastle, and

were conducted through part of the workings by Messrs. William and John Curry, returning by another shaft which brought the party at once to "the day."

A botanical party, under the guidance of Mr. William Brown, visited Allen's-Cleugh plantations and the adjacent moors; but as the locality selected was situated at a considerable distance from Mr. Sopwith's residence, it was much regretted that time would only allow of a very cursory examination of the ground, which, there is reason to believe, would well repay a much longer visit. The species noticed were the following :—*Rubus Chamæmorus*, *Sedum villosum*, *Saxifraga stellaris*, *Vaccinium Vitis-idaea*, *Vaccinium Myrtillus*, *Empetrum nigrum*, *Listera cordata*, at an altitude of from 1,800 to 1,900 feet; *Aira flexuosa*, and *Lastrea Oreopteris*.

A third party remained at Allenheads to inspect the out-door arrangements for crushing and washing the lead, &c.

Mr. Sopwith met the whole party on their arrival, and gave explanations of the several departments, and also read a paper, of which the following is the substance, on the geology of the mining districts:—

Mr. Sopwith first adverted to the general configuration of this part of the kingdom, and more especially as regards the great coal and lead mining districts, the former on the east and west coasts, and the latter occupying the high midland district of the Penine Ridge. The mountains of Cross Fell and Kilhope Law form as it were the centres from which the geological structure of this part of England could be most conveniently described. A section of the strata, made under Mr. Sopwith's direction, exhibited a clear view of the rocks which form the lead mining districts of Allendale and Alston, and it includes the summits of both the mountains above mentioned. The general character and arrangement of these rocks were described, and also the remarkable extent and chief results of the vast denuding influences which have operated upon these hills, adverting at some length to the close connection of the glacial theory with this subject, and describing the external evidence which yet remains of glacial action.

It would be doing injustice to all who were present at this successful expedition, if I were not to say how greatly its pleasures were enhanced by elements of gratification which we have no right to reckon upon simply as a naturalists' field-club. I allude not only to the hospitable welcome, cordial and liberal as it was, with which we were received and entertained, but to the opportunities given to us of seeing the noble establishments on the property of Mr. Beaumont, for the education of the children of parents engaged in his mines, and the intelligent and kindly arrangements of our host and colleague, Mr. Sopwith, for the instruction, the social enjoyment, and general well being of the adult population who are happily under his care.

THE FOURTH FIELD MEETING of the year was on the 20th of August, at Staworth Peel. The day was propitious, and ought to have attracted a fuller muster of members than attended. There were but ten, and the little band was broken up into several subdivisions, rather to enjoy the sunshine and scenery on the banks of the Tyne and the Allen, and by the ruins of Langley Castle and Staworth Peel, than on any special scientific destination. When we met together at our well-provided board at Hetherington's, at Haydon Bridge, and the spoils of the day had to be produced, I believe the specimens were chiefly ichthyological, and yet we had not trout enough for a dish.

There is little left at Staworth, save one columnar gable, yet the Peel is well worthy of a visit, from the singular beauty of the site, occupying a peninsula commanding a view over several folds of the valley. Langley Castle is in fine preservation, solid and spacious. I cannot but remark, that I think we ought to make examination of our border castles and mansions a more prominent object with us, when they lie in the course of our expeditions, than they hitherto have been made. I venture this remark from having observed how much our opportunities are prized by writers of authority. In the last (fifth) edition of "*Parker's Glossary of Architecture*," he dwells much on the interest attached to our border fortresses, of which he says Belsay is the finest; and he remarks, also, on the fortified rectory houses, such as Edlingham, Rothbury, and Elsdon; and I would add, too, as worthy of

attention, our fortified churches, as Ancroft and Corbridge, where it is supposed the ecclesiastics took refuge from the incursions of hostile borderers, a practice which would seem to countenance the recent hypothesis of Dr. Petrie, that the round towers in Ireland, in the neighbourhood of cathedral and mother churches had been for the like purpose of protection against the Danes.

THE FIFTH MEETING was held at Roker and Whitburn, on the 12th of September, when the beauty of the day, and the opportunity of ready access from all our chief towns brought together a muster of 37 members. To suit the convenience of as many members as possible, arrangements had been made for proceeding by two trains; one leaving the Central Station, in the Forth, at 9, the other at 10 A.M. The second division, on arriving at Cleadon, was joined by the Rev. G. Cooper Abbes, who had kindly undertaken to act as guide to the various objects of interest in that locality. Those who had set out by the earlier train, on alighting at Monkwearmouth, soon became scattered. Some might be seen wending their way to the docks, others to the coast, botanists looking for plants, geologists chipping with their hammers, the magnesian limestone rocks, and some searching for mollusks. No new discoveries, however, appear to have been made. Near Roker, *Melilotus alba*, a somewhat rare plant, but not indigenous in Durham or Northumberland, was noticed in considerable abundance. Here also *Sinapis muralis*, another ballast importation, was observed. Below Roker, *Elymus arenarius* was met with in profusion. This species, from its extensively creeping roots, is said to be of great value in preserving our own coasts and those of Holland, from the encroachments of the sea. *Reseda lutea*, *Glyceria rigida*, *Papaver Argemone*, *P. Rhæas*, *Trifolium arvense*, and *Senecio viscosus* were also found upon the ballast heaps. More northerly, on the limestone, *Helminthia echinoides*, *Pyrethrum maritimum*, and *Erythræa centaurium* were collected. *Tragopogon minor* (Fries) occurred in the same neighbourhood; this plant closes its flowers before twelve o'clock, and has acquired, if we mistake not, the appellation of "John-go-to-bed-at-noon." The weather, during the whole of the day, being most delightful, the excursion proved highly gratifying.

I cannot pass to the Sixth Meeting without repeating my sense of the kindness of my brethren who returned home with me, and by their friendly disregard of no little crowding and acceptance of what they met with, gave me one of the most enjoyable evenings I ever had at Westoe; nor ought I to omit that Captain Collinson, R.E., who was unfortunately prevented by indisposition from joining us, sent us for inspection some interesting specimens from Australia and the Indian Archipelago, including skins of the *Ornithorhynchus paradoxus*; the vegetable caterpillar, and other curious objects.

THE SIXTH AND LAST MEETING was at Corbridge, on the 3rd of October, and was attended by twelve of our members. I have no minute supplied of the scientific proceedings of the day; but, as I find that the party visited Aydon Castle, of which Mr. John Storey, jun., took a sketch, I have some hope that we may hereafter meet with some notices of the day's work, illustrative of the antiquarian objects, if not in an express paper.

It now only remains for me to read the notices of what has been respectively done as to Botany, Entomology, and the investigation as to Mollusks, on other occasions than those of our Field Meetings; and to state, that at every meeting there was a large addition to our Society, by the admission of new members, and that, now, we number 206, being an increase of 56 members above our strength in the last year.

*Botanical Notices.* By Mr. JOHN STOREY. —“In the intervals of the Field Meetings, a few important additions have been made to our local Flora. In the Autumn of 1851, I met with *Zostera nana*, Roth., on the shores of the Blyth. This plant has hitherto been confined to one or two of the southern counties of England. It was noticed, in 1847, in Poole Harbour, Dorsetshire, by Mr. Borrer, by whom it is well described in the *Supplement to English Botany*, where it is beautifully figured. Mr. Borrer observes that “few of those who have written on this plant have seen it alive;” perhaps fewer still have seen the mature fruit. *Fructus perfectos Z. nanæ nondum vidi.* Koch, Syn. ed. 2. p. 783.

In September last, Mr. John Thompson, in company with Mr. T. Belt, collected specimens of *Ulex Gallii*, Planch., near Baron

House, in the west of Northumberland. *U. Gallii* has also occurred in one or two other localities in the same county.

In October, Mr. T. Belt discovered, near Ryton, *Hydrocharis morsus-ranæ*, a species new to the Flora of Durham; at least it is not recorded in the Flora of the late Mr. Winch, or in any local list that I have seen.

Mr. G. R. Tate, eldest son of our esteemed member, Mr. G. Tate, informs me that he lately gathered, near the Cheviot Hills, specimens of *Crepis succisæfolia*, which he had previously found in the neighbourhood of Alnwick. This species was first added to the Flora of Northumberland by my worthy friend Mr. J. Thompson, who noticed it at Hareshaw Linn, near Bellingham, on the North Tyne; and in moist meadows, near the Roman Station of Little Chesters. The two last named localities, Mr. Winch, in the *Addenda* to his *Flora*, pronounces to be the "southern limits" of the plant. It can, therefore, now be traced throughout the entire length of the county."

*Notice of the capture of new and rare Coleoptera.* By Messrs. JAMES HARDY and THOMAS JOHN BOLD.—"In Entomology, we have several interesting additions to our local Fauna. Mr. James Hardy, in June and July, examined the northern borders of our district, and reports the occurrence of the following Coleopterous Insects, not hitherto noticed within our limits:—*Calathus microp-terus*, *Aëpus fulvescens* (which he observed feeding on a small Crustacean, apparently the young of *Orchesia littorea*), *Colymbetes fontinalis*, *C. bistriatus*, *C. angustior*, *Anthophagus alpinus*, *Micralymma brevipennis*, *Lesteva punctata*, *Arpedium brachypterum* (new to the British Fauna), *Homalotanivalis* (also new to Britain), *H. sericans*, *Tachyusa chalybea*, *T. constricta*, *Trogophlæus fuliginosus*, *Stenus atratulus* (new to Britain), two species of *Agathidium*, apparently undescribed (*A. pumilum* and *A. Lycogolæ* MS.), *Catops Watsoni*, *Philhydrus testaceus* and *P. affinis*, *Morychus* (*Byrrhus*) *cæneus*, *Aplotarsus* (?) *maritimus*, *Cryptohypnus quadrum*, *Ceutorhynchus Echii*, *Omius sulcirostris*, *Otiiorhynchus maurus* ("hitherto regarded as a native only of the cloud-capped mountains of Wales"), *Orchestes scutellaris*, *Hylastes piceus*, *Chetocnema aridella*, and *Coccinella quatuordecim-guttata*.

He has also added many localities for species before recorded. Several Dipterous Insects, apparently new, were noticed, but not having a catalogue of that order, it is not necessary to enumerate them here. Mr. Bold has captured *Ragonicha pilosus*, near Heaton; and also mentions the capture of *Astynomus Edilis*, on board of a grain laden ship from Stettin. The latter, which is a northern species, is only of interest, in so much, as it indicates how liable our fauna is to be increased by our commercial intercourse, and shows the great care with which catalogues of our indigenous species should be compiled."

*Notices of rare Mollusks found or taken on the Coast of Northumberland, in 1851.* By Mr. R. HOWSE, Jun.—"I obtained from the fishing boats which visit the inner edge of the Dogger Bank, in the early part of the year, two living specimens of *Buccinum Dalei*. This rare mollusk first appeared in our sea during the formation of the tertiary deposits of Norfolk and Suffolk. It is very interesting, therefore, to find it still inhabiting the deep water of our coast. Dead specimens, also, of *Trochus alabastrum*, *Tellina proxima*, and *Astarte arctica* were brought in from the same fishing ground. These have not yet been taken in a living state, on the east coast.

Mr. M'Andrew, of Liverpool, paid a visit in his yacht, this summer, for the purpose of exploring the marine fauna of our coast; but, owing to the want of precise information relative to the position of the fishing bank, did not meet with a very abundant harvest. The following, however, occurred new to the district:—*Ovula acuta*, *Syndosmya intermedia*, and *Cardium Suecicum*. Some species, before considered rare, were also met with in considerable abundance."

*Notice of the occurrence of Cenia Cocksii, on the Durham Coast.* By Mr. ALBANY HANCOCK.—"I took a single individual of *Cenia Cocksii*, last July (1851), on Marsden Rock. This curious, minute, and rare mollusk has hitherto been met with only at Falmouth, where it was discovered, in 1847, by the gentleman after whom it is named. By its occurrence in the North of England, it would appear, however, to be widely distributed on our shores."

## MEMBERS ELECTED SINCE THE LAST ANNIVERSARY MEETING:—

On the 10th of April, John Heron Wilson, and Lonsdale Maving Cockroft, Newcastle; William John Carr, Alnwick; Thomas Broomfield, Felton.

On the 30th of May, Rev. J. S. Nichol, Hetton-le-Hole; Rev. R. W. M'All, Sunderland; Messrs. G. B. Reed, Henry Bell, W. L. Newcombe, George Oliver, John Blackwell, jun., Thomas Gibson, George Luckley, jun., John Irwin, M. Gleizal, Joseph A. Marshall, and Edward Mounsey, Newcastle; J. W. Swinburne, Henry Brady, George Hawks, jun., and Frederick Depledge, Gateshead; Thomas C. Squance, Sunderland; John Coppin, North Shields; George Thompson, jun., Winlaton.

June 20th, H. Bourdillon, John Hernaman, R. S. Coward, Thomas Wilson, W. F. Buist, Robert Gilpin, and Hugh Fraser, Newcastle; Charles Potter, Heaton Hall; Rev. H. F. Woolrych, South Hetton; John Bustin, Hetton-le-Hole; The Venerable Archdeacon Thorp, D.D., Warden of the University of Durham; Rev. A. Crowder, Shadforth; Rev. T. N. Wannop, Sherburne; George Garnham, Sherburne Hill, Durham.

July 23rd, Capt. Collinson, R.E., Boldon; Rev. Dickens Hazlewood, Easington; W. Sawyer, East Boldon; Thomas Walton, Newcastle; Thomas Coates, M.R.C.S., Haydon Bridge.

August 20th, Alexander S. Stevenson, South Shields; J. L. Lightfoot, Monkton Paper Mill, Jarrow; Thomas John Bewick, Allenheads; John Benson, Newcastle.

September 12th, Henry Stapylton, Esq., Durham; John Bacon Grey, Newcastle.

October 3rd, Rev. Richard Skipsey, B.A., Sunderland; Nicholas Lowes, Allen's Green, near Bardon Mill, Northumberland.

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Mr. James Hardy read a paper, entitled "*Journal of an Excursion into Northumberland, in June and July, 1851*;" after which the following gentlemen were elected members:—James B. Browning, Charles John Gibb, M.R.C.S., F. W. Bunning,

William Johnson, William Glover, and Robert Irons, M.R.C.S., Newcastle; John Straker, North Shields; Robert Douglas, Berwick-upon-Tweed.

The days and places for the Field Meetings in 1852, were fixed as under:—

<i>MONDAY,</i>	<i>May</i>	31st, .....Lumley.
<i>FRIDAY,</i>	<i>June</i>	25th, .....Haltwhistle and Featherstone.
————	<i>July</i>	16th, ... Castle-Eden.
<i>WEDNESDAY,</i>	<i>August</i>	11th, .....Bamborough.
————	<i>September</i>	1st, .....Otterburn.

The under-mentioned gentlemen were appointed Officers for the year ending February, 1853:—

PRESIDENT :

THE VENERABLE THE ARCHDEACON THORP, D.D.

VICE-PRESIDENTS :

WILLIAM KELL.

THOMAS JEFFERSON.

DENNIS EMBLETON, M.D.

TREASURER :

THOMAS BURNET.

SECRETARY:

JOHN STOREY, F.B.S.E.

COMMITTEE :

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VIII.—*Observations on Composite Names of Places (chiefly in Northumberland) of Anglo-Saxon Derivation: being a Contribution of Materials towards the formation of an Archaic and Orthographical Chart of the County.* (Part iii.) By RALPH CARR, Esq.

[Read, March 22nd, 1851.]

LEY: legh, leigh, are the terminal forms of the word lea or lee, pasture land, or land allowed to lie for a time in grass. In Anglo-Saxon it was written leag, Leah, lega. This is one of our commonest terminal elements, especially in connection with various words indicating the plants or trees growing on or near the place, the domestic animals depastured there, or the wild animals that haunted it. Thus, in many different counties, such names as the following are continually met with, and are always characteristic of the spot either in its present or its former state:—Heathley, Hethley, Hedley, from the heath; Fernley, Brackley, from the fern or brake; Hawley, Hagley, from the hawthorn or the hagger; Birchley, Birkley, Berkley, and Birtley, from the birch; Saughley, Sawley, from the willow (especially *Salix Caprea*); Aspley, Espley, from the asp or aspen; Oakley, Akeley, Aukley; Ashley, Eshley; Lindley, from the linden or limetree; Rowley and Quickley, from the rowan or quicken, the popular term for the sorb or mountain ash; Maperley, from the mapuldor or maplor (Germ. masholder), the great maple or sycamore, a word which occurs also in Mapledurham, that is Mapledur-ham.

From cultivated plants we have Hayley, Wheatley, Ryeley, Oatley and Otley, Beanley and Binley, also Linley (from the lin or flax).

Domestic animals have given rise to another no less obvious series; yet, notwithstanding the self-evident nature of such compounds, some of them have been corrupted, as Sheepley or Shepley into Shipley, and Wetherley into the no less false and absurd spelling of Weatherly. To this analogy, perhaps, belongs

Heckley, for a kid was known by the term *hecen* in Anglo-Saxon. Stirkley, from stirk a steer, takes also the form of Stirchley.

From wild animals we find not only Hartley, Harely, Foxley, Brockley, and Wolfsley, but even Crowley, and Gledley from the large hawk called a glede, which forms its nest upon the ground. In other instances streams of water or conspicuous boulder-stones have given their appellations to the lea; as Burnley, Brockley, Stoneley, Stoneleigh, Stanley. We find also Binley and Botley, signifying, probably, the inner and the outer lea, as the countryman still speaks of the *but* and the *ben* of his dwelling.

So long a list of these plain and self-evident compounds, by help of the term lea or ley, would not have been worth insertion, had not many of the class been subjected to illiterate corruption, so as to appear in the form of adverbs or adjectives, such as Slowly, Quickly, Softly, Gladly, Starkly, and the like.

Moor, A.S. *mór*, is the origin of many expressive compounds in every part of England, but chiefly in the north.

Myre: in Old-Norse *myri*, a morass. It is met with chiefly in the nomenclature of places in Cumberland, as Blamire (or Blackmire), Lowmire, &c.; being one of the many indications of a large Scandinavian infusion in the north-western population.

Mere: A.S. *mere*, a lake or considerable sheet of water, occurs sometimes, though not frequently, in our Northumbrian names: as, in that of Kimmere lough, near to Eglingeham, equivalent, perhaps, to Kye-mere. Not far from West Boldon, in Durham, is the White-mere-pool, a small sheet of water generally turbidly white from the plunging of cattle in the light-coloured clay which surrounds it.

The wisdom of modern times, however, to render the appellation more intelligible, has conspicuously hung up the likeness of a white mare upon the public house near the spot, and there is not a man in the parish who would hesitate to say that the mare gave her name to the pool, not the white muddy pool to that imaginary beast.

On a high bleak table-land, between Wooler and Chillingham, is a considerable sheet of water and morass, known as Cold Martin Moss, (or, as some learnedly pronounce it, Cold Martinmass!) It

is difficult not to believe that the Anglo-Saxon name was *Mere-den-meos*, that is, the moss of the *Mere-forest*, or chase.

Fen: A.S. *fen*, is common as the prior element in compound names, as Fenham, Fenton, Fenwick. Though less common as the terminal or substantive member, we find it in Matfen, and in Moultsfen and Meresfen the early designations of two places, now absurdly called Mousin and Mason, the first situated near Bamburgh, the latter a township not far from Ponteland, on the margin of Prestwick Car. Without much violence to modern pronunciation, both might be brought nearer to their etymology if written Moults'en and Meres'en.

Ford: A.S. *ford*, is also written *forth* in composition, as Mainsforth. Gosford, or Gosforth, must have received its name from the lake, there situated, having being a favourite haunt of wild geese, which indeed still resort to it. Rutherford, which must have been originally the name of a site, before it was assumed by the famous Border Clan as a family appellation, would, in Anglo-Saxon, appear under the form of *Hrythera ford*, that is, the ford of cattle, being nearly synonymous with Oxford.

Wade, wath: from the Anglo-Saxon *wadan*, to wade, to ford, to traverse. In Old-Norse *vad* signifies a ford, and *vædh* a fordable stream. It is probable that wath, in Anglo-Saxon, bore the same primary sense, although it is poetically used in that of a flight or wandering-forth.

As an initial member, this term is very frequent in the nomenclature of sites upon fords or fordable waters, as Wadebridge, Wadworth, Watton, Wedmore; and, without any addition, as Wade, Wath, Waith.

As a termination, it appears in Biggleswade, Lasswade.

Keld: Old-Norse *kelda*, palus, a sheet of water. This is the sense attributed to *keld* by Brockett, in his valuable *Glossary of North-Country Words*. But we have it also, I think, in the sense of a spring head or well. In the Old-Norse we find also *kyll* (pronounced *kydl*) nearly in this latter signification; and in the Scandinavian dialects, the sound of *dl* often glides into that of *ld*; as Old-Norse *fiallr*, pronounced *fiadlr*, a mountain range, becomes, in modern Norse, *fiêld*, as in Dovre-field.

Names ending in *keld*, as *Salkeld*, are found extensively among the other traces of the Northmen, in Cumberland. In Northumberland we have *Akeld*, the first syllable of which has been deduced from the Anglo-Saxon *æ*, *always*. But such an adverbial element is not in the genius of the Anglo-Saxon idiom. We ought, rather, to look to the adjective *æce*, perpetual, or to the noun *ác*, an oak. On the former supposition the name would signify unfailing spring; on the latter, it would be synonymous with *Oakwell*.

*Well*, or *welle*, is Anglo-Saxon, and is extensively used in the formation of names of localities, as *Holiwell*, *Haliwell*, *Fulwell*; all of which, perhaps, indicate an ancient baptismal use of the spring (fulwian, to baptise,) *Cresswell*, *Oakwell*.

Even this simple and obvious and pleasing termination has been vitiated by the unthinking and perverse. What etymology can be imagined clearer and plainer than that of *Caldwell*? and who would suppose that by a mere stroke of the pen the cool refreshing spring has been converted into *Caudle*, and so printed for the benefit of those who prefer the warmer beverage?

*Pool*, *pow*, Anglo-Saxon *pól*: in *Liverpool*, *Heathpool*. In the eastern parts of Scotland a *pow* signifies a slow-running brook, a term which formerly was in use in Northumberland, as may be observed in the name of *Pow-burn*, in the parish of *Whittingeham*.

*Ridh*, or *Ridhig*, Anglo-Saxon, a runnel, rivulet, a trench, or water-cut, in Low-German *riet*.

I insert this word from *Lye* and *Boswell*, because it may possibly be found to be the source of a remarkable term, used in the composition of some North-country and Border names, which has not been satisfactorily explained, namely, *riding* in *Nun-riding*, *Hard-riding*, *Riding Mill*, *Kitridding*, *Glenridding*, and some others. Compare the German termination *reuth* in *Baireuth* and other similar compounds.

*Låde*, A.S. a lode or water-cut. In *Weetslad* or *Weetslet*, near *Seaton-burn*; *Somerlad*, in *Yorkshire* (from *Domesday Book*,) and some few others.

*Burn*, *burne*, *bourne*: Anglo-Saxon *burne*, fem., a streamlet.

In former times, as we may perceive from the pages of Spenser, Drayton, Stowe, and other authors, this word was as well-known in the south of England as it now is in the northern counties; though it must not be confounded with *bourne*, from the French, borne (la), a boundary. It is not generally known that the important quarter of the metropolis, the name of which is vulgarly written Mary-le-bone, by a most vicious spelling, was formerly called either St. Mary-la-bourne or St. Mary-lez-bourne: bourne signifying either a streamlet that ran there, or otherwise a boundary. Clearly either the old orthography ought to be restored, or otherwise, the name should be accurately contracted into Mary-bourne, by omission of the article or preposition.

In *Domesday Book*, in the description of Dorsetshire, an estate is named Ceseburn or Ceaselburn, which latter form supplies us with the key to interpret the meaning of Cheseburn, in Northumberland; for ceasel signifies gravel or sand, still sometimes called chesel.

Eá, the Anglo-Saxon word for water or a river, occurs in the name of Pontealand, for so it would be more accurately spelt, and in Eland (or Ealand) hall, close by. The Pont-ea, for the river Pont, is pure Anglo-Saxon. At Lanchester we have the Brown-ea, or river Browney.

Beck, A.S. bec, Old-Norse bekr, a small river, is rare in Northumberland, common in the Danish tracts of Durham, Yorkshire, Cumberland, Westmoreland, and not unfrequent even in Normandy, as Caudebec, &c.

Forse: Old-Norse fors, a cataract. Hence High-forse, upon the Tees, ought to be so written, and never with the letter c. In modern Norse the word *fos* is extensively applied to the waterfalls that descend from the Scandinavian mountains, some of which are so celebrated for their impetuosity or picturesque attractions.

Wood, A.S. wudu, enters into many names, and has been applied in this manner, perhaps more extensively in modern, than in earlier times. In *Domesday Book* we find it strangely disguised in terminations, under the forms of *with*, *wit*, *weth*, *wid*, so as not to be easily recognized at first sight. In Danish, the

cognate word is *ved*, pronounced *vedh*; and it is not impossible that the transformations that appear of the termination in *Domesday Book*, may be partly attributable to the influence of Danish pronunciation in England. Ringwood, in Hampshire, appears as Rincwede; Ravenswood, in the North Riding, seems to be represented by Ravenswett; a place called Rocvid, in the West Riding, was equivalent doubtless either to Rockwood or Rookwood; in Hampshire again is Escwit, evidently Eshwood or Ashwood.

In like manner, saugh-with, beech-with, birch-with, appear to have given rise to family names, originally names of estates, and of which the composition is still perceptible, notwithstanding considerable variations of spelling.

From Birchwith or Birchet, (or, as it is said, from Birch-hope,) the township of East Bolton, in Northumberland, has assumed the strange disguise of "*Bridget*," and is commonly so written!

There is, indeed, no limit to corruption in language but a careful examination of etymology.

Wald, wold, A.S. weald, is assigned in Yorkshire and elsewhere to wild unreclaimed tracts. It is used in composition, as Easingwold, Cotswold, but is quite distinct from the preceding. The cognate word in Old-Norse is, if I mistake not, völlr, campus, viretum, pronounced vödlr.

Hurst, hirst, A.S. hyrst, in Germ. horst, a thicket: frequent in composition in the South of England; and occurring sometimes in Northumberland, as Longhurst, Linhurst.

Holt: A.S. holt (es, masc.) Dutch hout, Germ. holtz, a wood or grove. Not so frequent in the composition of Northumbrian names as in those of southern counties. Contracted sometimes into *hot* and *ot* in its final position, as, Eshot.

Den, A.S. (neuter). The dens were those portions of the *mark*, or outlying lands, (surrounding the cultivated ground of an Anglo-Saxon community,) which were most resorted to by the hart, the roe, the fallow-deer, hares, and other game and beasts of chase; and where herds of swine were turned out to forage, and to fatten, as best they might, upon grass, earthworms, haws, and acorns. Respecting this term, which is one of great interest, I must refer

the reader to Mr. Kemble's work, "*The Saxons in England*," vol. i., appendix, whence my own information has been drawn. The true application and import of the word is there examined and elucidated, together with the part it has borne in the formation of compound names of localities.

Our present use of the word, to signify the cavern or retreat of a beast of prey, is, of course, much more restricted. But in Scotland at least, its earlier sense is not extinct, as may be inferred from the beautiful song called the "*Gentle Hugh Herries*," where "the den" of the gallant outlaw probably only imported some tangled thicket or lone recess among the hills, like that which is afterwards alluded to as "far in the wild glen, 'mid banks of blaeberries."

We owe to Mr. Kemble the observation, that when names of places terminate in den, it is this term, and not *dene*, a woody ravine, which so enters into composition: an observation which is strongly confirmed by the popular mode of speaking of "Castle Eden dene" and "Hazleden dene," in the county of Durham; as if there were an idiomatic consciousness that no pleonasm is committed, no unmeaning repetition. Shawdon is written Shawden in some of the oldest notices of the spot, and is so pronounced by the inhabitants of the neighbourhood, who yet habitually speak also of "Shawden Dene." In like manner, Brandon was written also Branden, and the no less familiar "Brandon Dene" was probably of old a haunt of the wild boar; *bran* being still in use to signify the male swine. In these, and similar instances, the inference must naturally be, that the den or chase, with its wild pasturage, was much more extensive than the dene or ravine which is now perhaps the only wooded and uncultivated portion; the rest of the ground, once constituting the den or chase, having long ago been brought under the plough.

Garth: Old-Norse *gard*, but represented also in the Anglo-Saxon, and even in the British. It is, however, most frequent as a toponymic term, wherever the Danes have left the strongest traces of their presence. Hence we may infer, that though the cognate word was familiar to the Anglo-Saxons, under the form of *geard*, (Eng. yard,) yet the *garths* may be considered of Danish origin. Its signification is that of close or enclosure. *Gard*, in

Old-Norse, is stated to mean also the estate of a noble, or man of note, and the word may also have been used in this sense in the north of England. When it occurs in close composition, it has not been exempt from the process of vulgar corruption. In the neighbourhood of Stanhope, Hogarth is pronounced Hogget, and is even found so written.

Wick, or wick : A.S. wic, a dwelling place, village, or street : and allied to the Latin vicus, Greek *οἶκος*. As a termination, it is found chiefly in connection with obvious elementary nouns or adjectives, or with the names of rivers, &c.

It would not combine harmoniously with some words which we find with the terminations *ham* and *ton* ; whence we may infer that considerations of euphony were not without their weight. Such designations as Morwick, Fenwick, Sandwich, require no explanation. Bewick was not improbably so called from the remarkable bow or elbow of the hills and river which occurs there. In this case its Anglo-Saxon form would be Bygewic, and the pronunciation nearly as at present. The uncouth appellation of Muggleswick receives an explanation from its form in *Boldon Book*, where it is written, in pure Anglo-Saxon, Moclingeswick : that is, the wick of the Moclings or descendants of Mucca, which was a well-known Saxon personal name.

—ton : Anglo-Saxon *tún*, a town, a village, or group of houses, being the centre of a township. The Anglo-Saxon verb *tynan*, (in Germ. *zaunen*,) is from the same root, and signifies to hedge-in ; *wyr-tún*, moreover, signifying an enclosure for worts or herbs, is the ordinary Anglo-Saxon term for a garden. In a more extended sense, *tún* imported an enclosed or definite portion of land. Thus the *parcel of ground* that Jacob gave to his son Joseph, (John iv. 5,) is rendered by the word *tún* alone ; and in Genesis xlvii. 11, "Joseph sealde his gebrothrum *tún*," Joseph gave to his brethren a possession, or apportionment of land. This ending is thoroughly Anglo-Saxon. Neither the cognate word *zaun* in German, nor any kindred term in the Scandinavian tongues, has assumed a similar development in toponymic application.

Lye, in his *Anglo-Saxon Dictionary*, well interprets *tún* by the expression *septum quodvis*, something hedged-in ; and I conceive

that our numerous villages, so designated, were each in possession of a certain tract of land, clearly defined by a fence or by boundary-stones, and that sometimes the hamlet itself might be surrounded by some rude kind of wall, mound, or palisade. Above all, the Saxon *tūn* was a community separated from others by its own distinct system of self-government. It was, as we should now say, a *township*.

Names of places with this termination have been formed in great numbers from Anglo-Saxon patronymics, or family names distinguished by the syllable *ing*, as Easington, Bassington, Ovington, (in A.S. Easingatūn, Bassingatūn, Offingatūn;) that is, the town of the Esings or progeny of Esa, of the Basings, (progeny of Basse,) of the Offings, sons or family of Offa. To make this observation more clear to those who are not familiar with the extensive application of these patronymics in Anglo-Saxon, the following passage from the *Saxon Chronicle* may be useful:—  
 "A.D. 543. This year Ida began his reign; from whom first arose the royal kindred of the Northumbrians. Ida was son of Eoppa, Eoppa was son of Esa, Esa was son of Ingwy; (*Ida wæs Eopping, Eoppa wæs Esing, Esa wæs Ingwing.*) Ida reigned twelve years: he built Bamburgh, which was first surrounded by a hedge and afterwards by a wall."

—ham: Anglo-Saxon *hām*, home. Over great part of England this termination recurs continually, though there are districts where it has oftener given way to others.

In the form of *heim* we find it very frequent in certain parts of Germany, especially along the Rhine. It appears in the Low-Countries as *hem*, *em*, *um*. And again, under the form of *hjem*, (Old-Norse *heimi*;) we meet with it in Norway and Sweden.

It conveys the idea of home or fixed abode, and to those consequently who appreciate its import in times of old, it is full of interest and home-feeling, wheresoever recognized. To bring forward instances of so common an ending, would be idle. Like the termination *ton*, however, it is often affixed to Anglo-Saxon family names in *ing*, which, being of themselves of an historical character, become all the more interesting to us when linked to a term like this, which points to the very hearth-stones of the rude Anglo-

Saxon kinships, at the period when they first settled down as industrious cultivators of the soil, from which they had driven its British possessors. Such are the names of Immingham, Willingham, Frodingham, in Lincolnshire; in Anglo-Saxon Immingham, Willingham, Frodingham; the additional syllable, consisting of the vowel *a*, being the sign of the genitive case plural. Now of this vowel there is no trace in the names of towns with this termination over the greater of the kingdom, which are pronounced with the *g* hard, as *Nottingham*. But in the Northumbrian dialect and pronunciation, the *a* of the genitive plural, having slid into the sound of the narrower vowel *e*, has coalesced with the preceding *g*, and softened its power; so that we pronounce *Ovingeham*, *Whittingeham*, with the *ge* soft; and assuredly so we ought to write, in conformity at once with the example of early documents, and with existing usage in speaking. In like manner should be written *Eglingeham*, *Edlingeham*, *Ellingeham*, *Eltringeham*, *Bellingeham*. The race of the Bellings must have become numerous, from the extensive diffusion of their appellation in its abridged form, as a surname in our northern county.

In connection with the sober and inductive study of etymology and orthography, the pages of the *Pipe Roll*, of *Boldon Book*, and of other muniments (whether national or appertaining to the northern counties only,) are most instructive. Their early forms of spelling, when not manifestly capricious, are entitled to our best attention: they are often links connecting the present aspect of our language with its earliest and least-alloyed forms; and, while they are thus historical and rich in old associations, they sometimes come closer to the existing pronunciation, than the inaccurate and ill-considered penmanship that has superseded them for a time. In the above instances we may perceive that the vowel of the old genitive plural has had hold enough upon popular utterance to modify the power of the *g* in *Ovingeham*, *Whittingeham*, when followed by a gentle aspirate; whereas, when another final syllable is substituted, as in *Ovington*, *Whittington*, all trace of the vowel is lost. But this is no reason for omitting to insert it in the former. On the contrary, the analogy is incomplete, and the difference real. The vowel *e* may claim to

be admitted in the former instances, no less reasonably than to be left out in the latter. The *Pipe Roll* suggests to us the etymology of Edlingham, for we find therein Edelingham and Edelwingham. Now Edelwing would mean the son of Edelwin or Ethelwin.

In like manner Eglingsham must have received its name from a family or race of Eglings, whose ancestor may have borne the appellation of Egulf, Egwald, or, perhaps, of Ecga; all of which were common amongst our Saxon forefathers, and the last perhaps identical with the name of Oga, who was a prince of Northumbria. Distinct from both of these must have been the race of the Ellings at Ellingsham.

Mere contraction, which prevails so extensively in all tongues, is not necessarily a process of corruption, though it is too often but the first step towards it. As an inoffensive contraction we may adduce Ingram, of old Angerham or Hangreham, probably from the personal name Ingwar or Hingwar: Roddam, less elegant than the earlier Rodeham, (or Rodham,) of the *Pipe Roll*: Bolam, formerly Bolham or Boleham. To this analogy belongs, if I mistake not, Mindrum, though it has been hastily referred to a Gaelic term, of which there are no probable traces in our neighbourhood.

As we have been led to refer to the subject of Anglo-Saxon patronymics, it may not be out of place to observe that they frequently stand without any addition, to designate the settlements of families or kinships; as Horning, Dorking, Stelling, Rising, Felling, Hawking.

Thorp: A.S. *thorp* (es, masc.,) (Germ. *dorf*, Low Germ. *dorp*, Old Norse *thorp*, Dan. Swed. *torp*,) a village. It prevails chiefly in Yorkshire and the North Midland Counties, and is liable to a transposition of letters which somewhat disguises it, being sometimes pronounced and written *throp* and *drop*. In the north we have Thorpe, near Easington, Thropton, and Throphill, (vulgarly Thropple and Thrapple;) Staindrop, and perhaps some other examples. Thorp, in the *Anglo-Saxon Glossary* of Ælfric is rendered by *compitum*, *vicus*, a meeting of cross ways, a country village. Adelung considered the word to be allied to the Germ. *trupp*, a troop or assemblage, to the Old-Norse *thyrping*, *congre-*

*gatio*; to the Latin *turba*, and the Greek *Θαυροβος*; and that its import was a gathering together or throng, whether of men or of dwellings. From the Danish and Swedish *torp* are derived the many terminations in *trop*, *trup*, and *rup*, which are observable in the maps of the Scandinavian territories.

Many English village-names have been formed by the combination of *thorp* with the personal name of an early settler or possessor, as the following from *Domesday Book*:—Ardwalfesthorp, Durandesthorp, Fulcarsthorp, Ragheneltorp (Rennelthorp), Siwardrop, Janulfestorp, Oglestorp.

—worth, —worthy, the latter found in southern counties: A.S. *weorthig*, *worthig*, *wurthig*, *worth*, (genit. es,) signifying a field, portion of land, an estate, also a street, a public way. This termination meets the ear and eye everywhere in Yorkshire and the Midland Counties. It is more rare in Northumberland, not unfrequent in Durham. Killingworth, Warkworth, Ravensworth.

This term must not be confounded with one at first sight similar, which occurs in Germany, along the course of the great rivers, namely, *werth*, signifying island, holm, or river beach. The corresponding Anglo-Saxon word to this is *waroth*, *wearth*, the sea-shore, but which I have not yet met with as an element in the formation of names of sites in this country.

—by: Old-Norse *byr*, a dwelling, a village. As a termination it is diffused everywhere in Yorkshire, Lincolnshire, Cumberland, and other districts where the Danes were strongly established, or which they oftenest overran. North of the river Tyne it is more rare. It was easily adopted by the Anglo-Saxons, who possessed the verb *buan*, or *byan*, to inhabit, or to cultivate, and in some instances this ending may have been purely of Anglo-Saxon origin.

We find it, however, too often appended to Danish personal or family names to allow us to doubt that its general character is Scandinavian. The following instances are from *Domesday Book*, treating of Yorkshire:—Turgilby (Thorkilby,) Toresbi (Thorsby,) Ormesbi, Turolsbi, Denebi, Asebi, Englebi now Ingleby.

Those who remember the old north road will recollect a hand-post in the North Riding, directing the stranger to Osmotherley.

In *Domesday Book* we find Asmundrebi, that is, Osmunderby, showing that the personal name of Osmond was the root also of the inexplicable Osmotherley, which ought to have been written Osmonderley, or at least Osmoderley.

Bottle, vulgarly bottle: A.S. botl, an abode, dwelling, mansion, hall or mansion with its appurtenances, hence a village: "*Tha cyninges ealdor botl*," the king's royal abode, (*Bede*); "*Pharo eode into his botle*," Pharoah went into his house, (*Exodus*); *cynelic botle*, a kingly abode, a palace; *botl-weard*, a house steward. Such is the account to be gathered from our best dictionaries, and from Anglo-Saxon usage, of the word which modern taste is content to write *bottle*. I shall take the liberty of returning to the old orthography, in transcribing the village names, which terminate with this interesting old word, even at the risk of offending those who prefer something that reminds them of the uncorking of the familiar flask, to any dry and musty reminiscences of our forefathers. The following are the principal names of this formation:—Harbotle, Lorbotle, Shilbotle, Wallbotle, Newbotle, to which may be added the old main street in Gateshead, known as the Botle Bank, and often of recent years erroneously called the Battle Bank, by those who imagine that some contest on the spot may have originated the designation.

In Yorkshire, as well as in the Midland and Southern Counties, certain names of villages terminate in an inverted and softened form of this word, that of *bold*; as Newbold-on-Avon, in Warwickshire.

Both forms were in full use when the survey handed down to us in *Domesday Book* was made, but we may presume the harder northern one to have been the earliest, especially as it approximates so closely to the term *booth*, which is unquestionably the root. An analogous transposition of sound is that which has been already mentioned, where the Old-Norse *fiall*, pronounced *fiadl*, a fell or chain of mountains, has become *fiel*d in modern Norwegian.

Cote: A.S. cota or cote; in Germ. kathe, kath; Old-Norse kot, kota; in Latin casa; in Welsh cwt. Thus widely is the term diffused through the Indo-European tongues.

The signification in all these languages is simply, cot or cottage. Such is the simple and venerable old word, which in these days of superfine cloth and supereminent attainments we write *coat*, in "*Cullercoats*," "*Carrycoats*," "*Coldcoats*." It occurs in almost every county of England, from Northumberland to Hampshire. In the description of Hertfordshire and of Middlesex, in *Domesday Book*, there are many instances, such as Heathcote, Kingscote; in Buckinghamshire, Ashcote, or Ascot, &c. The signification of Cullercotes is sufficiently evident, *culfra* being the ordinary Anglo-Saxon expression for a pigeon, columba; so that Culfracote, in early English Culvercote, or, rapidly uttered, Cullercote, was doubtless a dove-cote, which afforded no unwelcome tribute to the kitchen of Tynemouth Priory.

Like the endings ton and ham, it is met with in connection with patronymics or ancient family names, as *Ethelingcote*, in Yorkshire, and *Siwardingescotes*, in Derbyshire, from *Domesday Book*. *Medlicote*, also, is evidently a name of similar origin. And I have no doubt that Carricotes was a settlement of the Cerrings or Carrings, like Carrington and Charrington; indeed I am bound to maintain it stoutly, not only for etymological reasons, but because my name would class me with their kindred.

Stall: A.S. steall, (es, masc.) a stall, stable, homestead. In composition it forms Tunstall, Whittonstall, Dunstall; the latter being another form of the name of Dunston, in the parish of Whickham, prevalent among the oldest inhabitants of the neighbourhood. Such double forms of nomenclature are of no rare occurrence in early documents, and are quite in the genius of popular speech. Stell, in the sense of a walled enclosure or fold, to afford shelter to moorland sheep during a snow-storm, is another form of the same word. But the name of Stelling, in Tyneside, though at first sight referable to this source, is, I have little doubt, an Anglo-Saxon family-name, indicating a settlement of the Stealings, like Stallington, in Staffordshire, and Stallingborough, in Lincolnshire. It will be seen, on reference to Mr. Kemble's inestimable work, "*The Saxons in England*," how continually the family-name by itself, and without any adjunct whatever, was used to denote the spots where settlers took up their abode.

—set, sete, side : A.S. sæt, (es, masc.), a settler, an inhabitant, more frequently used in the plural in Anglo-Saxon compounds, as Somersætas, Dorsætas, the settlers in Somersetshire and Dorsetshire, and thence those shires themselves. (We find also in A.S. sæt, set, (es, masc.) a station, a camp; and in Old-Norse setr (neut.) a seat or dwelling.) From this origin are derived those names of houses and hamlets which now terminate in *side*, more properly *seide*, as Hartseide, Sunnyside. In *Domesday Book*, *Boldon Book*, the *Pipe Roll*, and other early authorities and muniments, this whole class of names is found with the ending *set* or *sete*; and it is much to be regretted that so expressive a term should have become effete, and should have assumed a different form. One only instance do I at this moment recollect in our northern district where the original word has been retained, and this is *Conset*, near Shotley Bridge. Only since the place has become populous has it begun to be written *Conside*; whereas it is strictly in analogy with Dorset, Somerset.

Set, or sete, in old documents, (and *side* in modern spelling,) is often found in connection with patronymics or family names. To this class, I doubt not, are to be referred Bebside, Hartside, Hasleyside, Hollinside, Gibside, Sunnyside; from the Anglo-Saxon families, the Bæbingas, Heartingas, Haslingas, Hollingas, Gippingas, Sunningas; (*See Kemble's Saxons in England*). To which I may add Simondside, from the personal name Sigmund or Simond. It is very desirable that this termination *side* should be known and acknowledged, as equivalent to seat or settlement, except in the instances where it is connected with the name of a river, as *Tyneside*, *Tweedside*.

Shield, shiel, and in Scotland shieling : A.S. scyldan, to protect, whence scyld (es, masc.) a shield, or protection : in this last sense the Old-Norse has skiól, (neut.), which also signifies refuge, or place of retreat. It occurs in names assigned chiefly to small groups of dwellings, of the humblest kind, often situated on the moors or moor edges, such as Linshiels, Blackshields, Espershiel, Gairshiel, Bruntshiel. The idea conveyed is that of shield or shelter from weather, and it is not improbable that originally the *shields* were only temporary huts of herdsmen and shep-

herds resorted to at the season when their cattle were upon the hills.

Stead : A.S. *sted* (es, masc.) a site or station. Akin to the German *stadt*. In the south of England it occurs in a large class of names like *Wanstead*, *Newstead*, *Hampstead*. In Northumberland we have *Gaystead*, above *Bellingeham*.

Distinct from this, but closely connected, is the word *steath*, in A.S. *stæth*, (es, neut.), signifying that which is firm, solid, and hence applied to a shore or landing-place. It is in familiar use still, but scarcely occurs in close or true composition.

—house : occurring in composite names of family dwellings, which have since, in many cases, been adopted as the family name, with a contracted termination in *us*, having at first sight a strange, and as it were a sort of Latin or scholastic aspect. In *Domesday Book*, however, such designations will be found written in full; as *Lofthouse*, *Barkhouse*, *Falkhouse*, &c. A similar metamorphose of this good homely termination has been extensively made in the Netherlands, and in some adjoining countries.

Hall : A.S. *heall*, *hæll*, *halh*, (Germ. *halle*, fem.; Old-Norse *höll*, fem.); a hall, the principal apartment in a dwelling, where the family and guests assembled; a house of the better order. So extensively has this term been adopted in the formation of the names borne by detached houses and farmsteads all over England, that it must have indicated any substantial country house—such as the Anglo-Saxon yeomen (*eād-menn*, *estatesmen*,) were wont to inhabit. Often it has been handed down to us in a form which we can recognize, in other instances so greatly obscured that its presence is only known to antiquarian inquirers.

It is desirable, however, that in an archaic map, the original, or fuller form of each name of this kind, should accompany that which now prevails, in order that the latter, although perhaps not easily admitting of amendment, may be used with a better knowledge of its import.

Thus *Whittle*, in the parish of *Ovingeham*, was *White-halle*. *Hepple* was *Heppe-halle*,—whatsoever that might signify. *Howtell*, in *Glendale Ward*, was *Holthall*; *Beadnal* or *Beadnell* was *Bead-enhall*; *Etal* was *Et-hall*; many of the *Ryles* or *Ryals* were *Rye-*

hall; rye, (in A.S. *ryge*,) having been the bread-corn of the north of England, long before wheat was generally cultivated there. Two designations of places in the county of Durham, *Roca* and *Stella*, are of such soft and southern aspect, that one might wonder from what Italian or Iberian shore they had found their way to the cliffs of Monk-wearmouth, and the banks of the Tyne. I conceive, however, that time was, when our forefathers called them, in plain northern English, the *Rock-ha'* and the *Stell-ha'*; though documentary proof does not enable me to speak with certainty.

Gate, (pronounced also by the people *yett*,) was in Anglo-Saxon *gat*, *geat*, (es, neut.) Its signification was not limited to its ordinary modern English sense, but was extended to that of the German *gasse*, the Old-Norse *gata*, and Danish *gade*, namely, *the street of a town*; or, at least, such streets as led to the old portals.

It is applied in this manner in the city of Durham, where certain streets are called Framwellgate, Gilligate, Southgate, &c.; another is designated Elvet, and the conjectural derivations hitherto given in explanation are not satisfactory. Probably some early document may hereafter show, that the last syllable is merely an abbreviation of *gate*, whilst the preceding may represent, by the same process, one or other of the Anglo-Saxon personal or family names, beginning with *Ælf*. This latter surmise is, however, made with due reservation of any plea that may be urged by the Elfen race, who, unsubstantial as they may be deemed, may nevertheless be able to show very substantial claims to the street.

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IX.—*A Catalogue of the Insects of Northumberland and Durham.*  
(Part iii.) By JAMES HARDY, and THOMAS JOHN BOLD.

TRIBE 2. CHILOGNATHOMORPHA, *Mac Leay.*

SUB-TRIBE 1. CORDYLOCERATA, *Westwood.*

STIRPS 1. CLAVICORNES, *Stephens.*

FAMILY 1. BYRRHIDÆ, *Leach.*

180. BYRRHUS, *Linn.*

1. B. PILULA, *Linn.*

*Steph. Illust., Mand., iii., 136.*

"Newcastle."—*W. C. Hewitson, Esq.* "Twizell."—*P. J. Selby, Esq.* Town Moor, Black Fell.—*Mr. A. Hancock.* "Durham."—*Ormsby's Durham.* Heaton, Long Benton, and Gibside.—*T. J. B.* Homildon Heugh.—*J. H.* Morpeth.—*Mr. John Scott.*

2. B. FASCIATUS, *Forst.*

*Steph. Illust., Mand., iii., 137.*

Homildon Heugh; heath at Gateshead Fell; sandbanks near South Shields; and at Hartlepool. March—August.

3. B. DORSALIS, *Fab.*

*Steph. Illust., Mand., iii., 137.*

*Var. b.* Black, the ferruginous dorsal band of the elytra wanting, and its white margin alone remaining, in a series of connected spots.

*Gyll. Ins. Suec., i., 190.* *Byrrhus ater, Fab. Syst. El., i., 104.*

Both type and variety occur at Gateshead Fell. I have also taken it elsewhere.—*J. H.* March—October.

181. CYTILUS, *Erichson.*

1. C. SERICEUS, *Forst.*

*Byrrhus sericeus, Steph. Illust., Mand., iii., 138.*—*Byrrhus varius, Fab. Syst. El., i., 105.*—*Gyll. Ins. Suec., i., 197.*—*Heer, Fn. Col. Helv., i., 448.*

"Twizell."—*P. J. Selby, Esq.* "Durham."—*Ormsby's Durham.*

South Shields and Prestwick Car.—*J. H. Morpeth.*—*Mr. John Scott.* April.

182. *MORYCHUS*, *Foerster*.

1. *M. ÆNEUS*, *Fab.*

*Foerst. Käfer—F. der Rheinprovinz*, 423.—*Byrrhus æneus*,  
*Steph. Illust., Mand.*, iii., 371.

One specimen under a stone, in the vale, below Langleyford.—  
*J. H.* July.

183. *ASPIDIPHORUS*, *Ziegler*.

1. *A. ORBICULATUS*, *Gyll.*

*Steph. Illust., Mand.*, iii., 131.—*Curtis Brit. Ent.*, pl. 450.—  
*Nitidula orbiculata*, *Gyll. Ins. Suec.*, i., 242.

Among moss, in a field, near the Derwent, opposite Axwell  
Park.—*J. H.* June.

184. *SIMPLOCARIA*, *Marsham*.

1. *S. SEMISTRIATA*, *Ill.*

*Steph. Illust., Mand.*, iii., 140.—*Curtis Brit. Ent.*, pl. 335.

Amongst herbage, and once upon Fungi. Gosforth, Long  
Benton, South Shields, Marsden, Winlaton Mill, Ravensworth,  
Gibside, Hartlepool, Morpeth, Bamburgh. April—October.

FAMILY 2. *HISTERIDÆ*, *Leach*.

185. *HISTER*, *Linn.*

1. *H. UNICOLOR*, *Linn.*

*Steph. Illust., Mand.*, iii., 145.

"Newcastle."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.*  
Long Benton, Tyneside, on the Derwent, above Winlaton Mill;  
coast between Sunderland and Ryhope. April—August.

2. *H. CADAVERINUS*, *Ent. Hefte*.

*Steph. Illust., Mand.*, iii., 145.

Common.

3. *H. BIMACULATUS*, *Linn.*

*Steph. Illust., Mand.*, iii., 148.

Rare. "Newcastle and Marsden."—*G. Wailes, Esq.* South  
Shields.—*J. H.* Long Benton.—*T. J. B.* April—August.

4. *H. DUODECIMSTRIATUS*, Schrank.

*Gyll. Ins. Suec.*, iv., 264.—*Steph. Illust.*, *Mand.*, iii., 147.—*Heer, Fn. Col. Helv.*, i., 458.

Not common. Long Benton.—*T. J. B.* Tyneside.—*J. H.* June—October.

The stria on the front is curved, not straight, as Stephens states in his *Manual of British Coleoptera*, 149.

5. *H. NEGLECTUS*, Zenker.

*German, Mag.*, i., 120.—*Steph. Illust.*, *Mand.*, iii., 150.—*Heer, Fn. Col. Helv.*, i., 456.

Very rare. I found one specimen at South Shields, in spring.—*J. H.*

6. *H. CARBONARIUS*, *Ent. Hefte*.

*Steph. Illust.*, *Mand.*, iii., 150.

Not unfrequent. "Newcastle," &c.—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* "Durham."—*Ormsby's Durham*. Long Benton, South Shields, &c. June.

7. *H. PURPURASCENS*, *Fab.*

*Steph. Illust.*, *Mand.*, iii., 152.

Rare. "Durham."—*Ormsby's Durham*. Long Benton.—*T. J. B.*

186. *SAPRINUS*, *Erichson*.

1. *S. NITIDULUS*, *Fab.*

*Hister nitidulus*, *Steph. Illust.*, *Mand.*, iii., 153.

Not frequent. "Newcastle."—*W. C. Hewitson, Esq.* "Twizell."—*P. J. Selby, Esq.* Long Benton.—*T. J. B.* Links, near Shoreston.—*J. H.*

2. *S. ÆNEUS*, *Fab.*

*Hister æneus*, *Steph. Illust.*, *Mand.*, iii., 154.

"Newcastle."—*G. Wailes, Esq.* Abundant on the sandy sea-coast, as at South Shields, &c. May—September.

3. *S. MARITIMUS*, *Steph.*

*Hister maritimus*, *Steph. Illust.*, *Mand.*, iii., 155.

Sea coast at South Shields.—*J. H.* Cullercoats and Marsden.—*T. J. B.* "Stockton-on-Tees."—*Rev. G. T. Rudd.* Near Cambois.—*Mr. John Scott.* April and May.

4. *S. VIRESCENS*, Payk.

*Hister virescens*, *Steph. Illust., Mand.*, iii., 157.

"Sea shore, Marsden."—*G. Wailes, Esq.*

5. *S. ROTUNDATUS*, Ill.

*Hister rotundatus*, *Steph. Illust., Mand.*, iii., 157.

Very rare. A single specimen was taken at Roker, by Mr. William Peacock.

187. *ONTHOPHILUS*, Leach.1. *O. STRIATUS*, Forst.

*Steph. Illust., Mand.*, iii., 143.

Not frequent. "Newcastle."—*W. C. Hewitson Esq.* "Meldon Park."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* Whitburn.—*Mr. A. Hancock.* Bradley.—*T. J. B.* Hartlepool.—*J. H.* April—June.

188. *ABRÆUS*, Leach.1. *A. GLOBOSUS*, Ent. Hefte.

*Steph. Illust., Mand.*, iii., 142.

Washington, and rather plentiful at Long Benton, on boards placed round a hot-bed.—*T. J. B.* May—October.

## STIRPS 2. LAMELLICORNES, Latreille.

## RACE 1. PRIOCERA, Dumeril.

## FAMILY 1. LUCANIDÆ, Leach.

189. *SINODENDRON*, Fab.1. *S. CYLINDRICUM*, Linn.

*Steph. Illust., Mand.*, iii., 167.—*Curtis Brit. Ent.*, pl. 478, *mas.*

"Newcastle."—*W. C. Hewitson, Esq.* "Meldon Park, Wallington, &c."—*G. Wailes, Esq.* It is abundant in the district round Newcastle, but has not been found any further north than Morpeth. It prefers the ash, but likewise attacks decayed oaks. The perfect insect has been found as early as February, but its usual time of appearance is May.

RACE 2. PETALOCERA, *Dumeril*.SUB-RACE 1. SAPROPHAGA, *Mac Leay*.FAMILY 1. GEOTRUPIDÆ, *Mac Leay*.190. GEOTRUPES, *Latreille*.1. *G. SYLVATICUS*, *Fab.**Steph. Illust., Mand., iii., 182.*In woods, not unfrequent. "Twizell."—*P. J. Selby, Esq.*  
Ouseburn Dean, Winlaton Mill, Gibside, &c. May—July.2. *G. STERCORARIUS*, *Linn.**Steph. Illust., Mand., iii., 185.*—*Mulsant, Col. de France, Lamell., 356, 1.*—*Scarabæus foveatus, Marsh. Ent. Brit., i., 21.*—*Geotrupes foveatus, Steph. Illust., Mand., iii., 183.*—*Scarabæus mutator, Marsh. Ent. Brit., i., 22.*—*Geotrupes mutator, Steph., l.c., 184.*—*G. punctato striatus, Kirby, Ib., l.c., 183.*—*G. puncticollis, Ib., l.c., 184.*—*G. sublævigatus, Ib., l.c., 185.*

Common.

FAMILY 2. APHODIIDÆ, *Mac Leay*.DIVISION. APHODIARII, *Mulsant*.SUB-DIVISION. APHODIATÆ, *Mulsant*.191. APHODIUS, *Illiger*.SUB-G. 1. COLOBOPTERUS, *Mulsant*.1. *A. ERRATICUS*, *Linn.**Steph. Illust., Mand., iii., 188.*—*Colobopterus erraticus, Mulsant, Col. de France, Lamell., 165, 1.*"Near Newcastle."—*W. C. Hewitson, Esq.* Bradley Mill; in May.—*T. J. B.*SUB-G. 2. EUPLEURUS, *Mulsant*.2. *A. SUBTERRANEUS*, *Linn.**Steph. Illust., Mand., iii., 188.*—*Eupleurus subterraneus, Mulsant, Col. de France, Lamell., 170, 1.*

"Meldon Park, Marsden, &c."—*G. Wailes, Esq.* Prestwick Car, Long Benton, Gateshead and Gateshead Fell, South Shields, Boldon, &c. March—October.

SUB-G. 3. OTOPHORUS, *Mulsant*.3. A. HEMORRHOIDALIS, *Linn.*

*Steph. Illust., Mand.*, iii., 188.—*Otophorus hæmorrhoidalis, Mulsant, Col. de France, Lamell.*, 173, 1.

"Twizell."—*P. J. Selby, Esq.*

SUB-G. 4. TEUCHESTES, *Mulsant*.4. A. FOSSOR, *Linn.*

*Steph. Illust., Mand.*, iii., 187.—*Teuchestes Fossor, Mulsant, Col. de France, Lamell.*, 176, 1.

Common. "Meldon Park, Tynemouth, &c."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* Prestwick Car, Long Benton, South Shields, Throckley Fell, Boldon, Gibside, &c.

SUB-G. 5. APHODIUS, *Mulsant*.5. A. SCYBALARIUS, *Fab.*

*Steph. Illust., Mand.*, iii., 190.—*Mulsant, Col. de France, Lamell.*, 179, 1.

Not unfrequent. "Dilston, Tynemouth, &c."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* Bamborough, Prestwick Car, Long Benton, Hartley, South Shields, Sunderland, Boldon, Axwell, Gibside, &c. April—November.

The elytra in some specimens are entirely black.

6. A. FOETENS, *Fab.*

*Steph. Illust., Mand.*, iii., 190.—*Mulsant, Col. de France, Lamell.*, 183, 3.—*Aphodius æstivalis, Steph. Manual*, No. 1269.

"Sea-shore at Marsden."—*G. Wailes, Esq.* South Shields, Boldon, on the Derwent above Winlaton, Gibside, &c. June and July.

7. A. FIMETARIUS, *Linn.*

*Steph. Illust., Mand.*, iii., 189.—*Mulsant, Col. de France, Lamell.*, 186, 4.

Common.

This is "the small beetle with red elytra, and a black head and thorax," of Wallis, which he says "is frequent in woods."—(*Hist. of Northumberland*, i., 365).

8. *A. LAPPONUM*, Gyll.

Gyll. *Ins. Suec.*, i., 15.—*A. Rhenonum*, Zetterstedt, (*De Jean, Cat.* 160.)—*Aphodius subalpinus*, Hardy, *Ann. and Mag. Nat. Hist.*, xix., 380.

Near Yeavinger Bell, and almost at the summit of Hedgehope, where some of the specimens are entirely black. A small variety occurs at Prestwick Car. June.

9. *A. MELANOPUS*, Kirby.

*Steph. Illust., Mand.*, iii., 198.—Hardy, *Ann. and Mag. Nat. Hist.*, xix., 382.

Rare. Prestwick Car, in April.

This is very nearly related to, if not the same as *A. constans*, Megerle (*Dufts. Faun. Aust.*, i., 94); but the characters of this species given by Heer, (*Fn. Col. Helv.*, i., 515,) do not quite authorize us to displace Kirby's name.

10. *A. ATER*, De Geer.

Mulsant, *Col. de France, Lamell.*, 195, 8.—*Aphodius terrestris*, Fab. *Syst. El.*, i., 71.—Gyll. *Ins. Suec.*, i., 13.—*Steph. Illust., Mand.*, iii., 194.—Heer, *Fn. Col. Helv.*, i., 511.—*Scarabæus pusillus*, Marsh. *Ent. Brit.*, i., 18.—*S. obscurus*, *Ib. l.c.*—*Aphodius obscurus*, *Steph. Illust., Mand.*, iii., 195.—*Aphodius terrenus*, Kirby, *Ib. l.c.*—*Aphodius ater*, *Ib. l.c.*, 196.

Common, and occurring throughout the season.

11. *A. GRANARIUS*, Linn.

Gyll. *Ins. Suec.*, i., 18.—*Steph. Illust., Mand.*, iii., 197.—Heer, *Fn. Col. Helv.*, i., 519.—Mulsant, *Col. de France, Lamell.*, 198, 9.—*Aphodius niger*, Creutzer, *Ent. Vers.*, i., 20.—*A. putridus*, Dufts, (*De Jean. Cat.* 162.)—*Scarabæus hæmorrhoidalis*, De Geer, iv., 371.—Marsh. *Ent. Brit.*, i., 19.—*Aphodius carbonarius*, Sturm, *Fn.*, i., 128.—*A. emarginatus*, *Steph. Illust., Mand.*, iii., 198.

"Meldon Park."—G. Wailes, Esq.

12. *A. PUSILLUS*, *Herbst*.

*Steph. Illust., Mand.*, iii., 205.—*Heer, Fn. Col. Helv.*, i., 518.—*Mulsant, Col. de France, Lamell*, 212, 15.—*A. granarius, Fab. Syst. El.*, i., 75.—*A. granum, Gyll. Ins. Suec.*, i., 19.—*Steph. Illust., Mand.*, iii., 205.—*A. cænopus, Panz.—Steph. Illust., Mand.*, iii., 205.

Not uncommon, especially on the sea-coast. "Near Whitburn."—*W. C. Hewitson, Esq.* Bradley Mill, Winlaton, South Shields, on the Wear above Southwick. May—July.

13. *A. ULIGINOSUS*, *Hardy*.

*Hardy, Ann. and Mag, Nat. Hist.*, xix., 382.

In the dung of cattle and sheep, at Prestwick Car, at Yeavinger Bell, and near the base of Cheviot.—*J. H.*

In the female, the thorax is narrowed anteriorly, and is rather more strongly and closely punctate than in the male; the clypeus is not tuberculate, and has a bent raised line, nearly evanescent in the middle, and there is a deep depression before the apex. I have this sex from the Pentland hills, and it is probably the *A. 4-maculatus* of *Entomologia Edinensis*. *A. uliginosus* appears to be allied to *A. tristis*, but the hinder tibiæ are in nowise extraordinarily dilated towards the apex, as those of the male of that species are said to be.—*J. H.*

14. *A. RUFESCENS*, *Fab.*

*Gyll. Ins. Suec.*, i., 27.—*Steph. Illust., Mand.*, iii., 190.—*Heer, Fn. Col. Helv.*, i., 523.

"Sea shore, Marsden,"—*G. Wailes, Esq.* South Shields, Boldon, Prestwick Car, Long Benton, Gibside, &c.

Mulsant, following Illiger, considers this a variety of *A. sordidus*. Even Fabricius, who proposed the species, was not certain whether or not it was a mere variety of that species, (*Syst. El.*, i., 74.) There is, however, no difficulty in distinguishing the two, of which *sordidus* is very local, while *rufescens* is generally distributed.

15. *A. SORDIDUS*, *Fab.*

*Gyll. Ins. Suec.*, i., 26.—*Steph. Illust., Mand.*, iii., 190.—*Heer, Fn. Col. Helv.*, i., 522.—*Mulsant, Col. de France, Lamell*, 220, 18. (Excl. var.)

Rather frequent on the coast at South Shields. July.

16. *A. MERDARIUS*, *Fab.**Steph. Illust., Mand.*, iii., 204.

Common.

17. *A. CONSPURCATUS*, *Linn.**Gyll. Ins. Suec.*, i., 24.—*Steph. Illust., Mand.*, iii., 192.

Haydon Bridge, Sunderland, Ryhope, Ravensworth, Winlaton, Hartlepool, Seaton Carew. April.

18. *A. INQUINATUS*, *Fab.**Gyll. Ins. Suec.*, i., 22.—*Steph. Illust., Mand.*, iii., 193.—*Mulsant, Col. de France, Lamell.*, 243, 27.

Gibside, Swalwell, South Shields, Sunderland, Hartlepool, Seaton Carew. April—June.

In 1846, it appeared as early abroad as the 3rd of March.

SUB-G. 6. *ACROSSUS*, *Mulsant.*19. *A. RUFIPES*, *Linn.**Steph. Illust., Mand.*, iii., 200.—*Acrossus rufipes*, *Mulsant, Col. de France, Lamell.*, 271, 2.

Common.

In dark evenings, it is often attracted by the light of the windows, and dashes itself against the glass.

20. *A. NIGRIPES*, *Fab.**Var. a.* Black.*A. nigripes*, *Fab. Syst. El.*, i., 76.—*Gyll. Ins. Suec.*, i., 32.—*Steph. Illust., Mand.*, iii., 201.—*Heer, Fn. Col. Helv.*, i., 529. *Var. a.?* — *Acrossus luridus*, *Mulsant, Col. de France, Lamell.*, 274, 3. *Var.?**Var. b.* Elytra red, or clouded with pitchy.*A. depressus*, *Fab. Syst. El.*, i., 80.—*Gyll. Ins. Suec.*, i., 33.—*Steph. Illust., Mand.*, iii., 201.—*Heer, Fn. Col. Helv.*, i., 530.—*Acrossus depressus*, *Mulsant, Col. de France, Lamell.*, 278, 4.*Var. a.* Common. Twizell, Prestwick Car, Long Benton, South Shields, Boldon, Gibside, &c.*Var. b.* Rare. "Durham."—*Ormsby's Durham.* On the heath at Prestwick Car. May—July,

All authors from the time of Fabricius make *A. depressus* a distinct species, Gyllenhal alone appearing to regard it as "vix species distincta." Among the specimens with red elytra, varieties of many intermediate hues occur approximating to the type of *A. nigripes*, from which the puncturing does not vary in the slightest degree. One of my specimens is marked by a black cloud round the scutellum, and another cannot be distinguished from *A. nigripes*, excepting by a small red spot on each shoulder. This variety is confined to wet moorland situations, which have a similar influence on some other black species, as for instance, *A. Lapponum*, *A. ater*, and *A. granarius*. These remarks apply not only to the local specimens, but to the variety wherever it occurs—*J. H.*

21. *A. LURIDUS*, *Fab.*

*Fab. Syst. El.*, i., 76.—*Gyll. Ins. Suec.*, i., 33.—*Steph. Illust., Mand.*, iii., 201.—*Acrossus luridus*, *Mulsant, Col. de France, Lamell.*, 274, 3, (*partim*).—*Aphodius nigripes*, *Heer, Fn. Col. Helv.*, i., 529. *Var. b., c., d., e.*

"Twizell."—*P. J. Selby, Esq.* Bradley Mill.—*T. J. B.* At the base of Cheviot, near Langleyford; Carr's Hill, and Gateshead Fell.—*J. H.* May and June.

The puncturing of this is so distinct, that it is not easy to account for its being referred to *A. nigripes*, or for that species being ranked as a black variety of *luridus*. We have never seen any specimens entirely black.

SUB-G. 7. MELINOPTERUS, *Mulsant.*

22. *A. PRODROMUS*, *Brahm.*

*Heer, Fn. Col. Helv.*, i., 525.—*Melinopterus prodromus*, *Mulsant, Col. de France, Lamell.*, 283, 1.—*Aphodius prodromus*, *Gyll. Ins. Suec.*, i., 36, (*foem*).—*Steph. Illust., Mand.*, iii., 203.—*A. sphacelatus*, *Gyll. Ins. Suec.*, i., 37 (*mas*).—*Steph. Illust., Mand.*, iii., 203.—*A. marginalis*, *Steph l.c. (mas)*.

Common, during greater part of the season.

23 A. CONTAMINATUS, *Herbst.*

*Steph. Illust., Mand., iii, 202.*—*Melinopterus contaminatus*,  
*Mulsant, Col. de France, Lamell., 291, 3.*

Common, especially from autumn to winter

FAMILY 3. TROGIDÆ, *Mac Leay.*192. PSAMMODIUS, *Gyll.*1. P. SABULETI, *Payk.*

*Gyll. Ins. Suec., i., 7.*—*Steph. Illust., Mand., iii., 210.*—  
*Heer, Fn. Col. Helv., i., 532.*—*Oxyomus Sabuleti, Steph.*  
*Manual, No. 1324.*—*Diastictus Sabuleti, Mulsant, Col.*  
*de France, Lamell., 319, 1.*

A single specimen was taken on the banks of the Derwent, by Mr. Thomas Pigg; and another near Morpeth, by Mr. John Scott.

This is the species on which Gyllenhal formed the genus *Psammodius*. According to the observations of Heer, the structure of its mouth places it amongst the *Trogidæ*.—*V. Heer, Fn. Col. Helv., i., 532.* *Erichson, Roy. Soc. Reports, 1845, 188.*

193 ÆGIALIA, *Latreille.*1. Æ. GLOBOSA, *Ill.*

*Steph. Illust., Mand., iii., 213.*

"Sea shore, South Shields, abundant."—*G. Wailes, Esq.*  
 "Plentifully on the sea coast, (near Bamburgh)."—*P. J. Selby, Esq.*  
*Links, near Hartlepool, North Sunderland, Camboise, Tynemouth, South Shields, &c. April—July.*

SUB-RACE 2. THALEROPHAGA, *Mac Leay.*FAMILY. MELOLONTHIDÆ, *Mac Leay.*194. SERICA, *Mac Leay.*1. S. BRUNNEA, *Linn.*

*Steph. Illust., Mand., iii., 219.*

"Sea banks, Tynemouth; Newcastle, &c., common."—*G. Wailes, Esq.*  
 "Twizell."—*P. J. Selby, Esq.* "Plentiful on the sand banks on the coast, near Castle Eden."—*Ornsby's Durham.*  
 Sea banks near Cullercoats, abundant on the yellow ladies' bed-

straw, in the dusk of the evening.—*Mr. Albany Hancock.* Sand banks near South Shields.—*T. J. B.* Gibside and Homildon Heugh.—*J. H.*

"I have dug the *pupa* up in grassy places, on the magnesian limestone, about three or four inches beneath the surface."—*G. Wailes, Esq.* The specimen taken at Gibside, was dug out of the soil, in which the insect lurks, till the closing shades of night indicate the proper period for going abroad.

195. RHIZOTROGUS, *Latreille.*

1. R. SOLSTITIALIS, *Linn.*

*Amphimalla solstitialis, Steph., Illust., Mand., iii., 221.*

"Ramparts, Tynemouth Castle, the only locality known to me in this part."—*G. Wailes, Esq.*

196. MELOLONTHA, *Fabricius.*

1. M. VULGARIS, *Fab.*

*Steph. Illust., Mand., iii., 222.*

"On different kinds of trees, in May, June, and July, near Stockton.—*Hogg's Stockton.* "Newcastle, Meldon Park, &c."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.* Long Benton, Jesmond, Ouseburn, Ravensworth, Swalwell, Axwell, Winlaton Mill, Gibside, &c. May—July.

"The chestnut-brown beetle, or hedge chafer, in very warm summers, appears in shady vales, by the sides of brooks and streamlets, and sometimes is heard buzzing against the windows of our houses, *Alis tonans.* Hence it is called by the French, *Aliton.* The many rookeries with us is partly the reason why we have so few *chafers*, even in the hottest summers; seldom more than one or a pair being seen at a time."—*Wallis' Hist. North., i., 365.* We place little confidence in the worthy historian's doctrine of the distribution of insect species being dependent upon the animals that devour them.

197. PHYLLOPERTHA, *Kirby.*

1. P. HORTICOLA, *Linn.*

*Steph. Illust., Mand., iii., 224.*

On the leaves of trees and hedges. Abundant in the vicinity of Newcastle. "Twizell."—*P. J. Selby, Esq.* "Durham."—

*Ornsby's Durham.* Holy Island.—*Dr. Johnston,* On the river Glen; in June.—*Dr. Robert Hood.* June—July.

198. ANOMALA, *Köppe.*1. A. JULII, *Fab.*

*Heer, Fn. Col. Helv.,* i., 540.—*Melalontha Julii, Gyll. Ins. Suec.,* i., 62.—*Euchlora Julii, Mulsant, Col. de France, Lamell.,* 475, 1.—*Melalontha Frischii, Fab. Syst. El.,* ii., 172.—*Gyll. Ins. Suec.,* i., 62.—*Anomala Frischii, Steph. Illust., Mand.,* iii., 225.

"I have found two specimens at Westoe, near the sea.—*G. T. Fox, Esq.,* Memorandum in *Donovan's British Insects*, of date Feb., 1816. "Sandy links, near South Shields, abundant."—*G. Wailes, Esq.* It still occurs in this locality. Holy Island.—*Dr. Johnston.*

Varieties, with the elytra dull green, or bronzed black, occasionally occur.—*T. J. B.*

Mr. Wailes (*Steph. Illust., Mand.,* iii., 373,) mentions that "the abdomen and elytra" of *Anisoplia agricola*, "were once found on the sea shore near South Shields."

SUB-TRIBE 2. PRIOCERATA, *Westw.*STIRPS 1. MACROSTERNI, *Westw.*FAMILY. ELATERIDÆ, *Leach.*199. ADRASTUS, *Eschscholtz.*1. A. LIMBATUS, *Fab.*

*Cataphagus limbatus, Steph. Illust., Mand.,* iii., 248.—*A. acuminatus, Steph. l.c.?*

In woods, and on hedge banks, common. June and July.

It often occurs on the underside of brake and bramble leaves, and likewise frequents the flowers of *Galium cruciatum*.

200. DOLOPIUS, *Eschscholtz.*1. D. MARGINATUS, *Linn.*

*Cataphagus marginatus, Steph. Illust., Mand.,* iii., 248.

In woods, and among herbage, common. May—July.

201. AGRIOTES, *Eschscholtz.*1. A. SPULATOR, *Linn.*

*Cataphagus sputator*, *Steph. Illust., Mand.*, iii., 249.

"Twizell."—*P. J. Selby, Esq.* Long Benton.—*T. J. B.* At Marsden and Ryhope Dean.—*J. H.* April and May.

2. A. OBSCURUS, *Linn.*

*Cataphagus obscurus*, *Steph. Illust., Mand.*, iii., 249.

Common.

3. A. LINEATUS, *Linn.*

*Cataphagus lineatus*, *Steph. Illust., Mand.*, iii., 250.

Banks of the Derwent, below the monument at Gibside.—*J. H.* Castle Eden Dean.—*Mr. T. Pigg.* June.

202. LIMONIUS, *Eschscholtz.*1. L. CYLINDRICUS, *Payk.*

*Elatér cylindricus*, *Steph. Illust., Mand.*, iii., 253.

Flowers of brambles, and amongst herbage. Above Swalwell, Axwell, Winlaton Mill, Gibside, &c. June.

203. AMPEDUS, *Megerle.*1. A. BALTEATUS, *Linn.*

*Elatér balteatus*, *Steph. Illust., Mand.*, iii., 258.

"Prestwick Car, near Newcastle."—*W. C. Hewitson, Esq.* It was also taken there by Mr. Albany Hancock. I have since found a single specimen at the edge of the heath, on the south-west side of the Car.—*J. H.* May and June.

204. DIACANTHUS, *Latreille.*1. D. HOLOSERICEUS, *Fab.*

*Elatér holosericeus*, *Steph. Illust., Mand.*, iii., 259.—*Prosternon holosericeus*, *Steph. Manual*, No. 1413.

"Near Newcastle."—*W. C. Hewitson, Esq.* "Durham."—*Ornsby's Durham.* Yeavinger Bell, and at South Shields. April.—*J. H.*

205. LACON, *Laporte.*1. L. MURINUS, *Linn.*

*Elater murinus*, *Steph. Illust., Mand.*, iii., 259.—*Argypnus murinus*, *Steph. Manual*, No. 1414.

Not common. "Newcastle."—*W. C. Hewitson, Esq.* Links at South Shields, and Hartlepool; in spring.

206. CRYPTOHYPNUS, *Germer.*1. C. QUADRUM, *Gyll.*

*Elater quadrum*, *Gyll. Ins. Suec.*, iv., 357.—*Hypnoidus Agricola*, *Steph. Illust., Mand.*, iii., 261.

One specimen on the banks of the Till, below Weetwood; in July.—*J. H.*

2. C. RIPARIUS, *Fab.*

*Hypnoidus riparius*, *Steph. Illust., Mand.*, iii., 260.—*Hypolithus riparius*, *Steph. Manual*, No. 1417.

Beneath stones: common. Twizell, Tyneside, Gateshead Fell, Ravensworth, Bamborough, Wooler, &c. March—December.

3. C. RIVULARIUS, *Gyll.*

*Hypnoidus rivularius*, *Steph. Illust., Mand.*, iii., 261.—

*Hypolithus rivularius*, *Steph. Manual*, No. 1417.

"Twizell."—*P. J. Selby, Esq.*

4. C. QUADRIPUSTULATUS, *Fab.*

*Steph. Manual*, No. 1420.—*Hypnoidus quadripustulatus*, *Steph. Illust., Mand.*, iii., 261.

Beneath stones, on the sandy banks of the rivers Derwent, Till, and Wooler Water.—*J. H.* Banks of the river Glen.—*Dr. Hood.* June and July.

207. MELANOTUS, *Eschscholtz.*1. M. FULVIPES, *Herbst.*

*Perimecus fulvipes*, *Steph. Illust., Mand.*, iii., 263.

In decayed oaks, on the banks of the Tyne at Redheugh, near Gateshead; and in ashes and willows near Dunston.—*J. H.* May—December.

208. CORYMBITES, *Latreille*.1. C. PECTINICORNIS, *Linn.*

*Ctenicerus pectinicornis*, *Steph. Illust., Mand., iii., 265.*

"Near Newcastle; females rare."—*W. C. Hewitson, Esq.*  
 "Meldon Park, common."—*G. Wailes, Esq.* "Durham."—  
*Ornsby's Durham.* Axwell, Gibside, &c.—*T. J. B. Morpeth.*—  
*J. Scott.* June.

This appears to be Wallis's "*black Elater, with a splendid yellowish green on the exterior wings and thorax.*" He observes that "the antennæ of the male are curiously pectinated. The wings (elytra) of the female are more tinged with green, and the thorax with yellow (bronzed), which is the difference of colour between them." He prettily remarks:—"The *Elaters* are stingless and harmless, sprightly and active insects, of a nimble wing; and delight much to rest on a dry wall, on the sides of poles, or a tree, in the sunshine."—*Wallis's Hist. North., i., 352.*

2. C. CUPREUS, *Fab.*

*Ctenicerus cupreus*, *Steph. Illust., Mand., iii., 266.*

Common. Twizell, base of Cheviot, Homildon Heugh, Meldon Park, Gosforth, Long Benton, Ouseburn Dean, Axwell, Gibside, Prudhoe, Sunderland, &c. May and June.

3. C. TESSELLATUS, *Linn.*

*Ctenicerus tessellatus*, *Steph. Illust., Mand., iii., 267.*

"Sea shore, Tynemouth."—*G. Wailes, Esq.* Prestwick Car; in May.—*Mr. A. Hancock.* I have also taken it in this locality, in June.—*J. H.*

209. CARDIOPHORUS, *Eschscholtz.*1. C. Equiseti, *Herbst.*

*Caloderus Equiseti*, *Steph. Illust., Mand., iii., 270.*

"Twizell."—*P. J. Selby, Esq.*

Wallis, in his *History of Northumberland*, i., 352, records a species which appears to be *Cardiophorus ruficollis*. He describes it as if he had a specimen before him:—"It is adorned with a beautiful red lunulated spot on the back, turned towards the head; the exterior wings bluish, and striated. It is only seen

with us in warm summers." We must leave to future inquirers to establish the claims of this species as native to the district.

SUB-G. APLOTARSUS, *Stephens*.

2. *C. TESTACEUS*, *Fab.*

*Aplotarsus testaceus*, *Steph. Illust., Mand.*, iii., 271.

"Twizell."—*P. J. Selby, Esq.* Gibside, Ravensworth, woods near Winlaton Mill.—*J. H. Cox Green.*—*T. J. B.* June.

3. *C. RUFIPES*, *Fab.*

*Aplotarsus rufipes*, *Steph. Illust., Mand.*, 272.

On willows and alders, common. June and July.

4. *C. ? MARITIMUS*, *Curt.*

*Aplotarsus maritimus*, *Curt. Ann. and Mag. Nat. Hist.*, v., 278.

One specimen under a stone near the Wooler Water, below Wooler.—*J. H.* June.

This species frequents river banks, and on this account is very inappropriately named.

210. *ATHOUS*, *Eschscholtz.*

1. *A. NIGER*, *Linn.*

*Anathrotus niger*, *Steph. Illust., Mand.*, iii., 274.—*Elater nigrinus*, *Marsh. Ent. Brit.*, i., 389.—*Anathrotus nigrinus*, *Steph. l.c.*

"Twizell."—*P. J. Selby, Esq.* Gibside.—*T. J. B.* Winlaton Mill and Homildon Heugh.—*J. H.* June.

2. *A. HAEMORRHOIDALIS*, *Fab.*

*Anathrotus haemorrhoidalis*, *Steph. Illust., Mand.*, iii., 275.—*Elater ruficundis*, *Gyll. Ins. Succ.*, i., 409.—*Elater elongatus*, *Marsh. Ent. Brit.*, i., 385, 25?—*Anathrotus elongatus*, *Steph. l.c.*, 276?

Common.

Immature specimens are entirely dull testaceous.

3. *A. VITTATUS*, *Fab.*

*Anathrotus vittatus*, *Steph. Illust., Mand.*, iii., 276.

"Twizell."—*P. J. Selby, Esq.*

211. *CAMPYLUS*, *Fischer*.*C. LINEARIS*, *Linn*.*Steph. Illust., Mand.*, iii., 278.

In moist woods, not unfrequent. "Newcastle."—*W. C. Hewitson, Esq.* "Twizell."—*P. J. Selby, Esq.* Dean above Winlaton, Gibside, &c. June and July.

STIRPS 2. APROSTERNI, *Westw*.FAMILY 1. CEBRIONIDÆ, *Leach*.212. *ATOPA*, *Paykull*.1. *A. CERVINA*, *Linn*.

*Steph. Illust., Mand.*, iii., 280.—*Dascillus cervinus, Curtis, Brit. Ent.*, pl. 216.

"Marsden, and near Newcastle."—*W. C. Hewitson, Esq.* "Twizell."—*P. J. Selby, Esq.* Near Axwell.—*T. J. B.* Near Earl, Homildon Heugh, Yeavinger Bell, and near Gibside.—*J. H. Banks of the river Glen.—Dr. Hood.* June.

FAMILY 2. CYPHONIDÆ, *Steph*.213. *CYPHON*, *Paykull*.1. *C. PALLIDUS*, *Fab*.

*C. melanurus, Steph. Illust., Mand.*, iii., 283.

Borders of rivulets. "Twizell."—*P. J. Selby, Esq.* Gibside, Dunston, Wooler, and Langleyford. June and July.

2. *C. LIVIDUS*, *Fab*.

*Steph. Illust., Mand.*, iii., 284.—*C. assimilis, Ib. l.c.?*—*C. obscurus, Ib. l.c.*, 285.

"Twizell."—*P. J. Selby, Esq.* Dunston.—*J. H.*

3. *C. MARGINATUS*, *Fab*.

*Steph. Illust., Mand*, iii., 285.

Among ferns, &c., by the sides of rivulets, in shady woods. "Twizell."—*P. J. Selby, Esq.* Wooler, Langleyford, and in a damp dean above Swalwell.—*J. H.* June.

4. *C. PUBESCENS*, *Fab.**Steph. Illust., Mand., iii., 285.*

Common: Wooler, Langleyford, Gibside, Dunston, Ravensworth, banks of the Team, &amp;c. April—July.

5. *C. GRISEUS*, *Fab.**Steph. Illust., Mand., iii., 285.*"Twizell."—*P. J. Selby, Esq.* Prestwick Car, and in a bog on the top of Whitsunbank Hill.—*J. H.* June.6. *C. PADI*, *Linn.**Steph. Illust., Mand., iii., 287.*Banks of the Derwent, above Winlaton Mill.—*J. H.* July.7. *C. IMMUNIS*, *Steph.**Steph. Illust., Mand., v., 415.*"Twizell."—*P. J. Selby, Esq.*214. *EUBRIA*, *Ziegler.*1. *E. PALUSTRIS*, *Germ.**Westw. Introd. to Entom., i., 246. Fig. 25. No. 18.—**Steph. Manual, No. 1472.*"Upon *Samolus Valerandi*, in a ravine, a little to the north of Castle Eden Dean."—*Rev. W. Little, (Ornsby's Durham, 203.)*FAMILY 3. LAMPYRIDÆ, *Leach.*215. *LAMPYRIS*, *Linn.*1. *L. NOCTILUCA*, *Linn.**Steph. Illust., Mand., iii., 290.*"Stella."—*W. C. Hewitson, Esq.* "Twizell."—*P. J. Selby, Esq.* "Near Brancepeth."—*Mr. J. T. Bungey.* "On the sea banks, near Castle Eden Dean."—*Ornsby's Durham.* Morpeth.—*Mr. John Scott.*FAMILY 4. TELEPHORIDÆ, *Leach.*216. *TELEPHORUS*, *De Geer.*1. *T. CLYPEATUS*, *Ill.**Steph. Illust., Mand., iii., 298.*In woods, rare. Gibside.—*T. J. B.* Winlaton Mill, and the woods opposite Axwell Park.—*J. H.* June.

2. *T. DISPAR*, *Fab.*  
*Steph. Illust., Mand., iii., 299.*  
In woods and gardens. Common. June.
3. *T. NIGRICANS*, *Fab.*  
*Steph. Illust., Mand., iii., 299.* — *Telephorus discoideus*,  
*Steph. l.c.*  
Common. May and June.
4. *T. CYANEUS*, *Curt.*  
*Curt. Brit. Ent., pl. 215.*—*Steph. Illust., Mand., iii., 300.*  
"Castle Eden Dean."—*G. Wailes, Esq.* Banks of the Derwent,  
at Gibside; Swalwell, Axwell, and Prudhoe. May and June.
5. *T. PELLUCIDUS*, *Fab.*  
*Steph. Illust., Mand., iii., 301.*  
Common. June and July.
6. *T. PILOSUS*, *Payk.*  
*Steph. Illust., Mand., iii., 298.*  
"Twizell."—*P. J. Selby, Esq.* Benton Bank.—*T. J. B.* June.
7. *T. RUSTICUS*, *Fallen.*  
*Steph. Illust., Mand., iii., 302.* — *Cantharis rustica*, *Gyll.*  
*Ins. Suec., i., 330.*  
Common. May and June.
8. *T. LIVIDUS*, *Linn.*  
*Steph. Illust., Mand., iii., 302.*  
Common. May—July.  
I dug recently developed specimens of this species out of the  
sandy banks of the Derwent, near Axwell Park, on the 1st of  
June.—*T. J. B.*  
In some individuals the elytra are dusky.
9. *T. LITURATUS*, *Fallen.*  
*Steph. Illust., Mand., iii., 303.*—*Cantharis liturata*, *Gyll*  
*Ins. Suec., i., 348.*—*Telephorus maculicollis*, *Steph. Illust.,*  
*Mand., v., 415.*

In boggy places, and hedge banks. Gibside, Prestwick Car, near Newcastle, Dunston; on the Wear, above Southwick.

It varies much in size, and in the colouring of the elytra and thorax. The variety named *T. maculicollis* is nearly the type of the species. The small variety, only one-half the size, mentioned by Gyllenhal, occurs in damp fields, above Swalwell.

10. *T. BICOLOR*, *Fab.*

*Steph. Illust., Mand., iii., 304.*

Common. May—July.

217. *PODABRUS*, *Fischer.*

1. *P. ALPINUS*, *Payk.*

*Telephorus alpinus*, *Steph. Illust., Mand., iii., 304.*

Banks of Wooler Water, Gibside, and on the banks of the Derwent, not uncommon. June—July.

It shows a preference to the birch.

218. *RAGONYPCHA*, *Eschscholtz.*

1. *R. MELANURA*, *Fab.*

*Telephorus melanurus*, *Steph. Illust., Mand., iii., 297.*

On thistles, meadow-sweet, &c. Common. May—September.

2. *R. PALLIDA*, *Fab.*

*Telliphorus pallidus*, *Steph. Illust., Mand., iii., 297.*

Common. June and July.

3. *R. FLAVILABRIS*, *Fallon.*

*Telephorus flavilabris*, *Steph. Illust., Mand., iii., 295.*

Among thistles, &c. Common. June and July.

4. *R. PALUDOSA*, *Gyll.*

*Cantharis paludosa*, *Gyll. Ins. Suec., i., 336.*—*Telephorus Æthiops*, *Curtis, Ann. Nat. Hist., v., 279, (1840).*

In bogs and marshy places. Wooler Water, below Langleyford; Whitsunbank Hill, near the base of Hedgehope, Gibside, banks of the Derwent, and in the dean above Winlaton Mill.—*J. H.* May—July.

The specimen from Hedgehope is very deeply coloured, and has the sides of the thorax entirely, and the legs and tarsi nearly concolorous; and the antennæ only slightly pitchy beneath.

This is probably the *T. ater* of Mr. Selby's list. The pubescens is griseous, not ochreous, as represented by Curtis.

5. R. TESTACEA, *Linn.*

*Telephorus testaceus*, *Steph. Illust., Mand.*, iii., 296.

Common. May—July.

219. MALTHINUS, *Latreille.*

1. M. FLAVEOLUS, *Payk.*

*Steph. Illust., Mand.*, iii., 205.

On oaks and hazels. Gibside, Prudhoe, Long Benton, Gosforth, Lamesley, &c. June and July.

2. M. BIGUTTATUS, *Linn.*

*Steph. Illust., Mand.*, iii., 308.—*Cantharis biguttata*, *Gyll.*

*Ins. Succ.*, i., 342.

Budle, Dunston, Gibside, and Ravensworth. June.

3. M. SANGUINOLENTUS, *Fallen.*

*Cantharis sanguinolenta*, *Gyll. Ins. Succ.*, i., 343.—*Malthinus*

*sanguinocollis*, *Steph. Illust., Mand.*, iii., 309.—*Malthinus*

*rubricollis*, *Leach, Ed. Encyclop.*, ix., 86.

*Var.* With a spot on the disk of the thorax.

*Malthinus melanocephalus*, *Marsh., Steph. Illust., Mand.*,

iii., 310.

Glororum, in the vicinity of Bamborough, and at Gibside.—

*J. H.* May.

4. M. MINIMUS, *Linn.*

*Steph. Illust., Mand.*, iii., 309.—*Cantharis minima*, *Gyll.*

*Ins. Succ.*, i., 344.—*Malthinus marginatus*, *Leach, Ed.*

*Encyclop.*, ix., 86.

Glororum, hedges at Dunston and Gibside.—*J. H.* June.

5. *M. BREVICOLLIS*, Payk.

*Steph. Illust., Mand.*, iii., 310.—*Cantharis brevicollis*, Gyll.  
*Ins. Suec.*, i., 345.—*Marthinus Pinicola*, *Steph. Illust.*,  
*Mand.*, iii., 308?

Near Earl; and sides of the Team, below Ravensworth.—*J. H.*  
 June and July.

## FAMILY 5. MELYRIDÆ, Leach.

220. *MALACHIUS*, Fab.1. *M. ÆNEUS*, Linn.

*Steph. Illust., Mand.*, iii., 311.

"On plants in hedges, in May, June, and July."—*Hogg's*  
*Stockton.* Newcastle.—*Mr. A. Hancock.*

2. *M. BIPUSTULATUS*, Linn.

*Steph. Illust., Mand.*, iii., 312.

Common in the district round Newcastle. May—July.

221. *DASYTES*, Payk.1. *D. VIRIDIS*, Rossi.

*Steph. Illust., Mand.*, iii., 319.

"Durham."—*Mr. T. J. Bungey.*

We find this recorded in the *History of Durham*, by the Rev.  
 George Ornsby, p. 204. It has always been considered as confined  
 to the south coast of England.

2. *D. ÆRATUS*, Steph.

*Steph. Illust., Mand.*, iii., 319.—*Dasytes serricornis*, Kirby,  
*Ib. l.c.*, 320.

Among nettles and herbage, rare. In a dean, on the Derwent  
 above Winlaton Mill, and in the Gibside woods.—*J. H.* May  
 and June.

## FAMILY 6. CLERIDÆ, Westw.

222. *TILLUS*, Olivier.1. *T. ELONGATUS*, Linn.

*Steph. Illust., Mand.*, iii., 322.

This species is recorded in *Ornsby's Durham*. We are un-  
 acquainted with its history.

223. *THANASIMUS*, Latreille.1. *T. FORMICARIUS*, Linn.

"Tynemouth."—*Mr. Wailes. (Curt. Brit. Ent., fol. 398.)*  
 Ouseburn Dean.—*Mr. G. B. Richardson.* Mr. Pigg had also  
 living specimens brought from a garden in the dean. Aug.

224. *NECROBIA*, Olivier.1. *N. QUADRA*, Marsh.

*Clerus Quadra, Marsh. Ent. Brit., i., 323.*—*Necrobia violacea,*  
*Steph. Illust., Mand., iii., 327.*

In carcases and bones. Common.

2. *N. RUFICOLLIS*, Oliv.

*Steph. Illust., Mand., iii., 327.*

In carcases; and at "scutch," or refuse of glue, &c. Not  
 uncommon. June—August.

3. *N. RUFIPES*, Oliv.

*Steph. Illust., Mand., iii., 327.*

In carcases, Long Benton; and among cheese, in shops, New-  
 castle.—*T. J. B.* Among the refuse of glue, Gateshead.—*J. H.*  
 August.

FAMILY 7. *PTINIDÆ*, Leach.SUB-FAMILY 1. *PTINIDES*. Westw.225. *PTINUS*, Linn.1. *P. RUFIPES*, Fab.

*Gyll. Ins. Suec., i., 305.*—*Steph. Illust., Mand., iii., 333.*—

*Ptinus germanus, Steph. l c.*

"Twizell."—*P. J. Selby, Esq.*

2. *P. SEXPUNCTATUS*, Panz.

*Steph. Illust., Mand., iii., 333.*—*Curt. Brit. Ent., pl. 646.*

"Twizell."—*P. J. Selby, Esq.*

3. *P. FUR*, Linn.

*Steph. Illust., Mand., iii., 334.*

In houses, &c. Common.

‡4. *P. HOLOLEUCOS*, *Fald?**Steph. Manual*, app. 433.

In houses, shops, &amp;c. Newcastle, Sunderland, &amp;c.

5. *P. CRENATUS*, *Fab.**Steph. Illust., Mand.*, iii., 334.

In houses and cellars. Common.

226. *GIBBIUM*, *Kugellan.*1. *G. SCOTIAS*, *Fab.**Steph. Illust., Mand.*, iii., 336.—*Curt. Brit. Ent.*, pl. 342.In houses, &c. "Newcastle."—*G. Wailes, Esq.* Long Benton.—*T. J. B.* Gateshead.—*Mr. John Thornhill.* In coal pits, at Scremerston.—*Mr. Broderip.*227. *PTILINUS*, *Fab.*1. *P. PECTINICORNIS*, *Linn.**Steph. Illust., Mand.*, iii., 331.A dead specimen in Scotch pine, near Ravensworth.—*J. H.* Sunderland.—*Mr. W. Peacock.*SUB-FAMILY 2. ANOBIIDES, *Westw.*228. *ANOBIUM*, *Fab.*1. *A. CASTANEUM*, *Fab.**Steph. Illust., Mand.*, iii., 338."Twizell."—*P. J. Selby, Esq.* Near Prestwick Car, Long Benton, Washington, above Winlaton Mill, Gibside, Yeavinger Bell, &c. May—July.2. *A. STRIATUM*, *Oliv.* (*The Death Watch.*)*Steph. Illust., Mand.*, iii., 340.

Abundant in old houses, perforating the furniture.

"The small *scarab*, called the *death-watch*," observes Wallis, in a passage almost classical, "is frequent among dust, and in decayed rotten wood, lonely and retired. It is one of the smallest of the *Vagipennia*, of a dark brown, with irregular light brown spots, the belly plicated, and the wings under the cases pellucid, like other beetles; the helmet turned up, as is supposed, for

hearing; the upper lip hard and shining. By its regular pulsations, like the ticking of a watch, it sometimes surprises those that are strangers to its nature and properties, who fancy its beating portends a family change, and the shortening of the thread of life. Put into a box, it may be heard and seen in the act of pulsation, with a small proboscis, against the sides of it; for food, more probably than for hymeneal pleasure, as some have fancied."—*Hist. North.*, i., 367.

3. *A. PANICEUM*, *Linn.*

*Steph. Illust., Mand.*, iii., 340.

In shops, Newcastle.—*T. J. B.*

4. *A. MOLLE*, *Linn.*

*Steph. Illust., Mand.*, iii., 341.

"Twizell."—*P. J. Selby, Esq.* In Scotch fir paling, at Benton Bank.—*T. J. B.* In windows, at Gateshead.—*J. H.* May—September.

5. *A. ABIETIS*, *Fab.*

*Steph. Illust., Mand.*, iii., 341.

"Twizell."—*P. J. Selby, Esq.*

FAMILY 8. BOSTRICHIDÆ, *Westw.*

‡229. *RHYZOPERtha*, *Stephens.*

‡1. *R. PUSILLA*, *Fab.*

*Steph. Illust., Mand.*, iii., 354.

Amongst rice, and once in abundance in Egyptian wheat.—*T. J. B.*

It is a native of the East Indies.

‡2. *R. CINCTA*, *Newman.*

*Newman, Ent. Mag.*, ii., 203.—*Steph. Manual*, No. 1625.

"This insect is, I believe, unique in the cabinet of Mr. Wales."—*Newman, l.c.*

From its being associated with *R. pusilla*, this is probably a foreign insect. Unfortunately, the description only gives us the colour, without any allusion to the sculpture.

230. *Cis*, Latreille.1. *C. BOLETI*, Fab.*Steph. Illust., Mand.*, iii., 344.In *Polyporus versicolor*. Common. January—November.2. *C. FESTIVUS*, Panz.*Gyll. Ins. Suec.*, iii., 381.—*Ptinus pygmæus*, *Marsh.*, i., 86?—*Cis pygmæus*, *Steph. Illust., Mand.*, iii., 346?

Fusco-testaceous, narrow, thorax anteriorly truncate, elytra irregularly punctate, with a thin, stiff, short pubescence. Head transverse, fusco-testaceous, very finely punctulate, with the anterior margin reflexed. Eyes globose, nigro-brunneous. Antennæ a little shorter than the thorax, pale testaceous. Thorax a little wider than long, anteriorly obliquely truncate, the anterior angles not produced, the sides and posterior angles exactly rounded, narrowly margined; the base truncate, and narrowly margined; above moderately convex, equal, fusco-testaceous, very finely and thickly punctulate, sprinkled with very short, rigid, shining pubescence. Scutellum small, rounded, concolorous. Elytra of the breadth of the middle of the thorax, and almost three times longer than it, narrow, convex above, equal, fusco-testaceous, everywhere very thickly finely punctate, sprinkled with pubescence, like that of the thorax. Legs pale testaceous.—(*Gyll.*) Length  $\frac{3}{4}$ —1 lin.

A single specimen from Ravensworth woods.—*J. H.*3. *C. NITIDUS*, Fab.In *Polyporus versicolor*. Common.This species occasionally produces a clicking noise, like that of *Anobium striatum*.4. *C. BIDENTATUS*, Marsh.*Gyll. Ins. Suec.*, iii., 384.—*Steph. Illust., Mand.*, iii., 374.—*Curt. Brit. Ent.*, 402.—*Ptinus bidentatus*, *Marsh. Ent.**Brit.*, i., 86, (*mas.*)—*Ptinus inermis*, *Id. l.c.*, 87, (*fem.*)

In *Polyporus versicolor*, rare. Ouseburn Dean.—*T. J. B.* Gibside and Ravensworth woods.—*J. H.* Morpeth.—*Mr. John Scott.* March—November.

FAMILY 9. SCYDMÆNIDÆ, *Steph.*231. SCYDMÆNUS, *Latreille.*1. *S. TARSATUS*, *Kunzé.**Steph., Illust., Mand., v., 80.*"In hot-beds, on Gilesgate moor," Durham.—*Rev. W. Little.*Two specimens at Long Benton.—*T. J. B.*2. *S. HIRTICOLLIS*, *Gyll.**Gyll. Ins. Suec., i., 286.—Steph. Illust., Mand., v., 80.*"In hot-beds at Gilesgate Moor."—*Rev. W. Little.* Not uncommon on hot-bed frames at Long Benton.—*T. J. B.* August—September.3. *S. PUSILLUS*, *Kunzé.*"In hot-beds, on Gilesgate Moor."—*Rev. W. Little.* Near Shoreston, Homildon Heugh, and in moss from Gibside, Ravensworth, and Marsden.—*J. H.* March—July.SECT. 2. HETEROMERA, *Latreille*TRIBE 1. TRACHELIA, *Westw.*FAMILY 1. NOTOXIDÆ, *Stephens.*232. ANTHICUS, *Fab.*1. *A. FLORALIS*, *Linn.**Gyll. Ins. Suec., ii., 495.—Steph. Illust., Mand., v., 75.—**Lytta fusca, Marsh. Ent. Brit., i., 486.—Anthicus fuscus,**Steph. Illust., Mand., v., 74.*

On hot-beds, dunghills, &amp;c. Common. May—September.

FAMILY 2. PYROCHROIDÆ, *Leach.*233. PYRROCHROA, *Fab.*1. *P. RUBENS*, *Fab.**Steph. Illust., Mand., v., 63.*"Common on white thorn hedges, in the spring."—*Hogg's Stockton.* Near Morpeth, Cramlington, Ouseburn Dean, Dilston, and Boldon.—*T. J. B.* Banks of the Tyne, at Dunston.—*J. H.* Castle Eden Dean.—*Mr. T. Pigg.* May and June.

FAMILY 3. LAGRIIDÆ, *Westw.*234. LAGRIA, *Fab.*1. *L. HIRTA*, *Linn.*

*Steph. Illust., Mand., v., 33.*—*Curt. Brit. Ent.*, pl. 593.

"Newcastle."—*W. C. Hewitson, Esq.* "Common on the coast near Bamburgh."—*P. J. Selby, Esq.* Common on dead thistles at Blyth and Sunderland.—*Mr. A. Hancock.* Blyth links.—*T. J. B.* July and August.

FAMILY 4. MORDELLIDÆ, *Leach.*235. ANASPIS, *Geoffroy.*1. *A. FRONTALIS*, *Linn.*

*Steph. Illust., Mand., v., 42.*

In flowers of hawthorn, broom, &c. Common. May—June.

Specimens have, in two or three instances, been found under bark, in January and February. They may have passed the *pupa* state there. There is a minute slender variety(?) with the sides of the thorax, and the elytra behind the shoulders dull fuscous; the legs dull testaceous, and the antennæ slender, the five last joints distinctly larger, black, with the base piceous. It is, perhaps, a small immature individual.

2. *A. RUFICOLLIS*, *Oliv.*

*Steph. Illust., Mand., v., 43.*

In the flowers of hawthorn, broom, &c. May—June.

3. *A. MELANOPIA*, *Forst.*

*Steph. Illust., Mand., v., 44.*—*Mordella obscura, Marsh. Ent. Brit.*, i., 492.—*Gyll. Ins. Suec.*, ii., 618.—*Var. ? Mordella pallida, Marsh. Ent. Brit.*, i., 492.

In flowers of the Guelder rose, meadow sweet, &c. Common. June—July.

4. *A. FUSCA*, *Marsh.*

*Steph. Illust., Mand., v., 45.*—*Mordella fusca, Marsh. Ent. Brit.*, i., 493.—*Anaspis subtestacea, Steph. Illust., Mand., v., 45.*—*Mordella testacea, Marsh. Ent. Brit.*, i., 493.

In flowers of the Guelder rose and hawthorn, near Dunston; rare.—*J. H.* June.

Dull, testaceous, the apex of the elytra often dusky, breast and abdomen nearly concolorous, the six apical joints of the antennæ rather large, black; more convex than *A. melanopa*.

5. *A. FASCIATA*, Forst.

*Steph. Illust., Mand.*, v., 46.—*Anaspis biguttata*, Marsh.  
*Steph., l.c.*

In the flowers of the hawthorn and whin. "Twizell."—*P. J. Selby, Esq.* Ravensworth, and above Swalwell.—*J. H. Gibside*.—*T. J. B.* June.

236. *RIPIPHORUS*, Fab.

1. *R. PARADOXUS*, Linn.

*Steph. Illust., Mand.*, v., 51.—*Curt. Brit. Ent.*, pl. 19.

"On the sea-coast of Durham."—*Mr. T. J. Bungey*. Side of the Derwent, above Winlaton Mill.—*J. H.* In a wasp's nest in the vicinity of Alnwick.—*Mr. George Selby*. August.

FAMILY 5. *CANTHARIDÆ*, Leach.

237. *MELOE*, Linn.

1. *M. PROSCARABÆUS*, Linn.

*Proscarabæus vulgaris*, *Steph. Illust., Mand.*, v., 66.

On banks, and in fields; common in spring.

FAMILY 6. *SALPINGIDÆ*, Leach.

238. *RHINOSOMUS*, Latreille.

1. *R. RUFICOLLIS*, Linn.

*Salpingus ruficollis*, *Gyll. Ins. Suec.*, ii., 640.—*Steph. Illust., Mand.*, iv., 217 —*Anthribus Roboris*, *Fab. Syst. El.*, ii., 410.

Under bark, not unfrequent. "Twizell."—*P. J. Selby, Esq.* Gibside, Ravensworth, near Swalwell, Morpeth, &c. March—November.

2. *R. VIRIDIPENNIS*, Zeigl.

*Salpingus viridipennis*, *Steph. Illust., Mand.*, iv., 217.—

*Anthribus ruficollis*, *Panz. Fn. Germ.*, xxiv., f. 19.

Under bark, rare. Ravensworth, and in the woods above

Swalwell.—*J. H.* Long Benton.—*T. J. B.* Morpeth.—*Mr. John Scott.* January—May.

Rostrum, short, very broad, flat, red. Antennæ black, ferruginous at the base. Thorax subcylindric, punctate, shining, red. Elytra atro-cæruleous (or green), punctate-striate, immaculate, shining. Legs testaceous. Abdomen black.—(*Panzer.*)

Stephens cites Panzer's figure for the Linnæan *S. ruficollis*, but Mr. Janson, who obligingly examined, at our request, Panzer's work, remarks that the insect figured by that author, "has the broad rostrum of the common *Salpingus planirostris*, and the head entirely red." In other words, it is *S. viridipennis*.

3. *R. PLANIROSTRIS*, *Fab.*

*Salpingus planirostris*, *Steph. Illust., Mand.*, iv., 217.

Under bark. Common. January—November.

239. *SALPINGUS*, *Illiger.*

1. *S. ATER*, *Payk.*

*Sphæriestes ater*, *Steph. Illust., Mand.*, iv., 218.

Rare. "Twizell."—*P. J. Selby, Esq.* Fawdon.—*T. J. B.* South Shields.—*J. H.*

There is in some specimens a small fovea on the vertex of the head. It is also to be observed in some, and not in other individuals of *S. immaculatus*, and is, perhaps, a sexual distinction.

2. *S. IMMACULATUS*, *Steph.*

*Sphæriestes immaculatus*, *Steph. Illust., Mand.*, iv., 218.

Rare. Greencroft and Gosforth.—*T. J. B.* Sept.

FAMILY 7. *CEDEMERIDÆ*, *Leach.*

240. *ISCHNOMERA*, *Steph.*

1. *I. LURIDA*, *Marsh.*

*Steph. Illust., Mand.*, v., 55.

"Durham."—*Ornsby's Durham*, 205.

‡2. *I. MALANURA*, *Linn.*

*Steph. Illust., Mand.*, v., 54.

This species was bred, in considerable numbers, from the decaying timbers of a vessel belonging to Sunderland, by Mr. William Peacock.

FAMILY 8. MELANDRYIDÆ, *Leach*.241. MELANDRYA, *Fab*.1. M. CARABOIDES, *Linn*.

*Steph. Illust., Mand., v., 34.*

"Gibside."—*W. C. Hewitson, Esq.* Plentiful in an old post there.—*Mr. John Hancock.* Near Axwell, running up an oak gate-post, in which were numbers of the nests of *Chelistoma florisomnis*.—*T. J. B.* In a field above Winlaton Mill.—*J. H.* June—August.

242. ORCHESIA, *Latreille*.1. O. MINOR, *Walk*.

*Walker, Ent. Mag., iv., 83.—Steph. Manual, No. 2591.*

Rare. On the flowers of the hawthorn and Guelder rose, between Dunston and Swalwell.—*J. H.* One specimen near Morpeth.—*Mr. John Scott.* June.

In pale specimens, the base of the antennæ and the apical joint are testaceous, and the legs more ferruginous. The elytra are either concolorous, or indeterminately fusco-ferruginous across the base and along the sides.

TRIBE 2. ATRACHELIA, *Westw*.SUB-TRIBE 1. VARICOLORS, *Westw*.FAMILY 1. CISTELIDÆ, *Leach*.243. CISTELA, *Fab*.1. C. CASTANEA, *Marsh*.

*Steph. Illust., Mand., v., 29.*

"Twizell."—*P. J. Selby, Esq.*

2. C. MURINA, *Linn*.

*Steph. Illust., Mand., v., 30.—Cistela fusca, Marsh. Ib. l.c.*

On dry warm banks, and among *Ammophila arundinacea*, on the sea-coast, and elsewhere. July.

FAMILY 2. HELOPIIDÆ, *Steph*.244. HELOPS, *Fab*.1. H. STRIATUS, *Oliv*.

*Steph. Illust., Mand., v., 26.*

Gibside.—*Mr. John Hancock.*

FAMILY 3. DIAPERIDÆ, *Steph.*245. PLATYDEMA, *Laporte and Brullé.*1. P. ÆNEA, *Payk.**Steph. Illust., Mand., v., 14.*

Four specimens taken beneath a log of wood in Ryhope Dean.—  
*Mr. W. Peacock.*

SUB-TRIBE 2. MELASOMATA, *Latreille.*FAMILY 1. TENEBRIONIDÆ, *Leach.*246. TENEBRIO, *Linn.*1. T. MOLITOR, *Linn.**Steph. Illust., Mand., v., 8.*

In bake houses and shops. Common.

‡247. ULOMA, *Megerle.*‡1. U. CORNUTA, *Fab.**Steph. Illust., Mand., v., 10.*

In flour shops at Sunderland.—*Mr. W. Peacock.* Shops, &c.,  
 Newcastle, *T. J. B.*

This species is a native of Portugal, the Barbary States, and  
 Madeira.

‡248. STENE, *Kirby.*‡1. S. FERRUGINEA, *Fab.**Steph. Illust., Mand., v., 9.*

In sugar, &c., imported.

A native of both the Indies, according to Fabricius.

249. SARROTRIUM, *Illiger.*1. S. MUTICUM, *Linn.**Curt. Brit. Ent., pl. 314.—Steph. Illust., Mand., v., 5.*

"Near Bamburgh Castle, Northumberland."—*W. C. Hewitson,*  
*Esq.*

FAMILY 2. BLAPSIDÆ, *Steph.*250. BLAPS, *Fab.*1. B. OBTUSA, *Fab.**Mortisaga, Steph. Illust., Mand., v., 23*

In cellars, bake houses, &c. All the year.

According to M. Victor de Motschoulski, the common long-legged *Blaps* of this country, which has hitherto been regarded as *mortisaga*, is the true *obtusa*; whilst the thicker species, with shorter legs (also common in many localities), standing in British cabinets as *obtusa*, is *fatalica*.

T. V. Wollaston, Esq. (to whom I am indebted for this information), informs me that *mortisaga* is a very rare species, only three specimens existing in the whole of the British Museum collection, which are said to have come from Odessa.

The only British example of *mortisaga* that I have seen is in my own collection, and was taken in Scotland. It is cylindric, considerably elongate, somewhat depressed, and has the elytral processes much developed.—*T. J. B.*

### SECT. 3. PSEUDOTETRAMERA, *Westw.*

#### STIRPS 1. RHYNCOPHORA, *Latreille.\**

#### FAMILY 1. BRUCHIDÆ, *Leach.*

##### SUB-FAMILY 1. BRUCHIDES, *Westw.*

##### ‡251. BRUCHUS, *Linn.*

##### ‡1. *B. RUFIMANUS*, *Schönh.*

*Steph. Manual*, No. 2087.—*Walton, Ann. and Mag. Nat. Hist.*, xiii., 208.

Imported into Newcastle, amongst a cargo of beans, from Sicily.—*T. J. B.*

##### SUB-FAMILY 2. ANTHRIBIDES, *West.*

##### 252. ANTHRIBUS, *Geoffr.*

##### 1. *A. ALBINUS*, *Linn.*

*Steph. Illust., Mand.*, iv., 208.—*Curtis, Brit. Ent.*, pl. 726.

"Plentiful, near Newcastle."—*G. Wailes, Esq. Gibside.*—*Mr. John Hancock.*

\* Under this division we have generally followed the nomenclature of Mr. Walton, in his valuable papers in the *Annals and Magazine of Natural History*. The synonymes of our native species being sufficiently elaborated by that writer, it would be foreign to our object to give even a digest of what he has executed so happily.

FAMILY 2. ATTELABIDÆ, *Westw.*SUB-FAMILY 1. ATTELABIDES, *Westw.*253. APODERUS, *Oliv.*1. A. AVELLANÆ, *Linn.**Steph. Illust., Mand., iv., 206.*"On hazel, in Castle Eden Dean."—*Ornsby's Durham*, 204.254. ATTELABUS, *Linn.*1. A. CURCULIONIDES, *Linn.**Steph. Illust., Mand., iv., 205.*—*Curt. Brit. Ent., pl., 710.*"Twizell."—*P. J. Selby, Esq.*255. RHYNCHITES, *Herbst.*1. R. BETULÆ, *Linn.**Deporaus Betulæ, Steph. Illust., Mand., iv., 198.*

On the birch, not unfrequent towards the beginning of June.

2. R. MEGACEPHALUS, *Germ.**R. cyaneopennis, Steph. Illust., Mand., iv., 199.*"Durham."—*Ornsby's Durham*.3. R. NANUS, *Payk.**Steph. Illust., Mand., iv., 200.*Two specimens found near Newcastle, and one from Long Benton.—*T. J. B.*4. R. CONICUS, *Ill.**R. Alliarie, Steph. Illust., Mand., iv., 200.*Several specimens taken within the Newcastle district.—*T. J. B.*5. R. PAUXILLUS, *Germ.**R. atrocæruleus, Steph. Illust., Mand., iv., 201.*One specimen taken within the Newcastle district.—*T. J. B.*6. R. GERMANICUS, *Herbst.**R. minutus, Steph. Illust., Mand., iv., 201.*

In hedges, not unfrequent in June. Gibside, Dunston, Swalwell, and on the sea banks, near Manshaven.

7. *R. CUPREUS*, Linn.

*Steph. Illust., Mand.*, iv., 203.

"Twizell."—*P. J. Selby, Esq.*

If Wallis could be depended upon, the splendid *Rhynchites Betuleti* (*Betulæ Steph.*) might have a place in our list. He says:—"The small, green, purple, and gold-yellow horned beetle is sometimes, but rarely, found on heaths and mountainous pastures in June and July, in warm summers. The head, face, thorax, belly, and legs, are of a beautiful purple, bright and shining, like silk. The elytra are of a grass-green, elegantly spotted with a gold-yellow. The clavated antennæ, or horns, and the eyes are a glossy black; the latter full and prominent. I met with this here described in the rectory garden at Simonburn, in a remarkable warm summer. I have since observed it on Wark common, among the heath, near Wordley-sheels, in Tynedale, in July."—*Wallis' Hist. North.*, 366. The references given are to *R. Betuleti*; but did the author not see *Cicindela compestris*, in some of the localities mentioned?

256. *RHAMPHUS*, *Clairville.*1. *R. PULICARIUS*, *Herbst.*

*Steph. Illust., Mand.*, iv., 197.

On whitethorn, blackthorn, willows, &c. Long Benton, Axwell, Budle, Gibside, Shotley Bridge, Sunderland, base of Cheviot. June—September.

257. *OXYSTOMA*, *Dumeril.*1. *O. ULICIS*, *Forst.*

*Steph. Illust., Mand.*, iv., 196.

On furze, in the seed pods of which it breeds, sometimes appearing in a fresh state in the end of February.

258. *APION*, *Herbst.*1. *A. CRACCÆ*, Linn.

*Steph. Illust., Mand.*, iv., 166.

On *Vicia Cracca*: fields above Swallwell, opposite Axwell Park.—*J. H.* Bothall; near the bridge above Gibside; and at Gosforth, in July.—*T. J. B.*

2. *A. POMONÆ*, *Fab.**Steph. Illust., Mand., iv., 167.*"Twizell."—*P. J. Selby, Esq.*3. *A. SUBULATUM*, *Kirby.**Steph. Illust., Mand., iv., 167.*

On *Lathyrus pratensis*, at Bothall, Blyth, Gosforth, the sea coast north from Whitley, Marsden, and Shotley Bridge.—*T. J. B.* At Gibside, and near Winlaton Mill.—*J. H.* June—Sept.

4. *A. MARCHICUM*, *Herbst.**A. Rumicis, Steph. Illust., Mand., iv., 169.*

On *Rumex Acetosella*. "Twizell."—*P. J. Selby, Esq.* Hedge sides, near Dunston.—*J. H.* Gosforth and Gibside.—*T. J. B.* June—August.

5. *A. AFFINE*, *Kirby.**Steph. Illust., Mand., iv., 169.*

Amongst herbage, in hedge rows, near Axwell, and at Gibside.—*T. J. B.* At South Shields, and in fields above Swalwell.—*J. H.* June—September.

6. *A. HUMILE*, *Germ.**Steph. Illust., Mand., iv., 170.*

In pastures, &amp;c., common. June—Sept.

7. *A. SENICULUS*, *Kirby.**Steph. Illust., Mand., iv., 171.*

Fields: Bothall, Axwell, and Gibside.—*T. J. B.* Near Dunston, and above Swalwell.—*J. H.* June—August.

8. *A. VIOLACEUM*, *Kirby.**Steph. Illust., Mand., iv., 172.*

Common.

9. *A. FRUMENTARIUM*, *Linn.**A. hæmatodes, Steph. Illust., Mand., iv., 174.*

"Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.* Whitsunbank Hill.—*J. H.*

10. *A. SANGUINEUM*, *De Geer*.*Walton, in Ann. and Mag. Nat. Hist.*, xiii., 452."Twizell."—*P. J. Selby, Esq.*11. *A. CRUENTATUM*, *Walton*.*Walton, in Ann. and Mag. Nat. Hist.*, xiii., 452.Fields: near Axwell, and at Gibside.—*T. J. B.* Near Swalwell.—*J. H.* May—Sept.12. *A. ONOPORDI*, *Linn.**Steph. Illust., Mand.*, iv., 175.Rare. Bothall, Washington, and Gibside.—*T. J. B.* Fields on the Derwent, above Swalwell.—*J. H.* June—Sept.13. *A. RADIOLUS*, *Marsh.**Steph. Illust., Mand.*, iv., 176.On *Malva sylvestris*, abundant, but local. "Twizell."—*P. J. Selby, Esq.* By the side of the turnpike near Swalwell, and also near Cullercoats. May—Sept.

Dwarf, ill-formed specimens might be taken for a distinct species.

14. *A. ÆNEUM*, *Fab.**Steph. Illust., Mand.*, iv., 177.On *Malva sylvestris*, abundant, but local. "Twizell."—*P. J. Selby, Esq.* Swalwell, Ravensworth, Dilston, Cullercoats, Whitley. February—September.15. *A. CARDUORUM*, *Kirby.**Steph. Illust., Mand.*, iv., 177,

On thistles, common. June—September.

16. *A. RUFIROSTRE*, *Fab.**Steph. Illust., Mand.*, iv., 178.Gibside; rare.—*T. J. B.*17. *A. PALLIPES*, *Kirby.**Steph. Illust., Mand.*, iv., 178."Twizell."—*P. J. Selby, Esq.* I have two specimens, one from a field above Swalwell, and the other from a wood on Lobley Hill.—*J. H.* June.

18. *A. STRIATUM*, Marsh,*A. Pisi*, Steph. *Illust.*, Mand., iv., 180.

On furze and broom. "Twizell."—*P. J. Selby, Esq.* Gibside, Shotley Bridge, on the sea coast near Whitley, and abundant at Blyth, on *Genista tinctoria*.—*T. J. B.* Near Middleton Hall.—*J. H.* June—September.

19. *A. IMMUNE*, Kirby.*Steph. Illust.*, Mand., iv., 181.

On broom, near Winlaton, Gibside, Shotley Bridge, &c. July—September.

20. *A. SORBI*, Herbst.*Steph. Illust.*, Mand., iv., 181.

One female specimen from Gibside.—*T. J. B.* I have two males from the same vicinity.—*J. H.* July.

21. *A. ERVI*, Kirby.*Steph. Illust.*, Mand., iv., 182.

On *Lathyrus pratensis*, not uncommon. Shotley Bridge, Swalwell, Dunston, Washington, Gosforth, Prestwick Car, Hartley, Budle. June—August.

22. *A. PUNCTIGERUM*, Germ.*Steph. Illust.*, Mand., iv., 182,

"Twizell."—*P. J. Selby, Esq.* Gibside, in a field near Axwell, and at Washington.—*T. J. B.* June.

23. *A. SPENCII*, Kirby.*Steph. Illust.*, Mand., iv., 183.

On *Vicia Cracca* and *V. sepium*. "Twizell."—*P. J. Selby, Esq.* Whitley, Long Benton, Gosforth, Swalwell, Dunston, Winlaton Mill, Gibside, Shotley Bridge. July—September.

24. *A. VIRENS*, Herbst.*Steph. Illust.*, Mand., iv., 184.

In fields. "Twizell."—*P. J. Selby, Esq.* Gosforth, Long Benton, Washington, Gibside, and Prudhoe.—*T. J. B.* Ravensworth woods, Swalwell, and South Shields.—*J. H.* Morpeth.—*Mr. J. Scott.*

25. *A. LOTI*, Kirby.*Steph. Illust., Mand.*, iv., 185.

On *Lotus corniculatus*. On the Team, near Ravensworth; and hedge sides, near Dunston.—*J. H.* Prudhoe, and at Blyth.—*T. J. B.* April—July.

26. *A. AFER*, Schönk.*A. puncticolle*, *Steph. Manual*, No. 2033.

In fields. Bothall, Gosforth, Long Benton, Washington, Marsden, and Prudhoe.—*T. J. B.* Ravensworth woods, banks of the Team, Swalwell, Dunston, and South Shields.—*J. H.* April—June.

27. *A. FLAVIPES*, Fab.*Steph. Illust., Mand.*, iv., 186.

In clover fields; common.

28. *A. NIGRITARSE*, Kirby.*Steph. Illust., Mand.*, iv., 187.

In clover fields. "Twizell."—*P. J. Selby, Esq.* Gibside.—*T. J. B.* Dunston.—*J. H.* June.

29. *A. ASSIMILE*, Kirby.*Steph. Illust., Mand.*, iv., 187.

In clover fields; common. April—June.

30. *A. FAGI*, Linn.*A. apricans*, *Steph. Illust., Mand.*, iv., 188.

In clover fields; frequent.

31. *A. TRIFOLIUM*, Linn.*A. æstivum*, *Steph. Illust., Mand.*, iv., 189.

"Twizell."—*P. J. Selby, Esq.* Blyth.—*T. J. B.* July.

32. *A. VARIPES*, Germ.*Steph. Illust., Mand.*, iv., 190.

Gibside; rare.—*T. J. B.*

33. *A. VICIÆ*, Payk.*Steph. Illust., Mand.*, iv., 192.

On *Vicia Cracca* and *Lathyrus pratensis*; common. July—September.

The legs and antennæ are sometimes nigro-fuscous.

34. *A. ONONIS*, Kirby.*Steph. Illust., Mand., iv., 192.*

On *Ononis arvensis*, on the sandy parts of the sea-coast.  
March—September.

35. *A. VORAX*, Herbst.*Steph. Illust., Mand., iv., 193.*

"Twizell."—*P. J. Selby, Esq.* Sea banks near Whitley, and abundant among tares, at Gosforth.—*T. J. B.* Among heath, in a wood, on Lobley Hill; and a specimen found near Ravensworth Castle.—*J. H.* August—September.

36. *A. PISI*, Megerle.*A. punctifrons, Steph. Illust., Mand., iv., 193.*

In clover fields; abundant. June—September.

37. *A. ÆTHIOPS*, Herbst.*A. subsulcatum, Steph. Illust., Mand., iv., 193.*

Not uncommon in bean fields, and on *Vicia sepium*. Twizell, Long Benton, Prestwick Car, Gosforth, Axwell, Swalwell, Dunston, Ravensworth, Washington, and South Shields. June—Sept.

38. *A. GYLLENHALII*, Kirby.*Steph. Illust., Mand., iv., 190.*

A pair taken within the district.—*T. J. B.*

We are unacquainted with the *A. Limonii*, *A. velox*, and *A. bifoveolatum* of Mr. Selby's list.

## FAMILY 3. CURCULIONIDÆ, Leach.

## LEGION 1. BRACHYRHYNCHI, Schönh.

## DIVISION 1. BRACHYDERIDES, Schönh.

## 259. STROPHOSOMUS, Billberg.

1. *S. CORYLI*, Fab.*Steph. Illust., Mand., iv., 126.*

On hazels, &c.; common. February—August.

2. *S. OBESUS*, *Marsh.**Steph. Illust., Mand., iv., 127.*

At Winlaton Mill, and on Gateshead Fell.—*J. H. Gibside*,  
 Shotley Bridge, Prudhoe.—*T. J. B.* June—December.

3. *S. RETUSUS*, *Marsh.**S. squamulatus, Steph. Illust., Mand., iv., 128.*

In meadows, and on bare grassy hill sides; not uncommon.  
 May—September.

4. *S. FABER*, *Herbst.*

*S. chætophorus, Steph. Illust., Mand., iv., 129.*—*S. pilosellus*,  
*Ib. l.c., iv., 130.*

Two specimens on a wall at Low Barns, near Sunderland.—  
*Mr. W. Peacock.*

5. *S. LIMBATUS*, *Fab.**S. sus, Steph. Illust., Mand., iv., 130.*

On heath; Prestwick Car, Gosforth, and Gateshead Fell.  
 April—December.

260. *CNEORHINUS*, *Schönh.*1. *C. GEMINATUS*, *Fab.**Philopodon geminatus, Steph. Illust., Mand., iv., 124.*

On sandy sea-coasts; not unfrequent. April—August.

We have observed it feeding on *Galium verum* and *Ammophila*  
*arundinacea.*

2. *C. EXARATUS*, *Marsh.**Philopodon exaratus, Steph. Illust., Mand., iv., 125.*

In meadows, near Axwell; and at Elswick, in June.—*T. J. B.*

261. *SCIAPHILUS*, *Schönh.*1. *S. MURICATUS*, *Fab.**Steph. Illust., Mand., iv., 131.*

In meadows, and on the borders of woods; not uncommon.  
 May—September.

262. TANYMECUS, *Germ.*1. T. PALLIATUS, *Fab.**Steph. Illust., Mand., iv., 152.*"Twizell."—*P. J. Selby, Esq.*263. SITONA, *Germ.*1. S. HISPIDULA, *Fab.**Steph. Illust., Mand., iv., 134.*

On furze and tares; common.

2. S. SUTURALIS, *Steph.**Steph. Illust., Mand., iv., 138.*Long Benton, and on sand banks on the sea-coast.—*T. J. B.*On the banks of the Team, opposite Ravensworth Castle, and at Dunston.—*J. H.* April—September.3. S. REGENTSTEINENSIS, *Herbst.**S. Ulicis, Steph. Illust., Mand., iv., 133.*

On furze and broom; common.

4. S. SULCIFRONS, *Thunb.**Steph. Manual, No. 1933.*—*S. tibialis, Steph. Illust., Mand., iv., 138.*—*S. subaurata, Ib.*

In pastures, &amp;c., not unfrequent. June.

5. S. LINEATA, *Linn.**Steph. Illust., Mand., iv., 135.*

Abounds amongst peas, beans, and tares, to which it often proves highly injurious, especially to the young crop. It sometimes occurs in immense swarms on the sea-coast, having been drifted from inland situations by the winds.

6. S. PUNCTICOLLIS, *Kirby.**Steph. Illust., Mand., iv., 137.*—*Walton, in Ann. and Mag. Nat. Hist., xvii., 229.*

Common.

7. *S. FLAVESCENS*, Marsh.

*Steph. Illust., Mand.*, iv., 137.—Walton, in *Ann. and Mag. Nat. Hist.*, xvii., 230.

Common.

8. *S. HUMERALIS*, Kirby.

*Steph. Illust., Mand.*, iv., 138.

Rather unfrequent.

9. *S. TIBIALIS*, Herbst.

Walton, in *Ann. and Mag. Nat. Hist.*, xvii., 233.

"Twizell."—P. J. Selby, Esq. Hartlepool, Gibside, and the vicinity of Bamburgh.—J. H. June.

10. *S. CRINITA*, Oliv.

*Steph. Illust., Mand.*, iv., 139.

"Twizell."—P. J. Selby, Esq.

11. *S. GRISEA*, Fab.

*S. fusca*, *Steph. Illust., Mand.*, iv., 140.

On the Links, near South Shields, occasionally; not unfrequent. March—April.

264. *POLYDRUSUS*, Germ.1. *P. UNDATUS*, Fab.

*Steph. Illust., Mand.*, iv., 144.

In woods, &c., common. May—September.

Specimens sometimes occur without bands on the elytra.

2. *P. MICANS*, Fab.

*Steph. Illust., Mand.*, iv., 144.

On hazels and oaks; Axwell, Winlaton Mill, Swalwell, Gibside, Prudhoe. May—June.

It deposits its eggs in a pouch formed of the leaves of the hazel.—J. H.

3. *P. PTERYGOMALIS*, Schönk.

Walton, in *Ann. and Mag. Nat. Hist.*, xvii., 17.—Curculio flavipes, Marsh. *Ent. Brit.*, i., 311.

On hazel, not unfrequent; Gibside and Axwell.—T. J. B. In the woods above Swalwell.—J. H. May.

4. *P. CERVINUS*, *Linn.**Steph. Illust., Mand., iv., 183.*

"Twizell."—*P. J. Selby, Esq.* Axwell, Swalwell, and Gibside.  
May and June.

DIVISION 2. *CLEONIDES*, *Schönh.*265. *CLEONUS*, *Schönh.*1. *C. SULCIROSTRIS*, *Linn.**Steph. Illust., Mand., iv., 155.*

On thistles, sandy sea-coasts. Bamborough, Shoreston, Hartley,  
South Shields, and Hartlepool. April—September.

The second brood appears about the end of July.—*Mr. A. Hancock.*

266. *LIOPHLEUS*, *Germ.*1. *L. NUBILUS*, *Fab.**Steph. Illust., Mand., iv., 112.*

Among thick herbage in woods; not uncommon. June—  
July.

267. *BARYNOTUS*, *Germ.*1. *B. OBSCURUS*, *Fab.**Merionus obscurus, Steph., Illust., Mand., iv., 111.*

Under stones, abundant.

This is a very abundant and destructive species, coming abroad  
towards evening, and destroying many of the choicest flowers of  
the florist, such as the polyanthus, auricula, pansy, &c.; it has  
also been seen to eat the foliage of beans, clover, and *Ranunculus*  
*repens*.

It would appear to be very tenacious of life, as I often find  
living specimens which have been much mutilated; frequently  
wanting legs and antennæ; and one that I swept into my net,  
had lost the whole of its abdomen, yet was quite active.—*T. J. B.*

2. *B. MÆRENS*, *Fab.**Merionus elevatus, Steph. Illust., Mand., iv., 111.*

Damp, shady bottoms. "Twizell."—*P. J. Selby, Esq.*  
"Durham."—*Ornsby's Durham.* Marsden.—*T. J. B.* Axwell,

Gibside, Swalwell, and banks of the Team.—*J. H. Tunstall Hill*.—*Mr. W. Peacock*.

It is sometimes very destructive to auriculas and polyanthuses, by cutting off the plants by the neck, and nibbling the leaves.

268. *TROPIPHORUS*, *Schönh.*

1. *T. MERCURIALIS*, *Fab.*

*Barynotus Mercurialis*, *Steph. Illust., Mand.*, iv., 110.—*B.*

*Terricola*, *Newm. Ent. Mag.*, v., p. 173.

In meadows, and on the borders of shady woods, common. April—September.

It feeds on various herbaceous plants, and sometimes nibbles the flowers of the gardener, about the roots of which it lurks during the day. It has also been met with on the flowers of *Tussilago Farfara* and *Antennaria dioica*.

269. *ALOPHUS*, *Schönh.*

1. *A. TRIGUTTATUS*, *Fab.*

*Steph. Illust., Mand.*, iv., 109.

Common in meadows. May—September.

DIVISION 3. *MOLYTIDES*, *Schönh.*

270. *HYLOBIUS*, *Germ.*

1. *H. ABIETIS*, *Linn.*

*Steph. Illust., Mand.*, iv., 107.

In fir, woods, common. July.

271. *LEIOSOMA*, *Kirby.*

1. *L. OVATULA*, *Clairv.*

*L. punctata*, *Steph. Illust., Mand.*, iv., 106.

On *Ranunculus repens*, common. Feb.—Sept.

272. *LIMBIUS*, *Schönh.*

1. *L. DISSIMILIS*, *Gyll.*

*Rhynchænus dissimilis*, *Gyll. Ins. Suec.*, iii., 116.—*Hypera fulvipes*, *Steph. Illust., Mand.*, iv., 98.

On *Geranium sanguineum*, on the Links, near Hartlepool.—*J. H. Castle Eden Dean*.—*Mr. T. Pigg.* On *Geranium sanguineum*, on the Links, near Blyth, in July.—*T. J. B.*

Walton (*Ann. and Mag. Nat. Hist.*, 2nd Ser., i., 300), on the authority of Mr. S. Stevens, erroneously gives Newcastle, as the locality for my specimens. *Geranium sanguineum* abounds on the Links between Beadnell and Tuggal, but I have looked for the insect there in vain.—J. H.

## 273. HYPERA, Germ.

## 1. H. PUNCTATA, Fab.

*Steph. Illust., Mand.*, iv., 92.

In fields, but sparingly distributed. Twizell, Long Benton, Whitley, Gibside, Homildon Heugh. June—Sept.

## 2. H. POLYGONI, Linn.

*Steph. Illust., Mand.*, iv., 93.

"Twizell."—P. J. Selby, Esq. Near Bamborough Castle.—J. H.

The larva feeds on the seeds of the spurrey (*Spergula arvensis*), of the common chickweed (*Stellaria media*), and of the ragged robin (*Lychnis Flos-cuculi*), the neat yellowish reticular globular cocoon is suspended upon various plants. The perfect insect is probably a general feeder. In gardens, it commits great ravages on the foliage of the sweet William (*Dianthus barbatus*).—J. H.

## 3. H. RUMICIS, Linn.

*Steph. Illust., Mand.*, iv., 95.

"Durham."—Ornsby's Durham Morpeth.—Mr. John Scott.

The larva feeds upon the leaves of the dock (*Rumex obtusifolius*). The rust-tinted cocoon is attached to the flowering tops of the plant, as was long since remarked by Ray, (*Hist. Insectorum*, 85).

## 4. H. NIGRIROSTRIS, Fab.

*Steph. Illust., Mand.*, iv., 98.

In meadows, and on sandy sea-coasts. Common. March—Sept.

## 5. H. PLANTAGINIS, De Geer.

*Steph. Illust., Mand.*, iv., 99.

"Twizell."—P. J. Selby, Esq. Sea banks, near South Shields.—T. J. B. Budle Crag, near Wooler, and Langleyford.—J. H.

I once received numerous recently developed specimens from a hay loft in Newcastle.—*T. J. B.*

6. *H. VARIABILIS*, *Herbst.*

*Steph. Illust., Mand., iv., 101.*

Somewhat sparingly distributed. "Twizell."—*P. J. Selby, Esq.* Abundant on Trefoil, in a field, near Gibside; South Shields, Dunston, Gateshead Fell, &c.

7. *H. SUSPICIOSA*, *Herbst.*

*H. Miles, Steph. Illust., Mand., iv., 102.*—*H. pedestris, Ib. l.c.*

Not very frequent. Long Benton, Heaton, Dunston, Gibside, Greencroft, &c.

Mr. Selby (*Ann. and Mag. Nat. Hist.*, iii., 369,) gives *H. Pollux*, *H. murina*, and *H. elongata*, amongst the insects occurring near Twizell. Walton, however, having shown that Stephens's insects are not the true species designated by these names, they are omitted until further examined.

DIVISON 4. PHYLLOBIDES, *Schönh.*

274. PHYLLOBIUS, *Schönh.*

1. *P. CALCARATUS*, *Fab.*

*Steph. Manual*, No. 1956.—*P. Pyri, Steph. Illust., Mand., iv., 147.*—*P. cæsius, Ib. l.c.*

Common in woods, on the alder, hazel, and birch.

2. *P. ALNETI*, *Fab.*

*Steph. Illust., Mand., iv., 148.*

Among nettles, near hedge-rows. "Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.* Near Dunston and Gibside.—*J. H.* June.

3. *P. PYRI*, *Linn.*

*P. Mali, Steph. Illust., Mand., iv., 149.*

On elms, willows, and other trees, and among herbage; common. May—June.

4. *P. ARGENTATUS*, *Linn.*

*Steph. Illust., Mand., iv., 148.*

On trees and shrubs; very common. May—June.

5. *P. MACULICORNIS*, *Germ.**Steph. Illust., Mand., iv., 148.*

"Twizell."—*P. J. Selby, Esq.* On birch, in a haugh, opposite the monument at Gibside.—*J. H.* Near Morpeth.—*Mr. G. B. Richardson.* Bothall.—*T. J. B.* June—July.

6. *P. OBLONGUS*, *Linn.**Nemoicus oblongus, Steph. Illust., Mand., iv., 146.*

On hedges, fruit trees, and in woods; frequent. May—Sept.

7. *P. POMONÆ*, *Oliv.*

*Steph. Illust., Mand., iv., 149.*—*P. uniformis, Ib. l.c.*—*P. albidus, Ib. l.c., 150.*

Among nettles, &c.; common. June—July.

8. *P. UNIFORMIS*, *Marsh.*

*P. parvulus, Steph. Illust., Mand., iv., 150.*—*P. minutus, Ib. l.c.*

Hedge banks, in dry soil. "Twizell."—*P. J. Selby, Esq.* Above Winlaton, and near Bamborough Castle.—*J. H.* Bothall, Gosforth, Long Benton, and elsewhere.—*T. J. B.* June—July.

9. *P. VIRIDICOLLIS*, *Fab.**Steph. Illust., Mand., iv., 151.*

Generally distributed, and found on a great variety of plants.

DIVISION 5. CYCLOMIDES, *Schönh.*275. *TRACHYPHLEUS*, *Schönh.*1. *T. SCABER*, *Linn.**T. tessellatus, Steph. Illust., Mand., iv., 121.*

One specimen, taken on Tunstall Hill, by Mr. R. Howse.—*T. J. B.*

2. *T. SCABRICULUS*, *Linn.**Steph. Illust., Mand., iv., 122.*

A single specimen on the sand at Marsden.—*J. H.* July.

276. OMIAS, *Germ.*1. O. HIRSUTULUS, *Fab.*

*Brachysomus hirsutulus*, *Steph. Illust., Mand.*, iv., 132.

"Twizell."—*P. J. Selby, Esq.* Under stones on Carr's Hill, near Gateshead; Gibside, fields above Swalwell, and on the summit of Homildon Heugh, near Wooler.—*J. H.* Sand banks near Sunderland.—*Mr. W. Peacock.*

2. O. BOHEMANI, *Schönh.*

*Walton, in Ann. and Mag. Nat. Hist.*, xix., 315.

Rare; in fields above Swalwell, opposite Axwell.—*J. H.* June.

3. O. SULCIFRONS, *Schönh.*

*Walton, in Ann. and Mag. Nat. Hist.*, xix., 447.

Under stones, in grassy places, on Belford Moor; and on Homildon Heugh, and Yeavinger Bell.—*J. H.* July.

DIVISION 6. OTIORHYNCHIDES, *Schönh.*277. OTIORHYNCHUS, *Germ.*1. O. SULCATUS, *Fab.*

*Steph. Illust., Mand.*, iv., 114.

"Twizell."—*P. J. Selby, Esq.* Occasionally found in Newcastle, having been brought from the south, amongst fruit.—*T. J. B.*

2. O. PICIPES, *Fab.*

*O. notatus*, *Steph. Illust., Mand.*, iv., 114.—*O. singularis*, *Ib., l.c.*, 115.

On plants and trees; common. June—August.

The larvæ of this and the preceding species are great pests to gardeners and florists, by gnawing the roots of plants; and the perfect insects make similar havoc of the foliage, flowers, and tender shoots.

3. *O. RUGIFRONS*, Gyll.

*Steph. Illust., Mand., iv., 115.*—*Curculio rugifrons*, Gyll.  
*Ins. Succ., iii., 319.*—*Otiorhynchus rugicollis*, *Steph. Illust.,*  
*Mand., iv., 120.*

On the sea-coast. "Twizell."—*P. J. Selby, Esq.* (perhaps from the coast at Bamborough). Marsden, and between that place and Whitburn; also at South Shields. April—May.

4. *O. OVATUS*, Linn.

*Steph. Illust., Mand., iv., 116.*

Common on the sea-coast. Occurring inland at Twizell, Gateshead Fell, Carr's Hill, near Gateshead; Homildon Heugh, Yeavinger Bell, and the vale below Langleyford.

5. *O. ATRO-APTERUS*, De Geer.

*Steph. Illust., Mand., iv., 117.*

On sandy links on the sea-coast; common.

Occasionally it resorts to thistles, or to *Cerastium tetrandrum*, but its principal fare appears to be the blades of the sea-reed (*Ammophila arundinacea*), the edges of which it pares neatly down by taking off repeated slices.

6. *O. SCABROSUS*, Marsh.

*Steph. Illust., Mand., iv., 119.*

Under stones, in dry grassy upland places. "Twizell."—*P. J. Selby, Esq.* Gateshead Fell, Budle Crag, and Yeavinger Bell.—*J. H.*

Towards evening, I have remarked it feeding on the foliage of milfoil (*Achillæa Millefolium*).—*J. H.*

7. *O. LIGNEUS*, Oliv.

*O. scabridus*, *Steph. Illust., Mand., iv., 119.*

Under stones, in dry grassy uplands. "Twizell."—*P. J. Selby, Esq.* Lobley Hill, vale below Langleyford, and Homildon Heugh.—*J. H.*

8. *O. MAURUS*, Gyll.

*Steph. Illust., Mand., iv., 120.*—*Curculio mauris*, Gyll. *Ins. Succ., iii., 293.*

Under stones, on and near the summit of Hedgehope, where bilberry (*Vaccinium Myrtillus*) grows, also a single dead specimen on the top of Yeavinger Bell, near a thicket of the same plant. I have similar specimens from the summit of Ben Lomond, presented by the Rev. W. Little.—*J. H.* July.

9. *O. RAUCOUS*, *Fab.*

*Steph. Illust., Mand., iv., 120.*

"Twizell."—*P. J. Selby, Esq.*

LEGION 2. MECORHYNCHI, *Schönh.*

DIVISION 1. ERIRHINIDES, *Schönh.*

278. *PISSODES*, *Germ.*

1. *P. PINI*, *Linn.*

*Steph. Illust., Mand., iv., 87.*

On bark of recently felled Scotch firs, Gosforth; two specimens were also taken on the pier at Sunderland.—*T. J. B.* At the roots of fir trees, Dinsdale wood.—*Mr. W. Peacock.* Gibside.—*Mr. T. Pigg.* Often found in timber yards near Newcastle.—*Mr. John Hancock.*

The male is generally smaller than the female, with the rostrum shorter, stouter, and, together with the thorax, more roughly punctured than in that sex.

In July, I dug out of a stump of Scotch fir, about an inch below the surface, a pale coloured specimen, which had evidently undergone its transformations in the cavity where it was found.

This species is occasionally found in timber-yards, and at our sea-ports; most probably brought from inland localities on the unbarked young pine trees (which are extensively used for supporting the roof in the workings of collieries), and not in foreign timber, which generally comes to this country without the bark, and squared.—*T. J. B.*

279. *MAGDALIS*, *Germ.*

1. *M. CARBONARIA*, *Linn.*

*Steph. Illust., Mand., iv., 162.*—*Curt. Brit. Ent., pl. 212.*

This occurs in a Newcastle collection, and is said to have been taken near Gibside.

2. *M. ATERRIMA*, *Fab.**Steph. Illust., Mand., iv., 163.*

Rather unfrequent. May—June.

At Gibside, I found it constantly on the leaves of the elm (*Ulmus montana*), adhering firmly to the under surface.—*J. H.*On the trunks of recently felled elm trees, near Bothall, in July. A good many pairs were in copula; and some of the larger specimens, most probably females, had the rostrum buried to its base in the bark. Some older trees, lying near, had evidently served as a breeding place for a former brood.—*T. J. B.*280. *NOTABIS*, *Germ.*1. *N. ACRIDULUS*, *Linn.**Steph. Illust., Mand., iv., 82.*

Among herbage and rubbish, in damp places; common.

2. *N. BIMACULATUS*, *Fab.**Steph. Illust., Mand., iv., 82.*"Twizell."—*P. J. Selby, Esq.*281. *PROCAS*, *Steph.*1. *P. PICIPES*, *Marsh.**Steph. Illust., Mand., iv., 91.*"Twizell."—*P. J. Selby, Esq.*282. *DORYTOMUS*, *Germ.*1. *D. LONGIMANUS*, *Forst.**D. vorax*, *Steph. Illust., Mand., iv., 82.*Under the bark of the osier (*Salix viminalis*), on the banks of Team, near Ravensworth Castle, in January.—*J. H.*The *Curculio longimanus* of Fabricius (*Syst. El., ii., 519*) is a Brazilian insect.2. *D. TORTRIX*, *Linn.**Steph. Illust., Mand., iv., 83.*"Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.*3. *D. MELANOPHTHALMUS*, *Payk.**Steph. Illust., Mand., iv., 84.*"Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.*On willows; Gibside and Gosforth. June—July.—*T. J. B.*

4. *D. MAJALIS*, Payk.

*Steph. Illust., Mand.*, iv., 86.

"Twizell."—*P. J. Selby, Esq.* "Castle Eden Dean."—*Rev. W. Little, (Ornsby's Durham, 204.)*

5. *D. AGNATHUS*, Dahl.

*Walton, Ann. Nat. Hist.*, second series, vii., 315.—*Eriirhinus agnathus, Schönh., Gen. et Spec. Curc.*, vii., pars. 2, 174.

On willows, near Axwell Park.—*T. J. B.*

6. *D. MACULATUS*, Marsh.

*Curculio maculatus, Marsh. Ent. Brit.*, i., 292.

On the sallow (*Salix caprea*) in summer, and in interstices of the bark during winter. Washington, Swalwell, Axwell, and above Winlaton Mill. This is the *D. validirostris* of *Ornsby's Durham*, found in "Castle Eden Dean."

7. *D. TÆNIATUS*, Fab.

*Steph. Illust., Mand.*, iv., 86.

"Castle Eden Dean."—*Ornsby's Durham, 204.*

The Rev. W. Little contributed most of the localities to the work cited, and his specimens represent the insect which is at present considered as *D. tæniatus*.—*J. H.*

283. *ERIRHINUS*, Schönh.1. *E. NEREIS*, Payk.

*Steph. Illust., Mand.*, iv., 77.—*Var. E. Arundineti, Steph.*

*Illust., Mand.*, iv., 80.—*Inquisitor, Ib. l.c.*

"Twizell."—*P. J. Selby, Esq.*

284. *GRYPIDIUS*, Schönh.1. *G. EQUISETI*, Fab.

*Steph. Illust., Mand.*, iv., 78.

"Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.*

Sea-coast, near Cullercoats; Axwell, Gibside, and on the sides of the Carlisle Railway, above Dunston. June.

285. HYDRONOMUS, *Schönh.*1. H. ALISMATIS, *Marsh.**Steph. Illust., Mand., iv., 77.*

"Twizell."—*P. J. Selby, Esq.* On *Alisma plantago*, in a pond, on the sea-coast, near Whitburn.—*J. H.* July.

286. ELLESCUS, *Germ.*1. E. BIPUNCTATUS, *Linn.**Steph. Illust., Mand., iv., 103.*

"Twizell."—*P. J. Selby, Esq.*

This insect frequents *Salix aurita* in August.—*J. H.*

287. ANTHONOMUS, *Germ.*1. A. POMORUM, *Linn.**Steph. Illust., Mand., iv., 73.—Curt. Brit. Ent., pl. 562.*

Long Benton.—*T. J. B.*

"The larvæ were found on the 8th of May, in pear and apple blossoms, eating out the whole inside, and leaving only the petals and calyx: they were observed to be in pupæ, on the 21st, and on the 25th, they hatched."—*Curtis.*

2. A. ULMI, *De Geer.**Steph. Illust., Mand., iv., 74.*

Gibside and Long Benton. July.—*T. J. B.*

Curtis remarks that this species "inhabits the elm, in buds of which tree the larvæ live."

3. A. PEDICULARIUS, *Linn.**Steph. Illust., Mand., iv., 75.—A. fasciatus, Ib. l.c., 74.*

"Twizell."—*P. J. Selby, Esq.* In the flowers and on the leaves of the white thorn; Swalwell, Dunston, and Ravensworth woods.—*J. H.* May—June.

In spring, it is occasionally found under the bark of trees.

4. A. RUBI, *Herbst.**Steph. Illust., Mand., iv., 76.—A. ater, Ib. l.c., 75.—A.*

*obscurus, Ib. l.c.—A. clavatus, Ib. l.c., 76.*

Common.

At South Shields and Hartlepool, the large variety frequents thickets of dwarf *Rosa spinosissima*; the dwarf variety is that which is most frequent in inland localities. At the foot of Hedgehope, it occurred on the raspberry (*Rubus idæus*).—*J. H.*

288. *BALANINUS*, *Germ.*1. *B. VILLOSUS*, *Herbst.*

*Steph. Illust., Mand., iv., 69.*

On the hazel, above Swalwell; and in the woods, above Winlaton Mill.—*J. H.* Near Axwell.—*Mr. T. Pigg.* Morpeth.—*Mr. J. Scott.* June.

2. *B. BRASSIÆ*, *Fab.*

*B. Salicivorus, Steph. Illust., Mand., iv., 71.*

On willows, not unfrequent.

Early in January, I observed large numbers, that had undergone their transformations, under the bark of a decayed osier (*Salix viminalis*), which was lying in a ditch, near Dunston. Several were still pitchy or rufescent.—*J. H.*

289. *MICCOTROGUS*, *Schönh.*1. *M. CINERASCENS*, *Marsh.*

*Gyll. Ins. Suec., iv., 573.—Steph. Illust., Mand., iv., 57.*

One specimen found on the coast, near Marsden, on the 23rd of February.—*J. H.*

290. *ANOPLUS*, *Schönh.*1. *A. PLANTARIS*, *Noëén.*

*Steph. Illust., Mand., iv., 52.*

On alders and birch. Common. May—July.

"Habitat in Betulæ et Alni foliis, sat frequens; tarde saliens."—*Gyllenhal.*

291. *ORCHESTES*, *Illiger.*1. *O. QUERCUS*, *Linn.*

*Steph. Illust., Mand., iv., 59.*

On oaks. "Twizell."—*P. J. Selby, Esq.* Gosforth.—*T. J. B.* Ravensworth woods.—*J. H.* Morpeth.—*Mr. J. Scott.* May—June.

The larva, as has been frequently remarked, mines the leaves of the oak, and is transformed into the pupa and imago, within the withered blotch, which its operations have occasioned. The autumnal brood is much paler than that which appears in spring. Some individuals hibernate under bark, or in decayed wood.—*J. H.*

2. *O. SCUTELLARIS*, *Fab.*

*Steph. Illust., Mand., iv., 59.*

One specimen on the alder, in a small wood at the northern base of Yeavinger Bell, in Glendale.—*J. H.* July.

3. *O. FAGI*, *Linn.*

*Steph. Illust., Mand., iv., 62.*

On the foliage of the beech, abundant.

4. *O. BIFASCIATUS*, *Payk.*

*Steph. Illust., Mand., iv., 64.*—*O. Rusci*, *Steph. Manual*, No. 1801.

Gosforth.—*T. J. B.* Wood, near Yeavinger Bell.—*J. H.* May—July.

Gyllenhal mentions the birch as its favourite tree. We always find it in thickets of *Salix aurita*, whence it strays upon oaks and other trees.

292. *TACHYERGES*, *Schönh.*

1. *T. CAPREÆ*, *Fab.*

*T. Salicis*, *Steph. Illust., Mand., iv., 66.*

On *Salix aurita*, *S. cinerea*, and *S. caprea*; common. June—July.

2. *T. STIGMA*, *Germ.*

*Steph. Illust., Mand., iv., 67.*

On willows and hazel. Gibside.—*T. J. B.* Above Swalwell and Winlaton Mill.—*J. H.* June—July.

3. *T. SALICETI*, *Fab.*

*Steph. Illust., Mand., iv., 66.*

On willows. "Twizell."—*P. J. Selby, Esq.* "On willows, in the Pelaw Leazes, in August."—*Rev. W. Little*, (*Ornsby's Durham*,

204.) Above Dunston and Swalwell, and on the Wear above Southwick.—*J. H.*

293. ORTHOCHÆTES, *Müller.*

1. *O. SETIGER*, *Germ.*

*Steph. Illust., Mand., iv., 90.*

"Twizell."—*P. J. Selby, Esq.* "Sandy places," near Durham.—*Mr. T. J. Bungey, (Ornsby's Durham, 204.)*

DIVISION 2. CRYPTORHYNCHIDES, *Schönh.*

294. CRYPTORHYNCHUS, *Illiger.*

1. *C. LAPATHI*, *Linn.*

*Steph. Illust., Mand., iv., 46.*

On willows. "Twizell."—*P. J. Selby, Esq.* Near Axwell Park.—*T. J. B.* Winlaton Mill.—*J. H.* June.

*Mr. Selby* remarks that *C. Lapathi* has only once occurred at Twizell House. "The larvæ were found in the stem of a black poplar, and were first detected by the saw-dust produced by the the grub, and which was observed protruding from the holes in the bark of the tree."—(*Ann. and Mag. Nat. Hist., iii., 361.*)

295. PACHYRHINUS, *Kirby.\**

1. *P. COMARI*, *Herbst.*

*Steph. Illust., Mand., iv., 50.*—*Curt. Brit. Ent., pl. 558.*

On *Comarum palustre*, at Prestwick Car, in July.—*T. J. B.*

2 *P. LEUCOGASTER*, *Marsh.*

*Steph. Illust., Mand., iv., 50.*—*Rhynchænus Myriophylli, Gyll. Ins. Suec., iii., 152.*

"Taken on the water-dock, at Newcastle, by *Mr. Wailes.*"—*Curt. Brit. Ent., fol. 558.* Boldon Flats and Prestwick Car.—*T. J. B.*

The statement of its occurrence on the water-dock appears to be a mistake, as it occurs among *Myriophyllum spicatum*, and other aquatic herbage.

\* This genus is the *Phytobius* of Schmidt.

3. *P. QUADRITUBERCULATUS*, *Fab.*

*Rhinonchus* 4-tuberculatus, *Steph. Illust., Mand.*, iv., 43.

Somewhat uncommon. Three specimens taken near Long Benton, and one at Gosforth.—*T. J. B.* Gibside, and Wooler Haugh.—*J. H.* May—July.

296. *CÆLIODES*, *Schönh.*1. *C. GERANII*, *Payk.*

*Ceutorhynchus* *Geranii*, *Steph. Illust., Mand.*, iv., 24.

"Twizell."—*P. J. Selby, Esq.* On *Geranium sylvaticum*, between Winlaton Mill and Axwell Park, and at Gibside; on *G. sylvaticum*, at Hartlepool. June.

The larva feeds in the seed pods of the *Gerania*, and the perfect insect shatters the leaves.

2. *C. QUERCUS*, *Herbst.*

*Ceutorhynchus* *Quercus*, *Steph. Illust., Mand.*, iv., 21.

On oaks; Gosforth, Axwell, Gibside, Swalwell, Morpeth. May—June.

3. *C. RUBER*, *Marsh.*

*Ceutorhynchus* *ruber*, *Steph. Illust., Mand.*, iv., 22.—*C. rufirostris*, *Ib. l.c.*, 23.

With the preceding, in the woods at Gibside, and near Winlaton Mill.

4. *C. RUBICUNDUS*, *Payk.*

*Ceutorhynchus* *rubicundus*, *Steph. Illust., Mand.*, iv., 23.

"Twizell."—*P. J. Selby, Esq.* Gosforth.—*T. J. B.* August. Gibside.—*J. H.* June.

This species frequents the birch.

5. *C. DIDYMUS*, *Payk.*

*Ceutorhynchus* *didymus*, *Steph. Illust., Mand.*, iv., 24.

On nettles. Common.

6. *C. GUTTULA*, *Fab.*

*Ceutorhynchus* *guttula*, *Steph. Illust., Mand.*, iv., 25.

"Twizell."—*P. J. Selby, Esq.* Links at South Shields.—*J. H.* Long Benton.—*T. J. B.* Morpeth.—*Mr. J. Scott.* March—May.

297. CEUTHORHYNCHUS, *Schörrh.*1. *C. SUBCICOLLIS*, *Payk.*

*Steph. Illust., Mand., iv., 26.*

Common, on the flowers and leaves of Cruciferous plants.

The larva inhabits a tubercular gall, on the roots of turnips, cabbages, &c.

2. *C. ASSIMILIS*, *Payk.*

*Nedyus assimilis, Steph. Illust., Mand., iv., 28.*

Common, on the flowers of turnips and other Cruciferae.

Both larva and perfect insect are very hurtful to the growth of turnip seed; the former pierces the pod with its snout, and extracts the substance from the seeds—the latter dwells in its interior and devours them.

3. *C. ERYSIMI*, *Payk.*

*Nedyus Erysimi, Steph. Illust., Mand., iv., 28.*—*N. chloropterus, Ib. l.c., 29.*

"Twizell."—*P. J. Selby, Esq.* Long Benton and Washington.—*T. J. B.* On *Cardamine amara*, in Ravensworth woods; and on the banks of the Derwent, above Winlaton Mill.—*J. H.* Feb.—May.

4. *C. CONTRACTUS*, *Marsh.*

*Nedyus contractus, Steph. Illust., Mand., iv., 29.*

On the flowers and young leaves of the Cruciferae; frequent.

The larva, in its earliest state, is probably a miner in the leaves and stalks of turnips, cabbages, &c., (See my *Essay on the Insects Injurious to the Turnip Crop*, 20. Edin. 1849.) The perfect insect is often very obnoxious to the cultivator, by nibbling and perforating the cotyledons of turnips, cabbages, radishes, &c. In some seasons, after the March winds, it occurs in vast profusion on the sandy coast at South Shields.—*J. H.*

5. *C. NIGRINUS*, *Marsh.*

*Nedyus nigrinus, Steph. Illust., Mand., iv., 29.*—*Rhynchænus depressicollis, Gyll. Ins. Suec., iii., 147.*

On the water-cress (*Nasturtium officinale*), in Wooler Haugh.—*J. H.* July.

6. *C. FLORALIS*, Payk.

*Nedyus floralis*, *Steph. Illust., Mand.*, iv., 30.

"Twizell."—*P. J. Selby, Esq.* Above Winlaton Mill.—*J. H.* August.

7. *C. PYRRHORHYNCHUS*, Marsh.

*Nedyus pyrrhorhynchus*, *Steph. Illust., Mand.*, iv., 31.

On flowers, near the Spa well, Axwell.—*T. J. B.* Ryhope Dean.—*Mr. W. Peacock.* June.

8. *C. MELANARIUS*, Kirby.

*Nedyus melanarius*, *Steph. Illust., Mand.*, iv., 31.

"Durham."—*Ornsby's Durham.*

9. *C. ERICÆ*, Gyll.

*Rynchænus Ericæ*, *Gyll. Ins. Suec.*, iii., 147.—*Nedyus Ericæ*, *Steph. Illust., Mand.*, iv., 33.

On heath (*Calluna vulgaris*), at Gosforth and Prestwick Car.—*T. J. B.* At Prestwick Car, I found it on *Erica Tetralix*; on Hedgehope it frequents the *Calluna vulgaris*, and is distributed from the base to near the summit.—*J. H.* June—August.

10. *C. OVALIS*, Linn.

*Nedyus ovalis*, *Steph. Illust., Mand.*, iv., 33.—*Rynchænus litura*, *Gyll. Ins. Suec.*, iii., 222.

On thistles; South Shields, Marsden, Gibside, &c. July—August.

11. *C. POLLINARIUS*, Forst.

*Nedyus pollinarius*, *Steph. Illust., Mand.*, iv., 34.

On nettles; common. June—Sept.

12. *C. BORAGINIS*, Payk.

*Nedyus Boraginis*, *Steph. Illust., Mand.*, iv., 34.

Long Benton, rare.—*T. J. B.* On the water-cress, at Budle and Wooler Haugh.—*J. H.* May—July.

13. *C. RUGULOSUS*, Herbst.

*Nedyus rugulosus*, *Steph. Illust., Mand.*, iv., 35.

One specimen, from the Links at South Shields.—*J. H.*

14. *C. ASPERFOLIARUM*, Kirby.

*Nedyus asperfoliarum*, *Steph. Illust., Mand.*, iv., 37.

Near Walbottle Dean, 11th May, 1827.—*Mr. A. Hancock*.

15. *C. ECHII*, Fab.

*Nedyus echii*, *Steph. Illust., Mand.*, iv., 38.

On viper's bugloss (*Echium vulgare*); Wooler Haugh.—*J. H.* July.

16. *C. HORRIDUS*, Panz.

*Nedyus horridus*, *Steph. Illust., Mand.*, iv., 38.

One specimen, on a thistle; banks below Westoe, 24th July, 1826.—*Mr. A. Hancock*.

*Mr. Hancock* remarks, that when he caught this, it made a squeaking noise.

17. *C. TROGLODYTES*, Fab.

*Nedyus troglodytes*, *Steph. Illust., Mand.*, iv., 39.

Grassy places; common. April—Aug.

18. *C. MARGINATUS*, Payk.

*Nedyus marginatus*, *Steph. Illust., Mand.*, iv., 39.

Gibside.—*T. J. B.* Prestwick, fields above Swalwell, Ravensworth, and near Marsden.—*J. H.* May—June.

According to Gyllenhal, it frequents the clovers by preference.

298. *POOPHAGUS*, Schönh.1. *P. SISYMBRII*, Fab.

*Nedyus sisymbrii*, *Steph. Illust., Mand.*, iv., 27., pl. xx., f. 2.

On the water-cress (*Nasturtium officinale*), at Wooler Haugh.—*J. H.* July.

An excellent and graceful swimmer.

299. *RHINOCUS*, Schönh.1. *R. PERICARPIUS*, Linn.

*Steph. Illust., Mand.*, iv., 40.

Widely distributed. Twizell, Gosforth, Long Benton, Ouseburn Dean, Gibside, Prudhoe, Wooler. June—July.

Gyllenhal states that it is very fond of the dock, and that it commits great depredations on its foliage.

2. *R. TIBIALIS*, Steph.

*Steph. Illust., Mand., iv., 41.*

Not rare, at Gosforth.—*T. J. B.* Ravensworth, and above Winlaton Mill.—*J. H.* June—August.

3. *R. CASTOR*, Fab.

*Steph. Illust., Mand., iv., 41.*

Gibside.—*J. H.* June.

4. *R. INCONSPICUUS*, Herbst.

*Rhynchænus inconspicuous*, *Gyll. Ins. Suec., iii., 158.*—

*Rhinonchus canaliculatus*, *Steph. Illust., Mand., iv., 43.*

Rare; Prestwick Car. July.—*T. J. B.*

Gyllenhal mentions it as occurring on *Polygonum amphibium*, which it often entirely destroys.

300. *OROBITUS*, Germar.

1. *O. CYANEUS*, Linn.

*Steph. Illust., Mand., iv., 21.*

"Castle Eden Dean."—*G. Wailes, Esq., (Ent. Mag., i., 41.)*—Near Axwell.—*T. J. B.* June.

I have many times reared the perfect insect from the white larva, enclosed within the pericarps of the dog violet (*Viola canina*).—*J. H.*

DIVISION 3. *CIONIDES*, Schönh.

301. *CIONUS*, Clairville.

1. *C. SCROPHULARIÆ*, Linn.

*Steph. Illust., Mand., iv., 17.*

*On Scrophularia nodosa*; common. June—July.

The slimy slug-like larvæ inhabit the leaves of the *Scrophularia*, to which, as well as to the stems and flower stalks, the round, bladdery brown cocoons are agglutinated. The manner in which the cocoon is constructed is described by Huber, in the "*Mémoires de la Société de Physique et d'Hist. Nat. de Genève*,"

1843-4. Our countryman, Ray, was, perhaps, the first who described its transformations.—(See his *Hist. Ins.*, 86.)

2. C. BLATTARIA, *Clairv.*

*Steph. Illust., Mand.*, iv., 18.

"Durham."—*Ornsby's Durham.*

The pale green glutinous larva feeds on the leaf of *Scrophularia nodosa*.

302. CLEOPUS, *Megerle.*

1. C. PULCHELLUS, *Herbst.*

*Steph. Illust., Mand.*, iv., 19.

On *Scrophularia nodosa*. Common, in the immediate vicinity of Newcastle; as at Dunston, above Winlaton Mill, &c. May—June.

303. GYMNETRON, *Schönh.*

1. G. NIGER: *Niger, nitidus, parce cinereo-pubescent, thoracis lateribus pectoreque albido-squamosis, antennarum basi ferruginea, elytris plerumque pedibusque concoloribus.*  
Long. 1—1½ lin.

*Gymnetron niger*, *Walton MSS.*?—*Rhynchænus Beccabungæ*, var. e., *Gyll. Ins. Suec.*, iii., 123.

Of the same shape, but smaller, and much less pubescent than *G. Beccabungæ*; black, shining; rostrum on the upper part, and the crown with a slight, short, pale grey pubescence; antennæ ferruginous, or rufopiceous at the base, the club black; thorax, with a faint longitudinal ridge along the middle, thickly punctate, with a thickish, pale greyish, white scaliness on the sides and breast, and the fore and hinder margin also somewhat pale greyish, the disk nearly glabrous, and shining; elytra moderately broad, and but slightly convex, black, shining, the tip sometimes ferruginous, with a dash of the same tint on each elytron, distinctly punctate-striate, the interstices thickly punctulate, with a short inconspicuous ashy pile, somewhat disposed in lines; sides beneath with thickish, light greyish, white scales; legs black, the tarsi and the base of the tibiæ, sometimes piceous.

On *Veronica Anagallis*; at Gosforth, and one specimen from

Shotley Bridge.—*T. J. B.* Not uncommon at Wooler Haugh, and by the side of the turnpike, near Weetwood Bridge.—*J. H.* July.

Specimens of the insect were sent from London, by Mr. S. Stevens, as the *G. niger* of Walton.

2. *G. TRICOLOR*, *Marsh.*

*Rhinusa tricolor*, *Steph. Illust., Mand.*, iv., 15.

In meadows; Gosforth, Cleadon, Axwell, and Gibside.—*T. J. B.* Above Swalwell, near Prestwick Car, and on the Wear, below Hylton Castle.—*J. H.* Morpeth.—*Mr. John Scott.* June—July.

It occurs most frequently where the ribwort plantain (*Plantago lanceolata*) grows. On the Continent, it is better known as the *G. labilis* = *Curc. labilis*, *Herbst.*

304. *MECINUS*, *Germer.*

1. *M. SEMICYLINDRICUS*, *Marsh.*

*Steph. Illust., Mand.*, iv., 12.

In meadows and old pastures; common. Feb.—Aug.

The larva inhabits a long green, or reddish gall, on the flower-stalk of *Plantago media*, where its transformations likewise take place. Neither this genus nor the preceding, it may be remarked, appears to have a close affinity with *Cionus* and *Cleopus*.—*J. H.*

DIVISION 4. RHYNOPHORIDES, *Schönh.*

305. *CALANDRA*, *Clairv.*

1. *C. GRANARIA*, *Linn.*

*Steph. Illust., Mand.*, iv., 9.

In granaries; abundant.

‡2. *C. ORYZÆ*, *Fab.*

*Steph., Illust., Mand.*, iv., 9, note.

Frequently imported in rice, but it appears to live only for a short time after reaching this country. I have seen a parcel of foreign wheat, in which it was breeding freely; both larva and perfect insect being in great numbers.—*T. J. B.*

DIVISION 5. COSSONIDES, *Schönh.*306. BARIDIUS, *Schönh.*1. B. T-ALBUM, *Linn.*

Baris Atriplicis, *Steph. Illust., Mand., iv., 10.*

Boggy places; Prudhoe, Gibside, Morpeth, Budle Crag, Belford Moor, &c. July.

FAMILY 4. SCOLYTIDÆ, *Westw.*307. HYLASTES, *Erichson.*1. H. ATER, *Fab.*

*Steph. Illust., Mand., iii., 363.*

Beneath bark of felled Scotch pine; common.

2. H. ANGUSTATUS, *Herbst.*

*Steph. Illust., Mand., iii., 364.*

Along with the preceding, and equally numerous.

3. H. RUFUS, *Marsh.*

*Steph. Illust., Mand., iii., 365.*

"Twizell."—*P. J. Selby, Esq.*

4. H. PICEUS, *Marsh.*

*Steph. Illust., Mand., iii., 365.*

About one-third less than *H. angustatus*; narrow, short, fuscous black, faintly shining, head black, thickly, and somewhat finely punctate; thorax rather longer in proportion than in *H. angustatus*, and considerably more thickly and finely punctate, rather shining, with a scanty, short, griseous pubescence, a fine, slightly raised keel down the middle, evanescent anteriorly, and not quite reaching the base, the anterior margin slightly reddish; elytra narrow, cylindric, a little wider than the base of the thorax, and concolorous with it, regularly punctate striate, the edges of the striæ somewhat sharply raised, interstices thickly rugulose punctate, shoulders slightly prominent, with a rufous tint, shortly griseous pubescent; under surface dark fusco-piceous; antennæ bright rufous; thighs pitchy, the tips rufous; tibiæ and tarsi rufescent. Length somewhat more than a line.—*J. H.*

One specimen in a fir wood, on Budle Crag. June.—*J. H.*

5. *H. RHODODACTYLUS*, *Marsh.**Steph. Illust., Mand., iii., 365.*

"Twizell."—*P. J. Selby, Esq.* Above Winlaton Mill, and at Prestwick Car.—*J. H.* June—July.

Both larva and perfect insect live between the bark and the wood of decayed broom and furze; their food appears to be the partially rotten wood, in which they cut out channels.

308. *DENDROCTONUS*, *Erichson.*1. *D. PINIPERDA*, *Linn.**Hylastes piniperda, Steph. Illust., Mand., iii., 363.*

Under the bark of felled Scotch pines, and perforating and eating up through the leading or side shoots of young trees; generally distributed. May—August.

309. *HYLESINUS*, *Fab.*1. *H. CRENATUS*, *Fab.**Steph. Illust., Mand., iii., 360.*

In bark of partially decayed ash trees; Heaton, Dunston, Gibside, Morpeth. June—October.

*H. crenatus* makes a brisk chirping noise, by rubbing the abdomen against the elytra. I frequently notice them in the evening, with the apex of their abdomen protruded from the orifice of their holes.—*T. J. B.*

2. *H. FRAXINI*, *Panz.**Steph. Illust., Mand., iii., 360.*

Under bark of felled ash trees; common.

3. *H. SERICEUS*, *Marsh.**Steph. Illust., Mand., iii., 361.*

Minute, narrow, subcylindric, pale fuscous, opaque, elytra paler; head piceo-fuscous, thickly and finely punctate; antennæ rufescent, the longish-ovate, moderately stoutish, club, slightly fuscous; thorax conic, considerably narrowed anteriorly, but moderately convex, a faint elevated longitudinal line from the hinder margin, till about the disk, closely and thickly covered with testaceous-cinereous scales, the anterior part and disk piceo-fuscous, the

hinder portion paler; abdomen not wider than the base of the thorax, and of about the same degree of convexity, pale fusco-ferruginous, with some scattered darker specks, thickly clothed with testaceo-cinereous scales, and regularly and distinctly striate, the interstices not elevated, with a short, stiff, griseous, somewhat scanty pubescence, body beneath black, shining, thickly and closely punctate; legs ferruginous, the thighs slightly fuscous. Length  $\frac{7}{8}$  line.

This does not quite agree with Stephens's and Marsham's descriptions, particularly where it is stated that the insect is "totus villis cinereis vestitus." Some of the incongruities may arise from the defective state of my specimens. The name I had attached to them was *H. pumilio*.

Two dead specimens, under the bark of elm paling, in a haugh, opposite to the monument at Gibside.—*J. H.*

### 310. TRYPODENDRON, *Stephens*.

#### 1. *T. DOMESTICUM*, *Linn.*

*Steph. Illust., Mand., iii., 354.*

Rather abundant, under the bark of felled beeches, in a state of partial decay, in a small angle of wood on the south bank of the Derwent, nearly opposite to Axwell Spa Well. Two specimens have also occurred in the Ravensworth woods, one of which was found beneath the bark of a rotten branch of oak. The wood of the beeches was perforated with holes, resembling those of the *Anobia*, which were probably formed by this insect.—*J. H.* January—March.

### 311. TOMICUS, *Latreille*.

#### 1. *T. BIDENS*, *Fab.*

*Steph. Illust., Mand., iii., 357.*

Under bark of Scotch pine, and larch, particularly in the small juicy branches; Gosforth and Gibside.—*T. J. B.* Between Gibside and Winlaton Mill, on the south side of the Derwent.—*J. H.* May—August.

In addition to the pair of large decurved teeth, on the upper edge of the excavation, at the tip of the elytra in the male, there are two blunt teeth towards the apex, and on the sharp border of

the intervening space, a pair of tubercles on each side. In the triangular depression above the excavation, there is an additional pair of tubercles, above and within the decurved teeth.

This is evidently the *Bostrichus bidens*, of Gyllenhal, as appears from his description (*Ins. Suec.*, iii., 357, iv., 623); but it is distinct from a closely allied insect, found by the Rev. J. E. Dawson, in the twigs of *Clematis vitalba*, in the Isle of Wight, which Chevrolat regards as the true *T. bidens*.

The latter differs in the greater breadth of the retuse impression, in the straight short teeth at the apex, and in the thorax in front not being scabrous. If not already named, it may be designated *T. Clematidis*.

#### STIRPS 2. EUCERATA, *Westw.*

##### FAMILY 1. CERAMBYCIDÆ, *Leach.*

##### SUB-FAMILY 1. CERAMBYCIDES, *West.*

#### 312. CALLIDIUM, *Fab.*

##### 1. C. ALNI, *Linn.*

*Steph. Illust., Mand.*, iv., 249.—*Mulsant, Col. de France, Long.*, 45.

"Gibside."—*G. Wailes, Esq.*

#### 313. CLYTUS, *Fab.*

##### 1. C. ARIETIS, *Linn.*

*Steph. Illust., Mand.*, iv., 243.—*Mulsant, Col. de France, Long.*, 81.

Common, in the Newcastle district. "Twizell."—*P. J. Selby, Esq.*

##### 2. C. ARCUATUS, *Linn.*

*Steph. Illust., Mand.*, iv., 243. — *Platynotus arcuatus, Mulsant, Col. de France, Long.*, 73.

A specimen of this insect was caught by a boy, in a wood, between Bill Quay and Hebburn Quay, and brought to Mr. John Thornhill, schoolmaster, Bill Quay.

SUB-FAMILY 2. LAMIIDES, *Westw.*314. TETROPS, *Kirby.*1. T. PRÆUSTA, *Linn.**Steph. Illust., Mand., iv., 242.*"Gibside."—*G. Wailes, Esq.*315. SAPERDA, *Fab.*1. S. SCALARIS, *Linn.**Steph. Illust., Mand., iv., 239.*"Langle's Pastures, on the willow."—*Ornsby's Durham, 205.*316. PHYTÆCIA, *De Jean.*1. P. FERREA, *Schrank.**Saperda ferrea, Steph. Illust., Mand., iv., 239., pl. xxii., f. 1.*

On the flowers of the meadow-sweet, above Winlaton Mill.—

*J. H. June.*317. POGONOCHERUS, *Serville.*1. P. HISPIDUS, *Linn.**Steph. Illust., Mand., iv., 234.—Mulsant, Col. de France, Long., 159.*

Between Dunston and Ravensworth, and on the road between Dinnington and Prestwick Car.—*Mr. A. Hancock.* Beneath moss, on the limestone rock, near West Boldon, in April.—*Mr. John Hancock.* Ouseburn Dean.—*T. J. B.* Tunstall Hill.—*Mr. W. Peacock.* Walker; in August.—*Mr. Thomas Belt.*

318. LEIOPUS, *Serville.*1. L. NEBULOSUS, *Linn.**Steph. Illust., Mand., iv., 235.—Mulsant, Col. de France, Long., 150.*

On the flowers of *Angelica sylvestris*, &c., not unfrequent.  
June—July.

FAMILY 2. LEPTURIDÆ, *Leach.*319. RHAGIUM, *Fab.*1. R. INQUISITOR, *Linn.**Steph. Illust., Mand., iv., 254.—Mulsant, Col. de France, Long., 225.*

Not uncommon, in old woods.

Mr. Selby says that the larva lives upon the decayed trunk and roots of the birch; we have likewise found it in the alder. June—July.

2. *R. BIFASCIATUM*, *Fab.*

*Steph. Illust., Mand., iv., 254.*—*Mulsant, Col. de France, Long., 222.*

Common, in old woods.

The larva prefers the rotten fibre of the Scotch pine, though it is sometimes met with in decaying oaks.

320. *TOXOTUS*, *Megerle.*

1. *T. MERIDIANUS*, *Linn.*

*Steph. Illust., Mand., iv., 256.*—*Mulsant, Col. de France, Long., 234.*

"Castle Eden Dean, and Witton-le-Wear."—*G. Wailes, Esq.*  
"Castle Eden Dean, on umbelliferous plants."—*Mr. T. J. Bungey,*  
(*Ornsby's Durham, 205.*)

321. *STRANGALIA*, *Serville.*

1. *S. ELONGATA*, *De Geer.*

*Steph. Illust., Mand., iv., 257.*—*Leptura calcarata, Fab. Syst. El., ii., 363.*

On flowers of the meadow-sweet, and of umbelliferæ; Durham, Lamesley, Axwell, Winlaton Mill, Gibside, Shotley Bridge, Haydon Bridge. June—July.

322. *LEPTURA*, *Linn.*

1. *L. QUADRIFASCIATA*, *Linn.*

*Steph. Illust., Mand., iv., 209.* — *Strangalia 4-fasciata, Mulsant, Col. de France, Long., 252.*—*Leptura apicalis, Curt. Brit. Ent., pl., 362.*

"Gibside."—*G. Wailes, Esq.* "Near Newcastle."—*W. C. Hewitson, Esq.* "Twizell."—*P. J. Selby, Esq.* Near Axwell Park, and at Winlaton Mill.—*T. J. B.* June.

The larva, Mr. Selby remarks, lives upon the decayed trunk and roots of the birch.

2. *L. MELANURA*, *Linn.*

*Steph. Illust., Mand.*, iv., 261. — *Strangalia melanura*,  
*Mulsant, Col. de France, Long.*, 265.

"Gibside, Castle Eden Dean, &c.—*G. Wailes, Esq.*

323. *GRAMMOPTERA*, *Serville.*1. *G. LÆVIS*, *Fab.*

*Laptura lævis*, *Steph. Illust., Mand.*, iv., 263.

On the flowers of umbelliferæ; common in the Newcastle district. June—July.

2. *G. RUFICORNIS*, *Fab.*

*Leptura ruficornis*, *Steph. Illust., Mand.*, iv., 263.

On the flowers of whitethorn, holly, mountain-ash, and of umbelliferæ; common, in sheltered woods, near Newcastle. May—June.

324. *PACHYTA*, *Megerle.*1. *P. OCTOMACULATA*, *Fab.*

*Steph. Illust., Mand.*, iv., 266.

On the Guelder rose (*Viburnum Opulus*), and the flowers of *Myrrhis odorata*, &c.; Gibside and Winlaton Mill, not unfrequent. June—July.

STIRPS 3. *PHYTOPHAGA*, *Kirby.*RACE 1. *PARAMECA*, *Westw.*FAMILY *CRIOCERIDÆ*, *Leach.*325. *DONACIA*, *Fab.*1. *D. CRASSIPES*, *Fab.*

*Steph. Illust., Mand.*, iv., 268.

"Prestwick Car."—*G. Wailes, Esq.*

2. *D. CINCTA*, *Germ.*

*Steph. Illust., Mand.*, iv., 268.

On *Potamogeton natans*, common. July—August.

3. *D. DENTIPES*, *Fab.*

*Steph. Illust., Mand.*, iv., 270.

"Meldon Park."—*G. Wailes, Esq.*

4. D. SAGITTARIÆ, *Fab.**Steph. Illust., Mand., iv., 271.*"Prestwick Car."—*G. Wailes, Esq.*5. D. PROTEUS, *Kunzé.**Steph. Illust., Mand., iv., 273.*

In boggy places ; generally distributed. June—July.

In April, I dug out two fresh specimens from under *Sphagnum*, at Prestwick Car.—*J. H.*6. D. LINEARIS, *Hoppe.**Steph. Illust., Mand., iv., 275.*

"Twizell."—*P. J. Selby, Esq.* Prestwick Car, and near Hartley.—*Mr. A. Hancock.* Near Gosforth, Boldon Flats, and Gibside.—*T. J. B.* On the bur-reed (*Sparganium ramosum*), in ditches, to the north of Prestwick Car.—*J. H.* June—July.

7. D. TYPHÆ, *Brahm.**Steph. Illust., Mand., iv., 276.—Curt. Brit. Ent., pl. 494.*On aquatic plants, in a pond, near Marsden.—*T. J. B.* July.8. D. HYDROCHÆRIDIS, *Fab.**Steph. Illust., Mand., iv., 276.*"Prestwick Car."—*G. Wailes, Esq.*326. CRIOCERIS, *Geoffroy.*1. C. CYANELLA, *Linn.**Steph. Illust., Mand., iv., 281.—C. obscura, Ib. l.c.*Common. The variety *obscura*, which is *Lema cyanella*, var. b. of Gyllenhal, has occurred at Twizell.2. C. MELANOPIA, *Linn.**Steph. Illust., Mand., iv., 281.*

"Twizell."—*P. J. Selby, Esq.* "Meldon Park."—*G. Wailes, Esq.* Near Axwell, and at Gibside, by sweeping red clover.—*T. J. B.* Border of a wood at Winlaton Mill.—*J. H.* Aug.—Sept.

The larva feeds on the leaves of the Cerealia, under the protection of a slimy excrementitious excretion.

RACE 2. CYCLICA, *Latreille*.

## FAMILY 1. CASSIDIDÆ.

327. CASSIDA, *Linn.*1. C. RUBIGINOSA, *Ill.**Steph. Illust., Mand., iv., 366.*On thistles, and *Centaurea Jacobæa*; common. Sept.2. C. EQUESTRIS, *Fab.**Steph. Illust., Mand., iv., 367.*"Twizell."—*P. J. Selby, Esq.*3. C. OBSOLETA, *Ill.**Steph. Illust., Mand., iv., 368.*"Newcastle."—*G. Wailes, Esq.* Between Akeld Hill and Homildon Heugh.—*J. H.* July.

This species usually occurs about the roots of grass.

4. C. SANGUINOLENTA, *Fab.**Steph. Illust., Mand., iv., 369.*Castle Eden Dean.—*Mr. A. Hancock.*FAMILY 2. GALERUCIDÆ, *Stephens.*

## SUB-FAMILY 1. GALERUCIDES.

328. AGELASTICA, *Chevrolat.*1. A. HALENSIS, *Linn.**Adimonia halensis, Steph. Illust., Mand., iv., 286.*

Local, but abundant; South Shields, Dunston, Gibside. July.

It feeds on *Galium Mollugo*, and *G. verum*; and sometimes strips the plants almost entirely of their foliage.329. ADIMONIA, *Laichart.*1. A. TANACETI, *Linn.**Galeruca Tanaceti, Steph. Illust., Mand., iv., 287.*"Marsden."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.*"Near Horden."—*Mr. T. J. Bungey.* "Near Anton Style, on  
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scabious."—*Ornsby's Durham*, 205. Marsden; and on the banks, a little south of Sunderland.—*Mr. A. Hancock*.

The larva feeds on the leaves of *Scabiosa succisa*.—*J. H.*

2. *A. CAPREÆ*, *Linn.*

*Galeruca Capreæ*, *Steph. Illust., Mand.*, iv., 288.

On *Salix aurita*, in bogs; common.

330. *GALERUCA*, *Geoffroy.*

1. *G. VIBURNI*, *Payk.*

*Steph. Illust., Mand.*, iv., 289.—*Curt. Brit. Ent.*, pl. 371.

"Newcastle, abundant."—*G. Wailes, Esq.* In great numbers on the Guelder rose, Scotswood Dean.—*Mr. A. Hancock*.

2. *G. GRATÆGI*, *Forst.*

*Steph. Illust., Mand.*, iv., 289.

"Twizell."—*P. J. Selby, Esq.*

3. *G. NYMPHÆÆ*, *Linn.*

*Steph. Illust., Mand.*, iv., 289.

"Prestwick Car."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.*

On *Comarum palustre*, Whitsunbank Hill.—*J. H.*

4. *G. CALMARIENSIS*, *Linn.*

*Steph. Illust., Mand.*, iv., 290.

"Twizell."—*P. J. Selby, Esq.*

5. *G. LYTHRI*, *Gyll.*

*Steph. Illust., Mand.*, iv., 291.

"Twizell."—*P. J. Selby, Esq.*

6. *G. LINEOLA*, *Fab.*

*Steph. Illust., Mand.*, iv., 291.

"Twizell."—*P. J. Selby, Esq.*

7. *G. XANTHOMELENA*, *Schrank.*

*Steph. Illust., Mand.*, iv., 291.

Beat out of bushes, near the Derwent, above Winlaton Mill.—*J. H.* August.

8. *G. TENELLA*, Linn.*Steph. Illust., Mand.*, iv., 292.

"Twizell."—*P. J. Selby, Esq.* On *Salix aurita*, in a boggy field, above Swalwell, opposite to Axwell Park, and in a bog below Hylton Castle.—*J. H.* Boldon Flats.—*T. J. B.* Morpeth.—*Mr. J. Scott.* June.

331. *CALOMICRUS*, Dillwyn.1. *C. CIRCUMFUSUS*, Marsh.*Steph., Illust., Mand.*, iv., 294.—*Luperus Brassica*, *Curt.**Brit. Ent.*, pl. 370."Prestwick Car."—*G. Wailes, Esq.*332. *LUPERUS*, Geoffroy.1. *L. RUFIPIES*, Fab.*Steph. Illust., Mand.*, iv., 293."Twizell."—*P. J. Selby, Esq.* Gosforth.—*T. J. B.* July.2. *L. FLAVIPES*, Linn.*Steph. Illust., Mand.*, iv., 293.

On trees, abundant. June—July.

## SUB-FAMILY 2. HALTICIDES.

333. *HALTICA*, Illiger.A. *PHYLLOTRETA*, Chevrolat.1. *H. NIGROAENEA*, Marsh.*Steph. Illust., Mand.*, iv., 298."Twizell."—*P. J. Selby, Esq.*2. *H. QUADRIGUTTATA*, Steph.*Steph. Illust., Mand.*, iv., 299.

In a field, opposite to Axwell Park, where the water ragwort (*Senecio aquaticus*) was growing.—*J. H.* June.

3. *H. MEMORUM*, Linn.*Steph. Illust., Mand.*, iv., 296.

Common.

This is the "turnip fly" of the farmer and gardener.

4. *H. VITTATA*, Steph.

*Steph. Illust., Mand., iv., 297.*

On *Cardamine amara*, above Swalwell and Winlaton Mill, and in Ravensworth woods.—*J. H.* Boldon Flats, and at Gibside, beneath moss; in January.—*T. J. B.* June.

## B. APTHONA, Chevrolat.

5. *H. ATRO-CÆRULEA*, Steph.

*Steph. Illust., Mand., iv., 299.*

On the Links, at Hartlepool; in April.—*J. H.*

In *Curtis's Catalogue*, this stands as a variety of *H. Euphorbiæ*; our specimens, however, are much smaller than in that species, and the legs are entirely testaceous.

6. *H. PSEUDACORI*, Marsh.

*Steph. Illust., Mand., iv., 300.*—*H. cærulea*, *Ib. l.c.*

"Prestwick Car."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.*

7. *H. ÆRATA*, Marsh.

*Steph. Illust., Mand., iv., 301.*

"Twizell."—*P. J. Selby, Esq.*

8. *H. RUBI*, Fab.

*Steph. Illust., Mand., iv., 301.*—*H. striatula et brunnicornis*, *Ib. l.c.*

"Twizell."—*P. J. Selby, Esq.* Common, on brambles, above Swalwell, also at Gibside, and near Dunston.—*J. H.* June.

## C. CREPIDODERA, Chevrolat.

9. *H. TRANSVERSA*, Marsh.

*H. ferruginea*, *Steph. Illust., Mand., iv., 302.*

Common.

10. *H. EXOLETA*, Fab.

*H. flava*, *Steph. Illust., Mand., iv., 303.*

Common.

Variable in colour; specimens from the sea-coast are frequently of a dark mahogany tint.

11. *H. MODEERI*, Linn.*Steph. Illust., Mand., iv., 304.*

Washington, Axwell, and Gibside.—*T. J. B.* On the meadow-sweet (*Spiræa Ulmaria*), above Dunston and Winlaton Mill, and on the banks of the Till, below Weetwood Bridge.—*J. H.* June—July.

12. *H. RUFIPES*, Linn.*Steph. Illust., Mand., iv., 304.*

"Meldon Park."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.* Ouseburn Dean and Gosforth.—*T. J. B.* Roadside, above Dunston.—*J. H.* July—August.

13. *H. HELXINES*, Linn.*Steph. Illust., Mand., iv., 305.*

On willows, common. June—July.

## D. GRAPTODERA, Chevrolat.

14. *H. OLERACEA*, Fab.*Steph. Illust., Mand., iv., 306.*—*G. indigacea, Ib. l.c., 307.*

On heath (*Calluna vulgaris*), and *Helianthemum vulgare*, common.

334. *LONGITARSUS*, Latreille.1. *L. TABIDUS*, Fab.*Thyamis tabida, Steph. Illust., Mand., iv., 308.*

"Twizell."—*P. J. Selby, Esq.* Prestwick Car.—*Mr. A. Hancock.* On the sea-coast, near Hartley and Whitley.—*T. J. B.* On the ragwort (*Senecio Jacobæa*), at South Shields.—*J. H.* June—September.

2. *L. ATRICILLA*, Linn.

*Thyamis atricilla, Steph. Illust., Mand., iv., 309.*—*T. atriceps, Ib. l.c., 310.*—*T. suturalis, Ib. l.c., 311.*

"Twizell."—*P. J. Selby, Esq.*

3. *L. MELANOCEPHALUS*, Gyll.

*Haltica melanocephala, Gyll. Ins. Suec., iii., 553.*—*Thyamis picipes, Steph. Illust., Mand., iv., 309.*—*T. confinis, Ib. l.c., 310.*

"Twizell."—*P. J. Selby, Esq.* Boldon Flats.—*T. J. B.* Marsden, Swalwell, and Winlaton Mill.—*J. H.* June—July.

This species frequents *Galeopsis Tetrahit*, and various species of *Veronica*.—*J. H.*

4. *L. FEMORALIS*, *Marsh.*

*Thyamis femoralis*, *Steph. Illust., Mand.*, iv., 309.

Gosforth and Shotley Bridge.—*T. J. B.* Abundant on the viper's bugloss (*Echium vulgare*), near Wooler.—*J. H.* June—July.

5. *L. OCHROLEUCUS*, *Marsh.*

*Thyamis ochroleuca*, *Steph. Illust., Mand.*, iv., 311.

Two specimens taken within the district.—*T. J. B.*

6. *L. NASTURTII*, *Fab.*

*Thyamis Nasturtii*, *Steph. Illust., Mand.*, iv., 311.

"Twizell."—*P. J. Selby, Esq.* Prestwick Car, Whitley, Whitburn, and Boldon Flats.—*T. J. B.* April—September.

7. *L. THORACICUS*, *Kirby.*

*Thyamis thoracica*, *Steph. Illust., Mand.*, iv., 312.—*T. fuscicollis*, *Ib. l.c.*, iv., 312.—*T. dimidiata*, *Ib.*, v., 423.—*T. atricornis*, *Ib. l.c.*

"Twizell."—*P. J. Selby, Esq.* On ragwort (*Senecio Jacobæa*), Winlaton Mill, Ravensworth, Marsden, South Shields, Bamborough Castle, &c.—*J. H.*

8. *L. PRATENSIS*, *Panz.*

*Thyamis pratensis*, *Steph. Illust., Mand.*, iv., 312.

On the sea banks, north of Whitley.—*T. J. B.*

9. *L. APICALIS*: *Sub-ovalis, convexus, angustus, pallidus, flavus, nitidus; capite testaceo vix fusciscente; ore oculisque nigris; antennis elongatis, flavis, extrorsum plus minusve piceis; pedibus pallidis, apicibus femorum posteriorum extrinsecus, articulationibusque duabus ultimis tarsorum plerumque, anoque, infuscatis.* Long. 1. lin.

"*Thyamis apicalis*, *Waterhouse MSS.*"

Rather small, narrow, sub-oval, pale straw-yellow, shining;

head, and sometimes the anterior part of the thorax, of a shining testaceous, scarcely approaching to brunneous; both finely punctulate, the former more minutely; a slight keel between the eyes; eyes and mouth black; antennæ long, as long, or longer, than the body, pale yellow at the base, fuscous towards the apex; elytra somewhat obovate, not very wide, considerably convex, finely, and somewhat widely punctate, the punctures more distinct towards the base, pale straw-yellow, the suture sometimes rufo-testaceous, scarcely ever fuscous; body beneath pale fusco-testaceous, the tip of the abdomen dusky or blackish; legs pale straw-yellow, the hinder thighs more testaceous, with a black or piceous patch on the outside of the tip; the last, or sometimes the two last joints of the tarsi piceous, or rufo-fuscous.—*J. H.*

Common on *Achillea Millefolium* and *Senecio Jacobæa*. June—July.

10. *L. PUSILLUS*, *Gyll.*

*Haltica pusilla*, *Gyll. Ins. Suec.*, iii., 549.—*Thyamis pusilla*, *Steph. Illust., Mand.*, iv., 313.

Sea-banks, near Whitburn.—*T. J. B.* September.

11. *L. LURIDUS*, *Gyll.*

*Haltica lurida*, *Gyll. Ins. Suec.*, iii., 537.—*Thyamis lurida*, *Steph. Illust., Mand.*, iv., 314.—*T. castanea*, *Ib. l.c.*—*T. brunnea*, *Ib. l.c.*—*T. fuscescens*, *Ib. l.c.*, 315.—*T. nigricans*, *Ib. l.c.*

Common.

12. *L. PARVULUS*, *Panz.*

*Thyamis parvula*, *Steph. Illust., Mand.*, iv., 316.

"Twizell."—*P. J. Selby, Esq.*

13. *L. PULEX*, *Marsh.*

*Thyamis Pulex*, *Steph. Illust., Mand.*, iv., 316.

"Twizell."—*P. J. Selby, Esq.*

14. *L. HOLSATICUS*, *Linn.*

*Thyamis Holsatica*, *Steph. Illust., Mand.*, iv., 317.

"Newcastle."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.*

## 335. PSYLLIODES, Latreille.

## 1. P. NAPI, Gyll.

*Haltica Napi*, Gyll. *Ins. Suec.*, iii., 567.—*Macrocnema Napi*, Steph. *Illust., Mand.*, iv., 318.

"Twizell."—P. J. Selby, Esq. On *Cardamine amara*, *C. sylvatica*, and *Nasturtium officinale*, near Dunston, in Ravensworth woods, Lobley Hill, and Budle.—J. H. I have two specimens taken near Newcastle.—T. J. B. Morpeth.—Mr. John Scott. March—September.

## 2. P. ERYTHROCEPHALA, Linn.

*Macrocnema Rapæ*, Steph. *Illust., Mand.*, iv., 319.—*Haltica chrysocephala*, Gyll. *Ins. Suec.*, iii., 568.—*Macrocnema chrysocephala*, Steph. *Illust., Mand.*, iv., 319.

Gardens, Long Benton.—T. J. B. May—Sept.

## 3. P. SPERGULÆ, Gyll.

*Haltica Spergulæ*, Gyll. *Ins. Suec.*, iii., 571.—*Macrocnema Spergulæ*, Hardy, *Ber. Club. Proc.*, ii, 195.—*M. picicornis*, Steph. *Illust., Mand.*, iv., 321.—*M. apicalis*, *Ib. l.c.*

"Twizell."—P. J. Selby, Esq. Hartlepool and Marsden.—J. H. Sea banks, near Whitley.—T. J. B. Morpeth.—Mr. J. Scott.

It frequents the cotyledons of cruciferous plants in spring, in company with *Haltica nemorum*.

## 4. P. MARCIDA, Ill.

*Macrocnema marcida*, Steph. *Illust., Mand.*, iv., 320.

On the sea-rocket (*Cakile maritima*); sea coast, not uncommon. August—September.

## 5. P. AFFINIS, Payk.

*Haltica affinis*, Gyll. *Ins. Suec.*, iii., 553.—*Macrocnema exoleta*, Steph. *Illust.*, iv., 321.

A pair, from a ditch, near Dunston.—J. H. Not uncommon at Boldon Flats, on the bitter-sweet (*Solanum Dulcamara*).—T. J. B. June.

## 6. P. PICINA, Marsh.

*Macrocnema picina*, Steph. *Illust., Mand.*, iv., 322.

"Twizell."—*P. J. Selby, Esq.* Among grass, by the side of the Derwent, above Winlaton Mill.—*J. H.* One specimen, above Gibside.—*T. J. B.*

This is much larger, and is differently shaped from *Haltica Rubi*, of which Gyllenhal cites it as a variety.

### 336. PLECTROSCELIS, *Chevrolat.*

SUB-G. MANTURA, *Stephens.*

#### 1. *P. SEMIÆNEA, Fab.*

*Mantura semiænea, Steph. Illust., Mand., iv., 323.*

*Var. Concolor, Hardy MSS.* Deep bluish green, the apex of the elytra slightly piceous, legs and antennæ black, the tibiæ scarcely piceous at the base.

"Twizell."—*P. J. Selby, Esq.* Whitley and Gosforth.—*T. J. B.* On the curled dock (*Rumex crispus*), above Dunston, where a single individual of the variety occurred.—*J. H.* August.

#### 2. *P. CHRYSANTHEMI, Ent. H.*

*Mantura Chrysanthemi, Steph. Illust., Mand., iv., 324.*—*M. ænea, Ib. l.c.*

"Twizell."—*P. J. Selby, Esq.*

SUB-G. CHÆTOCNEMA, *Stephens.*

#### 3. *P. ARIDELLA, Ent. H.*

*Chætocnema aridella, Steph. Illust., Mand., iv., 326.*

One specimen at Wooler Haugh.—*J. H.* July.

#### 4. *P. CONCINNA, Marsh.*

*Chætocnema concinna, Steph. Illust., Mand., iv., 327.*—

*Haltica dentipes, Gyll. Ins. Suec., iii., 573.*

Common.

It frequents various plants, but appears to prefer the *Polygonææ*, especially the dock, rhubarb, and climbing buck-wheat. In spring, it occasionally attacks the cotyledons of the turnip.

### 337. SPHÆRODERMA, *Stephens.*

#### 1. *S. TESTACEUM, Fab.*

*Steph. Illust., Mand., iv., 328.*

On thistles and knapweed; common.

2. *S. CARDUI*, Kirby.*Steph. Illust., Mand., iv., 328.*

On thistles; common.

3. *S. ORBICULATUM*, Marsh.*Steph. Illust., Mand., iv., 329.*—*Haltica Graminis*, *Ent. Hefte*, ii., 47.In woods, among herbage. Gibside.—*T. J. B.* Above Winlaton Mill.—*J. H.* May—September.338. *MNIOPHILA*, Stephens.1. *M. MUSCORUM*, *Ent. H.**Steph. Illust., Mand., iv., 330.*"Twizell."—*P. J. Selby, Esq.*

## FAMILY 3. CHRYSOMELIDÆ, Leach.

339. *CRYPTOCEPHALUS*, Geoffroy.1. *C. SERICEUS*, Linn.*Steph. Illust., Mand., iv., 356.*"Marsden."—*G. Wailes, Esq.* "Upon *Cistus*, on the sea-banks, near Castle Eden."—*Ornsby's Durham*. Dinsdale Wood.—*Mr. W. Peacock*.2. *C. SIMILIS*, Leach*Steph. Illust., Mand., iv., 357.*On flowers; five specimens in an old quarry at Marsden.—*Mr. John Hancock*. July.I have not seen these insects, but I may remark here that my specimen, so called, obtained from a London collector, is merely a small male of *C. sericeus*.—*J. H.*3. *C. LINEOLA*, Fab.*Steph. Illust., Mand., iv., 358.*"On hawthorn, in Castle Eden Dean."—*Ornsby's Durham*, 205.4. *C. MOREI*, Linn.*Steph. Illust., Mand., iv., 359.*"Castle Eden Dean."—*G. Wailes, Esq.*

5. *C. LABIATUS*, Linn.

*Steph. Illust., Mand.*, iv., 361.

"Newcastle."—*W. C. Hewitson, Esq.* "Castle Eden Dean."—*G. Wailes, Esq.* On hazel, above Winlaton Mill.—*J. H.* Gibside.—*T. J. B.* June.

3. *C. MINUTUS*, Fab.

*Steph. Illust., Mand.*, iv., 362.

"Newcastle."—*G. Wailes, Esq.*

340. *CLYTHRA*, Laichart.1. *C. QUADRI-PUNCTATA*, Linn.

*Steph. Illust., Mand.*, iv., 354.

"Witton-le-Wear and Prudhoe, in great profusion, in 1829, but local."—*G. Wailes, Esq.* Bywell; in June.—*Mr. T. Belt.*

341. *MELASOMA*, Dillwyn.1. *M. ÆNEUM*, Linn.

*Steph. Illust., Mand.*, iv., 351.

"Durham."—*Mr. T. J. Bungey, (Ornsby's Durham, 205.)*

342. *CHRYSOMELA*, Linn.1. *C. HOEMOPTERA*, Linn.

*Steph. Illust., Mand.*, iv., 347.

Marsden.—*Mr. John Hancock.* On the coast, south from South Shields, where the rocks rise.—*J. H.* April.

2. *C. VARIANS*, Fab.

*Steph. Illust., Mand.*, iv., 347.

"Newcastle."—*G. Wailes, Esq.* "Durham."—*Ornsby's Durham.*

On *Hypericum perforatum*, in a dean, above Winlaton Mill; and along with its larva, on the side of the Derwent.—*J. H.* Bothall.—*T. J. B.* May—August.

*Ch. Graminis* is stated (*Ber. Nat. Club Proc.*, ii., 118,) to have occurred on the plant just cited, in "a new-made plantation at the west end" of Spindlestone Crag. We have not, however, seen any specimens of the insect.

3. *C. FASTUOSA*, Linn.

*Phædon fastuosa*, Steph. *Illust.*, Mand., iv., 337.

"Twizell."—*P. J. Selby, Esq.*

This species frequents *Lamium album*, and *Galeopsis Tetrahit*.

4. *C. POLITA*, Linn.

*Steph. Illust.*, Mand., iv., 345.

On bog mint (*Mentha hirsuta*); common.

5. *C. STAPHYLÆA*, Linn.

*Steph. Illust.*, Mand., iv., 344.

Common.

6. *C. LAMINA*, Fab.

*Steph. Illust.*, Mand., iv., 342.

"Marsden, Meldon Park, &c."—*G. Wailes, Esq.*

7. *C. MARGINATA*, Linn.

*Steph. Illust.*, Mand., iv., 341.

"Twizell."—*P. J. Selby, Esq.* "Meldon Park."—*G. Wailes, Esq.*

Sea coast, near Hartley, South Shields, and Marsden; also near Lamesley, and on the top of Homildon Heugh, near Wooler. March—August.

8. *C. GEMINATA*, Payk.

*Steph. Illust.*, Mand., iv., 341.

Two specimens taken within the district.—*T. J. B.*

9. *C. HYPERICI*, Forst.

*Steph. Illust.*, Mand., iv., 342.

"Durham."—*Ornsby's Durham.* On *Hypericum perforatum*, at Spindleston Crag, by Mr. Selby.—*Ber. Nat. Club Proc.*, ii., 118. Near Axwell.—*T. J. B.* September.

10. *C. LITURA*, Fab.

*Steph. Illust.*, Mand., iv., 340.

On broom (*Sarothamnus scoparius*); common.

11. *C. PALLIDA*, Linn.*Steph. Illust., Mand.*, iv., 338.

"Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.*  
 Morpeth.—*Mr. John Scott.*

12. *C. DECEMPUNCTATA*, Linn.*Steph. Illust., Mand.*, iv., 388.

"Durham."—*Mr. T. J. Bungey, (Ornsby's Durham, 205.)*

343. *PLAGIODERA*, Chevrolat.1. *P. ARMORACIÆ*, Fab.*Phædon Armoraciæ, Steph. Illust., Mand.*, iv., 332.

"Twizell."—*P. J. Selby, Esq.* "Meldon Park, Newcastle, &c."—  
*G. Wailes, Esq.*

344. *GASTROPHYSA*, Chevrolat.1. *G. POLYGONI*, Linn.*Phædon Polygoni, Steph. Illust., Mand.*, iv., 336.

On *Polygonum aviculare*, &c.; common.

2. *G. RAPHANI*, Fab.*Phædon Raphani, Steph. Illust., Mand.*, iv., 336.

Boldon Flats.—*T. J. B.* Morpeth.—*Mr. J. Scott.* April.

345. *PHRATORA*, Chevrolat.1. *P. VITELLINÆ*, Fab.*Phædon Vitellinæ, Steph. Illust., Mand.*, iv., 335.—*Var.*

*Ph. unicolor, Marsh., Ib. l.c.*

On willows; common, both varieties.

346. *PHÆDON*, Megerle.1. *P. BETULÆ*, Linn.*Steph. Illust., Mand.*, iv., 333.—*P. Cochleariæ, Ib. l.c.*

"Meldon Park, Newcastle, &c."—*G. Wailes, Esq.* "Twizell."—  
*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.* At Prest-  
 wick Car, on *Veronica scutellata*; at Gateshead Low Fell, on *V.*  
*Beccabunga*; and on the Wear, above Southwick, about the roots  
 of *Triglochin maritimum*.—*J. H.*

Both varieties are united by Gyllenhal (*Ins. Suec.*, iii., 479,) under the *Chrysomela Cochleariæ* of Fabricius. Stephens erroneously describes *Ph. Betulæ*, as having the interstices between the striæ of the elytra impunctate.

2. *P. TUMIDULA*, Kirby.

*Steph. Illust.*, *Mand.*, iv., 334.

On the leaves of the cow parsnep (*Heracleum Sphondylium*), on which the larva feeds. Common.

347. *HELODES*, Payk.

1. *H. BECCABUNGÆ*, Payk.

*Steph. Illust.*, *Mand.*, iv., 353.

"Twizell."—*P. J. Selby, Esq.* "Durham."—*Mr. T. J. Bungey*, (*Ornsby's Durham*). On *Veronica Beccabunga*, and *V. Anagallis*, near Wooler.—*J. H.*

2. *H. PHELLANDRII*, Linn.

*Steph. Illust.*, *Mand.*, iv., 352.

On *Helosciadium inundatum*, &c. Common.

3. *H. MARGINELLA*, Linn.

*Phædon marginella*, *Steph. Illust.*, *Mand.*, iv., 334.

On crowfoots; common.

4. *H. AUCTA*, Fab.

*Phædon aucta*, *Steph. Illust.*, *Mand.*, iv., 334.

Not unfrequent.

SECTION 3. PSEUDOTRIMERA, Westw.

FAMILY 1. EROTYLIDÆ.

348. *TRIPLAX*, Payk.

1. *T. ÆNEA*, Fab.

*Steph. Illust.*, *Mand.*, iii., 89.—*Curt. Brit. Ent.*, pl. 706.

On a dry fungus, in the inside of a decayed willow, on the Team, opposite to Ravensworth Castle.—*J. H.* On fungi, near Winlaton Mill.—*T. J. B.*

FAMILY 2. ENDOMYCHIDÆ, *Leach.*349. ENDOMYCHUS, *Payk.*1. *E. COCCINEUS*, *Linn.*

*Steph. Illust., Mand., iv, 399.—Curt. Brit. Ent., pl. 570.*

"Twizell."—*P. J. Selby, Esq.* On *Polyporus versicolor*, growing on decayed beeches and oaks, in the woods, above Swalwell, on both sides of the Derwent. February.

Small drops of a pink juice liquor exude from the joints of the legs in fresh insects.

FAMILY 3. COCCINELLIDÆ, *Leach.*350. CHILOCORUS, *Leach.*1. *C. BIPUSTULATUS*, *Linn.*

*Steph. Illust., Mand., iv., 374.—Muls., Col. de France, Securipalp., 170.*

"Twizell."—*P. J. Selby, Esq.*

2. *C. QUADRIPISTULATUS*, *Linn.*

*Exochomus quadripustulatus, Muls., Col. de France, Securipalp., 172.—Chilocorus quadriverrucatus, Steph. Illust., Mand., iv., 375.*

Prestwick Car, Newcastle, &c.—*G. Wailes, Esq.* "Durham."—*Ornsby's Durham.*

351. COCCINELLA, *Linn.*1. *C. DUODECIMPUNCTATA*, *Linn.*

*Steph. Illust., Mand., iv., 375.—Micraspis duodecimpunctata, Muls., Col. de France, Securipalp., 163.*

"Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.*

2. *C. QUATUORDECIMGUTTATA*, *Linn.*

*Steph. Illust., Mand., iv., 377.*

On willows, near the Till.—*J. H.* July.

3. *C. BISSEPTENGUTTATA*, *Schaller.*

*Steph. Illust., Mand., iv., 378.—Calvia bisseptenguttata, Muls., Col. de France, Securipalp., 144.*

Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.*

4. *C. DECENGUTTATA*, Linn.

*Steph. Illust., Mand.*, iv, 378.—*Calvia decemguttata*, *Muls., Col. de France, Securipalp.*, 143.

"Twizell."—*P. J. Selby, Esq.*

5. *C. OBLONGOGUTTATA*, Linn.

*Steph. Illust., Mand.*, iv., 378.—*Mysia oblonguttata*, *Muls., Col. de France, Securipalp.*, 129.

"Twizell."—*P. J. Selby, Esq.* On firs, at Gosforth.—*T. J. B. Morpeth*, common.—*Mr. J. Scott.* Whitsunbank hill.—*J. H.* June—July.

6. *C. OCELLATA*, Linn.

*Steph. Illust., Mand.*, iv., 379.—*Curt. Brit. Ent.*, pl. 208.—*Anatis ocellata*, *Muls., Col. de France, Securipalp.*, 133.

"Tynemouth"—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* Banks, a little south of Hartley.—*Mr. A. Hancock.* Coast, near Whitley.—*T. J. B.* July.

7. *C. SEPTEMPUNCTATA*, Linn.

*Steph. Illust., Mand.*, iv., 380.—*Muls., Col. de France, Securipalp.*, 79.

On thistles, &c., widely distributed, occurring sometimes in great numbers. According to a local MS. writer, it was abundant near Newcastle, in 1750; and *Mr. A. Hancock* remarks, "We had several hundreds sent us, which were caught a little below Newcastle," (in 1826). This is the common "Lady Cow" ("*pueris notissima*"), as *Ray* remarks.

8. *C. QUINQUEPUNCTATA*, Linn.

*Muls., Col. de France, Securipalp.*, 76. — *Steph. Illust., Mand.*, iv., 380.

Beneath stones, at the side of the Derwent, below Gibside; and of Wooler Water, below Langleyford; and near Wooler.—*J. H.* June—July.

9. *C. VIGINTIDUOPUNCTATA*, Linn.

*Steph. Illust., Mand.*, iv., 381.—*Thea vigintiduopunctata*, *Muls., Col. de France, Securipalp.*, 159.

"Beach, Northumberland."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* "Maiden Castle wood."—*Mr. T. J. Bungey, (Ornsby's Durham.)* On thistles, a little to the south of Sunderland.—*Mr. A. Hancock.* Near Ryhope.—*Mr. W. Peacock.*

10. *C. VARIABILIS, Ill.*

*Steph. Illust., Mand., iv., 381.*—*Muls., Col. de France, Securipalp., 95.*

On trees; common.

11. *C. BIPUNCTATA, Linn.*

*Idalia bipunctata, Muls., Col. de France, Securipalp., 51.*—*Coccinella dispar, Steph. Mand., iv., 384.*

"Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.* On nettles, Gallowgate, Newcastle.—*Mr. A. Hancock.* Morpeth.—*Mr. J. Scott.* September.

12. *C. IMPUSTULATA, Linn.*

*Steph. Illust., Mand., iv., 385.*

Ravensworth woods.—*J. H. Sunderland.*—*Mr. W. Peacock.* Gosforth.—*T. J. B.* May—September.

13. *C. UNDECIMPUNCTATA, Linn.*

*Steph. Illust., Mand., iv., 386.*—*Muls., Col. de France, Securipalp., 71.*

Extremely abundant, on sandy sea banks, where the stones may frequently be seen quite red with congregated myriads of these insects. March—November.

14. *C. HIEROGLYPHICA, Linn.*

*Steph. Illust., Mand., iv., 387.*

Tunstall Hill.—*Mr. W. Peacock.* One specimen, amongst herbage, on the sea banks, a little south of Hartley.—*T. J. B.* September.

15. *C. OCTODECIMGUTTATA, Linn.*

*Steph. Illust., Mand., iv., 387.*—*Myrrha octodecimguttata, Muls., Col. de France, Securipalp., 125.*

"Twizell."—*P. J. Selby, Esq.* On firs, at Gosforth.—*T. J. B.* Common, in the vicinity of Morpeth.—*Mr. J. Scott.* June.

16. C. TREDECIMPUNCTATA, *Linn.*

*Steph. Illust., Mand., iv., 388.*—*Hippodamia tredecimpunctata. Muls., Col. de France, Securipalp., 31.*

"Meldon Park."—*G. Wailes, Esq.* "Twizell."—*P. J. Selby, Esq.* "Durham."—*Ornsby's Durham.*

17. C. LIVIDA, *De Geer.*

*Idalia livida, Muls., Col. de France, Securipalp., 44.*—*Coccinella M-nigrum, Steph. Manual, No. 2502.*

Amongst herbage, sea banks, near Whitley.—*T. J. B.* In fir woods, on Whitsunbank hill.—*J. H.* July.

18. C. GLOBOSA, *Schneid.*

*Steph. Illust., Mand., iv., 389.*—*Lasia globosa, Muls., Col. de France, Securipalp., 197.*

Gosforth.—*T. J. B.* September.

352. SCYMNUS, *Herbst.*1. S. NIGRINUS, *Kugelann.*

*Steph. Illust., Mand., iv., 392.*

Very rare. A single specimen beat out of Scotch fir, at Gosforth, in July.—*T. J. B.*

2. S. PARVULUS, *Fab.*

*Steph. Illust., Mand., iv., 393.*—*S. fulvifrons, Ib. l.c.*

On the Links, at Hartlepool.—*J. H.* April.

One specimen has the upper surface entirely black, a variety which is mentioned by Gyllenhal.

3. S. LIMBATUS, *Kirby.*

*Steph. Illust., Mand., iv., 395.*—*Coccinella discoidea, var. b., Gyll. Ins. Suec., iv., 193?*

On the sandy sea-coast, at Hartlepool, Embleton, Beadnell, Bamborough, and Budle.—*J. H.* April—June.

This is uniform in size and appearance, wherever it occurs. It appears to be parasitic, on a large *Coccus*, found at the roots of grass.

353. RHYZOBIVS, *Stephens*.1. R. LITURA, *Fab.*

*Steph. Illust., Mand., iv., 396.*—*Muls., Col. de France, Securipalp., 262.*

"Twizell."—*P. J. Selby, Esq.* On the coast, at South Shields and Budle; and above Winlaton Mill.—*J. H. Camboise.*—*Mr. J. Scott.* April—August.

354. COCCIDULA, *Kugelann.*1. C. RUFA, *Herbst.*

*Muls., Col. de France, Securipalp., 269.*—*Cacicula pectoralis, Steph. Illust., Mand., iv., 397.*

Amongst herbage, on the sandy sea-coast; common; inland, at Winlaton Mill. June—August.

2. C. SCUTELLATA, *Herbst.*

*Muls., Col. de France, Securipalp., 268.*—*Cacidula scutellata, Curt. Brit. Ent., pl. 144.*—*Cacicula scutellata, Steph. Illust., Mand., iv., 398.*

"Twizell."—*P. J. Selby, Esq.*

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## APPENDIX.

Since the publication of the early portion of this Catalogue, several insects additional to the local Fauna have occurred. These it is proposed to append here, along with the localities, since ascertained, of some of the rarer kinds, accompanied with such corrections in the list, as, upon mature consideration, appear to be requisite. Of late years, the subject of nomenclature has engaged the attention of several eminent continental entomologists; and advantage has been taken of their researches, to make such alterations, where apparently well founded, as shall place the local Insect-Fauna in harmony with those of other parts of Europe. The European species of the *Bembidiides*, having been recently treated of in a monograph by M. Jacquelin Duval,\* one of the writers (Mr. Bold), through the medium of M. Javet, had a series of the local species submitted to that author, while occupied with his work, and he has had the goodness to attach names to them, in accordance with his views. As they do not differ materially from those now generally entertained, his arrangement has been adopted in the revision that the local species have undergone. The numbers correspond to those of the genera and species as entered in the Catalogue; except in the instance of the *Bembidiides*, to which, having been re-united under the generic term of *Bembidium*, this method of reference was inapplicable.

## GEODEPHAGA.

## FAMILY 2. CARABIDÆ.

## 3. DROMIUS.

5. *D. FASCIATUS*. Sea-coast, at Bamborough, Beadnell, and Embleton, in June.—*J. H.*
7. *D. FOVEOLUS*. Beneath stones, Wooler Haugh, and on Homildon Heugh.—*J. H.*

\* De Bembidiis Europæis. Ann. de la Soc. Ent. de France, ser. 2, t. ix., 441—576, and t. x., 101—236. Paris, 1851—1852.

4a. TARUS, *Clairville*.1. T. BASALIS, *Gyll.*

*Steph. Illust., Mand.*, i., 177.—*Curt. Brit. Ent.*, pl. 235.

Rare; on the moors, near Twizell.—*P. J. Selby, Esq.*

## 5. CLIVINA.

2. C. COLLARIS. Banks of the Till, in July.—*J. H.*

## 6. DYSCHIRIUS.

1. D. GIBBUS. Near Monkhouse, Dunstanborough Castle, and Wooler.—*J. H.*2. D. ÆNEUS, *Zeigler*.

*Steph. Illust., Mand.*, i., 42.

Two specimens; Camboise.—*Mr. John Scott*. May.

## 7. PATROBUS.

1. P. RUFIPES. This is *P. excavatus*, Payk. *Carabus rufipes*, of Fabricius, has been ascertained to be a different insect. This species is found on the summit of Hedgehope.

## 8. CALATHUS.

3. C. FULVIPES, *Gyll.* = C. FLAVIPES, *Payk.* On the coast, near Bamborough.—*J. H.*5a. C. MICROPTERUS, *Sturm.*

*Steph. Illust., Mand.*, v., 437.

Beneath stones, near the summit of Hedgehope.—*J. H.* July.

## 15. AGONUM.

4. A. VERSUTUM, of Stephens, as well as *A. læve*, *lugubre*, and *afrum*, according to Dr Schaum (*Ann. Nat. Hist.*, N.S., iii., 35,) belong to *A. moestum*.6. A. QUADRI-PUNCTATUM, *De Geer*. Dr. Schaum having stated, in his remarks on the British *Geodephaga*, in the *Annals of Natural History*, for January, 1849, that the *Agonum quadripunctatum*, of Stephens, "differs entirely from *A. quadripunctatum*, De Geer," I was induced to send my specimens to Paris, for comparison with the specimens in

the cabinets there. It was returned to me as the true *Agonum quadripunctatum*, of De Geer, and is the only known British example of that species.—*T. J. B.*

7. *A. ATRATUM*. This, as well as No. 9 *A. piceum*, belongs to *A. fuliginosum*, Knoch. *A. Simpsoni*, *pullum*, *striatum*, *fuscipenne*, *fuliginosum*, and *gracile*, of Stephens, likewise rank under this head. It occurs near Langleyford, and at the base of Yeavinger Bell.

10. *A. PICIPES*, *Fab.* This, according to Mr. Haliday, is the *A. piceum* of the Linnean collection.

20. *OMASEUS*.

1. *O. ORINOMUS*. Two specimens, on Langley common; in June.—*T. J. B.* On the upper part of Hedgehope.—*J. H.*
3. *O. MELANARIUS*, *Illiger*. = *O. VULGARIS*, *Linn. Col.*! (*Haliday MS.*)

21. *STEROPUS*.

2. *S. ÆTHIOPS*. On the upper part of Hedgehope.—*J. H.*

27. *AMARA*.

1. *A. EURYNOTA*. This is *A. acuminata*, *Sturm.*
- 1a. *A. SIMILATA*, *Gyll.*  
*Steph. Illust., Mand., i., 128.*  
Near Wooler.—*J. H.* June.
2. *A. TRIVIALIS*. Near Langleyford and Wooler.—*J. H.*
- 3a. *A. SPRETA*, *De Jean.*  
*Steph. Manual, No. 255.*  
On the Bents, at South Shields.—*J. H.* May—June.
4. *A. FAMILIARIS*, *Creutzer.*  
*Steph. Illust., Mand., i., 133.*  
To this belong *A. lævis*, and *A. cursor*, of the Catalogue.
7. *A. TIBIALIS*. Langleyford Vale and Wooler; and on Gateshead Fell.—*J. H.*

9. *A. INGENUA*, *Duft.* According to Dr. Schaum, there is no British insect agreeing with this. Stephen's specimens, under this name, belong to *A. obsoleta*. We have not had an opportunity of examining the example in the possession of Mr. Wailes.

## 29. CURTONOTUS.

1. *C. PICEUS*, *Fab.* = *SPINIPES*, *Linn. Col.*, (*Haliday MS.*)

## 30. HARPALUS.

1. *H. RUFIMANUS*, *Marsh.* = *H. TARDUS*, *Illiger.*  
 2. *H. LIMBATUS*, *Duft.* In Mr. Haliday's MS. list of the Coleoptera of Ireland, this is stated to be the *LATUS* of the Linnean collection.

## 32. TRECHUS.

1. *T. DORSALIS*. This is a variety of No. 7—*T. placidus*.  
 2. *T. RUFICOLLIS*? This is identical with No. 8—*T. collaris*.  
 4a. *T. COGNATUS*, *Gyll.*  
*Harpalus cognatus*, *Gyll. Ins. Suec.*, iv., 455.—*Trechus suturalis*, *Steph. Illust. Mand.*, i., 168.  
 Morpeth.—*Mr. John Scott.* Whitsunbank Hill and Hedgehope.—*J. H.*  
 5. *T. BRUNNIPES*. It is doubtful if this is more than a dark variety of No. 6, *T. fulvus*, *Marsh.*, (*T. harpalinus*, *Dej.*)  
 8. *T. COLLARIS*. Whitsunbank Hill and Belford Moor.—*J. H.*

## 33. BLEMUS.

1. *B. PALUDOSUS*. Among the gravel of Caer Burn, on the way to Langleyford.—*J. H.*  
 2. *B. PALLIDUS*. This is *B. lapidosus*, *Dawson, Ann. Nat. Hist.*, N.S., iii., 214. *Trechus pallidus*, *Sturm*, is a different insect.  
 3. *B. MICROS*. Morpeth; in March.—*Mr. John Scott.*

## 74. EPAPHIUS.

1. *E. SECALIS*. Among the gravel of Caer Burn, on the way to Langleyford.—*J. H.*

34a. AEPUS, *Leach*.

1. *A. FULVESCENS*, *Leach*.

*Steph. Illust., Mand.*, i, 174.—*Curt. Brit. Ent.*, pl. 203.

Beneath stones, between tide marks, near Budle, and North Sunderland.—*J. H.* June.

## 37. TRIMORPHUS.

1. *T. HUMERALIS*. Castle wood, Morpeth.—*Mr. John Scott*.

## 41. LEISTUS.

3. *L. JANUS*. This is an immature state of *L. fulvibarbis*.
4. *L. SPINILABRIS*, *Fab.* This, along with *L. rufescens*, forms the FERRUGINEUS of the Linnean collection (*Haliday MS.*) *L. spinilabris* occurs at Monkhouse.

## 42. HELOBIA.

2. *H. NIVALIS*. Wooler Water, and without exhibiting any difference; under stones, &c., near the summit of Hedgehope.

## 44. ELAPHREUS.

1. *E. CUPREUS*. Base of Hedgehope.
2. *E. RIPARIUS*. Vale, below Langleyford.

## 45. NOTIOPHILUS.

2. *N. TIBIALIS*, *Steph.* = *PALUSTRIS*, *Duft. Er.*, (non. *Steph.*) Abundant, near the summit of Hedgehope.

46. BEMBIDIUM, *Illiger*.\*

1. *B. FLAVIPES*, *Linn. Catalogue*, No. 2. Banks of the Till.—*J. H.*
2. *B. PALLIPES*, *Duft. Catalogue*, No. 3.
3. *B. PALUDOSUM*, *Panz. Catalogue*, No. 1. Mitford, and banks of the Till.

\* By T. J. Bold.

4. *B. PUNCTULATUM*, *Drapiez*.

*Tachypus striatus*, *Steph. Illust., Mand.*, ii., 28.—*Catalogue*, No. 5.—*T. chlorophanus*, *Steph. l.c.*

Whittle Dean, Mitford, and banks of the Till.

*B. striatum*, of Fabricius, is a distinct species, and not met with in the district.

5. *B. BIPUNCTATUM*, *Linn.*

*Tachypus bipunctatus*, *Steph. Illust., Mand.*, ii., 28.—*Catalogue*, No. 4.

6. *B. LAMPROS*, *Herbst.*

*Tachypus celer*, *Steph. Illust., Mand.*, ii., 26.—*Catalogue*, No. 1.—*T. properans*, *Steph. l.c.*—*Catalogue*, No. 2.—*T. chaldeus*, *Steph. l.c.*, 27.—*Catalogue*, No. 3.—*T. acutus*, *Steph. l.c.*—*T. orichalcicus*, *Id. l.c.*—*Lopha pulchella*, *Id. l.c.*, 23.

7. *B. GILVIPES*, *Sturm.*

*Jacquelin Duval*, *Ann. Soc. Ent. France*, 1851, 520.—*Lopha nigra*, *Steph. Illust., Mand.*, ii., 24.—*Catalogue*, No. 2.

8. *B. PUSILLUM*, *Gyll.*

*Lopha minima*, *Steph. Illust., Mand.*, ii., 24.—*Catalogue*, No. 3.—*L. nana*, *Steph. l.c.*, v., 387? *L. pulicaria*, *Id. l.c.*, ii., 24.

Roker, Boldon Flats, &c.—*T. J. B.* February—June.

9. *B. DORIS*, *Panz.*

*Lopha assimilis*, *Steph. Illust., Mand.*, ii., 23, pl. 10., f. 5.

One specimen, on the Till —*J. H.* July.

10. *B. QUADRIGUTTATUM*, *Fab.*

*Lopha quadriguttata*, *Steph. Illust., Mand.*, ii., 22.—*Catalogue*, No. 1.

In some plenty, at Cottingwood, near Morpeth.—*Mr. John Scott.*

11. *B. RUFIPES*, Sturm.

*Peryphus decorus*, *Steph. Illust., Mand.*, ii., 14.—*Bembidium brunnipes*, *Dej. Icon.*, iv., 412, pl. 218., 2.—*Peryphus albipes*, *Steph. l.c.*, v., 386.

*Var. a.* "*Elytris oblongo-ovatis, convexis; antennis nonnunquam testaceis.*"

*Bembidium stomoides*, *Dej. Icon.*, iv., 413, pl. 218, 3.—*B. albipes*, *Heer, Fn. Col. Helv.*, i., 133.

The variety has occurred, but very sparingly.—*T. J. B.*

12. *B. NITIDULUM*, Marsh.

*Peryphus nitidulus*, *Steph. Illust., Mand.*, ii., 14.—*Catalogue*, No. 6.—*P. affinis*, *Steph.*, v., 386.—*P. rufipes*, *Steph. Manual*, No. 415.

This species varies much in size, form, colour, and sculpture.

13. *B. MONTICULUM*, Sturm.

*Peryphus agilis*, *Catalogue*, No. 8.—*P. monticulus*, *Steph. Illust., Mand.*, v., 386?

14. *B. DECORUM*, Panz.

*Peryphus decorus*, *Catalogue*, No. 7.—*P. viridi-aeneus*, *Steph. Illust., Mand.*, ii., 15.—*P. agilis*, *Id. l.c.*

Among gravel, near the junction of Caer Burn with Wooler Water.—*J. H.*

15. *B. PRASINUM*, Duft.

*Jacquelin Duval, Ann. Soc. Ent. France*, 1852, 104.—*Peryphus olivaceus*, *Steph. Illust., Mand.*, ii., 16.—*P. Leachii*, *Id. l.c.*—*Catalogue*, No. 10.

Very sparingly distributed, occurring generally singly, rarely in pairs. It has been found at a short distance beyond the district, on the banks of the Irthing, in Cumberland.—*T. J. B.*

16. *B. FASCIOLATUM*, Duft.

"*Supra obscure viridi-aeneum, depressiusculum; thorace brevi, subcordato, postice sat fortiter coarctato, angulis posticis leviter prominulis; elytris elongato-ovatis, fortiter*

*striatis, striis sæpius distincte punctatis, vitta lata submarginali obsoleta rufo-brunnea; antennarum articulo basali, tibiis tarsisque rufo-testaceis."*

Jacquelin Duval, *Ann. Soc. Ent. France*, 1852, 109.

Var. a. "*Supra obscure cyaneum; elytris concoloribus; antennarum articulo basali, tibiis tarsisque obscure rufo-testaceis."*

*Bembidium cœruleum*, *Dej. Icon.*, iv., 398, pl. 216, 3.—*Boisd. et Lacord. Fn. Ent. Paris*, i., 278.—*Heer, Fn. Col. Helv.*, i., 131.

Var. b. "*Minor; capite thoraceque viridi-cyaneis, elytris obscure cyaneis, concoloribus; antennarum articulo basali, tibiis tarsisque rufo-testaceis."*

*Peryphus atrocœruleus*, *Steph. Illust. Mand.*, ii., 17.—*Catalogue*, No. 11.—*Bembidium cyanescens*, *Wesmael, Bull. Acad. Roy. Brux.*, p. 48, 1835.

Var. c. "*Supra viridi-cœneum aut viridi-cyaneum, subdepressum; thorace subquadrato, postice minus coarctato, basi rectius truncato, angulis posticis prominulis, elytris olongo-ovatis, concoloribus; antennarum articulo basali, tibiis tarsisque testaceis."*

*Elaphrus tibialis*, *Duft. Faun.*, ii., 209.—*Peryphus tibialis*, *Steph. Illust. Mand.*, ii., 15.—*P. enemerythrus*, *Steph. Manual*, No. 421.—*Catalogue*, No. 9.

M. Jacquelin Duval has united the apparently distinct insects above cited. Taking, as the type, *B. fasciolatum*, *Duft.*, he finds the distinct reddish band of the elytra diminish gradually, till it at length disappears; the colour at the same time losing its bronzed hue, and becoming more or less blue. It then forms the *B. cœruleum*, *Dej.*, from which, by *cyanescens*, *Wesm.* (*atrocœruleus*, *Steph.*), he passes on to *tibialis*, *Duft.* (*tibialis* and *enemerythrus*, *Steph.*); remarking, that the form of the thorax is of little value, since it is subject to considerable variation.

The type does not occur in this country, but specimens somewhat approaching to *cœruleum* are of occasional occurrence; *atrocœruleus*, the intermediate variety, and more especially *tibialis*, are exceedingly common throughout the year.—*T. J. B.*

17. *B. TRICOLOR*, *Fab.*

*Heer. Fn. Col. Helv.*, i., 128.—*Jacquelin Duval, Ann. Soc. Ent. France*, 1852, 120.—*B. scapulare, Dej. Icon.*, iv., 370, pl. 212, 5.—*Heer, l.c., App.*, 564.—*Elaphrus testaceus, Duft. Fn.*, ii., 214.—*B. obsoletum, Dej. Icon.*, iv., 384, pl. 214, 4.—*Heer, l.c.*, 130.—*Peryphus saxatilis, var., Catalogue*, No. 4.—*P. neglectus, Dawson, Ann. Nat. Hist.*, N.S., iii., 214.

18. *B. SAXATILE*, *Gyll.*

*Peryphus saxatilis, Steph. Illust., Mand.*, ii., 12, &c.—*Catalogue*, No. 4.—*P. elegans, Steph. l.c.*, v., 386.

19. *B. BRUXELLENSE*, *Wesmael.*

"*Viridi-æneum, subdepressum; thorace brevi, subcordato, basi distincte punctulato; elytris oblongo-ovatis, fortiter punctato-striatis, striis postice obsoletis, septima tenui, maculis duabus magnis testaceis; antennarum articulo primo, sequentibus basi, pedibusque rufo-testaceis, femoribus brunneis vel obscuris, palporum articulo penultimo obscuro.*"

*Wesmael, Bull. Acad. Bruxel.*, 47, 1835.—*Jacquelin Duval, Ann. Soc. Ent. France*, 1852, 130.—*Bembidium femoratum, Gyll. Ins. Succ.*, iv., 406.

This species, which, till Dr. Schaum pointed it out in Stephens' collection, was confounded by the most of British entomologists with *B. femoratum*, is rare; the only specimens that I have seen, were taken on the mud of Gosforth Lake.—*T. J. B.*

M. J. Duval remarks, that in this species the dilatation of the sutural colour is just in the middle of the elytra, whereas it is behind the middle in *femoratum*.

20. *B. FEMORATUM*, *Sturm.*

"*Viridi-æneum, subdepressum; thorace breve, subcordato, basi obscure punctulato; elytris elongato-ovatis, subtiliter punctato-striatis, striis postice obsoletioribus, septima nulla; maculis duabus majoribus testaceis; antennarum articulis duobus primis aut primo tantum, sequentibus basi, pedibusque rufo-testaceis, femoribus brunneis vel obscuris, palporum articulo penultimo obscuro.*"

*Peryphus femoratus*, *Catalogue*, No. 1.

The type is rare; I have only met with a few specimens of it on the banks of the Derwent, above Gibside. A pretty variety, with the legs mostly pale, is more common, being the most abundant species on the banks of upland streams, and occurring throughout the year.—*T. J. B.*

21. *B. CONCINNUM*, *Steph.*

*Peryphus concinnus*, *Catalogue*, No. 2.

22. *B. RUPESTRE*, *Fab.*

*Peryphus rupestris*, *Catalogue*, No. 3.—*Peryphus tetraspilotos*, *Steph. Illust.*, *Mand.*, v., 385.

M. J. Duval, contrary to the opinion of all recent naturalists, considers this to be *Carabus ustulatus*, of Linnæus. As this opinion is subject to much dubiety, it appears preferable to adhere to the name by which it is more generally known.

23. *B. LUNATUM*, *Duft.*

*Peryphus lunatus*, *Catalogue*, No. 5.—*P. ustus*, *Steph. Illust.*, *Mand.*, ii., 14.

This species affects the banks of upland streams. I have found it on the banks of the Irthing, in Cumberland, where it occurs most plentifully in June, but has been found so late as October.—*T. J. B.*

24. *B. OBLIQUUM*, *Sturm.*

*Dej. Icon.*, iv., 347, pl. 210, 2.—*Heer, Fn. Col. Helv.*, i., 125.—*Jacquelin Duval, Ann. Soc. Ent. France*, 1852, 157.

One specimen, on the bed of the lake, at Gosforth, in August.—*T. J. B.* *Notaphus obliquus*, Stephens, belongs to *B. ustulatum*, Fab., (*varium*, Jacquelin Duval.)

25. *B. BIGUTTATUM*, *Fab.*

*Philothus biguttatus*, *Steph. Illust.*, *Mand.*, ii., 8.—*Catalogue*, No. 3.—*P. fuscipes*, *Catalogue*, No. 2.—*P. subfenes-tratus*, *Steph. l.c.*—*Bembidium vulneratum*, *Dej. Icon.*, iv., 448, pl. 222, 4.—*Philothus guttula*, *Steph. l.c.*, ii., 9.

26. *B. ÆNEUM*, Germar.

*Philocthus æneus*, *Steph. Illust., Mand., ii., 7.*—*Catalogue*, No. 1.

M. Jacquelin Duval is in a mistake, when, as a trait of difference between this and the preceding, he considers this as exclusively maritime.

In Berwickshire, it constantly occurs inland, and I found it among the gravel of Wooler Water, not two miles from the base of Cheviot. At Dunstonborough, on the other hand, it occurred in the same marsh with the two well-marked states, registered in the *Catalogue* as *Philocthus fuscipes* and *P. biguttatus*, and which I still consider as presenting claims to distinction.—*J. H.*

27. *B. GUTTULA*, Fab.

*Philocthus guttula*, *Catalogue*, No. 4.—*Tachys binotatus*, *Steph. Illust., Mand., ii., 5.*—*Catalogue*, No. 1.—*T. vittatus*, *Steph. l.c.*—*Philocthus hæmorrhous*, *Ib. l.c., 9.*

28. *B. OBTUSUM*, Sturm.

*Tachys immunis*, *Steph. Illust., Mand., ii., 6.*—*Catalogue*, No. 2.—*T. obtusus*, *Steph. l.c.*—*T. pusillus*, *Id.*—*T. gracilis*, *Id.*

Equally as common as the preceding. It is often found plentifully during the winter months, in moss.

29. *B. QUINQUESTRIATUM*, Gyll.

*Gyll. Ins. Suec., ii., 34.*—*Elaphrus Pumilio*, *Duft. Faun., ii., 214.*—*Ocys currens*, *Steph. Illust., Mand., ii., 10.*—*Catalogue*, No. 1.

Morpeth.—*Mr. John Scott.* Benton Bank.—*T. J. B.* Aug.

30. *B. RUFESCENS*, Guérin.

*Boisd. et Lacord, Faun. Ent. Paris, i., 273*—*Heer, Faun. Col. Helv., i., 123.*—*Ocys melanocephalus*, *Steph. Illust., Mand., ii., 10*, pl. x., f. 2.—*Catalogue*, No. 2.—*O. tempestivus*, *Steph. l.c., 11.*

†31. *B. INCURVUM*, De Jean?

*Tachys minutissimus*, *Catalogue*, No. 3.

This is not indigenous, being a native of the banks of the Mississippi, in North America. How it got introduced into my collection, I can only conjecture. In preparing for the *Catalogue*, I found it standing among the insects from the locality cited for it; but it may have been inadvertently placed there by the party who set up the insects, and who may have found it floating in his tea-cup.—*J. H.*

32. *B. LATERALE*, *Leach*.

*Cillenum laterale*, *Catalogue*, No. 1.

In abundance, near Camboise, in May.—*Mr. John Scott*. Under stones, between tide-marks, near Budle, in June.—*J. H.*

HYDRADEPHAGA.

FAMILY 1. DYTICIDÆ.

52. *HALIPLUS*.

3a. *H. CONFINIS*, *Steph*.

*Steph. Illust., Mand.*, ii., 41.—*H. lineatus*, *Aubé. Heer, Fn.*

*Col. Helv.*, i., 162.—*H. obliquus*, *Catalogue*, No. 3. *Var. 2.*

Kenton, Gosforth, Marsden, Boldon Flats, &c. April.

56. *HYDROPORUS*.

5. *H. DORSALIS*. Not uncommon, at Gosforth.—*T. J. B.* July—October.

9a. *H. GYLLENHALII*, *Schiödt*.

*H. rufifrons*, *Steph. Illust., Mand.*, ii., 56.

Very rare; Gosforth.—*T. J. B.*

9b. *H. TRISTIS*, *Payk*.

*Heer, Fn. Col. Helv.*, i., 158.

Not common; Prestwick Car. July.—*T. J. B.*

10. *H. ANGUSTATUS*. Gosforth.—*T. J. B.* Whitsunbank Moss.—*J. H.*

10a. *H. obscurus*, *Sturm.**H. umbrosus*? *Steph. Illust., Mand., ii., 55.*Rare; Gosforth, and Prestwick Car.—*T. J. B.* May—July.This appears to be a very local species, and hitherto only taken in a small mountain tarn, near Killarney, in Ireland.—*T. J. B.*10b. *H. granularis*, *Linn.**Steph. Illust., Mand., ii., 58.*Tolerably abundant in pools and ditches, at Boldon Flats.—*T. J. B.* May—June.10c. *H. geminus*, *Fab.**Steph. Illust., Mand., ii., 57.*One specimen, from a pond at Gosforth.—*T. J. B.* August.13. *H. memnonius*. Gosforth, Boldon Flats, and Whittle Dean.—*T. J. B.* May—September.17. *H. rivalis*. Wooler Water.—*J. H.*59. *COLYMBETES.*3a. *C. bistriatus*, *Berg.**Steph. Illust., Mand., ii., 71.*In a moss, on Whitsunbank Hill.—*J. H.* July.4a. *C. fontinalis*, *Steph.**Steph. Illust., Mand., ii., 66.*In a clear stream, on Hedgehope.—*J. H.* July.5. *C. chalconotus*. Dunstonborough Castle, and Whitsunbank Hill.—*J. H.*6. *C. affinis*. Boldon Flats, and very abundant, in a pond, at Gosforth.—*T. J. B.* May—July.7. *C. paludosus*. Near Dunstonborough Castle.—*J. H.*8. *C. femoralis*. Gosforth and Boldon Flats, in abundance.—*T. J. B.* May—October.8a. *C. dispar*, *Bold.**Zoologist*, 1849, *Supplement*, xxiv. — *Tyneside Nat. Club Trans.*, i., 277.Boldon Flats.—*T. J. B.* May—June.

15a. *C. GUTTIGER*, Gyll.*Steph. Illust., Mand., ii., 81.*In abundance, in a pond, at Gosforth.—*T. J. B.* May—Oct.15b. *C. ANGUSTIOR*, Gyll.*Steph. Illust., Mand., ii., 81.*In a moss, on Whitsunbank Hill.—*J. H.* July.

## PHILHYDRIDA.

FAMILY 1a. HETEROCERIDÆ, *Mac Leay.*63a. HETEROCERUS, *Bosc.*1. *H. MARGINATUS*, *Fab.**Steph. Illust., Mand., ii., 100.*On mud, at Gosforth.—*T. J. B.* Banks of the Till, below Weetwood Bridge.—*J. H.* May—July.2. *H. PUSILLUS*, *Hope.**Steph. Illust., Mand., v., 395.*One specimen at Camboise.—*Mr. John Scott.*

## FAMILY 1. PARNIDÆ.

65. *ELMIS.*1. *E. VOLKMARI.* Whittle Dene and elsewhere. — *T. J. B.*  
April—August.2. *E. TUBERCULATUS.* Washington and Whittle Dene.—*T. J. B.*  
May—July.4. *E. PARALLELIPIPEDUS.* Whittle Dene and Ouseburn; not un-  
common.—*T. J. B.* May—July.5. *E. ÆNEUS.* Base of Hedgehope, and in Wooler Water.—*J. H.*  
July.

## FAMILY 2. HELOPHORIDÆ.

66. *HELOPHORUS.*4. *H. VIRIDICOLLIS.* In the marsh, at Dunstanborough Castle.  
I take it for a highly-coloured variety of *H. granularis.*—  
*J. H.*

66a. HYDROCHUS, *Germar.*1. H. ELONGATUS, *Fab.*

*Steph. Illust., Mand., ii., 110.*—*Curtis, Brit. Ent., pl. 359.*

Rare; Boldon Flats; in May.—*T. J. B.*

2. H. BREVIS, *Herbst.*

*Steph. Illust., Mand., ii., 110.*

Not rare; Gosforth, and near Long Benton. May.—*T. J. B.*

It frequents the shallow muddy parts of ponds, and is very lethargic in its motions.

‡3. H. PARUMOCULATUS, *Hardy.*

*Angustatus, subcylindricus, testaceo-brunneus, opacus; thorace inæquali vix foveolato; coleopteris obsolete crenato-striato-punctatis, sutura, interstitiisque 4-parum elevatis; tarsi elongatis; oculis minutis.* Lon. corp. vix. lin. 1.

Very narrow, nearly cylindric, light brown, dull, not brassy; eyes minute, not prominent; thorax cylindrical, unequal, indistinctly foveolated; coleoptera somewhat faintly crenate striated, the suture and four interstices, two on each elytron, slightly elevated; legs brunneo-testaceous, longish, tarsi testaceous, curved, elongate, especially the last joint; antennæ thin, and with the rather short palpi, testaceous.

I have no record for this beyond finding it in my collection, made near Newcastle. I take it for a foreign insect, introduced in the same manner as *Bembidium incurvum*.—*J. H.*

## 67. OCHTHEBIUS.

2. O. EXSCULPTUS. Abundant, on stones exposed to the full force of the stream. Mitford, Morpeth, Washington, and Whittle Dene. April.—*T. J. B.*2a. O. BICOLOR, *Kirby.*

*Steph. Illust., Mand., ii., 115.*—*Muls., Col. de France, Palpi-cornes, 64.*

Not uncommon, on the mud of a runner, at Gosforth.—*T. J. B.* July.

## 68. HYDRÆNA.

1. H. PIPARIA. In a small stream, near Akeld Hill.—*J. H.*

2. *H. NIGRITA*. The most abundant species, of this genus, in the district. Morpeth, Gosforth, Ouseburn, Boldon Flats, and Whittle Dene.—*T. J. B.* March—October.

## FAMILY 3. HYDROPHILIDÆ.

## 69. LIMNEBIUS.

- 2a. *L. PAPPOSUS*, *Mulsant*.

*Muls.*, *Col. de France*, *Palp.*, 92.—*L. mollis*? *Steph. Illust.*, *Mand.*, ii, 121.

Shotley Bridge.—*T. J. B.* July.

70a. PHILHYDRUS, *Solier*.

1. *P. MELANOCEPHALUS*, *Fab.*

*Muls.*, *Col. de France*, *Palp.*, 137.—*Hydrobius melanocephalus*, *Steph. Illust.*, *Mand.*, ii, 129.—*Var. H. testaceus*, *Fab. Syst. El.*, i, 252.—*Id. Steph.*, *l.c.*—*H. torquatus*, *Id.*—*H. ochropterus*, *Id. l.c.*, 130.

The variety *testaceus*, in old peat heaps, on Whitsunbank Hill.—*J. H.*

2. *P. MARGINELLUS*, *Fab.*

*Muls.*, *Col. de France*, *Palp.*, 141.—*Hydrobius affinis*, *Steph. Illust.*, *Mand.*, ii, 131.—*H. marginellus*, *Id. l.c.*

With the preceding, but more abundant.—*J. H.* July.

## 71. LACCOBIUS.

3. *L. MARSHAMI*. This is probably a variety of *L. globulis* and, like it, is generally distributed.

71a. CHÆTARTHRIA, *Waterhouse*.

1. *C. SEMINULUM*, *Payk.*

*Steph. Illust.*, *Mand.*, ii, 135.—*Id.*, v, 401.

Among rubbish, near the mill-lead, at Winlaton Mill.—*J. H.*

## FAMILY 4. SPHÆRIDIIDÆ.

## 74. CYCLOGOTUM.

1. *C. ORBICULARE*. In a pond, at Gosforth.—*T. J. B.* May.

## FAMILY 5. AGATHIDIIDÆ.

## 75. PHALACRUS.

1. *P. CORUSCUS*, Payk. *Steph. Illust., Mand.*, ii., 161.—*P. Ulicis*, *Catalogue*, No. 1.

## 76. EPHISTEMUS.

1. *E. GLOBULUS*. Near Axwell Park.—*T. J. B.* Yeavinger Bell.—*J. H.*

## 77. LEIODES.

4. *L. DUBIA*, Illiger. *Anisotoma dubia*, *Erichson, Ins. Deutsch.*, iii., 60.—*L. rufipennis*, *Catalogue*, No. 4.
6. *L. HUMERALIS*. Under bark of Scotch pine, amongst a dense collection of *Stemonitis fasciculata*; Whitsunbank Hill.—*J. H.*
7. *L. ABDOMINALIS*. One specimen with the preceding.—*J. H.*

## 78. AGATHIDIUM.

3. *A. ATRUM*. Whittle Dene, and in fungi, at Gosforth.—*T. J. B.* Budle Crag.—*J. H.* May—October. *A. rufipes*, of Stephens, belongs to this species.
5. *A. PUMILUM*, Hardy.

*Parvum, obovato-globosum, valde convexum, nigrum, nitidum; thoracis limbo postico ferrugineo-brunneo; elytris post basin paritercum thoracelatitudinis, postice sub-acuminatis, dense evidenter punctatis, apice, suturaque interdum, piceis ferrugineisve; stria suturali nulla; pedibus antennisque rufis; clava harum picea vel nigra, articulo ultimo pallidiore. Long. corp. lin.  $\frac{3}{4}$ —1.*

*A. orbiculare, Catalogue*, No. 5.

Small, obovate-globose; somewhat less than *A. lævigatum* (*A. orbiculare*, Steph.); considerably more convex, and with a narrower thorax; black, polished, shining; antennæ red, the club rufo-fuscous, but sometimes black, with the apical joint rufous at the tip; club thickish, of three joints, the two first transverse, cup-shaped, the third semiglobose; head and thorax finely and closely

punctulate; the former black; the oral parts piceous or rufo-piceous, the left mandible large and prominent; thorax considerably convex, narrowish, not broader than the widest part of the elytra, the hinder and lateral margins nearly forming a semi-circle; the fore angles in a smaller arch; sometimes piceous; the lateral and hinder margin rufo-brunneous, which tint is broadest at the posterior angles; sometimes also the fore-margin is narrowly of this hue; scutellum triangulate, smooth, of considerable size; the elytra very convex, somewhat gibbous, in breadth nearly in proportion with the thorax; truncate obliquely at the shoulders; slightly narrowed behind; the suture prominent; very thickly and distinctly punctate; no sutural stria; either entirely black, or, with the apex, and the suture, particularly posteriorly, brunneous; legs rufous.

Occasionally under bark of trees, but more frequently among moss, or beneath stones and rubbish; Carr's Hill, Ravensworth, North Sunderland, Hartlepool. In Scotland, it has occurred in Berwickshire and Aberdeenshire.—*J. H.*

6. *A. LYCOGALÆ, Hardy.*

*Parvum, obovato-globosum, multum convexum, nigrum, nitidum; thoracis limbo laterali, ferrugineo-brunneo; elytris post basin pariter cum thorace latitudinis, apice sub-acuminato, minus dense, subtiliter punctulatis, stria suturali dimidiata; antennis pedibusque rufis, clava illarum nigra, apice articuli ultimi plerumque piceo. Long. corp. lin.  $\frac{3}{4}$ —1.*

*Amisotoma rotundatum, Gyll. Ins. Suec., iv., 513!—Agathidium nannum, Catalogue, No. 6.*

Somewhat less than *A. pumilum*, and very closely resembling it; the elytra scarcely quite so convex; black, shining, polished; antennæ nearly as in the preceding, the base rufous, the club black, the apical joint somewhat piceous at the tip; oral parts rufo-piceous, sometimes rufous; the left mandible strong and projecting, pitchy; head and thorax extremely finely, but not very closely punctulate; the lateral margin somewhat widely, and the hinder, and sometimes the anterior, very finely rufo-brunneous,

but the two latter are often concolorous; scutellum of considerable size; elytra at the widest, nearly of the breadth of the thorax, rather narrowed behind, at the shoulders truncate obliquely, very convex, finely, and somewhat thickly punctulate; a short stria on each side of the suture posteriorly, which reaches, before it fades out, about half-way between the tip and the base; the apex rarely piceous; wings dusky; legs rufous, hinder edge of the thighs, rarely piceous.

Under bark of Scotch fir, amongst *Stemonitis fasciculata*. In Berwickshire, both perfect insect and larva occur in *Lycogala miniata*. It has also been found in Aberdeenshire.—*J. H.*

#### 79. CLAMBUS.

1. *C. ARMADILLUS*. In some plenty, on a board, laid on rotten dung, at Long Benton.—*T. J. B.* June.

#### NECROPHAGA.

##### FAMILY 1. SCAPHIDIIDÆ.

#### 81. SCAPHISOMA.

1. *S. AGARICINUM*, *Linn.*

*Var.* "Rufo-piceum, elytrorum apice, antennis pedibusque testaceis."

*Erichson, Ins. Deutsch.*, iii., 9.—*S. Boleti, Steph. Illust., Mand.*, iii., 4.

In July, I took twenty-five specimens, in a bunch of *Agarics*, at Gosforth. The same *Agarics* were tenanted by a colony of *Formica flava*. I have also taken this species in decaying fungi, so late as October.—*T. J. B.*

#### 82. CATOPS.

3. *C. FUSCUS*, *Panzer.* *C. picipes, Catalogue*, No. 3.
4. *C. CHRYSOMELOIDES*. On the sea-coast, near Shoreston.—*J. H.*
- 5a. *C. TRISTIS*, *Panzer.*  
*C. clavicornis, Steph. Illust., Mand.*, iii., 9.  
 In Ravensworth woods.—*J. H.*
6. *C. NIGRICANS*, *Spence.* *C. nigrita, Catalogue*, No. 6.

8a. *C. WATSONI*, *Spence*.

*Ptomophagus Watsoni*, *Steph. Illust., Mand.*, iii., 6.

One specimen, with *C. chrysomeloides*, on the links, near Shoreston.—*J. H.*

## FAMILY 2. SILPHIDÆ.

## 87. SILPHA.

4. *S. OPACA*. Long Benton.—*T. J. B.* Morpeth.—*Mr. John Scott*.

## 90. NITIDULA.

6. *N. BIPUSTULATA*. Gosforth, in June.—*T. J. B.*

11. *N. PUSILLA*. At sap, on the stumps of felled beech trees, Gosforth.—*T. J. B.* May.

12. *N. PYGMÆA*. Under bark of felled Scotch pine, at Gosforth, common.—*T. J. B.* May—August.

## 95. CATERETES.

1. *C. BIPUSTULATUS*. At Washington, in July.—*T. J. B.*  
2. *C. RUFILABRIS*. Gosforth.—*T. J. B.*

## FAMILY 4. ENGIDÆ.

## 97. IPS.

- 1a. *I. QUADRIPISTULATA*, *Linn.*

*Steph. Illust., Mand.*, iii., 93.

Rare; on Scotch pine, Gosforth.—*T. J. B.* October.

## 99. RHYZOPHAGUS.

4. *R. CÆRULEUS*, *Waltl.*

*Waltl. Isis.*, 1839, 225.—*Erichson, Ins. Deutsch.*, iii., 236.—*Synchita nitidula*, *Duft. Faun. Aust.*, iii., 150.—*Rhyzophagus cyanipennis*, *Hardy, Ann. and Mag. Nat. Hist.*, xix., 379.—*Catalogue*, No. 4.

## FAMILY 5. MYCETOPHAGIDÆ.

## 109. ATOMARIA.

1. *A. PUSILLA*, *Payk.*

*Heer, Fn. Col. Helv.*, i., 432 —*A. phæogaster*, *Steph. Illust., Mand.*, iii., 65.—*Catalogue*, No. 1.

Near Shoreston.—*J. H.* June.

2. *A. ATRICAPILLA*. Near Shoreston, North Sunderland, and Embleton.

- 3a. *A. MESOMELAS*, *Herbst*.

*Steph. Illust., Mand.*, iii., 67.—*Erichson, Ins. Deutsch.*, iii., 386.—*Corticaria dimidiata*, *Marsh. Brit. Ent.*, i., 112.—*Atomaria dimidiata*, *Steph. l.c.*

A pair taken at Gosforth, in July.—*T. J. B.*

5. *A. FUSCIPES*. Budle Crag.—*J. H.*

115. *CORTICARIA*.

2. *C. CRENULATA*. On the sandy sea-coast, at Bamborough, North Sunderland, and Embleton; and likewise at Marsden.—*J. H.* May—June.

5. *C. GIBBOSA*. At Budle Crag, along with *C. TRANSVERSALIS*.—*J. H.*

124. *XANTHOLINUS*.

4. *X. TRICOLOR*. I frequently find this species under vegetable refuse, in gardens, more particularly in autumn.—*T. J. B.*

131. *STENUS*.

16. *S. PICIPES*. Axwell and Washington.—*T. J. B.*

148. *PHILÆONOMUS*.

2. *P. IOPTERUS*. Gosforth.—*T. J. B.*

149. *OMALIUM*.

7. *O. FLORALE*. Gosforth.—*T. J. B.*

161. *MYLLENA*.

1. *M. DUBIA*. Gosforth.—*T. J. B.*

166. *OXYPODA*.

4. *O. TESTACEA*. Gosforth.—*T. J. B.*

167. *HOMALOTA*.

7. *H. IMMERSA*. Gosforth.—*T. J. B.*

171. *OCALEA*.

1. *O. PICATA*. In fungi, Gosforth. October.—*T. J. B.*

## OBSERVATIONS.

Previous to the publication of Mr. Selby's "*Fauna of Twizell*," in 1839, the notices of Coleopterous Insects, found in the counties of Northumberland and Durham, are extremely meagre. Wallis, in his "*Natural History and Antiquities of Northumberland*," published in 1769, remarks, that "insects and reptiles are numerous, and might fill a volume. I shall only take notice of such as are most remarkable for beauty and curiosity, and shall point out, in my way, their culinary, medical, tinctorial, and other uses," (vol. i., 347.) However, he appears to have paid most attention to the *Lepidoptera*, of which he enumerates a considerable number, for when he comes to speak of *Coleoptera*, he remarks (p. 364), "*Vagipennia*, or insects with case-wings, of beauty or curiosity, are not observed with us in any great variety." He enumerates only four species, viz., *Melolontha vulgaris*, *Aphodius fimetarius*, *Rhynchites Betulæ*, and *Anobium striatum*. One of these, *R. Betulæ*, is doubtful. In Hogg's "*Natural History of the vicinity of Stockton*," published in 1827, as an Appendix to Brewster's "*History and Antiquities*" of that place, fourteen species of beetles are enumerated, none of them, with the exception of *Malachius æneus*, of any rarity. Mr. Selby's "*Fauna of Twizell*," published in Vol. III. of the "*Annals of Natural History*," enumerates "upwards of 600 species of *Coleoptera*." With the exception of a few doubtful synonymes, this list has been cited throughout. To promote the objects of the present *Catalogue*, the respected author has kindly forwarded a series of the *Brachelytra*, from his estate, including most of the species that he has enumerated. The only other writer, whose remarks have been published in a collected form, is the Rev. George Ornsby, to whose "*Sketches of Durham*" (1846), is appended, with other Catalogues, a "List of some of the Insects found in the county." Of the 194 species of beetles mentioned, about half-a-dozen have not since been met with, and, consequently, stand on his authority.

In the record of species, we have been under obligations to several local collectors. The collections of Messrs. Albany and John Hancock have furnished many rarities; and the *Catalogue* will testify how much the Entomology of the district owes to the researches of Mr. Wailes.

The system generally followed in the *Catalogue*, is that of Mr. Westwood, given in the "*Synopsis of the Genera of British Insects*," appended to the 2nd volume of the "*Introduction to Entomology*." His list of genera, however, has undergone various modifications, derived from more recent sources. It has been the writers' aim to employ the oldest, or most legitimate epithet, to which each species is entitled; they are aware, that in some instances, in this respect, they are behind the mark; but regret this the less, that the precedence of several names, at present in vogue, does not, in every case, appear to be satisfactorily established.

The *Catalogue* contains 353 genera, and upwards of 1,170 species, certainly more than one-third of the whole British *Coleoptera*. To this number, it is probable there are several others to be added, for the limited time at the disposal of the writers has not enabled them to examine the southern and western portions of the district.

From the want of materials for comparison, in the absence of local works of a similar design, little can be said regarding the distribution of the species of *Coleoptera* included in the *Catalogue*, further than as they occur within the limits to which it is confined. There are scarcely any data for determining to what degree the character of the rock formations of the district modify the distribution of the *Coleoptera*; or, whether the supposed relations between these is not merely dependent on a false analogy. The hygrometric condition of soils overlying rocks, together with the nature of the herbage which they produce, exert a much more sensible influence on insects than a difference of mineral constituents in the substrata, or even in the soils which result from their decomposition. Wherever uniformity prevails, as in cultivated districts, dry pastoral tracts covered with grass, or wide heathy moors, insects will be found, whatever be the subjacent rock, to be equally deficient in species and in individuals. A varied mechanical state of the soil, an alternation of moisture and dryness,

fertility and barrenness, of height and hollow, of shelter and exposure, cold and heat, in short, a happy combination of extremes, appear to afford the ground work for a rich insect fauna. It is on the borders of the ocean, by the banks of rivers and lakes, the edges of swamps, mosses, and heaths, in the shelter of the hedgerow, by the borders of fields, in the glades and margins of woods, and the open sylvan glen, rather than the sunless depression, or the shady depths of the forest, and the vicinity towards the apex, rather than the bulk of the mountain, that the Coleopterist gathers his richest harvest. Among the diversities of condition, it would be easy to point out a series of districts, each characterized by peculiar inhabitants. The most marked of these is the sea-coast, or littoral region. This may be again sub-divided into the littoral, and sub-littoral or maritime. To the former belong the *Coleoptera* that frequent the sand-hills and the sea-banks, of which we have as representatives:—*Dromius fasciatus* (not exclusively), *Calathus flavipes* (fulvipes, Gyll.), *C. mollis*, *Broschus cephalotes*, *Ophonus puncticollis*, *O. pubescens*, *Blemus lapidosus* (for the most part), *Licinus depressus*, *Corticaria crenulata*, *Saprinus maritimus*, *Ægialia globosa*, *Euchlora Julii*, var. *Frischii*, *Apion Ononis*, *Cneorhinus geminatus*, *Sitona grisea*, *Cleonus sulcirostris*, *Otiorynchus rugifrons*, *O. atro-apterus*, *Psylliodes marcida*, *Laoria hirta*, *Sarrotrium muticum*, and, for the most part, *Rhyzobius Litura*, and *Coccidula rufa*, &c. To the latter belong the species dwelling under sea-weed, or in sand, or that find a lurking place in the fissures of rocks, or beneath stones daily submerged by the tide. Such are—*Æcus fulvescens*, *Bembidium laterale*, *Cercyon littorale*, *Philonthus Xantholoma*, *Ph. Fucicola*, *Oxytelus flavipes*, *Micralymma brevipenne*, *Omalium læviusculum*, *Phytosus spinifer*, *Aleochara obscurella*, *Homalota Algæ*, *H. sericans*, and *Tachysa uvida*. The occupants of cultivated and pastoral districts, of the woodlands, of marshes and of river banks, of stagnant or running waters, &c., might, in like manner, be classified, but they are too numerous to admit of special indication. Heaths afford a well-marked selection, borrowing, however, occasionally from the adjacent bogs. To these belong:—*Tarus basalis*, *Olisthopus rotundatus*, *Angutor Anthracinus*, *Omaseus Orinomus*, *Steropus*

*Æthiops*, *Trechus similis*, *T. cognatus*, *T. collaris*, *Loricera pilicornis* (not always thus limited), *Carabus arvensis*, *C. nitens*, *Staphylinus latebricola*, *Myrmedonia canaliculata* (in common with the sea-coast), *Aphodius Lapponum*, *Strophosomus limbatus*, *Ceutorhynchus Ericæ*, and *Haltica oleracea*, (sometimes, however, locally attached to *Helianthemum vulgare*). The mountain district is formed from a conjunction of the heath, bog, and pastoral divisions, prolonged to such an altitude, as shall permit species of an alpine character to descend, mingle with, and at length displace the hardier natives of the inferior region, that venture to intrude into the domain of clouds and snow. It is only in the Cheviot range that this limit is attained, and the species characteristic of it, so far as a limited and partial survey has permitted of their being ascertained, are:—*Carabus glabratus*, *Calathus micropterus*, *Geotrupes vernalis*, *Anthophagus alpinus*, *Arpedium brachypterum*, *Homalota nivalis*, and *Otiorthynchus maurus*.

It might be expected that the *Phytophagous* Beetles would occur in company with the plants on which they depend for subsistence, wherever these spring up in abundance. This is far, however, from being the case, even in places situated within the same parallel. Thus, at Wooler, the *Echium vulgare* yields *Ceutorhynchus Echii*, and *Longitarsus femoralis*, while at Budle, this plant is destitute of insects; and in the same manner, *Veronica Anagallis* is rich in *Gymnaëtron niger* near the one place, while it is absent from it at the other. The Water-cress is inhabited by a variety of insects, often differing according to the locality. *Geranium sanguineum* so profusely distributed among the sand-hills of North Northumberland, is unfrequented by insects, while, near Hartlepool, it supports *Limobius fulvipes* and *Celioides Geranii*. The reason of these beetles being present at Hartlepool, appears to be that they primarily proceed from Castle Eden Dene, which links the inland region with the coast.

From Northumberland being nearly encircled with moors on the west, and by the Cheviot and its spurs to the north, from the Lammermoors of Berwickshire, still farther behind, drawing a still broader line of demarcation, to intercept whatever might advance either towards the north or south, along the narrow

passes; it happens, as might be anticipated, that several *Coleoptera*, belonging to the east coast of England, fail to surmount the barriers thus reared to impede their progress. The most important interruption, whatever be the cause, takes place before even the nearest of these limits is arrived at, in the tract a little to the north of Newcastle. The following species either keep to the south of the Tyne, or do little more than cross it, or, at least, have not been detected farther to the north than the vicinity of Morpeth, viz.:—*Anchomenus oblongus*, *Agonum quadripunctatum*, *Platyderus ruficollis*, *Argutor Anthracinus*, *Pterostichus parumpunctatus*, *Trechus placidus*, *Licinus depressus*, *Leistus spinibarbis*, *Bembidium rufescens*, *B. tricolor*, *B. obliquum*, *B. gilvipes*, *Haliphus cinereus*, *Hydroporus dorsalis*, *Hyphidrus ovatus*, *Pælobius Hermannii*, *Colymbetes dispar*, *C. guttiger*, *Gyrinus Urinator*, *Agathidium Globus*, *Scaphidium quadrimaculatum*, *Scaphisoma Agaricinum*, *Phosphuga polita*, *Thymalus limbatus*, *Nitidula pygmæa*, *Rhyzophagus cæruleus*, *Cerylon Histeroides*, *Latridius angusticollis*, *Corticaria linearis*, *Philonthus splendidulus*, *Xantholinus fulgidus*, *X. tricolor*, *Phlæocharis subtilissima*, *Phlæonomus inflatus*, *Anthobium triviale*, *Boletobius formosus*, *B. castaneus*, *Homalota immersa*, *Phlæopora corticalis*, *Tachyusa uvida*, *Calodera rubicunda*, *Falagria sulcata*, *F. thoracica*, *F. obscura*, *Saprinus virescens*, *Aphodius subterraneus*, *A. fætens*, *Rhisotrogus solstitialis*, *Eubria palustris*, *Telephorus clypeatus*, *Malachius bipustulatus*, *Dasytes viridis*, *Tillus elongatus*, *Pyrochroa rubens*, *Ischnomera lurida*, *Platydemia ænea*, *Anthribus albinus*, *Rhynchites conicus*, *R. Pauxillus*, *Apion affine*, *A. rufirostre*, *A. pallipes*, *A. Sorbi*, *A. afer*, *Cneorhinus exaratus*, *Balaninus villosus*, *Tachyerges Saliceti*, *Ceutorhynchus pyrrhorrhynchus*, *C. melanarius*, *C. Asperifoliarum*, *C. marginatus*, *Cleopus pulchellus*, *Trypodendron domesticum*, *Callidium Alni*, *Clytus arcuatus*, *Tetrops præusta*, *Saperda ferrea*, *Toxotus meridianus*, *Cassida sanguinolenta*, *Galeruca Viburni*, *G. Xanthomælena*, *Calomicrus circumfusus*, *Haltica flexuosa*, *H. 4-guttata*, *Longitarsus pusillus*, *Psylliodes affinis*, *Cryptocephalus sericeus*, *C. minutus*, and *Triplax ænea*. The following proceed further northwards, but are not known to cross the Tweed, viz.:—

*Dromius melanocephalus*, *Calathus flavipes* (fulvipes, Gyll.), *Colymbetes vitreus*, *C. angustior*, *Leiodes abdominalis*, *Cateretes rufilabris*, *Typhæa fumata*, *Philonthus micans*, *Stenus atratulus*, *Homalota Callicera*, *Tachyusa constricta*, *T. cœrulea*, *Apion nigrিতarse*, *Erirhinus scirrhosus*, *Galeruca Cratægi*, and *Phædon Armoraciæ*. Some of these may yet be traced to a further distance, but this will not impeach the accuracy of the conclusion, that the majority of them attain their northern limit within the district. Some *Coleoptera*, that are common to the district, with the south and west, and the inland parts of Scotland, appear to branch off from, or towards the western coast of the island, since no trace of them has been found further to the north-east, these are:—*Badister* (*Trimorphus*) *humeralis*, *Argutor vernalis*, *Bembidium pusillum*, *Haliphus confluent*, *Phalacrus coruscus*, *Phosphuga sinuata*, *Oiceoptoma thoracica*, *O. appendiculata*, *O. dispar*, *Camptia lutea*, *Ips quadriguttata*, *Tychus niger*, *Sinodendron cylindricum*, *Melanotus fulvipes*, *Dasytes æratus*, *Phloiophilus Edwardsii*, *Helops striatus*, *Melandrya Caraboides*, *Magdalis carbonaria*, *Clytus Arietis*, *Pogonocherus hispidus*, *Strangalia elongata*, *Cryptocephalus Lineola*, *C. labiatus*, and *Clythra 4-punctata*.\* *Pachyta octomaculata*, so frequent at Gibside, has, as yet, been repeated in Scotland by only a single specimen, observed in the east of Berwickshire. *Melolontha vulgaris*, another familiar insect, has offered a few individuals in the lowlands of Berwickshire; but there is a gap of fully fifty miles before it again appears in the vicinity of Edinburgh. To the latter place, however, there is uninterrupted communication with the west of Scotland, which the species also frequents. In common with many of the *Mollusca*, several *Coleoptera* reach a higher latitude on the western side of the island than on the eastern.

In the course of the Catalogue, the following species have, for the first time, been characterized as British, viz.:—*Stiliculus rufipes*, *S. affinis*, *Stenus atratulus*, *Bledius subterraneus*, *Arpedium brachypterum*, *Omalium conformatum*, *Anthobium triviale*, *Myllæna gracilis*, *Oxyptoda testacea*, *O. lentula*, *Homalota nivalis*, *H.*

\* Some of these results are obtained by a comparison with Mr. Murray's "*Catalogue of Scottish Coleoptera*," now in the press.

*Algæ*, *H. immersa*, *H. autumnalis*, *H. caruta*, *H. celata*, *H. hygrophila*, *Tachyusa uvida*, *T. flavitarsis*, *T. carbonaria*, *Calodera rubicunda*, *Gymnaetron niger*, *Longitarsus apicalis*, *Bembidium Bruxellense*, *Agathidium pumilum*, and *A. Lycogolæ*. *Agonum quadripunctatum*, *Bembidium tricolor*, *B. obliquum*, *Colymbetes dispar*, *Catops montivagus*, *Rhyzophagus cæruleus*, *Aphodius Lapponum*, and *A. uliginosus* are likewise recent additions to the British Fauna.

The relative number of species in each family, will be seen from the following Table:—

Cicindelidæ .....	1	Brought forward .....	770
Carabidæ .....	147	Cleridæ .....	5
Dyticidæ .....	62	Ptinidæ .....	12
Gyrinidæ .....	5	Bostrichidæ .....	6
Heteroceridæ .....	2	Scydmanidæ .....	3
Parnidæ .....	8	Notoxidæ .....	1
Helophoridæ .....	15	Pyrochroidæ .....	1
Hydrophilidæ .....	11	Lagriidæ .....	1
Sphaeridiidæ .....	13	Mordellidæ .....	6
Agathidiidæ .....	16	Cantharidæ .....	1
Scaphidiidæ .....	17	Salpingidæ .....	5
Silphidæ .....	15	Oedemeridæ .....	4
Nitidulidæ .....	28	Melandryidæ .....	2
Engidæ .....	24	Cistelidæ .....	2
Mycetophagidæ .....	35	Helopidæ .....	1
Dermestidæ .....	5	Diaperidæ .....	1
Staphylinidæ .....	242	Tenebrionidæ .....	4
Pselaphidæ .....	9	Blapsidæ .....	1
Byrrhidæ .....	7	Bruchidæ .....	2
Histeridæ .....	14	Atteblabidæ .....	49
Lucanidæ .....	1	Curculionidæ .....	139
Geotrupidæ .....	2	Scolytidæ .....	11
Aphodiidæ .....	24	Cerambycidæ .....	8
Trogidæ .....	2	Lepturidæ .....	9
Melolanthidæ .....	5	Crioceridæ .....	10
Etateridæ .....	25	Cassididæ .....	4
Cebrionidæ .....	1	Galerucidæ .....	56
Cyphonidæ .....	8	Chrysomelidæ .....	30
Lampyridæ .....	1	Erotylidæ .....	1
Telephoridæ .....	21	Endomychidæ .....	1
Melyridæ .....	4	Coccinellidæ .....	26
Carried forward .....	770	No of Species .....	1,172

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## ABBREVIATIONS OF AUTHORITIES.

<i>Boisd. et Lacord.</i>	<i>Boisduval and Lacordaire</i>
<i>Bon.</i>	<i>Bonelli.</i>
<i>Creut., Creutz.</i>	<i>Creutzer.</i>
<i>Curt.</i>	<i>Curtis.</i>
<i>Dej.</i>	<i>De Jean.</i>
<i>Duft., Dufts.</i>	<i>Dufschmid.</i>
<i>Ent. Hefte.</i>	<i>Entomologische Hefte.</i>
<i>Erich., Erichs.</i>	<i>Erichson.</i>
<i>Fab.</i>	<i>Fabricius.</i>
<i>Fisch.</i>	<i>Fischer.</i>
<i>Forst.</i>	<i>Forster.</i>
<i>Geoff.</i>	<i>Geoffroy.</i>
<i>Germ.</i>	<i>German.</i>
<i>Grav.</i>	<i>Gravenhorst.</i>
<i>Gyll.</i>	<i>Gyllenhal.</i>
<i>Hoff., Hoffg.</i>	<i>Hoffmansegg.</i>
<i>Ill., Illig.</i>	<i>Illiger.</i>
<i>Kugel.</i>	<i>Kugellan.</i>
<i>Latr.</i>	<i>Latreille.</i>
<i>Linn.</i>	<i>Linnaeus.</i>
<i>Mannerh.</i>	<i>Mannerheim.</i>
<i>Marsh.</i>	<i>Marshall.</i>
<i>Meg.</i>	<i>Megerle.</i>
<i>Müll.</i>	<i>Müller.</i>
<i>Newm.</i>	<i>Newman.</i>
<i>Nicol.</i>	<i>Nicolai.</i>
<i>Nordm.</i>	<i>Nordmann.</i>
<i>Oliv.</i>	<i>Olivier.</i>
<i>Panz.</i>	<i>Panzer.</i>
<i>Payk.</i>	<i>Paykull.</i>
<i>Reich.</i>	<i>Reichenbach.</i>
<i>Sahlb.</i>	<i>Sahlberg.</i>
<i>Schönh.</i>	<i>Schönherr.</i>
<i>Schüp.</i>	<i>Schüppel.</i>
<i>Schuck.</i>	<i>Shuckard.</i>
<i>Steph.</i>	<i>Stephens.</i>
<i>Thumb.</i>	<i>Thunberg.</i>
<i>Waterh.</i>	<i>Waterhouse.</i>
<i>Westw.</i>	<i>Westwood.</i>
<i>Wils. and Dunc.</i>	<i>Wilson and Duncan.</i>

ADDRESS TO THE MEMBERS OF THE TYNESIDE  
NATURALISTS' FIELD CLUB,

READ AT THEIR SEVENTH ANNIVERSARY MEETING, HELD IN THE  
COMMITTEE ROOM OF THE LITERARY AND PHILOSOPHICAL SOCIETY  
OF NEWCASTLE-UPON-TYNE, MARCH 30TH, 1853. BY THE PRESI-  
DENT, CHARLES THORP, D.D., F.R.S., ARCHDEACON OF  
DURHAM, WARDEN OF THE UNIVERSITY OF DURHAM.

GENTLEMEN,—It is my duty to bring before you, as briefly and  
as clearly as I may, the transactions of the past year.

In doing so, let me acknowledge the high and undeserved  
honour you have conferred upon me, by calling me to this chair ;  
and also entreat you to extend to me the indulgence I so greatly  
need and so earnestly desire, seeing how little I am qualified, by  
previous habits and pursuits, to fill this place to your satisfaction  
and my own.

True it is, the study of nature has ever been a delight to me ;  
pleasure beyond price to watch

—— the living herds profusely wild  
Spread o'er the deep-green earth—

to mark their various properties and virtues ; to

—— pierce into those secret stores  
Of health, and peace, and joy—

and, in the contemplation of the wonders of creation, to adore

—— the Source of beings, who, with a master's hand,  
Hath the great whole into perfection touched.

But the cares and callings of active life hath left but short  
intervals for such enjoyments, or the studies and investigations  
connected with them ; and, with an ardent love of nature, I  
cannot but feel myself altogether wanting in the scientific  
information which the President of such a Society as yours  
ought surely to possess.

Happily, the knowledge I so greatly covet, but cannot hope to  
acquire, is widely spread among our members. You number

with yourselves men of research and eminent attainments, with whom it is a pride to be associated in any walk of science, and whose success, in the branches you cultivate, gives the best stimulus and encouragement to those who humbly follow, though at adistance, in their steps. Let me exhort you to pursue, at any cost of labour and denial, the objects of our search ; and with severer studies, that you may the better prosecute them, I would urge you to embrace all the opportunities of social intercourse and friendly communication our periodical meetings afford, and freely also to enjoy the innocent, peaceful, improving relaxations, and healthful pleasures, to which the Naturalists' Field Club invites us.

For, not unrecompensed the man shall roam,  
Who at the call of summer quits his home.  
Dear is the forest frowning o'er his head,  
And dear the velvet green-sward to his tread.  
Moves there a cloud o'er mid-day's flaming eye,  
Upward he looks, and calls it luxury.  
Kind nature's charities his steps attend ;  
In every babbling brook he finds a friend ;  
Whilst chastening thoughts of sweetest use, bestowed  
By wisdom, moralize his pensive road.

I cannot doubt but that I shall best consult your wishes and convenience by going at once *in medias res*, and presenting an account of our proceedings from the very interesting notes which your able Secretary has prepared, and put into my hands for your use.

The FIRST MEETING of the year was held at Lumley, twenty-five members being present on that occasion ; and the happy selection of the place gave the opportunity not only of examining the many natural objects with which the locality abounds, and acquainting the Society more fully with the productions of an important district, but also of visiting two remarkable places of the county of Durham, Lumley and Lambton Castles, distinguished by beauty of scenery and historic monuments, with the ancient collegiate church of Chester-le-Street, not less curious and engaging to many of our members, filled with memorials of the

past, and suggesting to the mind instructive reflections, civil and ecclesiastical. Some of the ancient architectural features (*e.g.* very rich *sedilia*) have been uncovered within a few days. No foreign or native scenery can exceed the charm of the river in these parts, and onwards to Durham, though here and there deformed by the works of man, as forsooth at Lumley, where we find the inhospitable lock barring the transit of the breeding fish, and sacrificing to mere unprofitable selfishness the noble salmon, one of the best productions and ornaments of our waters; for it is notorious that the salmon is lost to the Wear.

The pleasing incidents of this day were closed by the addition of sixteen valuable members to our body.

The SECOND ASSEMBLY, of sixteen associates, was at Featherstone and Haltwhistle, on the 14th of June; when the lovely and striking scenery of the country, of the wild moors, and of our noble river Tyne, assuming there a very different character from what it bears in this our busy mart of commerce, a pure and silver stream, save when perchance the foaming torrent pours down the brown and turbid waters of the mountain and the fen, gave to our friends exquisite pleasure and satisfaction.

Every one who has known these scenes, whether in his rambles of exercise, or sport, or curiosity; tracing the ancient Wall, the boast of the Roman, the reproach of the destructives who levelled it with the dust; or gathering flowers by the running brook, or the bluebell and gowan of the haugh; or breathing the fragrance of the blooming heather of the uplands; will recal these hours of enjoyment with delight.

Neither can I think of them without reference to my early friend, the historian of Northumberland, Mr. Hodgson, to whom I owe my first acquaintance with the North Tyne—an excellent and gifted man, whose praise it was to give the first impulse in these parts to the innocent studies of our Club; and who passed among us a blameless and useful life, respected and beloved, in the duties of his holy calling, and in the pursuits of natural science and archæological research, apart from the struggles of the world, and superior to the vulgar objects of selfishness and ambition.

I can render no greater service to our younger members than to exhort them to cherish the memory of such a man, and emulate the bright example of diligence, faithfulness, humility, and truth, which his character commends to our imitation.

Four members were, after a frugal banquet, which closed a pleasant day, enrolled in our Society.

THE THIRD MEETING, appointed at Castle-Eden the 16th July failed, in some measure, from the General Election, which then engaged the public attention. Men's minds were otherwise occupied at that time, and I find no other result than a resolution you will not fail to accomplish, to explore at some other season the wonderful Dene, so famous and so attractive; Heseldene also, and the country around it. No spot, perhaps, on the earth's surface presents in so small a space such a variety of interesting natural objects as Castle-Eden Dene. Here we have the *Lady's Slipper*—I prefer the old English names, when they sufficiently indicate the plant—not found elsewhere, and now scarce, for would-be botanists are apt to misappropriate what they cannot secure and enjoy, in vain attempts to propagate, in other soils, plants which only thrive and flourish in their own; and others of great curiosity and rarity, such as the *Narrow-leaved White Helleborine*, *Fly Orchis*, *Butterfly Orchis*, and *Basil Thyme*.

Rare insects, too, are found in this place—of butterflies, *Clouded Saffron*, *Camberwell Beauty*, *Durham Argus*, and others, particularly those which affect the magnesian limestone. Their appearance is capricious, regulated by no known law; they are each, from time to time, and in successive swarms, seen in great abundance; while in other years the entomologist makes his toilsome search in vain.

In Heselden Dene, I would remind the young enquirer, curious plants and animals exist, some of which we do not find in its neighbouring dene.

Our FOURTH VISIT was to Bamburgh, a locality of peculiar attractions and interest; for we find, in this neighbourhood, *Twisel House*, the seat of our most eminent northern ornithologist, my valued friend at school, and college, and through life, Mr. Selby,

with his magnificent collections ; *Spindlestone*, the retreat of the loyal Earls of Derwentwater, still lovely, though rudely, and in idle vengeance, stripped of its former splendour ; *Lindisfarne*, in the distance, the *Insula sacra* of Venerable Bede, with the ruins of its Abbey and Abbey Church, the parent church of Durham, and the model of its architecture ; the *Islands of Farne*, the lonely resting-place of St. Cuthbert, where he died, and where his Chapel and Cell are still seen, not uncared for ; and then, the *proud Castle*, crowning its majestic rock, towering over the surrounding district spread far beneath ; with the honoured *Parish Church*, to which, before St. Cuthbert, Aidan resorted in his walks of piety, and which bears his name ; its *Chancel* and *Crypt*,\* flanked by the poor remains of the monastic houses once so distinguished there ; and the *Glorious Sea*, studded with twenty islands, lying at the Castle's foot, and filled with objects of unrivalled curiosity and interest.

No one day, no one week, could suffice for these things ; no single valedictory address could do them justice. Each would employ a separate visit and require a separate theme ; and the multiplicity of objects before our eyes forced upon us the conclusion, that for your information other meetings must be held in

\* In the year 1847, this crypt was opened, and found to consist of a highly finished chamber, with a groined roof, having two narrow windows at the east end, above the altar, the supporters of which are broken off. In the south wall is a piscina, beneath a small window ; and the entrance door. In the roof is an iron staple fit to suspend a lamp.

In the north wall is a square opening three and a half feet high, leading to a narrow vaulted chamber, finished with plaster and a stone cornice, and having a window east.

The first apartment has clearly been a chapel ; but the purpose of the second is a matter of conjecture. It may have been a receptacle for the dead previous to interment, and it was called the Dead-house, or a chamber for the dying brought hither for extreme unction.

Here lies General Forster, condemned to death for high treason, A.D. 1715, but delivered from prison, by his sister Dorothy, now lying by his side. She rode to London, on a double horse, behind an Adderstone blacksmith, and getting an impression of the prison key, liberated her brother, and like Madame Lavalette, remained a prisoner in his place. Such is woman's love. The smith's name was Purdy, and his descendants are still smiths of Adderstone.

other seasons for the examination of the Holy Island, of Farne, and of Bamburgh itself. The memorials of Holy Island are the history of the Early English Church, its literature and science ; of Bamburgh Castle, the history of Britain ; and the Farnes, their rocks and waters, their flocks of sea-fowl, containing seventeen species, their submarine gardens, so beautiful to behold, their mineral, vegetable, and animal treasures ; supply to the naturalist and to the moralist the richest materials of profitable study, and of holy thought and meditation. Here, we might say, but we must not say it, Here we would rest for ever.

There were present twenty-one members, and eight new associates were elected.

I have pleasure in referring to a valuable paper, read after our repast by the Secretary, from the pen of Mr. Hancock, describing the curious habits of the *Stickleback* (a lowly denizen of our waters) ; the care of its young, and its nidification—a thing known to Aristotle, but not, as I believe, noticed by modern writers. Mr. Hancock's accurate observations leave no doubt of the fact, and illustrate in a beautiful manner this wise provision of nature, which secures by the instinct, say rather the reason and affections, of this little animal, the continuance of the species. I could wish this document to be read ; but if this may not be at present, let it have, as it deserves, from the interest of the narrative and the genius of the writer, the widest circulation in our Club.

A plant, new to this district, *Equisetum polystachion*, a variety of *E. palustre*, was seen by Mr. Storey, to the south of the Castle on the Links.

On this coast, and at no great distance, we have a curious relic, fast disappearing in the sea. It is the site of a temple of the northern deity *Woden*, and afterwards of a Christian church, of which last building, as of the first, the record only remains ; for the green hill on which they stood is now an islet of the river Alne, and crumbles daily into the waters beneath. Woden's name survives in that of the township, the township of Woden, and carries us far back to times of darkness and barbarism.

This churchyard furnished to Bewick one of the most instructive of his "tail-pieces," the broken gravestone—

Sacred to the Memory of

"One gone and forgotten,"

the crack, all through, leaving nothing legible, the rest covered with the praises and virtues of the unknown deceased.

I would mention that, in connection with *Spindlestone*, we have the legend of the Laidley (or loathsome) Worm, an enormous serpent that devoured the substance of the country, and scared the people; revelling in the muddy waters at the base of the trap rocks thrown up in this district, then a general swamp; and coiling itself up in a cave on the hill above, which even to my day had escaped the ruthless hammer, but now paves the streets of London. Thus, in the old song of 1272, founded on this tradition—

At this day may be seen the cave,  
Which held her folded up,  
And the stone trough, the very same  
Out of which she did sup.

But they are seen no longer. It may be that the remains of some such monster may still lie hid in the bogs beneath, to gratify a future excavator; and I mention the tradition here, as it goes far to confirm the views of your late President, given in an able paper to the Club, and clearly indicates what we cannot hesitate to recognize, the real existence in our island at an age not far distant of some great reptile of this species, which haply may yet be found alive in the remote regions with which we are about to make acquaintance.

Let me say that these local tales are not to be despised. They carry a hidden meaning, are usually founded in truth, and curious in themselves (with the property of always interesting the hearer), are to be taken and observed as a part of our domestic history, and of the annals of mankind.

In the same hills, I remember plots of ground, crofts called Friars' dales, with gardens, for the reception of lepers, reserved

to the religious houses for that purpose, shewing the recent prevalence of this noxious disease.

It is with regret that I have to record the fall of the best remaining portion of the old Priory Church of Lindisfarne, on the first of this month, the beautiful west end ; the north wall having tumbled into ruin in November last. It is to be feared that the building is shattered beyond repair ; whatever was most interesting has disappeared, and the material glory of Lindisfarne is lost to us for ever.

The FIFTH and last place of resort this year was, Otterburn, where the Club met on the hospitable invitation of Mr. Coward, the 2nd and 3rd September, six members being present on these days.

The places visited were *Elsdon Castle*, once a Peel tower, frowning defiance on the Scotch marauder, the property to a late period of the Umfrevilles, but now a peaceful parsonage ; the famed *Mote Hills* ; the *Silver-nut Well*, which throws up from time to time nuts preserved, impregnated, and silvered by the gaseous strata through which its waters flow ; *Otterburn*, known to northern story, and celebrated in song musical to our ears ; no longer the field of war and blood and violence, but the seat of peace and friendship and social happiness ; and the station of *High Rochester*, BREMENIUM, for a description of which, and the works in progress there, under the Duke of Northumberland, as no new discoveries were made this day, I refer you to our antiquarian annals, to the paper of Mr. Kell, and to the report tendered last year to the Archæological Institute, then sitting in Newcastle.

I pass these subjects of discussion, not as foreign to our Society, for they are strictly ours ; but because the time will not allow me to dwell upon them.

Yet you will agree with me that few objects of your enquiry are more interesting and important than those connected with the archæology of the North, especially of Durham and Northumberland. They illustrate the manners and situation of the people, mark the progress of civilization, with the development of arts and science, and tell of events of which no tongue speaks to us,

and of which the pen says nothing. Little should we know of our island in the times past, or of our ancestors, its inhabitants ; little of the Celtic or Saxon age, of Rome herself in Britain, if the antiquary was silent ; and but for the ancient ruin, the hidden temple, the buried villa, the broken wall, the tottering fortress, which shew us what is past and what to come, we should forget the law and condition of our being, the irrevocable decree, the sure decay and final disappearance of every work of man, of every thing human, and of the earth itself.

Mr. Headlam, the worthy representative of Newcastle, in Parliament, became a member this day.

The EVENING MEETING, which took place in the Literary and Philosophical Society's Library, Tuesday, 16th November, sixteen members and some ladies being present, closed the year, when I find a paper was read, commanding great attention, by my young friend, Mr. Featherstonhaugh, M.A., of Durham, upon the Evidences of the Roman Occupation of Chester-le-Street. I have not seen the notes whence this paper was delivered, but I learn that it evinced much power of research and observation ; and I congratulate you on the active services of a member so talented and well informed as Mr. Featherstonhaugh undoubtedly is.

I hope he did not fail to call attention to the genius of a modern Chester artist, preserved in a garden by the road-side, and ostentatiously exhibited—a mason, who thinking the Roman sculptor had not done justice to himself or his work in an altar of some value, re-dressed the relic in the improved fashion of the eighteenth century.

I would notice a few plants and animals of Durham, such as the *Dame's Violet*, the *Yellow Star of Bethlehem*, the *White Meadow Saxifrage*, the *Yellow Pansy* of our banks ; and a few charming songsters I remember when a school-boy, with the *Willow Wren*, *Redstart*, *Tree Pipit*, *Fly Catcher*, *Wood Warbler*, and other wanderers, which still gladden us from April to September. Some plants, I used to pick up at Houghall, were said to have been cultivated by the monks, men of learning and

curiosity, skilful botanists, expert also in science and in art; witness, were evidences wanting, the Church of Durham, and the splendid MSS. which adorn the Chapter Library.

The birds, I say so with much pain, are fast disappearing from the banks and walks of Durham, by reason of the ruthless practices of the egg collectors, and among them my schoolfellows, who debase the calling of the naturalist by purchasing the specimens they should gather; thus bribing the needy children of the city to plunder the nests of our little friends, deprive our neighbours of a rich enjoyment, inflict wanton pain, and destroy one of the most charming of nature's works. When will man learn to remember that his dominion over the animal creation is given as a trust?

It is pleasant to recur to these scenes of early youth, although the recollection tells us that the freshness, the sentiment, the poetry of life is gone.

I remember, I remember, the fir-trees dark and high,  
I used to think their slender spires were close against the sky.

I remember, I remember, the roses red and white,  
The violets and the lily cups, those flowers made of light,  
The lilac where the robin built . . . . .

I remember, I remember, when I used to swing,  
And through the air would rush as fresh as swallow on the wing,  
My spirit flew in feathers then . . . . .

And though these days had their sorrows too, we think with regret of the change from such joyous scenes to the sad realities of after-life, and forget that all this is in the order of Providence, all subservient to the great purposes of our being, all in advance towards the higher state of happiness and intelligence to which we are invited.

And now, gentlemen, I am admonished to close the sitting; thanking you, which I do most cordially, for the patient hearing and attention you have given to my story.

The year's transactions are in all respects encouraging, and shew you, in what has been done, how much more is within your reach. You have a rich field of enterprise and usefulness before you; and whatever be your measure of success, this you cannot doubt, that the studies and pursuits of the Club, the occupation

they give, the thoughts they inspire, the tempers they cherish and communicate, gratifying to ourselves, are wholesome to individuals and to society.

We may aspire to higher things ;—some are blessed with leisure and ability to attain them ;—we may desire to scan the glories of the heavens, and dive into the deep recesses of the earth.

—————Lunæque labores :

Unde tremor terris : quâ vi maria alta tumescant,

—————rursusque in se ipsa residunt :

to penetrate, as Newton did, the mysteries of the universe, and look with him beyond the stars ; to store up with Solomon all natural knowledge, "from the cedar of Lebanon to the hyssop on the wall, and animals and fish and reptiles ;" and fortunate and illustrious we may account him to be who boasts such vast acquirements, and grasps and masters these things—

Felix qui potuit rerum cognoscere causas,

Sin, has ne possim . . . . .

if this be beyond our reach ; if time or power or genius be wanting to us, there are humbler paths, not less honourable, not less safe, not less engaging, of pleasure and improvement within our reach.

Rura mihi et rigui placeant in vallibus amnes ;

Flumina amem sylvasque inglorius.

Despise not such quiet satisfactions. Cultivate these simple tastes, these unobtrusive habits. Separate yourselves from time to time, and as your engagements may allow, from the busy world its cares and its perplexities :

Talk with high objects, with enduring things,

With life and nature, purifying thus

The elements of feeling and of thought.

Every step you take in your field-walks may be, with God's blessing, a step in the way of wisdom and of peace ; every object you behold, the fertile glebe, the wild moor, the sea, the skies of heaven, the living creatures which adorn them, pour forth to the thoughtful mind ;—as to our own poet Wordsworth, nature's true child, who like the bee drank copiously, as the naturalist

will do, from every leaf and stone and flower, on every hill and in every dale ;—pour forth, I say, lessons of wisdom, precious as the teaching of the sage ; all ministering to our knowledge and advancement, carrying us from earth to heaven, and leading us upwards to the Cause of all we see and know, and can imagine ; all that is, or was, or shall be ; to the beneficent Creator, the Father, the great "I AM,"

To whom we bend the knee, to whom our thoughts  
Continual climb.

*Botanical Notices.* By Mr. JOHN STOREY.—The recent additions, to our Flora, of new plants, or of new habitats of rare species, though few, are not unimportant. At the Second Field Meeting of the Club, held in June last, I observed, on the banks of the Tyne, near Featherstone Castle, *Arenaria verna* and *Armeria maritima*.

*Thlaspi alpestre*, in flower and fruit, was growing plentifully in the same locality. In July, in company with Mr. Burnet, the elegant *Vicia sylvatica*, in full flower, and *Cnicus heterophyllus*, were met with, near Hareshaw-Lynn. On the same occasion, the following species were noticed :—*Crepis succisæfolia*, on the estate of the Duke of Northumberland, not far from the borders of Roxburghshire ; luxuriant examples of the beautiful *Galeopsis versicolor*, a little to the westward of Kielder Castle ; on the slopes of the Dead-water Fell, *Melampyrum pratense*,  $\beta$  *montanum*, Johnst. ; and, near the highest point of the Dead-water Fell, *Rubus Chamæmorus*. In the month of August, *Asplenium germanicum*, Weiss., was found, on basaltic rocks, in the north of Northumberland, by Mr. G. R. Tate, who has since obligingly favoured me with a frond of this very rare fern.

Mr. D. Oliver, jun., has noticed *Carex muricata*, at Newburn, and *Scirpus acicularis*, by the Tyne, near Wylam.

The habitats of many of the commoner species, in both counties have also been recorded, for the purpose of illustrating the Geographical distribution of Plants.

*Entomological Notices.* By Mr. T. J. BOLD.—A few interesting additions have been made to our local *Coleoptera*, by the occurrence of some of the rarer forms of our native *Hydrade-*

*phaga*. *Hydroporus Gyllenhali*, an exceedingly rare species, has been taken at Gosforth. Prestwick Car has furnished *Hy. tristis*, and *Hy. obscurus*, both interesting from their rarity; the only locality, hitherto recorded for the latter, being a small alpine tarn, on the summit of a mountain, near Killarney, in Ireland. It has also been taken at Gosforth, in company with *Hy. angustatus*. At the same time was captured a small, obscure species, also an addition to our catalogue, and apparently new to the British fauna.

*Cercyon centrimaculatum* has been detected at Long Benton, where it was found in some plenty. *Limnebius Papposus* has occurred at Shotley Bridge and at Gosforth. The last mentioned locality, has likewise furnished, *Ips quadripustulata*, *Atomaria mesomelas*, and *Scymnus nigrinus*: the last is a very rare British insect, and was beat out of the foliage of a scotch fir. Another interesting addition, is *Oömorphus concolor*, which was taken near Bothall, in July.

I have observed one of the Fossorial Hymenoptera, *Pemphredon unicolor*, to excavate the stems of rasps and brambles; in which it forms several oblong cells, provisioning them with a green wingless Aphis. The same species has also been noticed, but more rarely, burrowing in decaying white thorn stumps: and then was observed to have made use of the common black Aphis, which infests the bean, for provisioning its nidi.

*Notice of a New Shrimp.* By Mr. JOSHUA ALDER.—At Cullercoates, last autumn, I met with a new Shrimp which had been described by Mr. Spence Bate, in the Annals of Natural History, only a month or two before, under the name of *Hippolyte Barlei*, from a specimen got in Shetland. It is a small species, inhabiting pools among the rocks, and is often very prettily coloured. The prettiest variety has an opaque white carapace and a rose-coloured abdomen, with blue stripes on the legs. Mr. Bate described the species from a specimen in spirits which had lost its colours.

MEMBERS ELECTED SINCE THE LAST ANNIVERSARY MEETING, HELD  
APRIL 5TH, 1852 :—

At the LUMLEY MEETING, May 31st, 1852.—Revds. W. W.

Liddell, Easington Rectory ; T. E. Lord, West Rainton ; Messrs. Lewis Legge, jun., F. C. Legge, the Grove, Houghton-le-Spring ; F. H. Johnson, surgeon, Sunderland ; John Williamson, John J. Stephenson, South Shields ; Francis Sutton, John Robert Mather, C. T. Maling, W. H. Budden, R. C. Frost, John Mawson, W. A. Falconar, B. B. Blackwell, J. P. Dolphin, Newcastle.

At HALTWHISTLE, June 25.—Messrs. John Nicholson, surgeon, Hexham ; Benj. Gilpin, W. H. Crowder, George Greenwell Russell, Newcastle.

At BAMBURGH, 11th August.—John Hogg, Esq., Norton, barrister-at-law ; Messrs. Alex. Christison, Robert Falconar, John S. Pearce, M.R.C.S., John Gibson, William Gowan, Newcastle ; George Hadfield, Haltwhistle.

At OTTERBURN, 2nd September.—T. E. Headlam, Esq., M.P., 30, Lincoln's Inn Fields, London.

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It was moved by Mr. Kell, and passed unanimously,—

1st.—That the number of Vice-Presidents be increased from three to six.

2nd.—That those two members of the Committee, who, during their year of office, shall have least frequently attended the Committee meetings, shall be ineligible to be of the Committee for the ensuing year.

3rd.—That Rule VI. be altered by striking out the following words :—"That the cost of any lithographic or other illustrations be defrayed by the author of the paper for which they be required."

On the motion of Mr. Burnet it was resolved,—

That Rule 10 be altered so as to stand thus :—That all candidates, for membership, shall be proposed by two ordinary members, at any meeting of the Club : the proposal shall be in writing, and shall state the name and residence of the person proposed ; a majority of votes shall determine every election ; and the subscription for the current year, of every person so elected, shall be paid at the time of his election.

The following gentlemen were elected members :—John T.

Stephen, South Shields; H. C. Armstrong, Thomas Austen, Arthur Umphelby, Newcastle.

DAYS AND PLACES FOR THE FIELD MEETINGS IN 1853.

FRIDAY, May 27th.....Southwick and Washington.

FRIDAY, June 17th.....Alston.

THURSDAY }  
and } July 21st & 22nd, Teesdale.  
FRIDAY, }

WEDNESDAY, Aug. 17th.....Bardon Mill and the Northumberland Lakes.

FRIDAY, Sept. 16th.....Widdrington and Chibburn.

The under-mentioned gentlemen were appointed Officers for the year ending February, 1854 :—

PRESIDENT :

Sir WALTER C. TREVELYAN, BART.

VICE-PRESIDENTS :

W. KELL.

DENNIS EMBLETON, M.D.

JOSHUA ALDER.

JOSEPH FRYER.

RALPH CARR.

THOMAS SOPWITH, F.R.S.

TREASURER :

THOMAS BURNET.

SECRETARY :

JOHN STOREY, F.B.S.E.

COMMITTEE :

REV. G. COOPER ABBES.

ALBANY HANCOCK.

JOHN THOMPSON.

T. J. BOLD.

R. Y. GREEN.

EDWARD MATHER.

REV. W. GREENWELL.

REV. W. FEATHERSTONHAUGH.

RICHARD HOWSE.

JOSEPH BLACKLOCK.

R. S. COWARD.

JOHN STOREY, JUN.

X.—*Journal of an Excursion into Northumberland, in June and July, 1851.* By JAMES HARDY.

[Read, at the Anniversary Meeting, April 5th, 1852.]

On the 23rd of June, I reached Shoreston, near North Sunderland. June 24th.—I examined the sandy links between North Sunderland and Bamborough. A few good Diptera were taken. *Anthomyia mitis*, whose maggot is a miner in the leaves of the dock, was observed, in large numbers, freeing itself from the puparia, which had remained during the winter covered by the sands. The leaves of *Sonchus arvensis*, bore many of the purple pimples, occasioned by the larvæ of the small midge, *Cecidomyia Sonchi*; the terminal buds of *Veronica Chamædrys* were also attacked and distorted by those of *C. Veronicæ*; and the globular fleshy knots formed on the stems of *Galium verum*, by another species, *C. Molluginis* (Loew), were likewise conspicuous. The curious *Eupelia cuspidata*, one of the Homoptera, was swept from the herbage. Beetles were scarce, and were mostly taken by the hand, after beating the banks. The following were the most characteristic :—*Phytosus spinifer* (under sea-weed), *Aleochara Morion*, *Conurus pubescens*, *Mycetoporus splendidus*, *Scymnus discoideus*, var. *limbatus*, *Corticaria crenulata*, *Calathus flavipes*, Payk., and *C. mollis*, *Saprinus nitidulus*, *Atomaria pusilla*, Payk. (*Phæogaster*, Marsh.), *Dromius fasciatus*, *Dyschirius gibbus*, in a swampy spot, *Hypera Polygoni*, *Catops Watsoni*, new to the district, *C. chrysomeloides*, and a new species of *Agathidium*, *A. pumilum*, MS. *Micralymma brevipenne* was detected in some limestone shale near Monkshouse. The sandhills near Bamborough, produce an immense crop of ragworts (*Senecio Jacobæa*), many plants of which were affected with a disease occasioned by the presence of swarms of a small black Thrips, apparently *Thrips Physapus*, Linn. and Holiday, (Ent. Mag. iii., 449, and List of Homoptera, Brit. Mus. iv.), which prevents the plant from acquiring its due stature, and hinders the expansion

of the flowers, which, as well as several of the cauline leaves, are rendered quite hoary with a dense long wool-like down. *Aphis Hederæ* and *A. Pastinacæ* were noticed at Shoreston, the latter on fennel (*Foeniculum vulgare*).

June 25th.—I visited the basaltic height called Budle Crag. A few good insects were taken, such as :—*Agathidium atrum*, *Atomaria fuscipes*, *Stenus nigritulus*, *Quedius fuscipes*, *Aleochara Morion*, *Stilicus affinis*, *Lithocharis ochracea*, *Otiorhynchus scabrosus*, and *Dioctria rufipes*. In a small wood on the N.W. side of the hill, I got *Hylastes piceus*, Marsh. The leaves of the elms here were pouched and twisted by *Aphis Ulmi*. *Ceutorhynchus Boraginis* was met with on water-cresses, both here and at Budle, at the latter place accompanied by *Psylliodes Napi*. I was still more successful on reaching the sea-coast, within sight of the Heather Houses, where the following rare insects occurred under stones immersed at each return of the tide, viz :—*Aëpus fulvescens*, *Micralymma brevipenne*, *Bembidium (Cillenum) laterale*, *Phytosus spinifer*, and *Homalota sericans*. These were accompanied by numbers of the blue, sluggish *Achorutes maritima*, the *Podura maritima* of Otho Fabricius, (Faun. Grœnl. 212.) *Aëpus fulvescens* feeds on small Crustacea, apparently the young of *Orchesia littorea*, which it carries about in its mandibles, like a little terrier. On my return I followed a track skirting the shore, but excepting *Calodera longitarsis*, under stones at a swampy spot, where the Budle Hills terminate in the sea, I remarked nothing of interest.

June 26th.—I traversed the coast to the south, as far as Dunstanborough Castle. From the prevalence of sand links, there was little diversity in this dreary tract, from what I had seen on previous days further to the north. *Cynips aptera* and *Homalota lividipennis* occurred near Beadnell, as well as the customary species that frequent marine rejectamenta, such as :—*Phytosus spinifer*, *Omalium læviusculum*, *Oxytelus flavipes*, and *Aleochara obscurella*. After passing Beadnell, I observed several of the terminal buds of *Cerastium tetrandrum* much tumefied by the presence of *Aphis Stellariæ* (North Brit. Agriculturist, ii., 788, 1850.) in their interior. *Geranium sanguineum*, which

flourishes profusely here, did not furnish a single insect. Coasting the pretty bay of Embleton, solitary individuals of the fly, figured by Curtis as *Helcomyza ustulata* (*Actora æstum*, Meigen) fled my advancing footsteps along the beach. The sand here has an ochreous tinge probably acquired from the iron that enters into the composition of the adjacent basaltic rocks. Near the crags at Dunstanborough, *Philonthus micans*, *Lithocharis ochracea*, and *Stenus filum* were found secreted under decaying herbage, on the site of a dried up pool. *Colymbetes chalconotus* frequented the stagnant ditches, and *C. paludosus* the running waters. Behind the wall of the Castle, near the brink of the famous "Rumble Churn," I picked up *Dyschirius gibbus*. The *Cynthia Cardui* was sporting about here, as it had done on the previous day, on the heights near Budle, and this species has been rather common during the season. In connection with this, it may be worthy of notice that M. Ghiliani, of Turin, has recorded an extensive migration of this butterfly, observed on the 26th of April, 1851, in many provinces of Piedmont. The flight was directed towards the N.N.E. (Ann. Soc. Ent. France, 1851, Bulletin, lv.). Can any portion of these wanderers have reached our shores? Some of the basalt here is pitted, as if riddled with small shot.

June 27th.—While examining the fissures of the limestone rocks to the south of North Sunderland, I dug out *Æpus fulvescens*. The wild thymes (*Thymus Serpyllum*) here had many of those enlarged cottony buds, caused by the larvæ of a mite occupying them. This was first pointed out by Loew (Dipterologische Beiträge, iv., 24., Posen, 1850), and was at one time considered to be owing to a *Psylla* (*Chermes*, Lightfoot, Flora Scot., i., 18), or to the larvæ of a gall-midge (*Cecidomyia*) that harboured within them. The older botanists accounted plants in this condition as a distinct species. It forms the *Serpyllum vulgare, minus, capitulis lanuginosis* of Caspar Bauhin (Pinax, 220), and of Tournefort (Hist. Plant. Paris, 149). Tournefort, however, who had examined into the nature of several galls, ascribed the appearance to an insect. While leaning against a grassy wall, I got stung by one of the solitary bees, *Halictus rubicundus*. I

merely mention this to state, that the smart was like the burn of a nettle, or that occasioned by the sting of a pismire, but it soon subsided. These bees rarely use their defensive weapons. On the surface of the sandstone rocks, within sea-mark, to the north of the town, I observed numerous impressions, resembling those coils of sand cast up, at the present day, by marine worms. In former times, a portion of this district appears to have been wooded. Several years since, while a field was being drained below New Shoreston, a large quantity of hazel nuts was dug up, along with the antlers of a species of deer. The prevalence of wild oats (*Avena fatua*) in this district is remarkable, and very annoying to the cultivator. In one place I observed them mown like a crop of meadow grass, preparatory to turnip-making. The yellow mustard (*Sinapis arvensis*) is also a frequent weed, whence a popular adage has arisen:—"Runches and Wild Oats are the Badge of Bamboroughshire." At the period of my visit, the turnip beetle (*Haltica Nemorum*) had attacked many of the early sown turnips. The great pest of the turnip crop, this season, however, has been the small green caterpillar of *Plutella Cru-ciferarum*.

June 28th.—I walked to Belford, and thence over the moors to Wooler. The weather, as it had been on previous days, was remarkably sultry. The only insects met with worthy of notice were *Omius sulcirostris* and *Bradycellus collaris*. These were found under stones on the heights above Lyham.

June 30th.—I found myself on new ground. I first tracked the Wooler water upwards from the Mill to near the Haugh-head. *Ceutorhyncus Echii*, *Longitarsus femoralis*, the latter abundantly, frequented *Echium vulgare*; *Helodes Beccabungæ* and *Gymnaetron niger*, the *Veronica Anagallis*; and *Poöphagus Sisymbrii* and *Ceutorhyncus niger*, the water cress. Here also were *Chaetocnema aridella*, *Amara tibialis*, and *Dromius foveolus* in the drier places; *Philonthus fulvipes* and *Bembidium fasciolatum*, vars. *atroceruleum* and *tibiale*, amongst the gravel; and *Cryptohypnus quadripustulatus* and *Bledius subterraneus* on the sands. A specimen of a rare fly (*Xylophagus ater*) was also captured. I had met with it previously in Scotland, sitting on trunks of trees,

and have since reared it from the larvæ found in decaying birches, alders, and mountain ashes. Between Wooler Mill and Turvie-laws, the rare *Aplotarsus ? maritimus* of Curtis was found by the water's edge ; as was also *Dyschirius gibbus* and three specimens of *Stenus atratulus*, Erichson, a species unrecorded as British.

July 1st.—In the morning I set out for Hedgehope. Near Earl, I took *Malthinus brevicollis* and *Atopa cervina*. Entering the vale that conducts to Langleyford, among the gravel below the footbridge over Caer burn, a rivulet that joins the Wooler water here, were the following rarer beetles, viz :—*Tachyusa flavitarsis*, *Myllæna dubia*, *Epaphius secalis*, *Blemus paludosus*, and *Bembidium decorum*. In the sandy places by the side of Wooler water, *Cryptohypnus quadripustulatus* and *Bledius subterraneus* were prevalent on the sands, as were *Lesteva impressa* in marshes, and *Stenus guttula* and *Helobia nivalis* amongst gravel. A single specimen of *Monychus (Byrrhus) æneus* occurred under a stone. I found many dead specimens of a large brown *Coccus* on the sloe thorn (*Prunus spinosa*), which is closely allied to a species that occurs in Berwickshire, on the *Euonymus europæus*. Other insects worthy of notice were :—*Amara tibialis*, *Tachinus elongatus*, *Ragonycha paludosa*, *Athous vittatus*, *Podabrus alpinus*, *Otiorhynchus ligneus*, *Aphodius uliginosus* at the foot of Cheviot, and *Cionus Scrophulariæ* on *Scrophularia nodosa* near Langleyford. The birches at the base of Hedgehope offered only, *Anoplus plantaris* and *Bythoscopus flavicollis*. *Elmis æneus* was found on *Fontinalis antipyretica* in the streams. *Ceutorhynchus Ericæ* accompanied the heath (*Calluna vulgaris*) from the base nearly to the summit. Here *Ragonycha paludosa* assumed a very dark colour, and I imagined, but perhaps the observation was illusory, that *Rhagio scolopaceus* and *Panorpa communis* were unwontedly large. There was little to interest till I had surmounted the boggy ground, towards the upper part of which flourished the *Saxifraga stellaris* and *Trientalis europæa*, the latter dwarf and single-flowered, and a profusion of *Chrysosplenium oppositifolium* that matted over little rills of water of a crystal purity and of an icy coolness. Here *Omaseus Orinomus*, *Steropus Æthiops*, and *Bradycellus cognatus* began to

appear under stones and sods, along with numbers of *Helobia nivalis*, a species that ascended nearly to the summit. I had now gained the steepest part of the hill, which, where not interrupted by stripes of stones, is covered by short heath, so closely interwoven that it resembles a carpet. This was embellished by the snowy flowers of the Cloudberry, whose fruit is here called "Noops," the pale yellow and purplish spikes of the Cow wheat, and the delicate waxen bells of the Cowberry (*Vaccinium Vitis-Idæa*). The insect productions were fully as interesting, and occurred for the most part under stones and peat "haggs." Here for the first time, I met with *Calathus micropterus*, *Arpedium brachypterum* and *Homalota nivalis*, the two last new to Britain. *Aphodius Lapponum* also marked this point of elevation, including what I consider to be a black variety. There were, *Lathrobium fulvipenne*, *Stenus proboscideus*, *Quedius frontalis*, small specimens, *Q. molochinus*, *Othius melanocephalus*, *Lesteva obscura*, *Trechus minutus*, *Notiophilus aquaticus*, *N. palustris*, Duft. (*tibialis* Steph.), *N. biguttatus*, *Homalota analis*, *Loricera pili-cornis*, *Carabus violaceus*, *Colymbetes fontinalis*, in the clear rivulets, *Calathus melanocephalus*, in some instances with the thorax pitchy, *Patrobus excavatus* very prevalent, and *Cryptohypnus riparius*. Wireworms were not unfrequent, and appeared to be those of *Cryptohypnus riparius* and *Corymbites cupreus*. The summit is grassy, and near the apex there grow little thickets of stunted bilberry (*Vaccinium Myrtillus*). These places were inhabited by *Otiorhynchus Maurus*, a native of the cloud-capped mountains of Wales, and the Scottish Highlands. *Anthophagus alpinus*, another upland species, also appeared here, at an altitude of 2,347 feet above the sea. The lowland accompaniments were *Stenus impressus*, *Quedius Boops*, *Othius melanocephalus*, *Patrobus excavatus*, and the *Notiophili*. The stones that sheltered these insects were mostly those that had lain for a long period undisturbed. A pretty moth, of a kind I had not seen before, fluttered about; many long-legged Tipulæ (*T. hortensis* ?) were whisking athwart the heath; and in the black, bare, peaty rifts, there arose little parties of *Medeterus nebulosus*. The descent was soon accomplished. The blackbird piped his evening

lay in the vale below Langleyford, as I passed along, and at intervals I heard the cuckoo's cheerful note. Some naturalists would have us to believe that the cuckoo ceases to call before the end of June. The air was particularly fragrant, indicating an excess of moisture.

July 2nd.—Was wet and cold, but on the 3rd good weather returned. On this day I ascended the hill called Humbleton Heugh (locally Hummil Heugh), and thence struck across the heights to Yeavinger Bell, returning by the turnpike. These elevations composed of the same sort of porphyritic rock, have much in common, and being clothed almost exclusively with grass, are not favourable to a variety of entomological productions. On Humbleton hill the principal were, *Athous niger*, *Hypera punctata*, *Atopa cervina*, *Serica brunnea* (beneath a stone), *Cistela murina*, *Byrrhus Pilula*, *Malthinus brevicollis*, *Dromius foveolus*, *Corymbites cupreus*, *Acocephalus bifasciatus*; and on the summit, *Omius hirsutulus*, *O. sulcirostris*, *Scydmaenus pusillus* and *Chrysomela marginata*. The dwarf plants of *Achillea Millefolium* that grew on the top of the hill, had about their bases numerous stiff, bud-like productions, invested with a dense down. They were probably produced by the gall-midge *Cecidomyia Millefolii*, but were of nearly double the usual dimensions. This height commands an extensive prospect over many a fertile field, and many a scene of fatal border strife. At the base lies the battle field of Homildon, still called "Bloody Riggs." I descended towards the N.W. and wound up a deep waterless ravine on the bank of Akeld hill, where grew some scattered plants of *Teesdalia nudicaulis*, which likewise occurs on Yeavinger Bell. Descending next into a boggy slack called Gleed (*i.e.* crooked) Cleugh, I met with *Hydræna riparia* abundant in its little burn; and also *Cassida obsoleta* beneath a stone. On the next eminence, Whitehill, I found the black variety of *Aphodius Lapponum*. Yeavinger Bell now rose before me, the highest peak of the ridge that here places limits to Glendale. *Omius sulcirostris*, *Otiorynchus scabrosus*, *Cistela murina*, *Prosternon holosericeus*, and *Formica graminicola* were its insect occupants. Like Hedgehope it wears round its summit a small circlet of dwarf bilberries,

amongst which were the remains of *Otiorhynchus Maurus*. A solitary hive-bee was reposing in this airy region. The descent by the northern side is exceedingly abrupt. At its base, which is swampy, grows a bosket of scroggy alders, birches, guelder-roses, and willows. *Orchestes scutellaris*, *O. bifasciatus* and *Anobium castaneum* were its more select inhabitants. I reached the turnpike at the agricultural hamlet of New Yeaving. About a mile to the west, is Adgebrin or Old Yeaving, once, A.D. 627, the palace of the Saxon Kings of Northumberland.

July 4th.—My first object to-day was to visit Whitsunbank hill to the East of Wooler. The banks by the side of the road leading to it are a favourite resort of solitary bees. Those I took were, *Andrena cingulata*, *A. analis*, *Halictus minutus*, *H. nidiusculus*, and a *Nomada* allied to *quadrinotata*. On the heath *Bradycellus cognatus* and *B. collaris* were picked up. The dredge net brought up in the moss-pools *Colymbetes bistriatus*, *C. angustior*, *Philhydrus testaceus*, and *P. Affinis*, all desirable additions to the local Fauna. In this moss the Cranberry, *Vaccinium Oxycoccus*, grows in abundance. I swept up *Ragonycha paludosa*, *Telephorus dispar*, and *Cyphon griseus*. *Coccinella livida* was met with in an adjoining fir plantation, as also under the bark of decaying Scotch pines, were *Phloeopora corticalis* and *Othius alternans*. Another tree, which was smutted with a sooty fungus, *Stemonitis fasciculata*, produced *Leiodes humeralis*, *L. abdominalis*, and an *Agathidium*, apparently new, *A. Lycolæ*, MS. I descended on the N. E. to the turnpike, where *Gymætron niger*, as at Wooler, was the occupant of *Veronica Anagallis*. At Weetwood Bridge, I reached the Till, whose muddy banks, as I followed its windings downwards, presented a new field for inquiry. *Bledius subterraneus* was equally abundant as on the Wooler water; but was accompanied here by what I take for *Heterocerus marginatus*, but the specimens were remarkably dark. Both burrow in the mud. *Stenus guttula* was coursing about in the sunshine, along with the rare *Tachyusa chalybea*, and the equally rare and singular *T. constricta*. *Stenus bupthalmus* was very abundant, and *S. plantaris* lurked in the marshes. In the gravelly spots were *Bembidium paludosum*, *B.*

*flavipes*, and *B. punctulatum* ; also *B. (Lopha) Doris*, *B. obtusum*. var. *hæmorrhoum*, and *Clivina collaris*. *Cryptohypnus Quadrum*, *Coccinella quatuordecimguttata* (beat from willows), *Haltica Modeeri*, and *Trogophloeus fuliginosus* exhaust the catalogue of this day's rarities in Coleoptera. The marshes were frequented by numbers of *Ortalis crassipennis*, a rare and pretty fly.

July 5th.—I returned to Scotland.

*Penmanshiel, by Cockburnspath, Berwickshire,*  
February 10th, 1852.

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XI.—*Observations on the Nidification of Gasterosteus aculeatus and Gasterosteus spinachia.* By ALBANY HANCOCK.

[Read, at Bamburgh, August 11, 1852.]

It is only within the last few years that naturalists have clearly determined that some species of fish make nests for the reception of their spawn ; though Aristotle was actually acquainted with the fact about twenty-two centuries ago.

Five or six kinds are now ascertained to nidify ; and of these, two belong to the genus *Gasterosteus*,—one, *G. aculeatus*, the Three-spined Stickleback ; the other, *G. spinachia*, the Fifteen-spined Stickleback. The former is a well-known, active, and pugnacious little fish, inhabiting almost every pool and rivulet in the kingdom ; the latter is much rarer, and is a denizen of the sea.

Mr. Jonathan Couch states, in his interesting work entitled "Illustrations of Instinct," that the first detailed notice of the nest-building of the Three-spined Stickleback occurs in a little magazine, "The Youth's Instructor," for the year 1834. This notice is from the pen of Mr. T. Crookenden, a gentleman unknown as a naturalist ; but who has given a very faithful account, so far as it goes, of the nidification of this species. It contains all

that is at present known on the subject, and its accuracy can be verified by any one who will take the trouble to look into almost any pool of water during the summer months,—the breeding season of the Stickleback. At this time these fish will be observed near to the margins, busily engaged in building and guarding their nests; and shoals of the fry may be seen, in different stages of development, swimming about in all directions. But if we wish to study, to advantage, the nidification of this species, a few specimens should be placed in confinement about May or June; and then all their movements can be narrowly watched and accurately observed. Care must be taken, however, that they be left unmolested, and that their new abode resemble, as much as possible, their usual haunts. I have lately had an opportunity of noticing the habits of this fish, during the breeding season, under the above favourable conditions.

We have, for some time past, kept a glass trough filled with aquatic plants and animals; the bottom of this vessel is covered with mud, and the rock-work, piled up in the centre, is overgrown with a delicate hair-like *Conferva*; a few floating plants spread over the surface of the water, and innumerable *Entomostraca*, and other small Crustaceans, as well as various animalcules, swarm in all parts; the minute, but deadly, poison-armed *Hydra* also prevails where food is so plentiful; and a solitary individual of the great water beetle, *Dytiscus marginatus*, rambles over its watery domain, lord and master of all. Several of the freshwater Mollusca also people the trough, which on the whole has much the appearance of a miniature pond. Into this new home were put four or five sticklebacks last May; and they, at once, made themselves perfectly at ease. One, without the least hesitation, took possession of a certain spot, which it guarded with the greatest pertinacity, attacking vigorously any of its companions that might happen to approach the chosen locality. The beetle too, which sometimes came slowly paddling by, was pounced upon and unceremoniously tumbled over; but secure within his scaly armour, as the knights of old, he little heeded the onslaught of his naked assailant; so overpowering all opposition he scrambled onward in his undeviating path.

This fish was rather small, had the throat of a bright red colour, and the eyes of a brilliant bluish green. At first, all the others were pale ; but, in the course of a few days, one of them gradually assumed the rich hues of that just described, and soon afterwards it also became attached to a spot, taking up its abode in one of the corners of the trough. On examining attentively the two selected localities, a nest was found in each, composed of a collection of delicate vegetable fibres, resting on the bottom of the trough, and matted into an irregularly circular mass, somewhat depressed, and upwards of an inch in diameter ; the top being covered over with the same materials, and having, in the centre, a large hole. The fishes scarcely ever strayed from their nests, but were constantly on guard, defending or repairing them ; they were perpetually prying into the hole at the top and thrusting their heads right into it. On one occasion, one of them entered by this hole, and slowly forced itself right through the side of the nest ; as it gradually moved onwards, its body had a peculiar, lateral vibratile motion. They would frequently seize hold of the nest and give it a violent tug, shaking and tearing loose the vegetable matter of which it was composed ; at other times they would carry to it, in their mouths, fine conferva-stems, and press them with considerable force into the walls of the nest, or thrust them into the hole, which by this means, was sometimes partially concealed. Occasionally, each was observed hovering over its nest, with the head close to the orifice, the body being inclined upwards, at an angle of about  $45^{\circ}$ , fanning it with the pectoral fins, aided by a lateral motion of the tail. This curious manœuvre was apparently for the purpose, so to speak, of ventilating the spawn, which could be distinctly seen through the orifice at the top ; at least, by this means, a current of water was made to set in towards the nest, as was rendered perfectly evident by the agitation of particles of matter attached to it. This fanning or ventilating process was repeated, at short intervals, during the day, and every day until the spawn was hatched, to accomplish which took between two and three weeks.

Only one nest contained spawn ; the other was torn in pieces, and the materials scattered about, in the hope that we might have

the pleasure of seeing it reconstructed. In this we were not disappointed ; the fish immediately began to form a new nest in exactly the same spot, and by the following day it was more than half completed. It took a mouthful at a time, and was at some pains in adjusting each load, spreading the materials out, and pressing them down with its mouth ; it then drew its body slowly over the whole, vibrating, all the time, in the same peculiar manner as when it forced its way through the nest as before stated.\*

On the 13th of June, the hole at the top of the fruitful nest was found to be much enlarged, so that the entire mass of spawn was exposed to view ; and, on looking attentively, a few of the newly hatched fry were seen flitting about the walls of the nest. The assiduity of the parent was now greatly increased ; it never left the spot ; by night it rested either on the nest or by its side, and during day nothing was allowed to approach. It fiercely seized a quill that was passed down towards the object of its solicitude, with such vigour that the shock of attack was distinctly felt by the hand. Combats with its companions became more frequent ; but its ire was chiefly directed against its neighbour, which, like itself, was engaged in parental duties. This having also a nest to defend, never shrank from the conflict, and the encounters were therefore fierce and prolonged ; but, nevertheless, conducted with all due caution, and apparently with much science as the gentlemen of the ring would express it. The sparring was very wary, and generally lasted a few seconds before the combatants closed. The attack was usually commenced by one quietly creeping up, watching its opportunity ; on this the other, acting on the defensive, would turn its broad side to the enemy, and raising the ventral spine wait to receive the onslaught ; the assailant, intimidated by this formidable demonstration, would then slowly retreat, and in its turn had in the same manner to defend itself. After thus advancing and retreating for a few times, one, taking advantage of an unguarded moment, would

\* It is probable that it is the male fish which builds and guards the nest ; and, if so, it might, perhaps, be shedding the milt when dragging its body over and through the nest in the manner described.

rush in upon its opponent and butt at it with its head, apparently endeavouring to bite ; the other, rallying, returned the compliment, and after dashing at each other in this way two or three times, with extraordinary rapidity, the round would terminate, and each fish retreat to its nest, to recommence its more immediate nidamental duties.

The fry were at first so minute and transparent that they could scarcely be discerned as they lay partially concealed amid the meshes of the nest : every now and then a slight fluttering motion betrayed their position, otherwise it was almost impossible to distinguish them. As I was closely watching their motions, at this time, one of the newly hatched fishlings, with intrepidity beyond its experience, ventured to pass the limits of its cradle : in an instant the watchful parent was there, and with gaping mouth seized the little wanderer, which immediately disappeared, the jaws having closed upon it. Seeing this, I at once gave up the fry for lost, deeming that here was an instance of instinct at fault, and that all the affectionate solicitude of the parent was to end in its devouring its offspring. In this I was mistaken : the old fish, quietly returning, dropped the straggler into its nest lively and uninjured. During the whole of this day none of the fry were permitted to ramble beyond the precincts of their fold ; when any attempted to do so—and many did attempt—they were invariably brought back in the mouth of the parent : none escaped its vigilant eye, and it was amusing to see with what a hurried, fluttering motion the little things dropped almost perpendicularly down into the nest, so soon as they were released from the jaws of the parent.

It was three days before all the eggs were hatched, and the attention of the parent, during all this time, was unremitting. On the second day, I marked its manœuvres for five minutes, and found that, in this short period, it ventilated the nest eight times, warded off an attack of the neighbouring fish, and brought back to the nest a straggler or two. During this day the spawn was frequently examined by the parent, who would occasionally seize hold of it and give it a good shake ; apparently for the purpose of throwing off adherent matter, that the water might freely cir-

culate about the eggs. The parent would then dive, head foremost into the nest and bring out a mouthful of mud, which it would carry to some little distance and discharge with a puff.

The third day was passed much in the same manner, only as the eggs were now all hatched, the nest was less frequently fanned or ventilated ; and the fry, about forty in number, were allowed greater liberty ; the strongest being permitted to recreate themselves among the *Confervæ* that grew on a stone about 2 inches from the nest. On the fourth day the fanning had ceased altogether, and the rambles of the young were less restricted. They were not yet, however, permitted to pass beyond certain limits ; when any transgressed these bounds they were immediately seized, as heretofore, and carried back to the nest ; into which they were always very glad to escape from the clutches of their ardent parent. Notwithstanding all her vigilance, one contrived, on the fifth day, to escape her eye, and passing the fatal boundary was immediately devoured by the other fish, which now seemed always on the watch, neglecting its own barren nest, being intent only on appropriating to itself the nestlings of its fruitful neighbour. In this act of cannibalism we see the reason for the parent's anxious care and its jealousy of its kind ; and it is evident from Mr. Crookenden's account, previously quoted, that they greedily devour each other's spawn. The young fry, however, have other enemies as well as their own species. One day a favourite *Hydra* (*H. fusca*) was observed to be distended in a most extraordinary manner ; on examination, it was found to have swallowed the head and shoulders of one of the young fish many times larger than itself ; and the caudal extremity, which was too much for it, and which was projecting out of its mouth, had been seized upon by another *Hydra*. Thus, it would appear that these low organized, but powerful and voracious animals occasionally regale themselves on the flesh of the *Vertebrata*. This happened when the fry were three or four weeks old.

All the old fish, with the exception of that with the young, were, in consequence of their cannibal propensities, turned out of the trough ; and danger being thus removed, the fry were no longer restricted in their rambles, but enjoyed the whole range

of their crystal abode. Henceforth the parent's assiduity gradually relaxed, though for days afterwards it was its custom to take the young occasionally into its mouth, and after carrying them a little distance to let them drop out again. I took one of the fry out one day for examination with the microscope; on returning it to the trough, it was in so sickly a state as to be scarcely able to leave the vessel, which was held in the hand. The old fish, perceiving the helpless condition of its offspring, came up to the surface of the water, and seizing hold of the exhausted young one carried it off almost from amidst my fingers, and taking it to some distance puffed it out of its mouth into a tuft of *Confervæ*. This courageous act of our little fish would seem, in some measure, to give credence to the assertion, so frequently made, that some of the sharks protect their young by receiving them into the mouth, on the approach of danger.

Other facts might be related evincing parental attachment; but perhaps enough has been said to satisfy those, who take an interest in such matters, that in this respect the Three-spined Stickleback is scarcely, if at all, inferior to the hen, whose affectionate regard for her offspring has ever been the theme of admiration. Incubation, with the fish, is out of the question; it attends its nest, however, as diligently as any of the feathered tribes, keeping it in constant repair, fanning it with its fins, and removing anything that might obstruct the free action of the water upon the eggs; it defends its young with the same undaunted courage, and though it cannot gather them under spreading wings as the hen gathers her brood, yet all those which stray are brought back to the nest, that they may be under the protection of their ever-vigilant and courageous parent.

The nest of the Fifteen-spined Stickleback (*Gasterosteus spinachia*) was first noticed by Mr. Jonathan Couch, on the Cornish coast, in 1842. Since then it has been observed two or three times on the coast of Northumberland. It is composed of pendant seaweeds bound together, by a silk-like thread, into pear-shaped or fusiform masses: the spawn is deposited in the centre of the mass. Mr. Couch says, "One of these nests was visited every day for three weeks, and the old fish was found invariably

guarding it ; it would examine the nest on all sides, and then retire for a short time, but soon return to renew the examination. On several occasions," continues this gentleman, "I laid the eggs bare by removing a portion of the nest, but when this was discovered great exertions were instantly made to recover them. By the mouth of the fish, the edges of the opening were again drawn together, and the other portions torn from their attachments and brought over the orifice till the ova were again hid from view. And as great force was sometimes necessary to effect this, the fish would thrust its snout into the nest, as far as the eyes, and then jerk backwards till the object was effected. While thus engaged, it would suffer itself to be taken in the hand, but repelled any attack made on the nest, and quitted not its post so long as I remained."

Mr. Richard Howse, who found three or four of these nests in a pool among the rocks at Tynemouth, a year or two ago, informs me that each was attended by a fish, and that they scarcely ever left their nets, but kept hovering about, attentively examining them, and thrusting their projecting muzzles amidst the seaweeds of which they were composed ; the fish would occasionally poise themselves close to the nests, and fan them with the pectoral fins in the same manner as the Three-spined species. And, indeed, it is quite evident, from the accounts given by these two gentlemen, that the habits of both species, in all that concerns nidification, perfectly coincide ; both guard the nest with the same unwearied perseverance, drive off enemies, make all necessary repairs, fan or ventilate the nest, and keep it in all respects in good order.

It is satisfactory to observe this exact similarity of habits, for Mr. Couch has changed his opinion, apparently upon insufficient grounds, respecting the nest, which he attributed to the Fifteen-spined Stickleback. He now considers it to belong to the common Shanny (*Blennius pholis*), arriving at this conclusion after having examined the young hatched from ova taken out of one of the nests. "Being from the first," says this gentleman, "impressed with the conviction that they were the young of the Fifteen-spined Stickleback, I was much surprised to notice the

great difference of their shape from that of their supposed parent, more especially in the parts before the eyes, which, instead of being elongated and slender, were short and round. In consequence of this, they were closely examined with glasses, and drawn with the aid of a microscope of low power; and, though I failed to detect satisfactorily the ventral fins of that fish (chiefly perhaps from their slender form and transparency), yet, from the declivity of the head, protuberance of the belly, the pectoral fin, and the length of the dorsal and anal fins, which in some specimens were continuous with the caudal, and in others separated by a slight notch, I had no hesitation, in referring them to the common Shanny."

Now, the young of the Three-spined Stickleback differ just as widely from the mature fish, as the young of the Fifteen-spined species are stated to do; and what is of still more importance the differences are of exactly the same kind. In the former (pl. iv., fig. 1 and 2) as well as in the latter, the parts before the eyes are short and round, and can scarcely be said to project at all in front; the declivity of the head is consequently great; the belly is protuberant, and the dorsal and anal fins are long and continuous with the caudal. The young of the Three-spined Stickleback would therefore appear also to possess, at first, the characters of the Shanny; but as development goes on (pl. v., fig. 1 and 2), the jaws are pushed out, the belly is reduced in comparative size, and the dorsal and anal fins are shortened, and become ultimately separated from the caudal. Thus, in course of time, the young gradually assume the form and characters of the parent. And there can be little doubt that this would have been found to be the case with the young of the Fifteen-spined Stickleback, had Mr. Couch watched their development a little longer. The obtuse form of the head, on which that gentleman places much stress, is the embryonic condition of all fishes; the elongation of the jaws is always an after-development.

In conclusion, it may be remarked, that of the three or four other species of fish, described to nidify, one, a native of Demerara, is stated to remain by the side of the nest with as much solicitude as the hen guards her eggs; the same is said respecting another

species inhabiting the Black Sea : but in none, so far as I am aware, has parental attachment been observed to equal that evinced by the Three-spined Stickleback. Yet we must not, therefore, conclude that it does not exist to the same extent in others of the finny tribes. The habits of these animals are very little known ; and who can say what time may bring to light respecting the economy of the inhabitants of the deeper regions of the sea ! It is only, as it were, the other day that nothing was known of the nidification of the Three-spined Stickleback,—a resident of almost every pool, river, and rivulet in the kingdom.

P.S.—Since the above paper was read, I find I am wrong in assuming that Mr J. Couch is the author of the Memoir on the Nidification of the Fifteen-spined Stickleback, which was published in the Transactions of the Royal Institution of Cornwall ; this memoir is, I am informed, from the pen of Mr. R. Q. Couch. Not being able to refer to these transactions, I quoted from the "Illustrations of Instinct," the work of the former gentleman ; and in it the author's name, of the communication in question, is not given. Mr. R. Q. Couch has assured me that he still entertains the opinion he originally expressed, that the nest described by him really belongs to the Fifteen-spined Stickleback.

I have also recently ascertained that so far back as 1839, Dr. Johnston described the nest of this fish, in the Transactions of the Berwickshire Naturalists' Club. In the Doctor's communication it is stated that, "In an early volume of the 'Edinburgh Philosophical Journal,' there is a slight notice of fishes' nests found on the coast of Berwickshire, by Admiral Milne ; but the species of fish, by whom they are constructed, is not mentioned." And it is further stated that, "Mr. Duncan, of Eyemouth, has ascertained that they belong to the Fifteen-spined Stickleback, a fact confirmed by the Rev. Mr. Turnbull, to whom the Club is indebted for specimens." The nest and habits of the fish are then accurately described ; and in a concluding note it is announced that Mr. Maclaren, of Coldinghame, had seen and watched the Stickleback in the act of making the nests.

It would therefore appear that the credit is due to these gentle-

men, not only of publishing the first observations on this interesting subject, but also of determining the fact that these nests belong to the Fifteen-spined Stickleback.

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EXPLANATION OF PLATES IV. AND V.

PLATE IV.

*Fig. 1.* Side view of *Gasterosteus aculeatus* four or five days old.

*Fig. 2.* Back view of same.

PLATE V.

*Fig. 1.* The young of *G. aculeatus* about eighteen days old, shewing the fin rays in a state of development.

*Fig. 2.* The same a few days older, exhibiting the fin rays and spines considerably advanced.

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XII.—*Notes on the Fifth Field Meeting, held at Otterburn, on the 2nd and 3rd September, 1852.* By WILLIAM KELL, Esq., F.A.S.

The party availed themselves of the opportunity afforded by a halt at Belsay Inn, while the horses were being fed, on the morning of the 2nd, to walk up to the old castle of Belsay, and after having inspected the interior, and enjoyed the splendid panorama from the battlements, the members were prepared to verify Hodgson's description of the tower, as being "certainly one of the most perfect, and by far the most imposing specimen of castellated architecture in Northumberland;" and from the arms of Middleton impaling those of Strivelin being over the uppermost window of its south side, it is supposed that it was built by John de Middleton and Christian his wife, in the time of Edward III. In an adjacent garden, which the party visited, is a very fine collection of *Araucarias*, and other plants of recent introduction into England; the collection includes some very fine trees of the *Araucaria excelsa* and *Araucaria imbricata*; of the latter, a

splendid specimen, about 35 feet high, is said to be the finest in England. Time did not permit the party to solicit a visit to the contiguous modern mansion of Sir Charles M. L. Monck, Bart.\*

Leaving Belsay, the party had a delightful drive past Capheaton, Kirkharle, and Little Harle Tower, to Kirkwhelpington, where, as they passed, they viewed with deep interest the church and parsonage, erewhile the seat of the duties and the residence of the Rev. John Hodgson, the historian of Northumberland; and it is gratifying to learn that a memoir of him has at length been undertaken by the Rev. James Raine, author of the history of North Durham, a kindred spirit of the highest order, in whose hands the warmest friends of Mr. Hodgson feel that his memory will be honoured.

The route now changed in character, from the rich and well cultivated plains, teeming with splendid crops of ripe grain, the only want being reapers, to bleak and swelling hills of moorland. The day being beautifully fine, the view from Ottercaps was unusually extensive; and having at length reached Otterburn, the party was met, at the entrance to the town, by Mr. Coward, (on whose invitation the place of meeting had been selected,) and were escorted by him to his shooting box at Dean Head, where they received attentions and hospitality which merit their warmest acknowledgments.

The party, under the guidance of Mr. Coward and one of his keepers, visited the Roman Station of *Bremenium* (High Rochester), where they found a party of workmen engaged in exploring the station, at the instance and expense of the Duke of Northumberland: the progress and results of the operations had been reported to the Newcastle Meeting of the Archæological Institute, on the preceding day, in a very interesting paper by the Rev. J. C. Bruce. Mr. Coulson, under whose directions the excavations were being made, exhibited the Altars and other inscribed and carved stones, coins, fibulæ, and fictile wares which had been re-

\* Had time permitted, I should have referred to Mr. Hudson Turner's interesting Notice of Belsay Castle, in the volume of "Ancient Domestic Architecture," published since these Notes were written.—W. K.

cently discovered in the station, and conducted the party over the newly exposed streets of its former warlike inhabitants. The intelligence and zeal evinced by Mr. Coulson were gratifying to the members, who returned by way of Horsley to a late dinner at Mr. Coward's, by whom they were accommodated with sleeping quarters.

On the morning of the 3rd, Mr Coward accompanied the party to Elsdon Tower, the parsonage mansion of the Rector of Elsdon, the Rev. Percy Gilpin, by whom they were kindly shewn over the entire building, and also over the Mote Hills, and the church. The tower, or, as it is called, "Elsdon Castle," is a fortified residence modernized, but still retaining many interesting vestiges of its antiquity, and of the manners of the age in which it was built. *When* it was built is unknown, but it was repaired *circa* 1470, and a tablet of arms placed in the battlement of the south front. They are the arms of Umfreville, with the inscription "**R D d rede**" (Robertus Dominus de Rede). Sir Walter Taylboys assumed the arms of Umfreville, on his inheriting, in 1436, in right of his great grandmother Elizabeth Umfreville, the lordship of Rede, *per regalem potestatem*. His successor, Sir William Taylboys, was at the battle of Towton, on the side of Hen. VI., and at the battle of Hexham (1464), whence he fled to his own franchise of Redesdale, where he was taken, carried to Newcastle, and there beheaded, and his estates confiscated. Sir Robert Taylboys was restored to the possession of the family estates under the style of *Lord of Redesdale* and Kyme, and the arms on the castle are supposed to be the Coat of this Sir Robert Taylboys, who repaired or re-built it; and there is a shield similarly emblazoned on Whitton Tower, the parsonage of Rothbury, in which place the Taylboys were lords of Hepple. The Mote Hills are a very interesting feature, both in the appearance and in the history of Elsdon; and the town green must not pass unnoticed, its peculiarly beautiful verdure was very striking; it is a large open space of several acres, sloping upwards towards the north. On the upper side stands the church, overlooked by the town beyond, which again is flanked by the mote hills. The church has recently undergone extensive repairs, which are in

good taste, and in the course of which, a good deal of church-wardens' whitewash has been removed. (For the style, see Hodgson's History).

The party next visited Otterburn tower, where they inspected three of the five Roman Altars found in 1844, upon Mr. James' estate at Rutchester, (*Vindobala, per lineam Valli,*) and described in the fourth volume of the *Archæologia Æliana*. These altars are placed in the entrance porch of the tower, in a situation calculated to preserve them, and to exhibit them to great advantage. Mr. James had procured, for the inspection of the naturalists, some hazel nuts, which presented a bright metallic appearance: these nuts were brought from a well situate between Otterburn and the river Reed, and called "the Silver Nut Well," from the circumstance of such like nuts being frequently thrown up by its water. The metallic appearance may probably be attributed to the presence of sulphur in the strata, through which the water forces its course: the party were much disappointed at not being able to visit the well. After receiving much hospitable attention from Mr. and Mrs. James, the members returned to Newcastle, in the evening.

The meeting was not productive of much interest to the naturalists, but to the antiquaries it afforded a rich treat, and to all a pleasant excursion.

Sept., 1852.

NOTE —The history of Otterburn tower, and of the last proprietor of the old edifice, James Ellis, a good antiquary, and correspondent of Sir Walter Scott. See the *Minstrelsy of the Border*.

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ADDRESS TO THE MEMBERS OF THE TYNESIDE  
NATURALISTS' FIELD CLUB,

READ AT THEIR EIGHTH ANNIVERSARY MEETING, HELD IN THE COMMITTEE ROOM OF THE LITERARY AND PHILOSOPHICAL SOCIETY OF NEWCASTLE-UPON-TYNE, MARCH 15, 1854. BY THE PRESIDENT, SIR WALTER CALVERLEY TREVELYAN, BART.

I regret much, gentlemen, that I was, during the last season, prevented from attending any of the meetings of our Club, and consequently, that losing, as I have done, the benefit of those occasions, I am also unable, from my own observation, to give you any account of the proceedings ; for any particulars regarding which I am indebted to your worthy Secretary.

Your attendance here, as well as the support you have given to the Club, shows that it is not necessary for me to enlarge on the pleasures and advantages which are conferred by the study and cultivation of Natural History, and how, independently of other advantages, it not unfrequently renders interesting to its votaries places in which it may be their lot to dwell, and which, to those devoid of such a taste, might be most uninteresting and irksome.

Before proceeding to give a short notice of the different meetings of the Club, during the past year, I will suggest what I think might prove a fertile field for observation and discovery, if it has not already been explored by any of our members. I allude to the microscopic insect world inhabiting the waters of our lakes and rivers, and probably also to be found in beds, whether of ancient or modern lacustrine deposits,—the richness of some of which, in the genera and species of their remarkable forms, is sometimes wonderful. Professor Gregory of Edinburgh has, for some time, been engaged in examining an earth brought from the Isle of Mull, probably a tertiary or post-tertiary deposit, in which, up to this time (and he has not yet completed his investigations), he has found about 150 different forms or species, many of them new to science.

There is another subject, which it has struck me might, especially in this district, be profitably investigated by our members ; that is, the structure of the many varieties of coal, when examined microscopically. It is a subject which, as you are probably aware, has, for some time, engaged the attention of many men of science in Edinburgh ; and the opinions of those scientific men have been almost as various as the speakers,—showing how much yet remains to be achieved in this department. The particular mineral about which the discussion was originally raised, is, I have no doubt, both in its geological relations, its chemical constitution, and its economical appliances, coal—one of the numerous varieties of coal ; for they are probably as numerous as are the varieties of sand, lime, or any other stone. It is, I consider, impossible to define whether a substance is or is not coal, by the proportions of its various constituents, any more than by the structure it displays under the microscope.

Perhaps the term may be properly confined to those inflammable strata, which, there can be little doubt, are of vegetable origin ; not to limit it, as was attempted by some learned men in Edinburgh, to those which show only the woody structure of *Coniferae*, or to any other vegetable structure in particular ; for the varieties of vegetables which assisted in forming the ancient beds of coal were probably, as indicated by the remains found in the coals and their associated beds, very numerous ; more so, considering the tropical vegetation which they indicate, than will, in future ages, be discovered in the beds of coal which, we may presume, will be formed out of our beds of peat. But, even in them, will be found very various structure. In some, the woody will prevail, as many trees—oak, birch, pine, alder, &c., are imbedded in them ; others, again, are principally composed of heath and fern, mosses and sedges. As Professor Balfour very judiciously remarked, at a meeting of the Royal Society in Edinburgh, when this question was discussed, “That to give an accurate definition of coal, is simply impossible. Coal includes many kinds of combustible materials, derived from plants ; not from *Coniferae* alone, but from the *Stigmariæ*, and many others. So abundant indeed, is the coal Flora, that no less than 500 coal plants have

been described : of these 346 were acrogens, of which the ferns are examples ; and 135 gymnosperms, of which the *Coniferæ*, or pines, are examples. The qualities of various coals depended greatly on the nature of the plants, the pressure and heat they were subjected to in the earth, the length of time elapsing during their conversion into coal, and the amount of earthy matter intermixed with them. In one coal-field, certain tribes of plants might predominate ; in another field, a different tribe, which alone, were all other conditions similar, would give rise to different kinds of coal. Moreover, these varieties existed even in the same bed, showing the influence, not merely of the predominance of certain kinds of plants, but also proving the action of various mechanical and chemical forces in the formation of coal."

Trusting that I have said enough to show that there is a wide field of investigation open, and one especially interesting to the inhabitants of this district, I will now proceed to give a short notice of each of the meetings of last season.

The FIRST was held, on the 27th of May, at Southwick and Washington, when several interesting localities were visited, including the Banks of the Wear, and that fine specimen of a baronial border residence, Hylton Castle, though now in a melancholy state of decay. I may mention, that there is, in "Surtees's History of Durham," an engraving of it, from a fine drawing by our late great painter, Turner.

The more remarkable plants which were observed on this occasion, were—*Arenaria trinervis*, *Stellaria nemorum*, *Apium graveolens*, *Enanthe crocata*, *Valeriana dioica*, *Aster Tripolium*, *Artemisia maritima*, *Plantago maritima*, *Daphne Laureola*, *Carex pendula*.

Thirteen members were added to the Club this day.

The SECOND MEETING was held at Alston, on June 16-17. This is a most interesting locality, especially to the geologist and mineralogist ; and I regret that I have not been furnished with a note of any observations which were made on that occasion. I am, however, reminded, when thinking of the rich mineral productions of that district, of the remarkable fact, which has been, not long since, ascertained, that scarcely an ore of lead

has yet been examined, without finding in it traces of gold, which, in fact, appears to be a much more universally disseminated metal than has hitherto been supposed ; and though it has not yet, I believe, been found in the lead in sufficient quantities to make its separation profitable, yet, in the improvements of science, a method may eventually be discovered, by which it may be economically extracted from the *galena*, in which it probably exists in combination with the silver, which is almost always contained in it, as is well known.

Three members were elected at Alston.

The THIRD MEETING took place, at Teesdale, on the 20th, 21st, and 22d of July. This is one of the richest botanical districts in the North of England, and has seldom been visited by an active botanist without rewarding his researches. It is also a district of much interest to geologists ; one of the most renowned of whom, Professor Sedgwick, described some of its most remarkable features, some years ago, in the "Transactions of the Cambridge Philosophical Society." (Vol. II, pt. 1.) It also affords many picturesque subjects to the artist, containing much varied scenery, and one of the finest waterfalls in England. It is also not uninteresting to the engineer, to know that the first suspension chain-bridge constructed in Europe, was standing, a few years ago, until it was superseded by the present more scientific structure. The old *Winch Bridge* was erected by miners about the beginning of last century, and was formed of planks, suspended by chains fastened in the basaltic rocks, on the banks of the Tees. For an interesting notice, which I will now read, of the principal plants observed in this district, I am indebted to a very acute botanist, our member, Mr. D. Oliver, jun. :—

"From the very brief time occupied in the excursion, but a portion of two consecutive days, it was impossible to attempt anything like even a general survey of the Upper Tees Valley, a district so deservedly esteemed by botanists as one of the most productive, in species of high interest and rarity, as almost any of equal area in our island ; and although our rapid excursion does not seem to have added any plant of importance to our previous knowledge of its Flora, yet we must not assume its riches to have

been exhausted. It is but about two years ago, indeed scarcely so long, that a species, entirely new to the British Flora, was added to the already teeming catalogue of Upper Teesdale rarities, by two botanists, to whom we are indebted for previous valuable labours in the same track—James Backhouse, sen. and jun., of York.

"The plant alluded to is *Polygala uliginosa* (Reich.), a species included by Babington in a recent communication to the Botanical Society of Edinburgh, as a variety of *P. austriaca* (Crantz.). The typical form does not occur, to our knowledge, in Britain, nor, it is stated, does it seem to grow in the North of Europe, yet the differences, so far as observation has yet discovered, between *P. austriaca* and *P. uliginosa* are so slight, that Babington did not consider himself justified in separating them specifically.

"*P. uliginosa* differs from our common *Polygalæ*, at first sight, in its rosette of apparently radical obovate and obtuse leaves, of considerable size compared with those of the flower-shoot. The flowers are small, and more or less of a pale lilac.

"Speaking of this genus, I may perhaps be permitted, although rather out of place, to add, that it seems probable that one of the *Polygalas* of our moors, having long, wiry, and prostrate stems, and the lower leaves often crowded and small, may be the *P. depressa* ("Wend.," Coss. and G., &c.), distinguished, as a variety of the Linnean *P. vulgaris*, by Babington, in the paper referred to.

"Another plant, which, at about the same time as the *Polygala*, was added to the Flora of this district, was *Myosotis suaveolens* (Kitt.), *M. alpestris* (Sw.), a species, the occurrence of which was previously limited, in Britain, to the mountains between Lochs Tay and Rannoch, in the Highlands (*Watson's Cybele*). It was discovered by the Backhouses, at an elevation of 2,500 feet, on Mickel Fell.

"A comparatively small number of the rare Teesdale species were observed, during the excursion of the Club, for the reason we have mentioned. Upon Widdy-Bank Fell, near the Cauldron-Snout, on the Durham side of the river, grow—*Thalictrum alpinum*, *Tofieldia palustris* (Huds.), *Elyna caricina* (M. and K.), *Juncus triglumis*, and *Carex capillaris*. We sought in vain, on this occasion, for the little inconspicuous *Arenaria uliginosa*

(Schl.), one of the rarest of our indigenous species, and which we had, on two or three previous visits, collected, in its known station on the limestone, apparently attended by igneous action, near Widdy-Bank.

"Almost close by the Cauldron Snout did grow, at one time, *Woodsia ilvensis*. From the increased demand for our more uncommon ferns, arising no doubt, in part, from the very popular fashion of their ornamental culture in the Wardian case, it becomes a matter of needful prudence to retain to ourselves, under the terms of a vague and general locality, the *exact* spot where such may be found ; in the case of *Woodsia*, this care is especially desirable.

"Teesdale abounds in *Hieracia*, but, from the unsettled state of the nomenclature of our species, and our very imperfect knowledge of the extent of their variation, we can only indicate such as may be pretty readily recognised, and of which we have, in Teesdale, gathered specimens. These are *Hieracium iricum* (Fries.), *H. Lapeyrousii* (Bab.), *H. anglicum* (Fr.), *H. murorum* (L. ?), *H. vulgatum* (Fr.), *H. gothicum* (Fr.), *H. crocatum* (Fr.), and its narrow-leaved form, *H. angustatum* (Fries.), *H. boreale* (Fr.), *H. umbellatum*. Besides these, *Hieracium pallescens*, *H. saxifragum* (Fr.), *H. corymbosum*, *H. tridentatum* and *H. coesium* (Fr.), are stated to occur in Teesdale. But a portion, however, of the above were gathered on the occasion of our recent visit to the Valley of Tees ; nor did we renew our acquaintance with several other and well known rarities, which every collector knows the district to afford. *Potentilla fruticosa*, of course, one cannot help seeing growing almost by the margin of the river, each bush dotted over with its conspicuously bright yellow flowers ; but the Cronkley plants, *Dryas octopetala*, *Helianthemum canum*, *Polygala uliginosa*, and others, were beyond our reach.

"*Melampyrum sylvaticum* grows plentifully on an island in the Tees, by the Winch Bridge ; the neighbourhood of which was visited by a section of the Club at a late hour of the day ; but yet the dim light revealed amply its romantic and beautiful effect. One of the recently introduced Continental species of

*Thalictrum*, *T. flexuosum* (Reich.), a plant confounded previously by us with *T. minus* and *T. majus*, has been stated to grow by the Tees, near this spot.

"I have but little to report of botanical interest, as having fallen in my way during the past year, which may affect the Flora of our counties. *Festuca pratensis* passing into its form, the *F. loliacea* of Huds., gathered near Willington, are laid on the table, together with *Hordeum pratense* (Huds.) from the same locality.

"*Festuca bromoides* I have noticed on the old rubbish heaps of Benwell Colliery."

One member only was added to the Club at this meeting.

The FOURTH MEETING was held, on 17th August, at Bardon Mill, and the Northumberland Lakes, a district which I unfortunately am not acquainted with, but one which, I believe, is interesting to botanists and geologists, but still more so to the antiquary, as, in its neighbourhood, have been discovered many of the most curious remains of our early civilizers, the Romans, well described by the amiable and able historian of Northumberland, the late Rev. John Hodgson, and subsequently, and, of course, with the advantage of later researches, by the indefatigable investigator, Mr. Bruce.

Mr. D. Oliver informs me that he gathered, near Walltown Crag, "luxuriant specimens of the hispid *Melampyrum*, referred by botanists to the *M. montanum* of Johnston, and, not far from the same station, a *Myosotis*, probably *repens* of Don."

At this meeting the Wild Balsam (*Impatiens Noli-me-tangere*) was noticed by a lady, Miss Meredith, as I learn from a letter addressed to the Secretary, Mr. Storey, by Mr. George Wailes.\*

Two members here joined the Club.

\*4, RIDLEY PLACE, NEWCASTLE,

3d February, 1855.

DEAR SIR,—In compliance with your wish to know the circumstances connected with the discovery, in Northumberland, of *Impatiens Noli-me-tangere*, by my niece, Miss L. E. D. Meredith, I have to state that she joined the meeting of the Club, held on the 17th August, 1853. After traversing the district of the Crag Lough, and crossing the Muckle Moss, the party returned, under the guidance of Mr. Thomas Coates, across some fields, and proceeded, by a country cart road, in the direction of a few cottages, called, I believe, "Stand-alone," near to which had been the workings of a small pit. Crossing a burn here, the road led through a wood of about 30 or 40 yards' width, and

The FIFTH and LAST MEETING of the season was appointed to be held at Widdrington and Chibburn, on September 16th, but, from the awful visitation of cholera prevailing at this period, there was present only one member of the Club,\* whom, had he been here to-day, I should have requested to favour you with any observations he may have made in his solitary excursion, for I know that he is a very accurate observer, and has already, I believe, recorded many interesting discoveries which he has made in the departments of botany and geology; and he has especially attended to the indications which occur in the north of the county, of the former existence of glaciers, which appear to have had so much influence in the distribution of the Boulders which cover so much of the country, and probably of many of the banks of gravel, the remains of ancient *moraines*; and I have little doubt, that, when glaciers existed to any great extent, or when the whole of the land was covered with a coating of ice, like Greenland at the present day, of which there is, I think, much evidence to be found, that great part of the soil and subsoil, now covering the subjacent strata, was formed by the destruction, by attrition, of the rocks over which that icy covering was constantly moving; and by this action also, I have little doubt, that the undulations of the surface of the land were considerably modified.

Mr. Joshua Alder has favoured me with a note of the following interesting discoveries, made by himself in the autumn of the past year, when he got, at Cullercoats, a new species of *Eolis*. Two specimens were obtained from small zoophytes, brought in

near to the bed of the stream. The whole of the party were considerably in advance of my niece and myself; and as we were leisurely walking up the ascending road, she said to me suddenly, "here is the Wild Balsam;" and sure enough, at about two yards' distance, was a fine plant of it in full flower. This she at once gathered; but we looked, in vain, for others at this spot; and being, as I observed above, considerably behind the other members of the Club, who were hastening on to the inn, at Haydon Bridge, we did not search the upper part of the wood. She was well acquainted with the species, having collected examples of it in the south of England. On reaching Haydon Bridge, she gave the greater part of the plant to the botanists of the party, and afterwards deposited a specimen in the Herbarium of the Natural History Society, as a memento of the discovery.

I am, Dear Sir,

Yours truly,

GEORGE WAILES.

The Secretary of the  
Tyneside Naturalists' Field Club.

\* Mr. Tate, of Alnwick.

on the fishermen's lines. It is distinguished from all the species previously described by the granulated character of the *papillæ*, and will be published in the "British Nudibranchiate Mollusca," under the name of *Eolis pustulata*. He also discovered, in tide-pools, among the rocks at Cullercoats, a new zoophyte, of the family *Corynidae*, apparently belonging to the genus *Podocoryna* of Sars. The only specimen found was parasitical upon *Corallina officinalis*, associated with *Coryne pusilla* and *Clava multicornis*.

Mr. Wm. Backhouse, in October, met with living specimens of *Akera bullata* (*Bulla Akera*) among sea-grass (*Zostera*), on the mud-flats at the mouth of the Tees, near Seaton Carew. They were of large size, the shell of the largest being nearly an inch in length. This is the first time that this fine mollusk has been met with on the east coast of England.

Mr. Albany Hancock has supplied me with a note, that, in the spring of 1853, he took, on the rocks at Cullercoats, a specimen of *Eolis exigua*, a minute and beautiful species of *Nudibranch*, which was originally discovered in Sweden, and has since occurred in Cornwall and Wales, but it had not, he believes, been taken anywhere else in Britain, until its capture on the Northumberland coast. And the same gentleman has also recorded the occurrence of two interesting Permian Fossils in the limestone, near Sunderland. These were found by a young geologist, a relative of his, Mr. James Kirkby, of Bishop Wearmouth. One is the shell of a gastropodous mollusk of the genus *Chemnitzia*; it is very perfect, nearly one-fourth of an inch long, with six or seven strongly-ribbed whorls. In Mr. Howse's Catalogue of the Permian Fossils, published in our "Transactions," a fragment of a ribbed *Chemnitzia* is mentioned, which probably belongs to the same species, but which was too imperfect to admit of description. The other is the tail of a Macrourous Crustacean. Two specimens were found, the larger of which is about three-eighths of an inch long, and consists of four plates, in very good condition; but, on account of the deficiency of parts, I am afraid it will be impossible to determine the genus.

As no remains of the higher Crustaceans had been previously obtained in the Permian rocks, the discovery of these fragments

is of considerable interest, and sufficiently attests that, though much has been done of late years to obtain specimens from this formation, it is not yet exhausted, and that it still contains treasures to reward the diligent collector.

Whilst on this subject, I would suggest to the fossil-hunting members of the Club, the probability of *pearls* being occasionally found among fossil shells. There is no reason why they should not be preserved, as well as the shells which produce them, for I believe they are not more destructible. Of course, they must always have been, as they now are, rather scarce, especially pearls of the large size and perfect shape of this one which I exhibit, and which, had it retained its pristine beauty, would have been of very great value. This pearl was found in one of the tertiary beds of Suffolk—in the Red crag near Felixstow, at which place, as well as in other parts of the county of Suffolk, there are beds containing large quantities of what were at first supposed to be *coprolites*, but which are now generally regarded as phosphate nodules. These nodules have now become very valuable, furnishing as they do, when reduced to powder, a manure not much inferior to guano, I believe, for some crops, in the estimation of agriculturists.

This is, I believe, the first well-authenticated instance of the discovery of a fossil pearl; but I have since seen, in collections of crag fossils, much smaller objects, which had puzzled collectors, but which, I believe, also to be pearls.

It has also been suggested, that pearls should have been found in the excavations made in Nineveh, and other places in the East, had they not been very perishable. I think this is a mistake—that they are not more perishable than the shells which have been found in those excavations, but that having, by age, lost all their peculiar nacreous beauty, would be passed over; though now, perhaps, if attention were drawn to it, they might yet be discovered; and I would suggest that any friends of Mr. Loftus, or of any of the other gentlemen now employed in excavations in the ancient cities of the East, should mention this matter to them.

We have, as usual, some additions to our Insect Fauna to record. Mr. Thomas John Bold has taken—

1. *HYDROPORUS RUFIFRONS*, *Dufst.* = *PICEUS*, *Steph.* In ditches at Boldon-Flats. April—June.
2. *HY. UMBROSUS*, *Gyll.* = *MINUTUS*, *Steph.* Very local, being confined to a single pond at Gosforth. April—October.
3. *OXYPODA MAURA*, *Erichs.* Gosforth—very rare. May.
4. *CERCYON CENTRIMACULATUM*, *Sturm.* At Long Benton and elsewhere, on dung, and in vegetable refuse—not rare. From early spring to autumn.
5. *EPHISTEMUS GLOBOSUS*, *Waltl.*, *Erichs.* Very rare. Long Benton. June.
6. *CRYPTOPHAGUS BADIUS*, *Sturm.* Newcastle.
7. *CRYPT. ACUTANGULUS*, *Gyll.* Newcastle.
8. *CRYPT. DENTATUS*, *Herbst.* Gosforth. June.
9. *CRYPT. SUBDEPRESSUM*, *Gyll.* Newcastle.
10. A single specimen of an apparently undescribed species of *SALPINGUS*, which will be described hereafter.

The same gentleman noticed the very rare, and local *Bembidium tricolor* (hitherto only found on the Derwent), on the south branch of the Tyne, above Haltwhistle, in July. Near Featherstone Castle, the rare little Bee, *Andrena analis*, was found breeding in a heathy hedge-row, and was accompanied by *Nomada flavoguttata*.

Another very rare Bee, *Andrena coitana*, was taken near the same locality, a few weeks later, by George Wailes, Esq.

Mr. Wm. Peacock has made a valuable addition to the *Longicorn* section of our *Coleopterous* Fauna, having captured a pair of the very elegant *Gracilia minuta*, near Sunderland.

This branch of Natural History gains additions probably, not only by the discovery of species hitherto overlooked, but also by the frequent introduction of new forms imported, either in the egg or in the larvæ state, about the roots of plants now so often brought from distant countries.

In conclusion, I am happy to congratulate the members of the Club on its flourishing state, as shown by the reports of the Treasurer and Secretary; and thanking you, gentlemen, for the kind attention with which you have listened to what has been, I fear, a very imperfect address, I beg to say, that I hope, on a future

occasion, to have the pleasure of guiding you to some of the interesting localities in the neighbourhood of Wallington, near which, as you are probably aware, are the only stations, hitherto discovered in England, of two rare plants, *Linnæa borealis* and *Nuphar minima*; and, in the same neighbourhood, were discovered the first recorded English specimens of native sulphur in minute crystals, and of garnets, in the mill-stone grit, indicating, with its other constituents, quartz, mica, and felspar, the source from which that rock was derived, viz. from the disintegration of granite, and the dispersion by water of its fragments.—*Vide* "Brewster's Edinburgh Journal of Science," October, 1826, p. 375; "Hodgson's Northumberland," part 2, vol. 1, pp. 292-329.

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MEMBERS ELECTED SINCE THE ANNIVERSARY MEETING, HELD  
MARCH 30TH, 1853.

At the WASHINGTON MEETING, May 27th, 1853.—Rev. James Fred. Turner, University College, Durham; Messrs Joseph Swan, George Belt, Henry Turner, John Warwick, Newcastle; Charles Ferguson Davie, Castle Eden Parsonage; William Dickson, Alnwick; Edward Boyd, Urpeth; John Moor, College Green, Durham; Francis Blackbird, South Hylton; J. P. Mulcaster, Blaydon; William Hutton, West Hartlepool; Septimus Peacock, Alexandria, Egypt.

At ALSTON, June 16th.—Joseph Dinning, Langley Hill Top, Haydon Bridge; Frederick Iliff, M.A., Bishopwearmouth Grange; William James Young, Eden House, Sunderland.

In TEESDALE, July 20th, 21st, and 22d.—P. K. Lamb, Newcastle

At BARDON MILL and the NORTHUMBERLAND LAKES, August 17th.  
—William Crighton, Newcastle; William Edward Wilcox, Whitburn.

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March 15th, 1854.—Messrs Clifford Crighton, D. H. Goddard, C. E. Ellison, and R. W. Bleasby, Newcastle; W. Green, Framwellgate Colliery, Durham.

## DAYS AND PLACES FOR THE FIELD MEETINGS THIS YEAR.

FRIDAY, <i>May 19th</i> , ..	Dilston and Devilswater.
THURSDAY, <i>June 8th</i> , ..	Brinkburn.
THURSDAY, <i>June 29th</i> , ..	Lindisfarne.
FRIDAY, <i>July 21st</i> , ..	Castle Eden.
FRIDAY, <i>August 11th</i> , ..	Northumberland Lakes.
THURSDAY, <i>August 31st</i> , ..	Alnwick.

The following gentlemen were elected officers for the year ending February, 1855 :—

## PRESIDENT.

Thomas Sopwith, Esq., F.R.S., F.G.S., &c.

## VICE-PRESIDENTS.

Sir Walter C. Trevelyan, Bart.

William Kell, F.S.A.

Dennis Embleton, M.D.

Joshua Alder.

Joseph Fryer.

Ralph Carr.

## TREASURER.

Thomas Burnet.

## SECRETARIES.

John Storey, F.B.S.E.

Edward Mather.

## COMMITTEE.

Rev. G. Cooper Abbes, B.A.

Rev. W. Greenwell, M.A.

Albany Hancock.

T. J. Bold.

John Thompson.

R. Y. Green.

Joseph Blacklock.

Richard Howse, jun.

John Storey, jun.

F. J. Peck.

Daniel Oliver, jun., F.L.S.

XIII.—*Notes on the Effects of the Extreme Wet Winter of 1852—3, on Insects.* By THOMAS JOHN BOLD.

[Read at the Anniversary Meeting, March 15, 1854.]

WE read, in Entomological books, "that extreme wet is more prejudicial to insect life than severe cold." Wishing to test the truth of this axiom, I have, during the past season, carefully noted the appearance of insects; and although those notes are not so conclusive or satisfactory as I could have wished, yet, perchance, they may possess sufficient interest to warrant my laying them before the Club, hoping thereby to draw attention to a very interesting subject.

Every one will recollect the prodigious fall of rain during the autumn and winter of 1852-3. The preceding summer had been ungenial, and of a moist character. In August, we began to have frequent showers—an earnest of what was to follow. September, with little exception, was characterised by heavy rains; but, in October, November, December, and January, we had such tremendous and continuous rains, that many parts of the country were flooded, and our heavy clay lands, as well as much of the finer soil of the Tyne vale, and elsewhere, so completely saturated with wet, that farmers found it quite impossible to sow the usual quantity of wheat; indeed, in many districts, none whatever of that valuable cereal could be sown, either in autumn or spring; the land, consequently, having either to lie in "fallow," or crops of oats, barley, or other grain, to be substituted; thus causing a great deficiency of one of our most highly valued articles of food, and a consequent enhancement of value, which is now pressing severely upon many of the labouring classes.

The wet continued up to the 10th of February, when intense frost set in, and we had a heavy fall of snow, which covered the whole of our district until the latter end of March, when we had a few days of mild weather, which, however, soon gave way to cold, ungenial, piercing winds, which partially dried the surface

of the country, but quite retarded the development of both plants and insects. April, May and June, were alike so unseasonably cold, that, even in the latter month, it was no unusual sight to see the people in our streets muffled up in coats and wrappers, as they are in mid-winter.

This cold, continued so far into the summer months, would unquestionably retard the development of insects, and render my notes less satisfactory than they would have been had the weather been of a more genial nature.

Of *Coleopterous* insects, or beetles, all those species which pass the winter months as larvæ, pupæ, or in the imago state, in the earth, were either very few in numbers, or totally wanting. The *Geodephaga*, even of the commonest species, were seldom to be met with, and never do I recollect meeting with so few *Bembidions*; but this was what might naturally be expected, for, dwelling near the water in all their stages, their retreats would be at the mercy of every flood. Even the *Hydradephaga*, or water beetles, were not abundant; but this was perhaps the effect of the cold weather in spring, which always (so far as my experience goes) causes a scarcity of that family during the rest of the year. Of the other sections of *Coleoptera*—the *Staphylinida*, the *Lamellicornis*, the *Curculionida*—indeed all that live on or near the ground, and resort to it in some of their stages, were far from common; whilst those that find their pabulum in decaying wood, such as some of the *Etateridia*, the *Longicornes*, and others, were mostly in average numbers, and one or two species in actual abundance. Thus *Synodendron cylindricum* was to be seen on almost every suitable stump, and *Pyrochroa rubens* on every leaf; both insects, in the generality of seasons, being only casually to be seen in the vicinity of Newcastle.

The collector of *Hymenoptera* has seldom had a worse season to contend with. This was not only the case in our immediate district, but also in many other parts of the kingdom; some of my correspondents, who pay great attention to this order, informing me, that they can scarcely recollect so unproductive a year. One or two exceptions to this are perhaps worthy of

mention. Wasps were abundant, and the same may be said of some of the *Saw-flies*; whilst the common species of *Apathi* (which are parasitical on Humble-bees) were swarming on every flower during the autumn.

The commoner species of *Lepidoptera* were both exceedingly few in number, and remarkably late in appearing. Proprietors of gardens could not but note the almost total absence of the common white butterflies, the *larva* of which makes such havoc amongst cabbages and turnips. Large moths were scarce, but I never before saw such numbers of minute ones, which were literally swarming towards the end of summer. Perhaps this may be accounted for by their mostly passing the winter as eggs on the stems of plants; and being covered by a water-proof composition, they are not so liable to casualties as the larger species, which being buried in the earth as *larva*, or *pupa*, must suffer greatly from a superabundance of wet.

But the great peculiarity of the season was the sudden appearance of myriads of *Aphides*, which coming at the time of the late epidemic, caused a great deal of unnecessary alarm in the minds of many people, who, not acquainted with the economy of these insects, looked upon them as the forerunner, if not the primary cause of the malady, and thence called them "cholera-flies." I need scarcely mention that *Aphides* (at least the major portion of them) are produced from eggs in spring, and are then all wingless females, which are viviparous, and produce other wingless creatures in their turn. This is repeated through several generations (varying from eight to twelve, and under peculiar circumstances to a much greater number\*), until, on the approach of autumn, winged males and females are produced,†

\* See Westwood on the "Modern Classification of Insects," vol. ii, 440, who remarks that Keyer observed a colony "of *Aphis Dianthi* which, on being brought into a constantly heated room, continued to propagate for four years with a single impregnation of a female by a male, the young being constantly produced of the female sex."

† In a paper published in the *Berwick Advertiser*, my friend Mr. James Hardy, speaking of *Aphis Rumicis*, remarks that "the principal winter-quarters of the insect is the whin or furze, on which it either deposits its eggs in autumn, or, if the weather is mild, continues to propagate a living progeny till the spring. During the summer the insects are viviparous, and there is a winged and wingless race produced alternately; the former migratory and destined to extend the geographical limits of the species; the latter, for the most part, stationary upon the plant whence first it drew the vital nutriment."

which mounting on wing, scatter themselves far and wide, on the important mission of continuing their species ; the females depositing their eggs on the stems of such plants as are suited to the tastes of the young broods which appear in spring.

They (the *Aphides*) were first noticed near Newcastle, in the last week in August, and kept increasing in numbers until the middle of September, when they began to diminish ; their ranks about that time being much thinned by heavy rain, accompanied by some brisk winds ; but a warm, still, sunny day, during the remainder of the month, and in October, never failed to bring out its legions. However, we had sharp frosts at the close of the latter month, which put a period to their lingering existence.

When "the plague of flies" was at its worst, the streets and lanes were filled by the dense multitudes, which borne along by the breeze, clung to the unfortunate wayfarers, and covered them as with a sooty mantle, causing exceeding annoyance by the tickling of their feet on exposed portions of the skin, and filling both eyes and mouth, if incautiously opened. Some days they were in such dense masses, that it was absolutely necessary to cover the face with gauze, or a pocket-handkerchief. In the country, you saw people waving a leafy branch before their faces as they walked along the more sheltered lanes.

Buildings and other places, then in course of being painted, are to this day speckled by the corpses of those which the winds carried against their adhesive surfaces. On windy days, it was curious to observe them congregated by thousands on the ends of door-steps, or behind any jutting prominence that sheltered them from the breeze. Country people likened such gatherings to "swarms" of bees.

They were noticed in Edinburgh, Berwick, Belford, Alnwick, Morpeth, Newcastle, Shields, Sunderland, Durham, and further south, but in diminished numbers. East and west they appear to have extended in a dense mass from sea to sea.

The great majority of the myriads in our vicinity consisted of *Aphis Rumicis*, most probably migrants from the fields of beans, which I had previously noticed to be much infested by that species. They appear, however, to have an almost omnivorous

appetite, for I noted them feeding and breeding upon many different plants.\* Cabbages, pease, beans, kidney beans, dahlias, nasturtiums, poppies, and many others suiting them equally well for food. A green species might occasionally be seen in the ranks, but were very few in numbers, certainly not more than one in a thousand of the others. This (*Aphis Brassica*) committed sad havoc upon our turnip crop, destroying whole fields, even on the valuable land of the Tyne-side and elsewhere. Wheat and oats were infested to a great extent by a reddish-brown species, which were in some places so numerous that they had to be shaken off before the sheaves could be bound up. A field of oats that I passed through had them clustering on every spikelet, giving to the grain the appearance of having been saturated by "bloody rain."

In *Dipterous* insects, the same remark before made of *Lepidoptera* will hold good, for the large and more conspicuous species were not in their usual numbers; yet house-flies were numerous, and the various species of *Chironomys* were abundant, weaving their mazy dance in every sheltered lane. Probably the larvæ of the latter are aquatic, and pass the winter in that state; if so, their numbers are easily accounted for. It is not so easy to account for the abundance of the former.

From the foregoing jottings, hasty and imperfect as they are, I think there can be no doubt but that extreme wet, followed (as in this instance) by severe cold, is exceedingly prejudicial to insect life. However, at some future time, I hope to have an opportunity of comparing the effects of each agent separately, as I fancy that extreme wet, unaccompanied by a very low degree of temperature, or *vice versa*, will give more decided and characteristic results.

THOMAS JOHN BOLD.

\* Mr. Hardy, L.C., remarks that a "list of no less than eighty-two plants has been drawn up, on which it (*Aphis Rumicis*) has been detected feeding; and the number could be easily augmented."

LIST OF MEMBERS, CORRECTED TO MARCH 14, 1854.

---

Abbes, Rev. G. Cooper, B.A. ...	Cleadon, Sunderland
Adamson, Charles, ... ..	Rock Cottage, Jesmond
Adamson, William, ... ..	Tynemouth
Alder, Joshua, ... ..	Ravensworth Terrace, Newcastle
Allison, James, jun. ... ..	Monkwearmouth
Allison, W. H. ... ..	Monkwearmouth
Armstrong, George, ... ..	60, Dean Street
Armstrong, Joseph, ... ..	Higham Place
Armstrong, H. C. ... ..	Northumberland Street
Atkinson, G. C., Esq. ... ..	Wylam Hall
Atkinson, J. Ismay, M.R.C.S. ...	Wylam
Austen, Thomas, ... ..	36, Mosley Street
Backhouse, William, ... ..	Darlington
Balmer, George, ... ..	High Bridge
Barkus, Benj., M.D. ... ..	Gateshead
Baxter, Rev. R. H. ... ..	Vicarage, Seaham
Bell, Thomas, ... ..	Cumberland Row
Belt, George, ... ..	Groat Market
Bethune, Rev. Angus, ... ..	Seaham Harbour
Bewick Thomas John, ... ..	Allenheads
Bigge, Rev. J. F., B.A. ... ..	Vicarage, Stamfordham
Blackbird, Francis, M.R.C.S. ...	South Hylton
Blacklock, Joseph, ... ..	Percy Street
Blackwell, John, jun. ... ..	Ellison Place
Blackwell, Benjamin B. ... ..	Westgate Street
Bold, Thomas John ... ..	Long Benton
Bourdillon, H. ... ..	Oxford Street
Boyd, Edward, ... ..	Urpeth
Brady, Henry, ... ..	Gateshead
Brady, G. S. ... ..	Gateshead

Broomfield, Thomas	...	...	Felton
Brown, Robert,	...	...	Sunderland
Browning, James B.	...	...	Leazes Terrace
Browell, E. I. J.	...	...	East Boldon
Bruce, Rev. J. C., LL.D., F.S.A.			Percy Street
Bruce, Gainsford,...	...	...	Percy Street
Brumell, Matthew, M.R.C.S.	...		Morpeth
Budden, W. H.	...	...	Summerhill Terrace
Bulman, George	...	...	Sandhill
Bunning, F. W.	...	...	65, Westmoreland Terrace
Burdon, Rowland, Esq...	...		Castle Eden
Eurnet, Thomas,	...	...	Summerhill Terrace
Bustin, John, M.R.C.S.	...	...	Hetton-le-Hole
Carr, Ralph, Esq...	...	...	Hedgley, Alnwick
Carr, Rev. Charles, M.A.	...		Whitworth, Barnard Castle
Carr, Rev. H. B., M.A.	...	...	Rectory, Whickham
Carr, Rev. C. J., B.A.	...	...	Witton Gilbert
Carr, W. J.	...	...	Alnwick
Caswell, Rev. John, B.A.	...		Lowick, Northumberland
Charlton, Edward, M.D.	...		Eldon Square
Christison, Alexander	..	...	Central Station, Newcastle
Clarke, George	...	...	Walker
Coates, Thomas, M.R.C.S	...		Haydon Bridge
Cockcroft, L. M.	...	...	St. Mary's Place
Collinson, Captain, R.E.	...		Boldon Rectory
Coppin, John, Esq.	...	...	North Shields
Coward, R. S.	...	...	Carlton Terrace
Coxe, Venerable Archdeacon,			Eglingham, Northumberland
Crawshay, Edmund,	...	...	Bensham
Crawshay, Herbert,	...	...	Bensham
Creighton, William,	...	...	Morpeth
Crighton, William, jun.	..		1, Adelaide Terrace
Crowder, Rev. A. E.	...	...	Dunse, N. B.
Crowder, W.	...	..	21, Northumberland Street
Davie, C. F.	..	...	Castle Eden Parsonage
Dees, R. R.	..	...	St. Mary's Place
De Mey, W. F., M.D.	...	...	Eldon Square

De Pledge, William, ... ..	Gateshead
De Pledge, Rev. Joseph, ... ..	Chester-le-Street
De Pledge, Frederick, ... ..	High Street, Gateshead
Dickson, William, ... ..	Alnwick
Dinning, Joseph, ... ..	Langley Hill Top, Haydon Bridge
Dobson, John ... ..	New Bridge Street
Dodd, William, ... ..	45, Bigg Market
Dodsworth, Frederick, ... ..	Collingwood Street
Dolphin, J. P., Solicitor ... ..	
Donkin, A. S., M.D. ... ..	Morpeth
Douglas, Robert, ... ..	Berwick-upon-Tweed
Ellison, Nathaniel, Esq. ... ..	Morton House, Durham
Embleton, Dennis, M.D. ... ..	Northumberland Street
Embleton, R. C., L.R.C.S. ... ..	Embleton, Northumberland
Falconar, J. B., jun ... ..	Leazes Terrace
Falconar, W. A. ... ..	Leazes Terrace
Falconar, Robert, ... ..	Leazes Terrace
Featherstonhaugh, Rev. W., M. A.	
Fenwick, John, F.S.A. ... ..	Ellison Place
Ferguson, William, ... ..	Alnwick
Finch, Rev. T., B.A. ... ..	Morpeth
Forster, W. J. ... ..	Tynemouth
Forster, James, .. ...	White House, Gateshead
Fraser, Hugh, ... ..	Dean Street
Frost, R. C. ... ..	Picton Place
Fryer, J. H. ... ..	Whitley House, Tynemouth
Garnham, George, M.B.C.S. ... ..	Houghton-le-Spring
Gibb, C. J., M.R.C.S. ... ..	Westgate Street
Gibson, W. Sidney, F.S.A., F.G.S.	Tynemouth
Gibson, Thomas, Architect ... ..	Westgate Street
Gilpin, Benjamin, ... ..	Pilgrim Street
Gleizal, Mons., ... ..	French Consulate, Grey Street
Glover, William, ... ..	Walbottle Dene House
Glynn, Edward, ... ..	Grey Street
Gowan, William, ... ..	at Mr. Brockett's, Solicitor, Grey St
Gray, Thomas, ... ..	Grey Street
Green, Rev. Robert, M.A. ... ..	St. Mary's Place

Green, Rev. T. R., M.A.	...	St. Mary's Place
Green, R. Y.	... ..	Mosley Street
Greenwell, Rev. W., M.A.	...	University College, Durham
Hadfield, George, ...	... ..	Haltwhistle
Hancock, Albany,	... ..	St. Mary's Terrace
Hancock, John, ...	... ..	St. Mary's Terrace
Hardcastle, W. J.	... ..	St. John's Lane
Hardy, James,	... ..	Penmanshiel, Berwickshire
Hare, John, ...	... ..	Grey Street
Hawks, George, jun.	... ..	Redheugh, Gateshead
Headlam, T. E., Esq., M.P.	...	30, Lincoln's Inn Fields, London
Hernaman, John,	... ..	Grey Street
Hogg, John, Esq.	... ..	Norton, Stockton-on-Tees
Houseman, John, M.D.	... ..	Percy Street
Howse, Richard, jun.	... ..	35, Saville Street, South Shields
Hunter, Samuel, ...	... ..	Ravensworth Terrace
Hutton, William, ...	... ..	2, North Ter., West Hartlepool
Ingham, Robert, Esq., M.P.	...	13, King's Bench Walk, Temple
Iliff, Frederick	... ..	Bishopwearmouth Grange
Jefferson, Thomas,	... ..	Hexham
Johnson, Frederick H., M.R.C.S.,	Sunderland	
Johnson, William, Solicitor,	Mosley Street	
Kaye, William, ...	... ..	Blackett Street
Kell, William, F.S.A.	... ..	Gateshead
Lamb, P. K. ...	... ..	Albion Place
Lambert, M. W.	... ..	Grey Street
Leefe, Rev. J. E.	... ..	Cresswell
Legge, F. C. ...	... ..	The Grove, Houghton-le-Spring
Legge, Lewis, jun.	... ..	The Grove, Houghton-le-Spring
Leathart, Josh.	... ..	Gallowgate
Liddell, Rev. W. W.	... ..	Easington Rectory
Lightfoot, J. L.	... ..	Monkton Paper Mill, Jarrow
Loftus, W. K.	... ..	Newcastle
Lord, Rev. T. E.	... ..	West Rainton
Lowes, Nicholas	... ..	Allen's Green, Bardon Mill
Luckley, George, jun.	... ..	St. James's Street
Makepeace, Robert	... ..	Forth

Maling, C. T.	...	...	Shield Field
Mather, Edward,	...	...	Grey Street
Mather, John Robert,	...	...	58, Percy Street
Marshall, Joseph,	...	...	Sandyford
Mason, Rev. J. M.	...	...	Jarrow
Mawson, John	...	...	Mosley Street
Maughan, Rev. J. B.	...	...	Morpeth
Moffat, A. S.	...	...	Folly, near Alnwick
Moor, John,	...	...	College Green, Durham
Mounsey, Edward,	...	...	Sunderland
Mulcaster, J. P.	...	...	Blaydon
Newcombe, W. L.	...	...	Trafalgar Street
Newton, Rev. J. H., B.A.	...	...	Kirkharle
Nichol, Rev. J. S.	...	...	Rectory, Hetton-le-Hole
Nicholson, John, M.R.C.S.	...	...	Hexham
Oliver, Daniel, jun., F.L.S.	...	...	Bigg Market
Oliver, George,	...	...	Rye Hill
Pattinson, H. L.	...	...	Scotts' House, Gateshead
Peacock, Reginald,	...	...	Sunderland
Peacock, Septimus,	...	...	Alexandria, Egypt
Pearse, J. S., M.R.C.S.	...	...	Nelson Street
Peck, Frederick John,	...	...	Branch Bank of England, Grey St
Plummer, Robert,	...	...	Byker
Potter, H. G., M.R.C.S.	...	...	Jesmond High Terrace
Potter, Charles,	...	...	Heaton Hall
Reed, G. B., Solicitor,	...	...	Bank Buildings
Robinson, G. F.	...	...	Bridge Street, Sunderland
Robinson, G., M.D.	...	...	Eldon Square
Robson, George,	...	...	Carlton Terrace
Robson, E. Capper,	...	...	Sunderland
Russell, G. G.	...	...	5, Queen Square
Salmon, J.	...	...	South Shields
Sanderson, R. B., jun.	...	...	Jesmond
Sanderson, John, M.D.	...	...	Jesmond
Sawyer, William,	...	...	East Boldon
Scott, W. B.	...	...	St. Thomas's Street
Sewell, Joseph,	...	...	Heaton

Shephard, Joseph,	...	...	Carliol Street
Shield, G. R.	...	...	Mosley Street
Shield, J., jun.	...	...	Grey Street
Shields, Rev. W. T.	...	...	Ovingham Rectory
Sidney, M. F. J., Esq.	...	...	Cowpen
Skipsey, Rev. R., B.A.	...	...	Sunderland
Smiles, Henry,	...	...	Central Station
Sopwith, Thomas, F.R.S., F.G.S.,			Allenheads
Spence, Joseph,	...	...	Sunderland
Squance, T. C.	...	...	Sunderland Joint Stock Bank
Stable, G. W.	...	...	Jesmond
Stapylton, Henry, Esq.	...		Judge of the Durham County Court
Stephen, John T.	...	...	15, Fowler Street, South Shields
Stephens, Thomas, M.R.C.S.	...		Dockwray Square, North Shields
Stevenson, Alexander S.	...		Newcastle
Stevenson, John J.	...	...	South Shields
Storey, John, F.B.S.E.	...	...	South Parade
Storey, John, jun.	...	...	South Parade
Straker, John,	...	...	North Shields
Sutton, Francis	...	...	46, Clayton Street West
Swan, Joseph,	...	...	7, Victoria Ter., Cemetery Road
Swinburne, Joseph W.	...		West Street, Gateshead
Talmadge, A. H., M.R.C.S.	...		Northumberland Street
Tate, George, F.G.S.	..	...	Alnwick
Taylor, John,	...	...	Lovaine Place
Thompson, John,	...	...	Bloomfield Terrace, Gateshead
Thompson, Rev. R.	...	...	Unthank, Shotley Bridge
Thompson, E. P.	...	...	Lovaine Crescent
Thompson, C. jun.	...	...	Winlaton
Thompson, G., jun.	...	...	Winlaton
Thorp, Ven. Archdeacon	...		Ryton
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Trevelyan, Sir W. C., Bart.	...		Wallington
Tristram, Rev. H. B., M.A.	...		Castle Eden
Trueman, William,	...	...	Durham
Turner, Rev. J. Frederick	...		University College, Durham
Turner, Henry,	...	...	Heaton Dene

Vint, Robert,	...	...	...	Sunderland
Wailles, George,	...	...	...	Ridley Place
Wallis, Robert,	...	...	...	South Shields
Walton, Thomas,	...	...	...	North Terrace
Wannop, Rev. T. N.	...	...	...	Sherburne, Durham
Warden, G. C.	...	...	...	Edinburgh
Warwick, John,	...	...	...	43, Westmoreland Terrace
Weatherley, Captain J. D.	...	...	...	New Bridge Street .
Wilcox, W. Edward,	...	...	...	Whitburn, Sunderland
White, D. B., M.D.	...	...	...	Portland Place
Williamson, John,	...	...	...	South Shields
Wilson, Thomas,	...	...	...	Summerhill
Winship, William, M.R.C.S.	...	...	...	Percy Street
Woolrych, Rev. H. F.	...	...	...	South Hetton, Durham
Young, Wm. James, Solicitor,	...	...	...	Eden House, Sunderland

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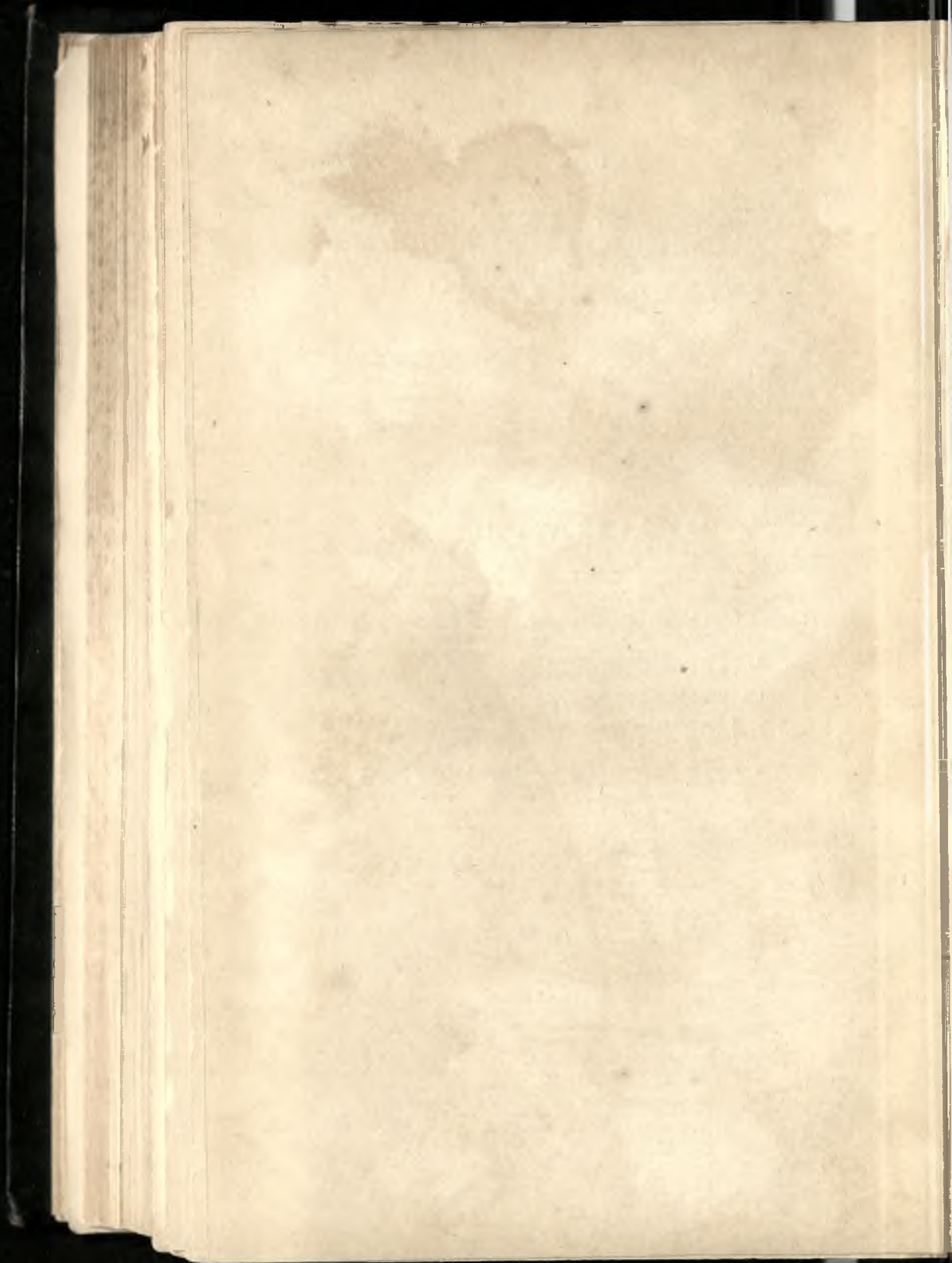
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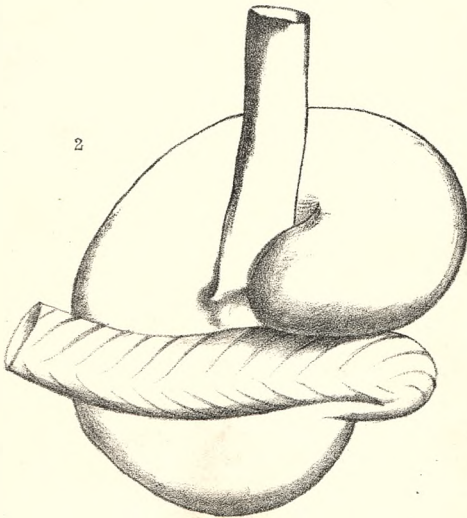
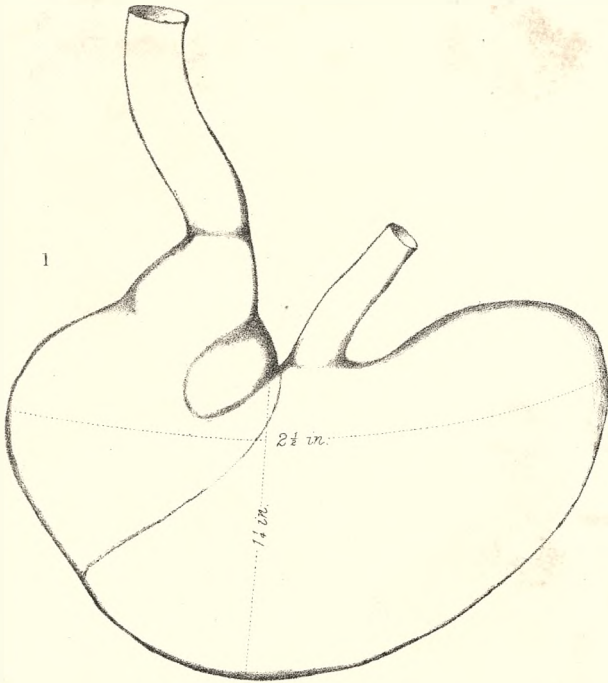
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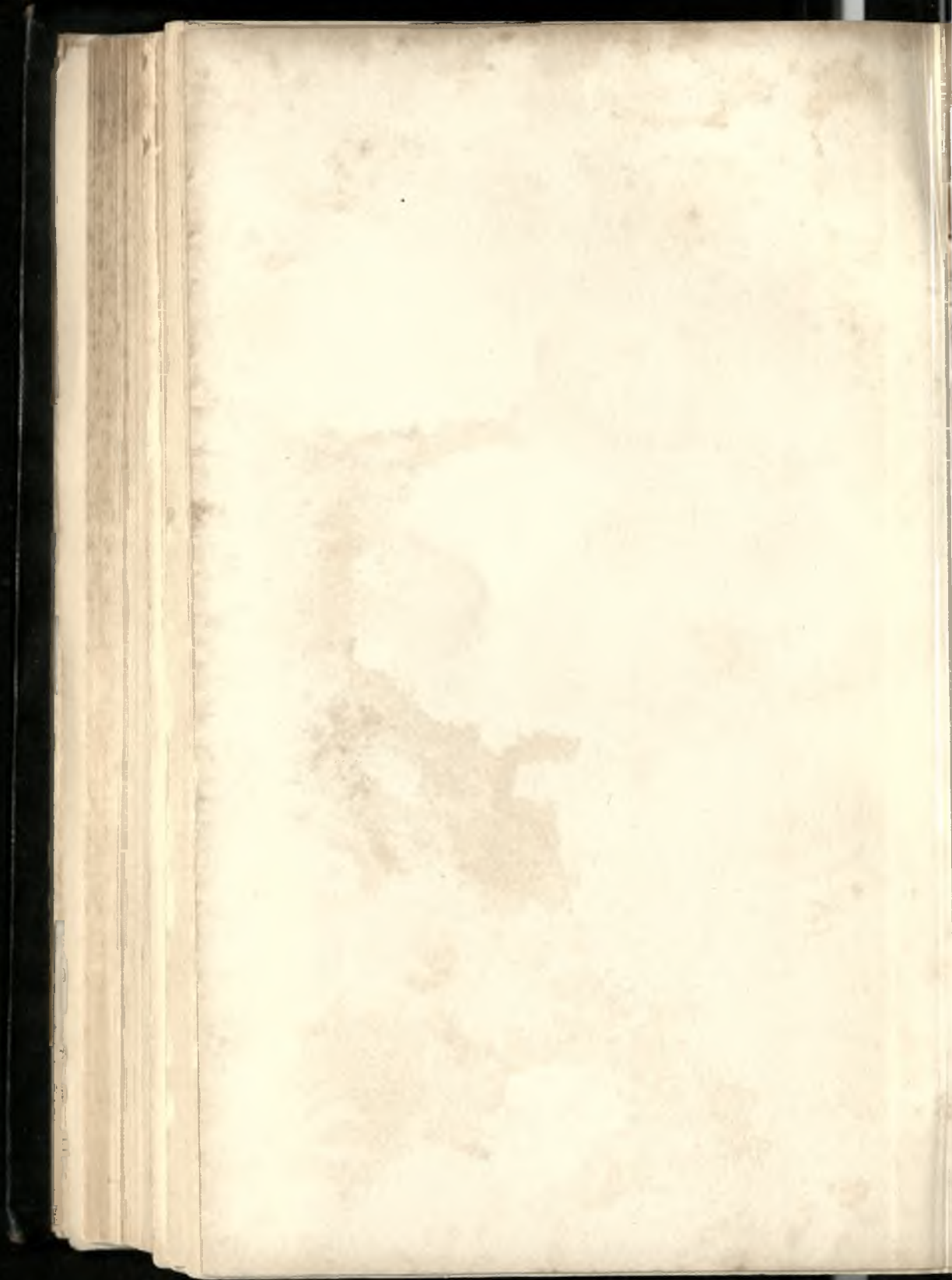
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- PLATE I. { Fig. 1. Stomach of Black Rat.  
           { Fig. 2. Cæcum, &c., of ditto.  
 " II. { Fig. 3. Stomach of Brown Rat.  
         { Fig. 4. Cæcum, &c., of ditto.  
 " III. Short Sunfish (*Orthorogiscus Mola*).  
 " IV. { Fig. 1. Side view of young of *Gasterosteus aculeatus*.  
         { Fig. 2. Back view of ditto.  
 " V. { Fig. 1. More advanced stage of growth of *G. aculeatus*.  
         { Fig. 2. The same a few days older.

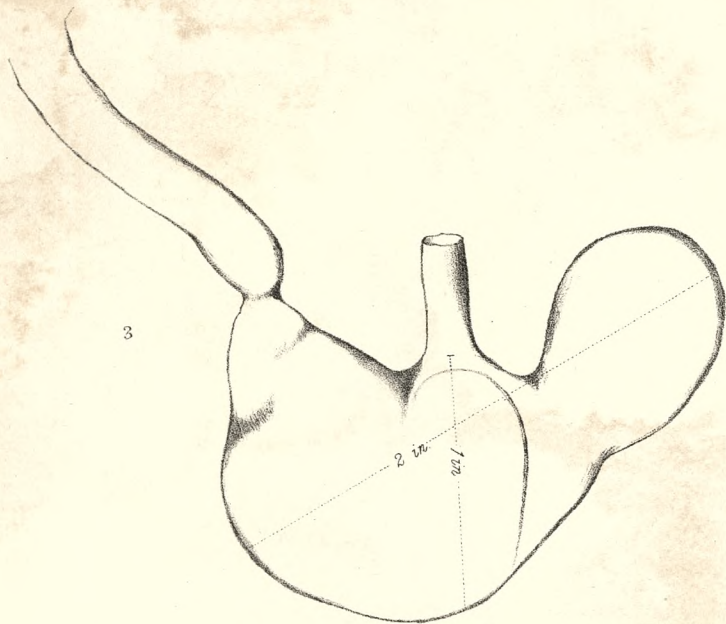
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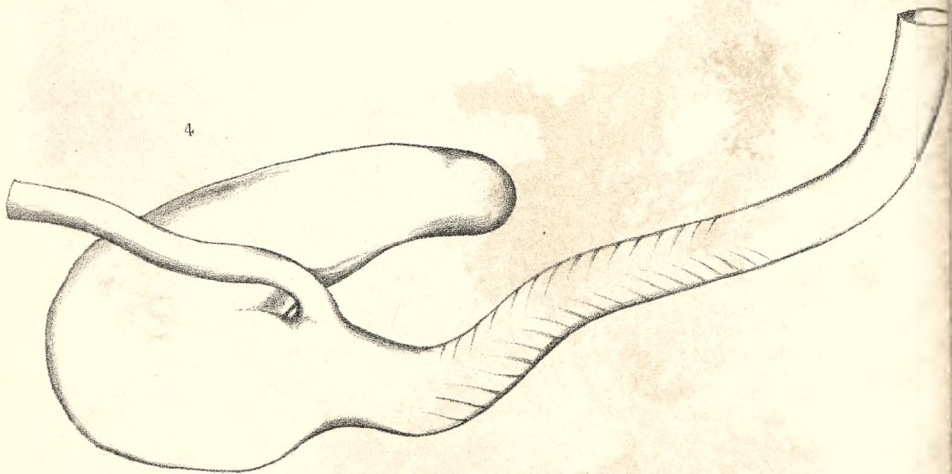


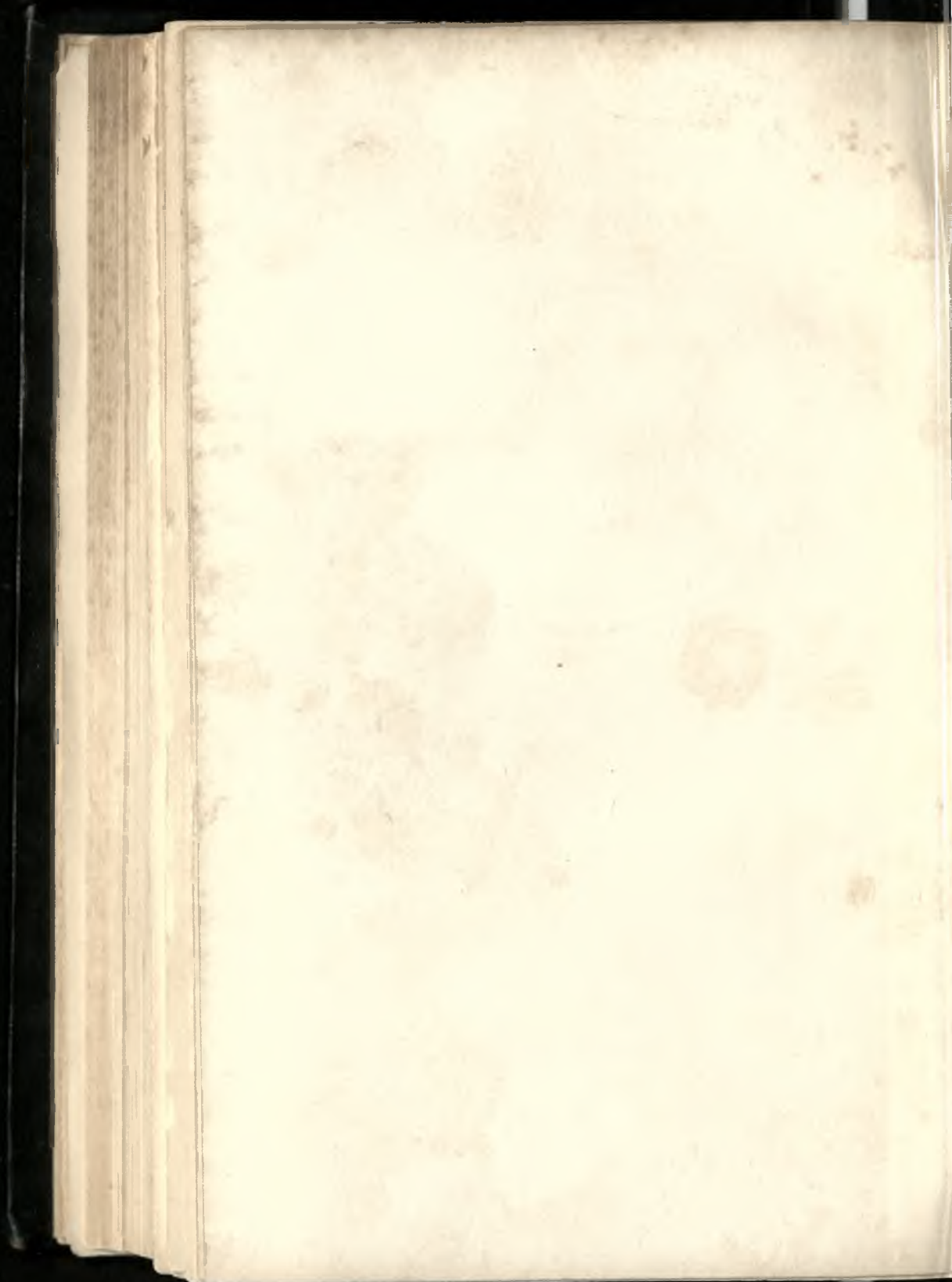


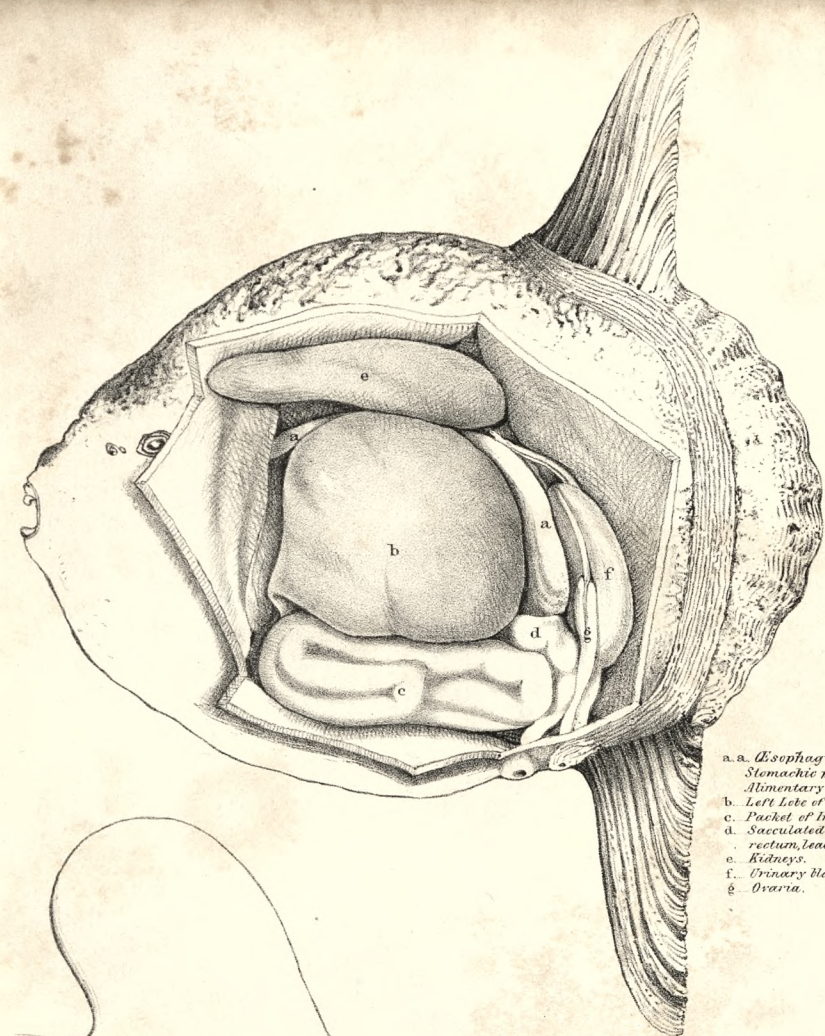
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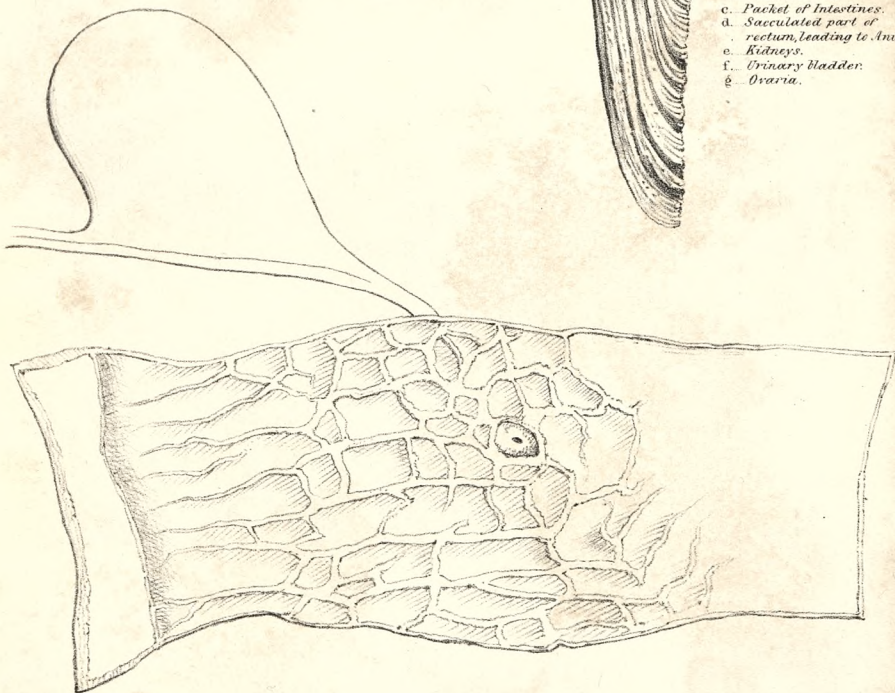
4







- a. a. Esophagus and  
Stomachic part of  
Alimentary Canal.  
b. Left Lobe of Liver.  
c. Packet of Intestines.  
d. Sacculated part of  
rectum, leading to Anus.  
e. Kidneys.  
f. Urinary Bladder.  
g. Ovaria.





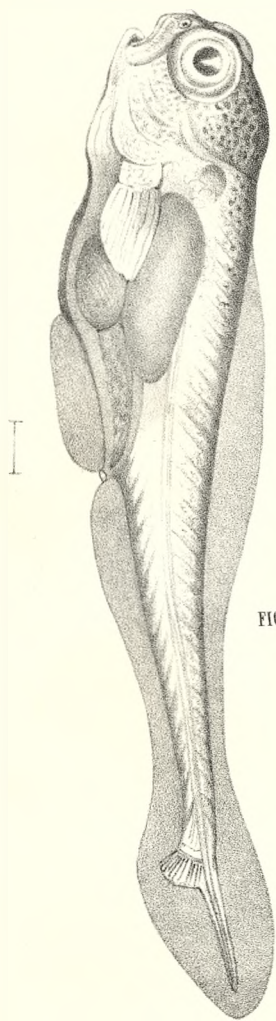


FIG. 1.

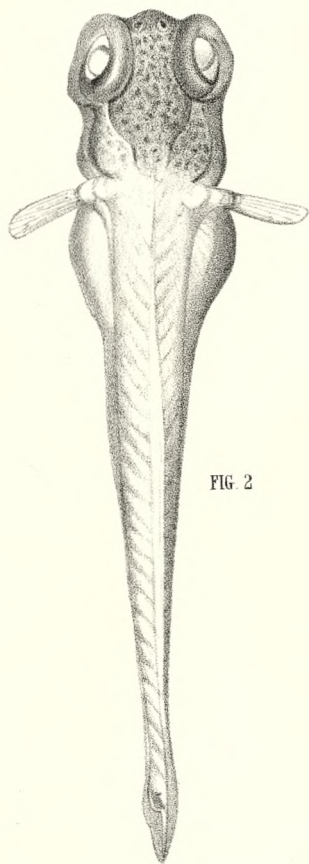
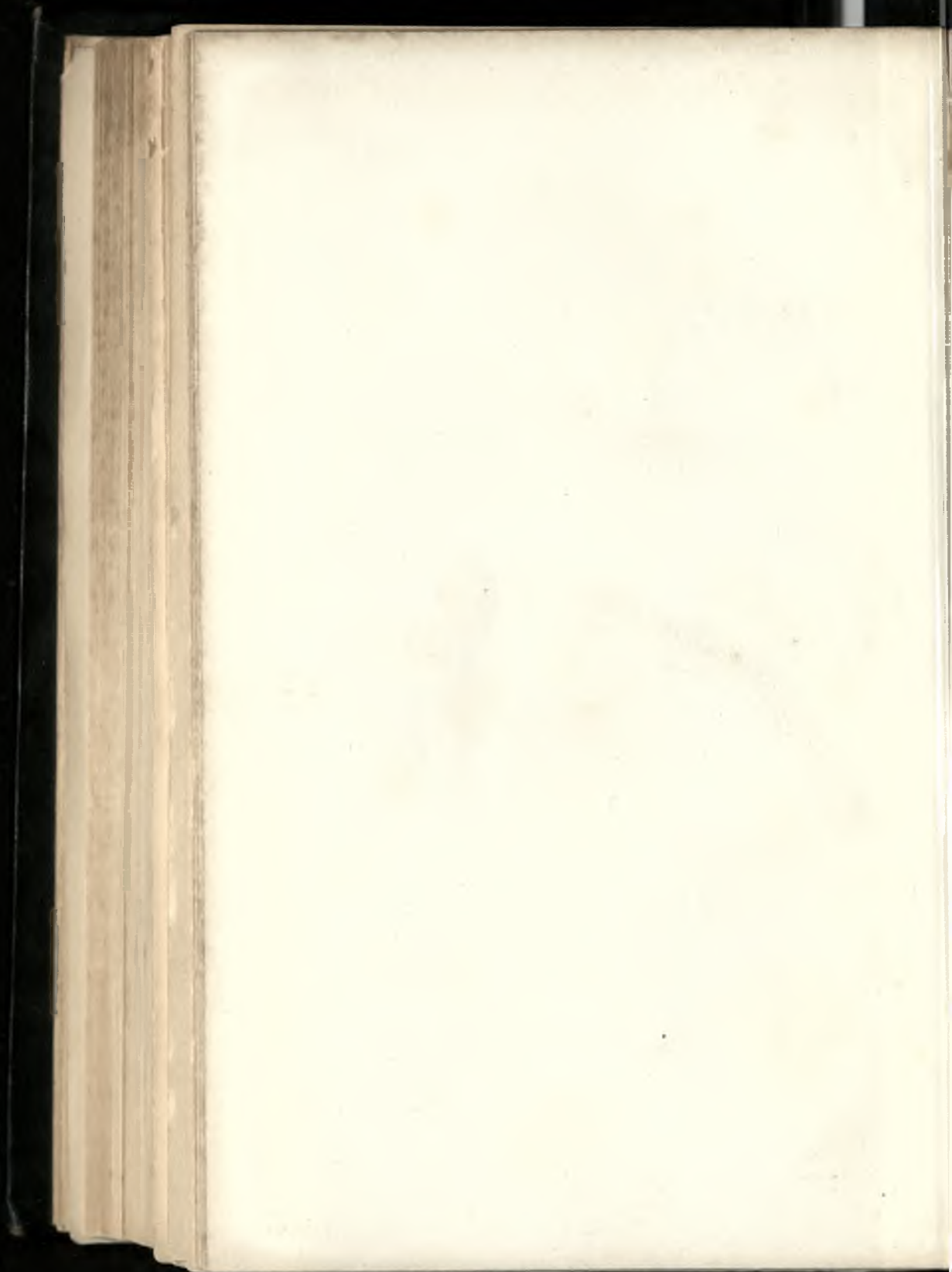


FIG. 2.



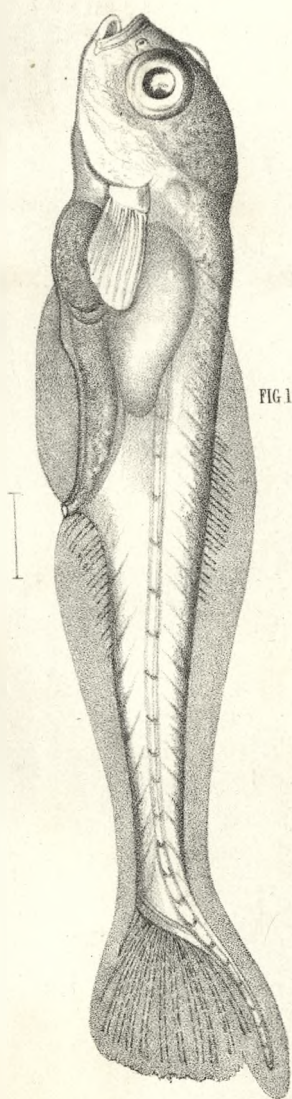


FIG. 1.

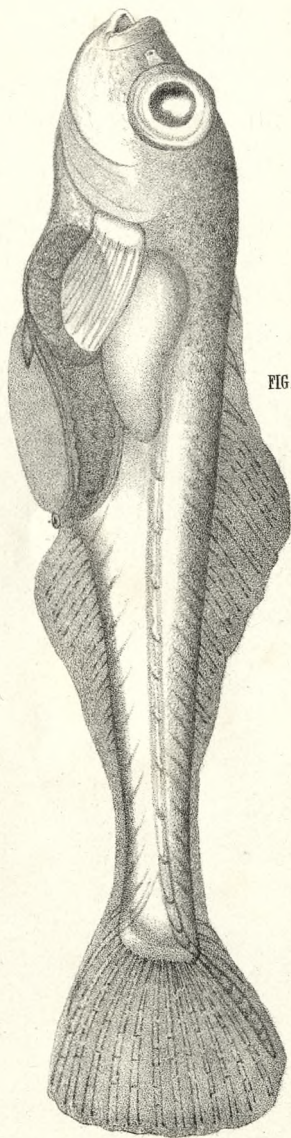


FIG. 2.

