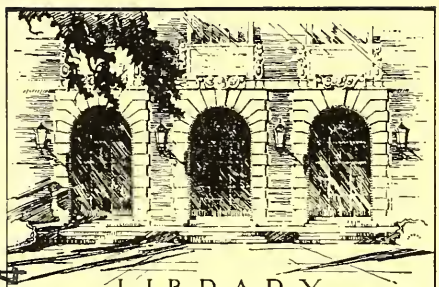
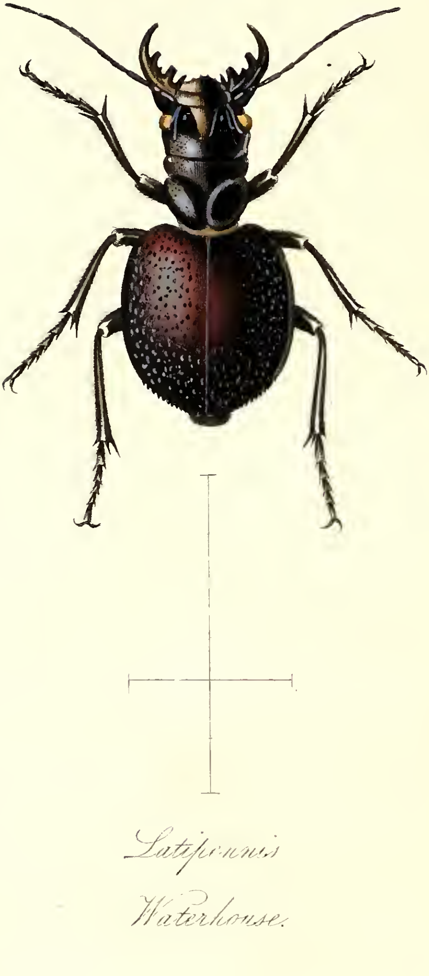


Manticora

Fab.



Latipennis

Waterhouse.

J. O. Westwood del.[t]

THE

COLEOPTERIST'S MANUAL,

PART THE SECOND,

CONTAINING THE

PREDACEOUS LAND AND WATER

BEETLES

OF

LINNEUS AND FABRICIUS.

BY THE

REV. F. W. HOPE, M.A. F.R.S. F.L.S. F.Z.S.

ETC. ETC.

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MDCCCXXXVIII.

DESCRIPTION OF THE PLATES.

FRONTISPIECE.—Manticora latipennis, *Waterhouse*.

TAB. I.

FIG. 1.—Apteroessa *(Hope)* grossa, *Fabr.* 1 *a*, labrum; 1 *b*, mandible; 1 *c*, maxilla; 1 *d*, labium.

FIG. 2.—Calochroa crucigera, *Hope*.

FIG. 3.—Oxycheila bisignata, *Guérin*. (O. binotata, *Laporte*, nec *Gray*.)

FIG. 4.—Eurymorpha cyanipes, *Hope*. 4 *a*, labrum; 4 *b*, maxilla; 4 *c*, labium.

FIG. 5.—Macrocheilus Bensoni, *Kirby*. 5 *a*, underside of the head.

FIG. 6.—Plochionus Bonsfilsii. 6 *a*, labrum and mandibles; 6 *b*, maxilla; 6 *c*, labium; 6 *d*, anterior tarsus.

TAB. II.

Comprising Carabideous genera, described in the Annulosa Javanica.

FIG. 1.—Dirotus subiridescens, *MacLeay*. 1 *a*, front of head above; 1 *b*, maxilla; 1 *c*, labium; 1 *d*, trochanter and femur; 1 *e*, extremity of tarsi.

FIG. 2.—Gnathaphanus vulneripennis, *MacLeay*. 2 *a*, front of head above; 2 *b*, maxillary palpus; 2 *c*, mentum; 2 *d*, labial palpus.

FIG. 3.—Hypharpax lateralis, *MacLeay*. 3 *a*, labrum and mandibles; 3 *b*, maxilla; 3 *c*, mentum; 3 *d*, labial palpus; 3 *e*, one of the four anterior tarsi.

FIG. 4.—Dioryche torta, *MacLeay*. 4 *a*, labrum and mandibles; 4 *b*, maxilla; 4 *c*, labium; 4 *d*, basal joints of anterior tarsi beneath.

FIG. 5.—Hyphæreon reflexus, *MacLeay*. 5 *a*, head above; 5 *b*, maxillary palpus: 5 *c*, mentum and labial palpus.

FIG. 6.—Cælostomus picipes, *MacLeay*. 6 *a*, head above; 6 *b*, maxilla; 6 *c*, mentum; 6 *d*, anterior tarsus.

TAB. III.

FIG. 1.—Craspedophorus *(Hope)* reflexus, *Fabricius*. 1 *a*, labrum and mandibles; 1 *b*, mentum and labium.

FIG. 2.—Catascopus Withillii, *Hope*. 2 *a*, labrum; 2 *b*, mandible; 2 *c*, maxilla; 2 *d*, labium.

FIG. 3.—Platysma striatulus, *Fabricius*. 3 *a*, labrum; 3 *b*, mandibles; 3 *c*, maxilla; 3 *d*, labium.

FIG. 4.—Pachymorpha orieutalis. *Hope*.

FIG. 5.—Hyderodes Shuckardi, *Hope*. 5 *a*, anterior tarsus; 5 *b*, intermediate tarsus; 5 *c*, posterior tarsus.

FIG. 6.—Globaria Leachii, *Latreille*. 6 *a*, Insect seen sideways; 6 *b*, labrum; 6 *c*, mandible; 6 *d*, maxilla; 6 *e*, labium; 6 *f*, antenna; 6 *g*, fore leg; 6 *h*, anterior tarsus; 6 *i*, posterior tarsus.

PREFACE.

From the unexpectedly rapid sale of the first part of the Manual, I am induced to attempt a second; and should the same good fortune attend the present number as the former, provided health is given me, I shall be able to complete the remainder of the work at intervals of six months; five Fasciculi forming the volume. An application from my bookseller for a second edition is the cause of the early appearance of the present part. I have not acceded to his request, being desirous of proceeding with the main work. If, however, when the whole is finished there is still a demand for a second edition, I shall be disposed to attend to it. The delay will undoubtedly enhance its value, as an extensive correspondence with the leading Entomologists of Europe has already afforded me valuable information on some Fabrician species which are imperfectly known; and I have still reason to expect further communications from Berlin, Copenhagen, and Paris. From my friend

Dr. Erichson of Berlin, I have lately received the offer of the loan of his Manuscripts on Fabrician Insects, in which are noted down many observations made during a careful examination of the Copenhagen Collections; for the liberal offers of the above individual I cannot feel sufficiently thankful, as the value of the annotations will be appreciated by all those who happen to know the accuracy of the work entitled, "Die Kafer der Mark Brandenburg, beschrieben von Wilh. Fred. Erichson." Before entering on any remarks relating to the present number, I think it right to mention two objections brought against the Manual by some of my correspondents. They are as follows: first, "that there are no systematic tables of the family and genera given;" and secondly, "too much importance has been given to the Lamellicorns as a group." With regard to the first objection, I admit it; the only cause of the omission was a thorough conviction that it was utterly impossible to combine satisfactorily the views of different writers, unless I created several new genera, and formed almost an entire new arrangement. Now as such an arrangement will be attempted by me at a future period, when more leisure can be bestowed on the necessary investigation, I pass to the second objec-

tion, viz. that "too much importance is attributed to the Lamellicorns as a group." Against this charge I must beg leave to enter my dissent; and in replying to it, I feel compelled, partly in self-defence, to obtrude my opinions on the modern arrangement of insects, "if rightly viewed *they* may probably be adopted, if wrongly let *them* fall." Linneus, Fabricius, and Olivier placed at the head of insects the Lamellicorns; most modern writers commence with the Cicindelidæ, or Tiger Beetles, (Euptera of Kirby). Differing from the latter systematists, neither am I inclined to side entirely with the former; for after a rigid examination into the principles of modern classification, I candidly confess I agree with *no one author*, as the nervous system, according to my views, does not appear to have been sufficiently attended to. If a system of circular distribution be admitted, we may as well commence with the Lamellicorns as any other group. But there are sufficient reasons why the Lamellicorns should precede Cicindela or Carabus. It is not merely the simple structure of the stomach, it is not their vast bulk or strength, (on which little stress can be laid,) but it is in the important functions they perform, it is in relation to the economical purposes of the human race, that they ought

to take precedence. They are of greater utility to man than nearly all other groups, in checking the over-luxuriance of tropical vegetation; in reducing to powder the mightiest monarchs of the forest; in purifying the air by burying all that is noxious and disgusting; and at the same time they give fertility to the land, by carrying to the roots of vegetation the richest of manures. As to numbers, both of genera and species, they greatly surpass the Cicindelidæ, or even the Carabidæ; and in the number of individuals of species, they appear among the most prolific of insects. As examples of utility of the group in warm climates, we have only to mention the genera Xylotrupes, Copris, Onthophagus, Melolontha, Euchlora, and Mimela; while in colder regions we may mention Geotrupes and Aphodius. But other writers hold different views; and it may be worth while to state their opinions. The following are the chief reasons assigned for placing the Cicindelidæ first: "There are beetles of vast bulk and strength, (elephants in the class of insects,) which are distinguished neither by the swiftness of their motion, nor by the elegance of their forms; others there are, less clumsy indeed and gigantic, but remarkable for the perfection and symmetry of their structure, the lightness and velo-

city of their motions, both on the earth and in the air, and for the splendour and brilliancy of their colours; such, with only one or two exceptions, are the Euptera, or tiger beetles. Among the higher animals the lion, chief of the predaceous quadrupeds, is usually accounted the king of beasts; a similar reason will justify modern Entomologists for regarding the Cicindelidæ as the typical and most perfect form amongst insects (especially Coleoptera), instead of the Lamellicorns which Linneus has elevated to that rank."

It will be seen from the above extract, derived from an able and learned work of the present day, that the arguments are chiefly drawn from the external organization of insects, viz. the superior developement either of the manducatory organs, or from the symmetry and agility of the species, or from the form as well as the carnivorous habits of the insects, evincing as it does an approximation to the classification of the vertebrated classes of creation. The precedence therefore assigned to the Cicindelidæ in modern arrangements, would appear to arise from the adoption of the same principles which it is asserted induce Naturalists to place the Feline and Accipitrine tribes at the head of their respective classes. Had general internal

organization been added to the above claims in favour of precedence, I should certainly have been disposed to allow more weight to the arguments adduced. Burmeister, Dufour, and others, have certainly paid some attention to the internal anatomy of insects; but their selection has been of a particular organ for classification, and not the general anatomy. The organ selected was the alimentary canal; and accordingly as its length varied, being short in the carnivorous species, and long in the herbivorous, so they have partly allowed these facts to operate on classification. The length of the alimentary canal, however, cannot be decisive of the habits of an animal, or a vegetable feeder in the class Insecta; nor do I think that the alimentary canal is a proper criterion on which to found a scientific arrangement, either in the vertebrated or invertebrated animals; since, although the characters derived from it may hold good in many instances, the exceptions with regard to Insecta are far too numerous to justify any reliance upon it. If the alimentary canal be taken as a leading character, it will place those with the shortest canal, the true carnivorous animals, above the omnivorous; indeed man himself, if the rule is strictly followed out, will be placed below the feline

tribes; at all events some of the Quadrumana (that are entirely vegetable feeders) will be placed below the lions and tigers. Such an arrangement is not natural. As to the arguments in favour of the precedence of Cicindelidæ from symmetry of structure and agility, if any weight could be attached to them, we should have the antelope and light gazelle taking precedence of all the vertebrata. Having thus briefly stated my objections, it will probably be asked what *new* system I have to propose.* Without attempting a new one, I recom-

* In corroboration of the above opinion, I subjoin an extract from a letter received from the author of the Paper on Sphinx Ligustri. Vid. Philosophical Transactions.

"It has long struck me that the principle on which modern Entomologists have founded their arrangements are quite assumed and arbitrary, and by no means natural or in accordance with those great principles upon which comparative anatomists have attempted to arrange the vertebrated classes of creation. In all the arrangements of Insects there have appeared to me some *true* and some *false* principles intermixed, and no one great principle has been entirely followed out when commenced with, but has been interfered with by the introduction of other principles of secondary or minor importance. This appears to have arisen from the generality of Entomologists being little acquainted with the internal structure of Insects and other Invertebrata, and in consequence they have taken nearly all the characters employed in their arrangements from the exterior of the animals; indeed, in almost all instances, external form has been regarded in the arrangement, and no uniform physiological principle or reference to internal anatomy has been followed. The nervous system indeed is almost entirely disregarded."—*Newport in litteris.*

mend recurring to one that has been in many instances departed from. We ought in every division of the animal kingdom to look for one great principle, or basis of arrangement, in a structure which exists throughout nearly the whole of the animal creation; and which structure, both as regards its anatomical and physiological developement, becomes gradually of more and more importance, as we trace it upwards from the lowest beings in which it exists to the highest. This structure, I need scarcely remark, is the nervous system; but although it constituted the chief character, or principle followed by Naturalists in the arrangement of the vertebrated animals, it has very singularly been much deviated from by them, and is rendered of scarcely more than secondary consideration in their arrangements of the Invertebrata.

It is with reference, then, to the comparative developement of the nervous system that I would attempt to arrange insects, since I have no doubt, that when we have become better acquainted with the forms of their nervous system, the characters will be found as marked in *them* as in the Vertebrata. In following this mode of arrangement it will be seen, that some of the vegetable feeders will stand before the carnivorous. Thus the Lamelli-

corns may very properly be placed at the head of the Coleoptera, from which there will be traced a transition through the Hydradephaga, to the Necrophaga, &c. &c. to the Geodephaga and other classes. It may be objected by some persons, that Insects are too minute for such investigations, and that few will have the courage to undertake the task of examination. To this objection I reply, that much has already been done, and much more may confidently be expected. If we look abroad, and examine the writings of the Continental authors on the Invertebrata, we shall find much to admire, in the elaborate investigations of an Herold and a Straus Durckheim, much to glean from the works of a Treviranus, of a Chabrier, a Dufour, and an Audouin. If we look at home, we cannot but appreciate the labours of an Owen, a Grant, a Newport, and a Rymer Jones; and others, I trust, will yet be found labouring for the same desired end, the establishment of a uniform and more natural system of Classification than we at present possess, a system, perhaps, which we never can perfectly realize, but which may certainly be very much in advance of that which we now tolerate.

Having above stated my opinions, it is now high time to allude to the Families which will form

the subject-matter of this second part of my Manual.

The group under consideration has been denominated the Adephaga; the first sub-group of which are the Cicindeloidea, which, according to my views, consist of four families, the Manticoridæ, the Megacephalidæ, Cicindelidæ, and Collyridæ. As I am not satisfied with the published arrangement of any one author as a whole, I have, in the following groups, taken advantage of the labours of my predecessors, sometimes following one and sometimes another, according as their views coincide with mine, or where I consider they have more ably threaded the intricate labyrinths of Nature than myself.

It should ever be the chief object of writers on Natural History, to make their groups as conformable to nature as possible: human systems ever must be artificial and imperfect, indeed it is presumptuous in man to fancy that he can attempt a system uniform with nature in all its bearings. How can a finite being comprehend the wisdom of Omniscience, or even the exquisite perfection of creation's works, conceived by a Power that is infinite as well as incomprehensible.

The author of this Preface hopes that, in the

composition of the Families and Groups, no very great anomalies will occur. He is aware of the difficulty of the undertaking, and will undoutedly err like his predecessors; many gaps and apparent omissions will necessarily appear in the grouping of the Families, deficiencies which future discoveries will no doubt assist to rectify. To return however to Groups, I have stated above that the Cicindeloidea was the first sub-group of the Adephaga, which latter has naturally been subdivided into two groups, the Terrestrial and Aquatic Adephaga; the former has received the denomination of Geodephaga, and comprehends the Cicindelidous and Carabideous families: the latter also has been named by Mr. MacLeay, Hydradephaga, and includes the Genera Dyticus and Gyrinus of Linneus. The next important group which follows the Aquatic Adephaga, has been denominated Rypophaga by Mr. Stephens (i. e. the Cleansers), from the important functions they perform in removing animal and vegetable putrescence. This group has also been divided into three minor groups, viz. the Philydrida, the Necrophaga, and Brachelytra; preferring the arrangement of Mr. Stephens, who adopts the two former, I leave the latter for the termination of the Coleoptera.

Before concluding this Preface, I take the opportunity of publicly thanking Dr. Horsfield for his liberal views and kindness in forwarding this Manual. Whilst engaged in grouping the Families of the ground beetles I was repeatedly at a loss where to place several of Mr. MacLeay's genera, published in the Annulosa Javanica; by Dr. Horsfield's ready attention to my wishes, I was enabled to examine the rich collection in the India House, and had his permission to figure those forms which, though published, are little known to the Entomologists of the Continent. Instead, however, of giving the generic details here, I beg to refer the reader to the above excellent work. The drawings were made by Mr. Westwood, and are accurately engraved by Mr. Swaine. I therefore trust that the plates will not be the least interesting part of the present number, as they will tend to clear up many difficulties, and give an increased value to the publication.

F. W. H.

Since my manuscripts were in the printer's hands, Monsieur Aube has published a volume on Aquatic Coleoptera. Reference should be made to that work, which is evidently a great improvement on that of the Baron De Jean's "Spécies General des Coleopteres."

Genus CICINDELA of Linneus.

Cicindelidæ of *Leach.*

Cicindeloidea of *Hope.*

Linnean Species.	*Country.*	*Genera of Authors.*
1. Campestris	England	Cicindela, *Linneus.*
2. Hybrida	North Wales	Cicindela, *Linneus.*
3. Capensis	P. B. S.	Cicindela, *Linneus.*
4. Germanica	Isle of Wight	Cylindera, *Westwood.*
5. Virginica	Carolina	Tetracha, *Westwood.*
6. Carolina	N. America	Tetracha, *Westwood.*
7. Equinoctialis	Surinam	Tetracha, *Westwood.*
8. Sylvatica	England	Cicindela, *Linneus.*
9. Maura	Algiers	Cicindela, *Linneus.*
10. Riparia	England	Elaphrus, *Fabricius.*
11. Flavipes	France	Bembidium, *Illiger.*
12. Rupestris	England	Peryphus, *Megerle.*
13. 4-maculata	Germany	Lopha, *Megerle.*
14. Aquatica	England	Nothiophilus, *Dumeril.*

REMARKS AND ANNOTATIONS

ON THE

LINNEAN CICINDELIDÆ.

Species 1. *Campestris.**—From the foregoing tables it will appear that only fourteen species

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* For an account of various species of Cicindela described by Swedish writers, I refer the reader to Schonherr's Synonymia Insectorum; to Thunberg's Musæum Upsaliense, page 51; to Forskall's Travels in Egypt, and to a Memoir published in the Stockholm Transactions, in 1799, by de Ljunch. Of German writers let him consult the Magazines of Wiedemann and Germar; the Symbolæ Physicæ of Klug; the Zoologischer Atlas of Eschcholtz, and the Deutschlands Fauna of Sturm. Amongst French writers, the works of Olivier and Latrielle; the Species General des Coleopteres by the Baron de Jean; the Magazine of Guerin; Les Etudes Entomologiques par Monsieur de Laporte, and the Hist. Nat. des Insectes par Audouin et Brulle; La Centurie de Carabiques par Gory; La Revue Entomologique par Silberman. Les Coleopteres du Mexique par Chevrolat; the Entomological part of Duperrey's Voyage autour du Monde, as well as that of the Scientific Expedition to the Morea by Monsieur Brulle, and the Annales de la Societé Entomologique de France. Amongst the Russian authors may be mentioned L'Entomographie de la Russie par M. Fischer, tab. 1. 2. 3. Of American works the reader may consult the Monograph of Say on the Cicindelidæ of North America, published in the New Series of the Philadelphian Transactions; Say's American Entomology, and lastly a description

were ranged by Linneus under the generic term of Cicindela, nine of them at present belong to the Cicindeloidea, while the remaining five are ranked under the Caraboidal families usually denominated Ground Beetles.

Perhaps no one group of Insects evinces more the rapid progress which Entomology has made of late years than the Cicindelidæ. Fabricius, uniting the Collyridæ with that family, enumerates but 67 species. The Baron De Jean in his first Catalogue published in 1821, mentions 67 species and in his last (bearing the date of 1837) about 278. Dr. Gistl of Munich in the first Fasciculus of his Systema Insectorum (which does not include the whole genera composing the group) mentions the same number of species, viz. 278. It is probable that 70 others will be added in his second

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of some new species mentioned in the Journal of the Academy of Sciences at Philadelphia by the same author. Of English writers, who treat of our indigenous species, I name for reference the works of Messrs. Stephens and Curtis, and particularly the invaluable Systematic Catalogue of the former writer. As to Exotic species consult the Annulosa Javanica by Mr. MacLeay, the Fauna Boreali Americana by Mr. Kirby, a new New Holland genus in Selby's Journal by Mr. Westwood, and also the Introduction to the Modern Classification of Insects by the same author; lastly, the Coleopteral part of the Zoological Miscellany by myself, wherein are described the oriental species of the collection of General Hardwicke.

Fasciculus of the above work, and if we allow that there are in the different European collections about 50 which are undescribed, the total number known will be about 400 species, and this amount is evidently far short of what may yet be expected to occur, as Naturalists are, comparatively speaking, unacquainted with the Entomology of many very extensive regions, situated in Asia, Africa, and the two Americas.

Sp. 2. *Hybrida.*—For determining accurately this species which was originally recorded by Linneus, the reader is referred to Mr. Stephens's excellent work, "The Illustrations of British Entomology," and also to the Histoire Naturelle des Insectes par Audouin and Brulle, vide vol. 1. p. 65.—Cicindela aprica Stephens is the true Hybrida of Linneus, and Cic. Hybrida of Stephens is a variety of the Linnean Hybrida. The Linnean specimen is already figured in the frontispiece of Mr. Westwood's "Introduction to the Modern Classification of Insects."

Sp. 4. *Germanica.*—Now of the genus Cylindera Westwood; according to that author this species is made the type of the genus. M. M. Audouin and Brulle seem to have confounded the genus Odontocheila of Mons. Laporte with Cylindera; which

is erroneous, the latter apparently confining itself to Europe in the Old World, while the former seems peculiar to the southern regions of the New World.

Sp. 5, 6, and 7.—All of them originally belonging to Latreille's genus Megacephala and now to Mr. Westwood's genus Tetracha, the major part of the species inhabit North and South America as well as some Islands of the New World: the following genera compose the family.

MEGACEPHALIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Megacephala, *Latreille*	Senegal	C. Senegalensis, *Linneus.*
2. Tetracha, *Westwood*	N. & S. America	C. Carolina, *Linneus.*
3. Aniara, *Hope*	Cayenne	C. Sepulchralis, *Fabricius.*

The Megacephalidæ belong to the Old and New World, the true type of the first genus is Meg. Senegalensis, Lat; which in the French Encyclopædie, Mons. Serville has named Aptema, as it is apterous. Meg. Euphratica and 4-signata, closely allied to the former, are undoubtedly winged species, we have therefore two sections of the group, which may be described as follows.

Genus 1. Megacephala (stricte sic dicta) inhabits the Old World, and forms the group (Aptema of Serville).

(Mandibles with three apical teeth).

Section 1. Corpus apterum elytris postice dilatatis, humeris thoracis latitudini æqualibus. Species Meg. Senegalensis.

Sec. 2.—Corpus alatum elytris in medio latioribus, humeris (sc. angulis anticis) magis prominentibus, thorace latioribus. Species Meg. 4-signata and Euphratica.

Genus 2. Tetracha.—*Westwood.*—Inhabits the New World.

(Mandibles with four apical teeth).

(Typus Cic. Carolina, Linneus.)

Genus 3. Aniara, *Hope.*—Type of the genus C. sepulchralis, Fab. This insect diverging from Megacephala and Tetracha, I consider as the type of a sub-genus, it differs chiefly from the latter in the following particulars. First, it is of a more convex form than other known species having the elytra scarcely more dilated than the thorax, near

the extremity of the apex they are subsinuated and subacuminate, while in Tetracha they are rounded. The head and antennæ are in proportion shorter than in Tet. Carolina and other allied species, while the upper lip also projects, is more rounded and armed with four small teeth. Mons. Lacordaire states that the habits of this species differ from the Megacephalidæ, as it is usually found running among the herbage in sandy situations and rarely is seen to fly. The typical species is named Sepulchralis; I apply to it the name of *ανιαρος* tristis, as it is almost the only dark species of Megacephala of my acquaintance.

Sp. 10. *Riparia.*—Now of the Fabrician genus Elaphrus. Mr. Stephens is apparently the first Entomologist who considered these Insects entitled to rank as a family. Mons. Laporte has I think injudiciously united them to the Nebriadæ, and in this opinion M. M. Audouin and Brulle seem to agree. Mr. Kirby is of a different opinion and coincides with Mr. Stephens, and adds several pertinent observations respecting the Elaphridæ, to which the reader is referred. Vide Fauna Boreali Americana, p. 60. The following genera belong to the family.

Elaphridæ, *Stephens.*

(Filipalpia, *Kirby.*)

Genera.	*Country.*	*Typical Species.*
1. Nothiophilus, *Dumeril*	England	Cic. Aquaticus, *Linneus.*
2. Elaphrus, *Fabricius*	England	Cic. Riparius, *Linneus.*
3. Opisthius, *Kirby*	N. America	Op. Richardsoni, *Kirby.*
4. Elethisa, *Bonelli*	England	Car. Multipunctata, *Fab.*
5. Pelophila, *De Jean*	Sweden	Car. Borealis, *Fabricius.*
6. Metrius, *Eschscholtz*	California	El Contractus, *Eschscholtz.*

It appears that the genera composing this family belong almost entirely to Northern climates, they seem peculiar (as far as is known at present) to Northern Europe and to North America. In warmer regions I am inclined to think that Catascopus takes the place of Elaphrus. It is certain that some of the species belonging to the former genus abound in marshy places and on banks of rivers; should it eventually appear that a large proportion of the species of Catascopus frequent such localities, there cannot be a doubt of the connection of the above genera. The Baron De Jean has arranged Catascopus between Thyreopterus and Graphiptera, with the latter it can have little relation, and certainly it does appear singular for a

natural arrangement that the Scaritidæ and Grand Carabi should be placed between Catascopus and Elaphrus.*

Sp. 11, 12, and 13.—All these insects belong to the Bembidiidæ, as they will be alluded to more particularly in my remarks on the Caraboidea, I pass them at present.

Sp. 14. *Aquatica.* — Now a Notheophilus of Dumeril. In addition to the authorities (for the various Elaphridæ) recommended in the foregoing note, the Zoologischer Atlas of Eschscholtz and the Deutschlands Fauna by Sturm should also be consulted.

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* For the species of Elaphrus, vid. Insecta Sueccia by Gyllenhal De Jean Species, t. 2. page 269. et Icon. pl. 85. fig. 2. Say's North American Insects and Philadelphia Transactions, tab. 2. Germar's Magazine Le Bulletin de la Soc. des Natur. de Moscow, 1829. Messrs. Stephens and Curtis's British Entomology, and also the Fauna Boreali Americana, page 60-64.

Genus CINCIDELA of Fabricius.

Cicindelidæ of *Leach.*

Cicindeloidea of *Hope.*

Fabrician Species.	*Country.*	*Genera of Authors.*
1. Grossa	Coromandel	Apteroessa, *Hope.*
2. Heros	Pacific Isles	Cicindela, *Linneus.*
3. Labiata	Pacific Isles	Therates, *Latreille.*
4. Violacea	Carolina	Cicindela, *Linneus.*
5. Cyanea	East Indies	Therates ?
6. Megalocephala	Senegal	Megacephala, *Latreille.*
7. Virginica	Virginia	Tetracha, *Westwood.*
8. Carolina	N. America	Tetracha, *Westwood.*
9. Sepulchralis	Cayenne	Aniara, *Hope.*
10. Bicolor	Calcutta	Calochroa, *Hope.*
11. Campestris	England	Cicindela, *Linneus.*
12. Maroccana	Morocco	———
13. Hybrida	England	———
14. Sinuata	Austria	———
15. Sylvatica	England	———
16. Maura	Barbary	———
17. Littoralis	France	———
18. Tristis	Brazils	Oxycheila, *De Jean.*
19. Interrupta	Sierra Leone	Calochroa, *Hope.*
20. Lunulata	P. B. S.	Cicindela, *Linneus.*
21. Melancholica	Guinea	———
22. Lurida	P. B. S.	———
23. Chinensis	China	Calochroa, *Hope.*
24. Analis	Sumatra	Heptodonta, *Hope.*
25. Semivittata	Sumatra	Calochroa, *Hope.*
26. Flexuosa	Spain	Cicindela, *Linneus.*
27. Capensis	P. B. S.	———
28. Abdominalis	Carolina	Cylindera ?
29. Germanica	Germany	Cylindera, *Westwood.*
30. Obscura	N. America	Cicindela, *Linneus.*
31. Micans	N. America	———
32. Tuberculata	New Zealand	———
33. Unipunctata	N. America	———
34. Bipunctata	S. America	Odontocheila, *Laporte.*

Fabrician Species.	*Country.*	*Genera of Authors.*
35. Chrysis	S. America	Odontocheila, *Laporte.*
36. 4-punctata	Java	Prothyma, *Hope.*
37. 6-punctata	Madras	Calochroa, *Hope.*
38. Aurulenta	Sumatra	———
39. 4-lineata	Singapore	Cicindela, *Linneus.*
40. Cincta	Senegal	Calochroa, *Hope.*
41. Vittata	Guinea	Calochroa, *Hope.*
42. Biramosa	Concan	Cicindela, *Linneus.*
43. Marginalis	Canada	———
44. Punctulata	Carolina	———
45. 6-guttata	Virginia	———
46. Catena	East Indies	———
47. Longipes	Tranquebar	Abroscelis, *Hope.*
48. Marginata	Virginia	Cicindela, *Linneus.*
49. 10-guttata	Java	Calochroa ? *Hope.*
50. Suturalis	Isle St. Thomas	Cicindela, *Linneus.*
51. 8-guttata	Sierra Leone ?	———
52. Argentata	S. America	Cylindera, *Westwood.*
53. Viduata	Sumatra	Cicindela, *Linneus.*
54. Trifasciata	Cayenne	———
55. Angulata	Tranquebar	———
56. Funesta	East Indies	———
57. Holosericea	Java	Cicindela, *Linneus.*
58. Interrupta	Java	Calochroa, *Hope.*
59. Cajennensis	Cayenne	Odontocheila, *Laporte.*
60. Æquinoctialis	Surinam	Tetracha, *Westwood.*
61. Guttula	Pacific Isles	Cicindela ? *Guerin.*
62. Flavilabris	Pacific Isles	Therates, *Latrielle.*
63. Fasciata	Pacific Isles	Therates, *Latrielle.*
64. Minuta	East Indies	Cicindela, *Linneus.*

COLLYRIS of Fabricius.

Colliuris of *Latreille.*

Collyridæ of *Hope.*

1. Longicollis	Siam	Collyris, *Fabricius.*
2. Aptera	East Indies	Collyris, *Fabricius.*
3. Formicaria	Brazils	Ctenostoma, *Klug.*

REMARKS AND ANNOTATIONS

ON THE

FABRICIAN CICINDELOIDEA.

Sp. *Grossa.*—The Baron De Jean has expressed his opinion in his Species General des Coleopteres that the above insect is probably a Dromica, believing it however to be the representative in Asia of the African Dromica. I am inclined to make it the type of a new genus, which I have named Apteroessa, as it belongs to the Apterous section; the generic characters will appear in their proper place at the end of this Fasciculus, along with various other instituted sub-genera.

My friend Mr. Kirby, in the commencement of his Fauna Boreali Americana, under his section Euptera places his three sub-tribes, viz. Longicollia (Colliuris), Brevicollia (Cicindela), and Fissicollia (Manticora); with this arrangement I am inclined to differ, and suggest that the Manticoridæ either

stand by themselves, or that the term Euptera be changed to Ocypoda, which will characterise admirably the three sub-tribes; such cannot be said of the term Euptera when some of the genera of the Manticoridæ and others of the Cicindelidæ are apterous.

As we are now considering those groups of insects which have been most studied by Entomologists, perhaps a concise view of the arrangement of Authors may here be attempted, as well as an outline of the table of the sub-genera composing the family Cicindelidæ. After the tables each of the genera will be separately commented on.

Cicindelidæ.

(*Divisio prima Corpus Apterum.*)

Genera.	*Country.*	*Typical Species.*
1. Dromica, *De Jean*	P. B. S.	C. Coarctata, *Latreille.*
2. Apteroessa, *Hope*	Coromandel	C. Grossa, *Fabricius.*
3. Eurymorpha, *Hope*	Madagascar?	E. Cyanipes, *Hope.*

(*Divisio 2da. Corpus alatum.*)

4. Oxycheila, *De Jean*	Brazils	C. Tristris, *Fabricius.*
5. Iresia, *De Jean*	Rio Janeiro	C. Lacordairei, *De Jean.*
6. Euprosopus, *Latreille*	Brazils	C. 4-notata, *De Jean.*
7. Odontocheila, *Laporte*	Cayenne	C. Lacordairei, *De Jean.*
8. Plochiocera, *Hope*	Brazils	C. Nodicornis, *De Jean.*
9. Cicindela, *Linneus*	Europe	C. Campestris, *Linneus.*
10. Abroscelis, *Hope*	Java	C. Longipes, *Fabricius.*
11. Calochroa, *Hope*	East Indies	C. 8-notata, *Wiedemann.*
12. Distipsidera, *Westwood*	New Holland	C. Undulata, *Westwood.*
13. { Therates, *Latreille* / Eurychile, *Bonelli* }	New Guinea	C. Labiata, *Fabricius.*
14. Cylindera, *Westwood*	England	C. Germanica, *Linneus.*
15. Oxygonia, *Mannerheim*	Colombia	C. Schonherri, *Mannerheim*
16. Heptodonta, *Hope*	East Indies.	C. Analis, *Fabricius.*

1. Dromica, *De Jean.*

The species of Dromica are few in number and appear to belong exclusively to the southern part of the African Continent, but three are recorded by the Baron De Jean in his last catalogue. I have however recognised a fourth in one of our English collections.

2. Apteroessa, *Hope.*

The Baron De Jean appears to be acquainted only with Olivier's figure, never having seen the real insect, or he would not have considered Cic. Grossa as a true Dromica. Apteroessa approaches in form Megacephala, and may be regarded as representing Dromica in Asia.

3. Eurymorpha, *Hope.*

I am ignorant of the true locality of this remarkable insect. I have given Madagascar as its country with a doubt. It is certainly one of the most remarkable forms to be found among the Cicindelidæ, the name is derived from ευρυς and μορφη, from its exceedingly dilated form.

4. Oxycheila, *De Jean.*

Only five species of Oxycheila have been described, in habits they approach Cicindela, their flight however is less rapid, and during the heat of the day they shelter themselves under stones. According to Mons. Lacordaire when captured they produce a sharp noise by rubbing the posterior thighs against the edge of their scaly elytra. I have figured one species, which will be found among the

new genera at the end of this fasciculus under the name of Oxych. Laportei. Mons. Guerin in the Dictionaire Pittoresque d'Hist. Nat. Tom. 6, p. 572, mentions a species named by him Oxycheila bisignata.

5. Iresia, *De Jean.*

The Baron De Jean originally gave the term Iresia. It should however have been written Hiresia. Three species are recorded in Gistl's Systema Insectorum; they are found on the leaves of trees and are exceedingly rapid in flight. A fourth species is described by the Comte De Mannerheim in his excellent Memoire sur quelques genres et especes de Carabiques.

6. Euprosopus, *Latreille.*

Only one species of this elegant genus appears to be known; a second equally brilliant, if not more splendid, has fallen under my inspection. It was brought to this country by Mr. Lance, from Surinam.

7. Odontocheila, *Laporte.*

Nearly 30 species belong to this genus: evidently they require further subdivision. A remark is

made in Dr. Gistl's Systema Insectorum that one of the species feeds on vegetation. Is this a peculiarity of the genus or not?

8. Plochiocera, *Hope.*

I have separated the Cic. nodicornis D. J. from Odontocheila of Laporte, and have formed it into a subgenus, attaching the name of Plochiocera, derived from πλοκιος twisted, and κερας. In habits it resembles the former genus, it differs chiefly in having the first article of the antennæ of the male dilated, or knotted, and in the truncation of the front of the short upper lip. In other respects it accords with Odontocheila, which has the upper lip as long and acute at the tip, as in Oxycheila.

9. Cicindela, *Linneus.*

After detaching Odontocheila from Cicindela more than 200 species remain huddled together under that term. The Baron De Jean has attempted sundry sections; they are not however characterised, and still remain in great confusion. Cic. analis Fab. affords from its form and 7-toothed labium sufficient marks for forming a sub-genus, and might appropriately be named Heptodonta.

10. Abroscelis, *Hope.*

The Fabrician description of Cic. longipes is almost sufficient to separate it from other species of Cicindela. I originally in my MSS. gave it the name of Podabra, which as it is used by Schonherr, I change to that of Abroscelis. The following short characters may be considered sufficient, as the type is well known; Corpus subcylindricum thorace quadrato, postice subdilatato, elytris denticulatis, femoribus posticis fere longitudine corporis. To this sub-genus belong Cic. tenuipes Guerin, and other Indian species. A singular species lately received from Professor Klug, bearing the name of Cic. graphiptera belongs apparently to this genus, it is remarkable by its broad upper lip and large posterior trochanters.

11. Calochroa, *Hope.*

Many of the insects of the Baron De Jean's fifth division belong to this genus. In my MSS. I have given it the name of Colochroa from καλὸς and χρόα as the major part of the species are adorned with rich colours. The following characters will designate it: "Corpus subdepressum labro pruducto

quinque dentato, femoribus posterioribus longitudine modicis." To this genus belong Cic. 8-notata Wiedemann, Chinensis Fab. De Jeanii Hope, and Princeps of Vigors. It may here be mentioned that the species of this genus are deservedly reckoned amongst the most beautiful and splendid insects of our Cabinets.

12. Distipsidera, *Westwood.*

This new genus exhibits the characters of several of the groups of Cicindelidæ; from Cicindela it is distinguished by the large size of the labrum, the unarmed mentum, the large labial palpi, the short antennæ, &c. The same characters remove it from Odontocheila Laporte, of which it has the external habit, but a different thorax. From Therates which it also much resembles, it is removed by the large labial palpi, simple fourth joint of the tarsi, and by having an external maxillary palpus. From Dromica its peculiar form and labrum remove it. It appears most nearly allied to Euprosopus and Hiresia; agreeing with the former in the structure of the labial palpi, but differing in the labrum and mentum, and resembling Hiresia in the form of the body and in the peculiar style of punctuation on the elytra,

but having very different palpi. Vid. Jardine and Selby's Magazine, vol. 1, p. 252, for further ample details, and an excellent figure.

13. Therates, *Latreille.*

There are about 10 known species of Therates, apparently they are confined to New Guinea, Java, New Holland, and some of the Polynesian Isles.

14. Cylindera, *Westwood.*

M. M. Audouin and Brulle appear to have confounded Odontocheila with Cylindera; the following species belong to the latter genus, viz. C. scalaris of Latreille, Tenuis of Steven, gracilis of Pallas and various others.

15. Oxygonia, *Mannerheim.*

This is an insect of the New World, I am only acquainted with the Author's description. In its form it approaches Therates, but is evidently more allied to Euprosopus. The name is derived from *οξυς* and *γονυ* signifying sharp-kneed.

16. Heptodonta, *Hope.*

See the description of the genus under C. Analis, Species 24.

Sp. 2. *Heros.*—According to Vanderlinden this species is ranked by him as a true Cicindela; the description of Fabricius inclines me to think it approaches Therates. As I have never seen the insect I cannot speak decidedly respecting that point, it certainly varies from the type of Cicindela.

Sp. 3. *Labiata.*—Now a Therates of Latreille. Bonelli of Turin gave the name of Eurychile to designate these remarkable insects, as the former name has the claim of priority in its favour, the latter is abandoned. For an account of the species belonging to the genus, the reader may consult Bonelli Mem. de l'Academ. de Turin, tab. 23. p, 248. Vanderlinden, sur les Cicindeles de Java. The Annulosa Javanica by Mr. W. Sharpe, Mac-Leay and Guerin's Magazine, tab. 1. n. 39.

Sp. 5. *Cyanea.*—From the concise Fabrician description I am inclined to think that this insect may be a Therates, it was originally described from

Vahl's collection. Latreille makes mention of a species which he names Cyanea; can they be the same, as both are from the East Indies?

Sp. 6. *Megalocephala.*—For the sake of euphony the word Megacephala is used instead of the former.

Sp. 9. *Sepulchralis.*—In my MSS. I formerly gave the name of Scythropa as a generic name to the above species, as it is previously used by Schonherr in his Curculionidæ, I have substituted the name of Aniara from *ανιαρος* mæstus. There cannot be a doubt that the species (described by the Baron De Jean as Meg. variolosa) is the same as C. sepulchralis, Fab.

Sp. 10. *Bicolor.*—There are three insects from the East Indies very similar in their appearance, viz. Cic. bicolor above mentioned, the second is Cic. pulchella Hope, described in the Synopsis of the new species of Nepaul insects in the collection of Major General Hardwicke, and the last is a new species lately received from my friend Col. Whithill from the Concan which I propose to name after him, the description will be added. All the three belong to the genus Calochroa, the type of which I make Cic. 8-notata, Wiedemann.

Calochroa Whithillii. Long. lin. 7. lat. lin. $2\frac{1}{2}$.

Viridis, sutura lateribus elytrorum pallidioribus

nitidis, elytris unipunctatis tibiis tarsisq. violaceis; antennæ fuscæ basi virescentes. Thorax viridis nitidus, Elytra medio cyanea, sutura nitida, lateribus virescentibus, marginibus externe violaceis, punctum flavum unicum rotundatum in medio disci locatum. Corpus subtus viride, nitidum, segmentis ultimis abdominis violaceis, femoribus virescentibus, nitidis tibiis tarsisq. violaceo-cyaneis.

In Museo. Dom Whithill.

This beautiful insect I have named after my friend Colonel Whithill, whose superb collection of Entomology from the vicinity of Bombay is quite unrivalled.

Sp. 13. *Hybrida.*—Mr. Stephens, in his Illustrations of British Entomology, has made several original observations on this species, to which the reader is referred, vid. vol. i. p. 8. &c.

Sp. 18. *Tristis.*—Now an Oxycheila of De Jean. M. M. Audouin and Brulle, in their Histoire Naturelle des Insects, mention five species of this genus. Gistl gives the same number. I have figured one species, which appears to have been mistaken by my friend the Comte de Castelneau. His Oxy. binotata evidently is not the Oxy. binotata of Gray, previously described. I propose therefore to give it the name of Laportei, as origi-

nally published by that individual, one who has so ably grouped the Cicindeloidea.

Sp. 19. *Interrupta.*—Now a Calochroa of Hope. This insect in Africa seems to represent what C. Chinensis does in Asia; some of the specimens are exactly like the dark varieties of the latter species.

Sp. 24. *Analis.*—Now an Heptodonta of Hope. The Baron De Jean, uniting Cic. 4-punctata with the above insect, thinks them worthy of sectional distinction; as the labrum of Analis has seven teeth, I make that insect the type of the genus, and exclude Cic. 4-punctata, which approaches Calochroa in its form, and yet may probably at a future time be considered as a sub-genus. As Analis is an insect well known, the generic characters are derived chiefly from the points of difference it presents compared with other Cicindelidæ.

Corpus subcylindricum elytris cylindricis, ad apicem latioribus, lateribus abdominis obtectis, labro septem dentato, in reliquis Cicindela convenit.

This sub-genus appears to unite Cicindela and Therates.

Sp. 26. *Flexuosa.*—Some of the varieties of this insect have been described as distinct species; for instance, Cic. Sardea and Circumflexa of De Jean.

Its range is very extensive, as it occurs in France, Spain, and Sicily, as well as in the southern provinces of Russia, and also at Rosetta in Egypt.

Sp. 27. *Capensis.*—In Dr. Gistl's Systema Insectorum the locality of Calabria is given to this insect. I apprehend there must be some mistake respecting it, or the information he has received is erroneous.

Sp. 28. *Abdominalis.*—I have considered this insect as a Cylindera, merely from the Fabrician description, Statura parva C. germanicæ. I am totally unacquainted with the species.

Sp. 29. *Germanica.*—The reader is referred to the observations on Germanica, given in my former remarks on the Linnean Cicindelidæ.

Sp. 30. *Obscura.*—This insect seems to deviate from the type of Cicindela. I am not aware of any other North American species that presents a similar subcylindrical and elongated form.

Sp. 31. *Micans.*—This is evidently the same insect which Olivier has described under the name of Cic. punctulata.

Sp. 34. *Bipunctata.*—Professor Audouin appears first to have noticed the following peculiarity in the insects belonging to the genus Odontocheila, namely, that they have "les tarses sillonnes en dessus."

Sp. 36. 4-*punctata*.—I have only arranged this species under Calochroa for the present, as it appears to afford sufficient characters for subdivision: my own specimens are not perfect enough to describe. Since writing the above I have received a specimen, and therefore give it as a subgenus, with the name of Prothyma, from $\pi\rho o\theta\upsilon\mu o\varsigma$, alacer, signifying brisk and lively. The characters are, Corpus subelongato-cylindricum thorace subrotundato elytris cylindricis, parallelis, labro fornicato et dentato.

Sp. 43. *Marginalis*.—This insect appears to vary considerably, when the spots on the elytra are wanting, it is the variety which Olivier has named Cic. purpurea.

For remarks on this species, which my friend the Rev. William Kirby considers the American representative of Cic. campestris of Europe, the reader is referred to the Fauna Boreali Americana, page 11, where several varieties of the above insect are minutely described.

Sp. 44. *Punctulata*.—This is evidently a variety of the species which Fabricius previously described under the name of Micans.

Sp. 45. *Sexguttata*.—Cicindela violacea, Fab. is

only a variety of this species. It is similar, with the exception of the wings, which are spotless.

Sp. 46. *Catena.*—I have repeatedly received this Insect from India, and believe it to be an Oriental species. Dr. Gistl says, "habitat in India Orientali, inque promontorio bonæ spei plurimis locis satis frequens." I am inclined to think that the specimens occurring in the Cape collections, have been purchased out of ships trading with India.

Sp. 47. *Longipes.*—I have thought fit to separate this insect from Cicindela giving it the name of abroscelis, from αβρος and σκελος, from the delicate form of the legs. Cic. Tenuipes of Guerin may be associated with it and other East Indian species.

Sp. 48. *Marginata.*—From the description of Cic. variegata by De Jean I have little hesitation in giving that species as a synonym of Cic. marginata, Fab.

Sp. 51. 8-*guttata.*—There appears to exist a difference of opinion respecting the country to which the above insect belongs, Palisot de Beauvois gives St. Domingo, Fabricius North America, Olivier South America, and Schonherr Sierra Leone, with the latter authority I am inclined to side.

Sp. 52. *Argentata.*—I have given the name Cylindera to this species, merely from reading the

Fabrician description. I am totally unacquainted with the insect.

Sp. 54. *Trifasciata.* — Fabricius gives two localities for this species; one America, the other Europe, there can be little doubt, therefore, that he has confounded two distinct insects. According to modern writers, this Fabrician species enjoys an extensive range of country, as it is common to North as well as South America.

Sp. 61. *Guttula.*—M. Guerin in his Magazine, maintains that this insect is a Cicindela. He describes it as obtained from the debris of Billardiere's collection. It is remarkable that Fabricius mentions that the specimen he described was deprived of its antennæ. Mons. Guerin's description therefore is partly conjectural, from his figure it certainly approaches Therates more than Cicindela, and if not a true Cicindela is the type of a sub-genus.

Collyris, *Fabricius.*

As Collyris was early separated from Cicindela by the above author, and as at the present day it is admitted to approach the Cicindelidæ rather than the Carabidæ, I here insert my remarks on

the genus before entering on the next grand group. Only three species are classed under the name of Collyris, the two former belong to it at present, the latter is a Ctenostoma of Klug.

Sp. 1. *Longicollis.*—The type of the Genus Collyris.—Latreille was the first person to change the name of Collyris to Colliuris. M. M. Audouin and Brulle have very properly restored the original name. The Baron De Jean however, in his last Catalogue, still maintains his partiality for Colliuris.

Sp. 2. *Aptera.*—It may here perhaps save the student some loss of time to inform him that Collyris aptera, Fab. is totally distinct from Trycondyla aptera of Olivier. Colliuris major, Latreille, is the same insect as Collyris aptera, Fab. The following genera compose the family.

Collyridæ, *Hope.*

(Longicollia, *Kirby.*)

Genera.	*Country.*	*Typical Species.*
1. Collyris, *Fabricius*	Siam	C. Longicollis, *Fabricius.*
2. Tricondyla, *Latreille*	East Indies	T. Aptera, *Latreille.*
3. Procephalus, *Laporte*	Brazils	P. 3-notatus, *Fischer.*
3. Caris, *Fischer*	Cayenne	C. 3-notatus, *Fischer.*
4. Ctenostoma, *Klug*	Brazils	C. Formicarium, *Fabricius.*
5. Psilocera *Brulle*	Madagascar	P. Elegans, *Brulle.*

1. Collyris, *Fabricius.*

I am acquainted with about twenty species of Collyris, the major part of them are from the Continent of India; they abound in all the Presidencies and in many of the Islands of Asia. They appear to have been much neglected by our Entomologists, with the exception of Mr. MacLeay, who has described some new species from Dr. Horsfield's rich Javanese collection.*

2. Tricondyla, *Latreille.*

The species of Trycondyla are few in number compared with Collyris, only six have fallen under my inspection; for a better acquaintance with them, apply to De Jean's Species de Coleopteres; to Guerin's Icones du Regne Animal Ins. pl. 3, fig. 3. Silberman's Revue, t. 2, p. 38. To Vanderlinden's Cicindeles de Java, page 27, and the Zoologischer Atlas, by Eschscholtz, Fas. 1, p. 6.

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* For information respecting the species, refer among French authors, to De Jean's Species general de Coleopteres; to Guerin's Iconographiæ; to Bellinger's Voyage to the East Indies by the same writer; to the writings of M. M. Brulle and Laporte; and Silbermann's Revue Entomologique, Tab. 2, p. 11. and Tab. 2, p. 37. Vanderlinden sur les Cicindeles de Java should also be consulted.

3. Procephalus, *Laporte.*

This genus was first published by Dr. Fischer, under the name of Caris, a name which has been applied to some of the Arachnida. Mons. Laporte consequently adopted the term Procephalus. Professor Audouin who has studied these insects minutely, records an opinion in his L'Histoire Natural des Insectes (Vol. 1, page 107) that Procephalus of Laporte differs from Ctenostoma of Klug, and is identical with Caris of Dr. Fischer. For a description of the known species consult L' Entomographie de la Russie, pl. 4, fig. 4., and Silbermann's Revue, t. 2, p. 36.

4. Ctenostoma, *Klug.*

The insects of this genus as well as the former, seem peculiar to the warm regions of the new world; only three recorded species are known. For an account of them consult the Nova Acta Acad. Natur. Curiosorum, Tab. 10. Also Observations in the Zoological Journal, by Mr. J. O. Westwood, vide Vol. 5, page 53, pl. 41. Supp.

5. Psilocera, *Brulle.*

This genus was originally published by M. M. Audouin and Brulle under the name of Stenocera, it was afterwards changed to Psilocera, as the former name was used anteriorly by Schonherr in his work on the Curculionidæ.

For an acquaintance with the species the student is referred to an elegant Monograph, published by the Comte de Castelneau and Mons. H. Gory conjointly; eleven species are therein described and exquisitely figured.

In concluding my remarks on the Cicindeloidea, it may here be stated that they still require further sub-divisions. The rapid progress Entomology is making, and the vast influx of new species added annually to our European Cabinets, lead me to think that few individuals in future will be bold enough to attempt a general collection of Insects. Many Entomologists confine themselves at present to one order, and the time has arrived when it is almost an impossibility for any one to accomplish even that successfully. Some persons are directing their attention to isolated groups, such as the

illustrious Schonherr to the Curculionidæ, and Baron Chaudoir to the Carabidæ.

I may go still further, and assert that the time is gone by when individual exertion can keep pace with the increasing state of Entomological Science. It is only to the united labours of different Societies and to future Committees, formed from those Societies, that we can in future expect any thing like a Species Insectorum. The Botanists, by their united labours and publications hold out to Zoologists an example worthy of being followed: let Entomologists in the several orders make similar exertions in publishing Monographs of families and genera.

It would greatly tend to the advance and diffusion of the science, if the different Entomological Societies of Europe were to set apart sums of money for the publication and illustration of such works. I have been led into these remarks from having investigated the first part of a Systema Insectorum, published at Munich by the zealous and indefatigable Gistl. All must admire his ardour in the pursuit of science, and regret the difficulties he has had to encounter, as no where in Munich will be found collections at all comparable with those of London, Paris, Leyden, or Copenhagen.

Gmelin's Systema at best is but an indifferent compilation; in that work it is no unusual occurrence to find the self-same species described under different names, and such must still continue to be the case, till individuals of various countries, united for a common purpose, undertake impartially to investigate and publish their researches. Let Entomologists be united for such ends, the result must be beneficial to Science. In conclusion we may add—

"In tenui labor, at tenuis not Gloria."

CARABUS of Linneus.

CARABIDÆ of Leach.

CARABOIDEA of Hope.

Linnean Species.	*Country.*	*Genera of Authors.*
1. Coriaceus	Germany	Procrustes, *Bonelli.*
2. Granulatus	France	Carabus *of Authors.*
3. Hortensis	England	———
4. Leucophthalmus	England	Sphodrus, *Clairville.*
5. Clathratus	Ireland	Carabus, *Linneus.*
6. Nitens	England	———
7. Auratus	Switzerland	———
8. Violaceus	Wales	———
9. Cephalotes	England	Broschus, *Leach.*
10. 10-guttata	P. B. S.	Thermophila, *Leach.*
11. Inquisitor	England	Calosoma, *Weber.*
12. Sycophanta	England	———
13. Buprestoides	Southern Europe	*Unknown.*
14. Fastigiatus	P. B. S.	Aptinus, *Bonelli.*
15. Lividus	England	Nebria, *Leach.*
16. Marginatus	Wales	Chlænius, *Bonelli.*
17. Complanata	Spain	Nebria, *Leach.*
18. Crepitans	England	Brachinus, *Weber.*
19. Americanus	N. America	Galerita, *Fabricius.*
20. Spinipes	England	Curtonotus, *Stephens.*
21. Cyanocephalus	England	Lamprias, *Bonelli.*
22. Melanocephalus	England	Calathus, *Bonelli.*
23. Vaporariorum	England	Stenolophus, *Ziegler* ?
24. Latus.	N. America ?	Calathus, *Bonelli.*
25. Ferrugineus	England	Bradytus, *Stephens.*
26. Germanus	Germany	Ophonus, *Ziegler.*
27. Vulgaris	England	Amara, *Bonelli.*
28. Cœrulescens	Bavaria	Pœcilus, *Bonelli.*
29. Cupreus	England	———
30. Piceus	England	Agonum, *Bonelli.*
31. Velox	Sweden	Bembidium, *Latreille.*
32. Multipunctatus	England	Blethisa, *Bonelli.*

Linnean Species.	*Country.*	*Genera of Authors.*
33. Bipunctatus	England	Tachypus, *Megerle.*
34. 4-pustulatus	England	Panagæus? *Latreille.*
35. 6-punctatus	England	Agonum, *Bonelli.*
36. Meridianus	England	Trechus, *Clairville.*
37. Testaceus	England	Epaphius, *Leach?*
38. Ustulatus	England	Notaphus, *Megerle.*
39. Crux major	England	Panagæus, *Latreille.*
40. Crux minor	England	Lebia, *Latreille.*
41. 4-maculatus	England	Dromius, *Bonelli.*
42. Atricapillus	England	Demetrias, *Bonelli.*
43. Truncatellus	England	Syntomus, *Hope.*
44. Bimaculatus	East Indies	Brachinus, *Fabricius.*

CARABUS of Fabricius.

CARABIDÆ of Leach.

CARABOIDEA of Hope.

CYCHRUS of Fab.

1. Rostratus	England	Cychrus, *Fabricius.*
2. Attenuatus	Germany	Cychrus, *Fabricius.*
3. Reflexus	Coromandel	Camptoderus, *Hope.*
4. Elevatus	S. America	Scaphinotus, *Latreille.*
5. Unicolor	S. America	Scaphinotus, *Latreille.*

CARABUS of Fabricius.

CARABIDÆ of Leach.

Fabrician Species.	*Country.*	*Genera of Authors.*
1. Scabrosus	Carniola	Procerus, *Megerle.*
2. Coriaceus	Germany	Procrustes, *Bonelli.*
3. Cœlatus	Carniola	Carabus, *Auctorum.*
4. Marginalis	Russia	———
5. Meyerlei	Guinea	Tefflus, *Leach.*
6. Glabratus	Wales	Carabus of *Authors.*
7. Violaceus	England	———
8. Purpurascens	Germany	———
9. Catenulatus	England	———
10. Carolinus	S. Carolina	Carabus?

Fabrician Species.	*Country.*	*Genera of Authors.*
11. Cyaneus	England	Carabus of Authors.
12. Excellens	Moldavia	———
13. Hispanus	Spain	———
14. Nodulosus	Hungary	———
15. Monilis	England	———
16. Lusitanicus	Portugal	———
17. Gemmatus	Germany	———
18. Hortensis	England	———
19. Sylvestris	Germany	———
20. Concolor	Holsatia	Carabus ?
21. Irregularis	Germany	———
22. Creutzeri	Carniola	———
23. Tædatus	N. America	———
24. Scheidleri	Austria	———
25. Arvensis	England	Carabus of Authors.
26. Hungaricus	Hungary	———
27. Retusus	Patagonia	Calosoma, *Weber.*
28. Maderæ	Madeira	Calosoma, *Weber.*
29. Convexus	Germany	Carabus of Authors.
30. Auratus	Switzerland	———
31. Splendens	Pyrenees	———
32. Auronitens	Germany	———
33. Suturalis	Terra del Fuego	———
34. Morbillosus	Mauritania	———
35. Rugosus	Morocco	Carabus ?
36. Granulatus	France	Carabus of Authors.
37. Cancellatus	Germany	———
38. Clathratus	Ireland	———
39. Melancholicus	Spain	———
40. Nitens	England	———
41. Leucopthalmus	England	Omaseus, *Ziegler*
42. Fasciatopunctatus	Austria	Pterostichus, *Bonelli.*
43. Terricola	Germany	Pristonychus, *De Jean.*
44. Scrobiculatus	Austria	Platynus, *Bonelli.*
45. Maurus	Germany	Omaseus ? *Ziegler.*
46. Niger	England	Platysma, *Bonelli.*
47. Planus	London	Sphodrus, *Clairville.*
48. Striatulus	Patagonia	Platysma, *Bonelli.*
49. Arenarius	Wales	Nebria, *Latreille.*
50. Sabulosus	Saxony	———
51. Lateralis	France	———

Fabrician Species.	*Country.*	*Genera of Authors.*
52. Quadricolor	East Indies	Chlænius, *Bonelli.*
53. Ruficornis	England	Harpalus, *Latreille.*
54. Fulvipes	Germany	Harpalus, *Latreille.*
55. Picicornis	Italy	Nebria, *Latreille.*
56. Flavicornis	Saxony	Dolichus, *Bonelli.*
57. Piceus	England	Calathus? *Bonelli.*
58. Femoralis	Sierra Leone	Chlænius, *Bonelli.*
59. Madidus	England	Steropus, *Megerle.*
60. Decorus	Carolina	Calleida, *De Jean.*
61. Spinibarbis	England	Leistus, *Frolich.*
62. Æneocephalus	S. American Isles	Chlænius?
63. Humeralis	Italy	Tarus, *Clairville.*
64. Angusticollis	Germany	Platynus, *Bonelli.*
65. Miliaris	Austria	Tarus, *Clairville.*
66. Axillaris	Austria	———
67. Trilobus	Guinea	Unknown.
68. Multipunctata	England	Blethisa, *Bonelli.*
69. Borealis	Suecia	Pelophila, *De Jean.*
70. Oblongopunctatus	England	Pterostichus, *Bonelli.*
71. Crœsus	Guinea	Epomis, *Bonelli.*
72. Spoliatus	Morocco	Chlænius, *Bonelli.*
73. Cinctus	Coromandel	Chlænius, *Bonelli.*
74. Festivus	Austria	———
75. Rufipes	England	Patrobus, *Megerle.*
76. Elegans	Sumatra	Catascopus?
77. Splendidulus	Bengal	Catascopus, *Kirby.*
78. Nitidulus	Kamtschatka	Helobia, *Latreille.*
79. Tenuicollis	P. B. S.	Chlænius, *Bonelli.*
80. Ruficollis	Guinea	Calleida, *De Jean.*
81. Tricolor	Austria	Pœcilus, *Bonelli.*
82. Modestus	Austria	Peryphus, *Megerle.*
83. Agilis	England	Dromius, *Bonelli.*
84. 4-notatus	East Indies	Tetragonoderus, *De Jean.*
85. Fasciatus	England	Dromius, *Bonelli.*
86. Atricapillus	England	———
87. Marginellus	Germany	———
88. Bis 2-guttatus	Equinoctial Africa	Brachinus, *Fabricius.*
89. 8-punctatus	N. America	Agonum, *Bonelli.*
90. Oblongus	England	Anchomenus, *Bonelli.*
91. Pallipes	England	———
92. Rubens	Kiel	Blemus, *Ziegler.*

Fabrician Species.	*Country.*	*Genera of Authors.*
93. Festinans	Cayenne	Calleida, *De Jean.*
94. Cephalotes	England	Broschus, *Panzer.*
95. Megacephalus	P. B. S.	Camptoscelis, *De Jean.*
96. Interruptus	Arabia ?	Ditomus, *Bonelli.*
97. Calydonius	Italy	Ditomus, *Bonelli.*
98. Caliginosus	N. America	Selenophorus, *De Jean.*
99. Striola	England	Abax, *Bonelli.*
100. Impressus	East Indies	Diplocheila, *Brulle.*
101. Striolatus	Carniola	Molops, *Bonelli.*
102. Metallicus	Austria	Cheporus, *Latreille.*
103. Frigidus	Germany	Abax, *Bonelli.*
104. Elatus	Germany	Molops, *Bonelli.*
105. Gibbus	England	Zabrus, *Clairville.*
106. Politus	East Indies	Diplocheila, *Brulle.*
107. Lepidus	England	Pœcilus, *Bonelli.*
108. Cassidius	Paris	Licinus, *Latreille.*
109. Silphoides	England	———
110. Sabulicola	England	Ophonus, *Ziegler.*
111. Globosus	Morocco	Steropus ? *Megerle.*
112. Melanocephalus	England	Calathus, *Bonelli.*
113. Fuscus	England	———
114. Brevicollis	Wales	Helobia, *Leach.*
115. Punctulatus	Saxony	Sogines, *Leach.*
116. Oculatus	Guinea	Chlænius, *Bonelli.*
117. Posticus	East Indies	Lissauchenius, *MacLeay* ?
118. Micans	Bengal	Chlænius, *Bonelli.*
119. Notula	Guinea	Chlænius, *Bonelli.*
120. Obscurus	England	Ophonus, *Ziegler.*
121. Stigma	East Indies	Planetes, *MacLeay.*
122. Ammon	Guinea	Chlænius ? *Bonelli ?*
123. Pudicus	Bengal	Chlænius ?
124. Bicolor	N. America	Harpalus, *Latreille.*
125. Holosericeus	England	Chlænius, *Bonelli.*
126. Binotatus	England	Anisodactylus, *De Jean.*
127. Fulvicollis	Barbary	Lebia, *Latreille.*
128. Pilicornis	England	Loricera, *Latreille.*
129. Dimidiatus	Germany	Pœcilus, *Bonelli.*
130. Cœrulescens	Bavaria	———
131. Lætus	Europe	Pœcilus ?
132. Vividus	Madeira	Harpalus, *Latreille.*
133. Tardus	Germany	Harpalus, *Latreille.*

Fabrician Species.	*Country.*	*Genera of Authors.*
134. Cupreus	England	Pæcilus, *Bonelli.*
135. Tricolor	Kiel	—— ——
136. Carnifex	S. America	Antarctia, *De Jean.*
137. Vulgaris	England	Amara, *Bonelli.*
138. Communis	England	————
139. Integer	American Isles	Bradytus?
140. Alpinus	Switzerland	Amara? *Bonelli.*
141. Latus	England	Bradytus, *Stephens.*
142. Abdominalis	P. B. S.	Harpalus, *Latreille.*
143. Ovatus	England	Amara, *Bonelli.*
144. Helopioides	England	Oodes, *Bonelli.*
145. Azureus	Saxony	Harpalus, *Latreille.*
146. Æneus	England	————
147. Erythrocephalus	Kiel	Nebria, *Latreille?*
148. Analis	Germany	Leistus? *Frölich.*
149. Lineola	N. America	Agonoderus, *De Jean.*
150. Ferrugineus	England	Bradytus, *Stephens.*
151. Pallidus	Saxony	Cymindis, *Latreille.*
152. St. Crucis	American Isles	Agonoderus, *De Jean.*
153. Surinamensis	Surinam	Cymindis, *Latreille?*
154. Dorsiger	Barbary	Unknown.
155. Aterrimus	England	Omaseus, *Ziegler.*
156. Nigricornis	England	Chlænius, *Bonelli.*
157. Austriacus	Austria	Agonum, *Bonelli.*
158. Parumpuntatus	England	————
159. 6-punctatus	England	————
160. Palliatus	N. America	Selenophorus, *De Jean.*
161. Discoideus	Germany	Bradytus?
162. Marginatus	England	Agonum, *Bonelli.*
163. Vestitus	England	Chlænius, *Bonelli.*
164. Nigrita	Germany	Omaseus, *Ziegler.*
165. Pallipes	N. America	Agonoderus, *De Jean.*
166. Quadrum	Senegal	Tetragonoderus, *De Jean.*
167. Cyanocephalus	England	Lamprias, *Bonelli.*
168. Rufibarbis	England	Leistus, *Frölich.*
169. Flavilabris	East Indies	Colpodes? *MacLeay?*
170. Amethystinus	Cayenne	Lebia, *Latreille?*
171. Lividus	Denmark	Amara?
172. Semivittatus	East Indies	Barysomus, *De Jean.*
173. Notulatus	Bengal	Panagæus, *Latreille.*
174. Corticalis	New Cambridge	Lebia, *Latreille.*

Fabrician Species.	*Country.*	*Genera of Authors.*
175. Curtus	New Holland	Lebia? *Latreille.*
176. Crux major	England	Panagæus, *Latreille.*
177. Crux minor	England	Lebia, *Latreille.*
178. Vittatus	N. America	———
179. 2-vittatus	N. America	———
180. Augulatus	Tranquebar	Panagæus, *Latreille.*
181. Turcicus	England	Lebia, *Latreille.*
182. Hæmorrhoidalis	Saxony	———
183. Picipes	Sweden	Agonum, *Bonelli.*
184. 2-pustulatus	England	Badister, *Clairville.*
185. Andreæ	England	Tachypus, *Megerle.*
186. Elevatus	Paris	Blemus, *Ziegler.*
187. Germanus	England	Ophonus, *Ziegler.*
188. Heros	Barbary	Anisodactylus, *De Jean.*
189. Spinilabris	Austria	Leistus, *Frölich.*
190. Velox	England	Bembidium, *Latreille.*
191. Rufescens	England	Leistus, *Frölich.*
192. Præustus	Germany	Leistus?
193. Apricarius	England	Bradytus, *Stephens.*
194. Lunatus	England	Callistus, *Bonelli.*
195. Prasinus	England	Anchomenus, *Bonelli.*
196. Cursor	Italy	Trechus, *Clairville.*
197. Furcatus	America	Agonoderus, *De Jean.*
198. Vaporariorum	England	Stenolophus, *Ziegler.*
199. Meridianus	England	Trechus, *Clairville.*
200. Discus	Germany	Blemus, *Ziegler.*
201. Comma	America	Agonoderus?
202. Vernalis	England	Argutor, *Megerle.*
203. 4-maculatus	England	Dromius, *Bonelli.*
204. 4-guttatus	England	Lopha, *Megerle.*
205. 4-pustulatus	England	Panagæus, *Latreille.*
206. Ustulatus	England	Notaphus, *Megerle.*
207. Dorsalis	Kiel	Trechus, *Clairville.*
208. 2-guttatus	Norway	Philochthus, *Stephens.*
209. Guttula	England	Philochthus, *Stephens.*
210. Fenestratus	Germany	Dromius, *Bonelli.*
211. Smaragdulus	East Indies	Catascopus? *MacLeay.*
212. Cruciger	Saxony	Trechus, *Clairville.*
213. Testaceus	England	Epaphius, *Leach.*
214. Truncatus	Saxony	Dromius, *Bonelli.*
215. Abbreviatus	Norway	Lesteva, *Latreille.*

Fabrician Species.	*Country.*	*Genera of Authors.*
216. 2-punctatus	England	Tachypus, *Megerle.*
217. Celer	England	Tachypus, *Megerle.*
218. Minutus	England	Trechus, *Clairville.*
219. Pygmæus	Germany	Philochthus, *Stephens.*
220. Tristis	Germany	Trechus, *Clairville.*
221. Fasciola	S. America	Tetragonoderus? *De Jean.*
222. Truncatellus	England	Philorhyzus, *Hope.*
223. Minimus	Germany	Lopha, *Megerle.*

CARABIDÆ FABRICIANÆ.

MANTICORA, Fabricius.

1. Maxillosa	P. B. S.	Manticora, *Fabricius.*
2. Pallida	P. B. S.	Platychile, *MacLeay*

SCARITES, Fabricius.

1. Depressus	Cayenne	Pasimachus, *Bonelli.*
2. Marginatus	N. America	Pasimachus, *Bonelli.*
3. Testaceus	Senegal	Scarites?
4. Grandis	Brazil	Scarites, *Fabricius?*
5. Gigas	Africa	Scarites, *Fabricius.*
6. Impressus	S. America	Scarites, *Fabricius?*
7. Quadratus	Guinea	Scarites, *Fabricius.*
8. Subterraneus	N. America	Scarites, *Fabricius?*
9. Lævigatus	Italy	Scarites, *Fabricius.*
10. Porcatus	East Indies	Scarites, *Fabricius?*
11. Ruficornis	P. B. S.	Acanthoscelis, *Latreille.*
12. Crenatus	East Indies	Scarites, *Fabricius.*
13. Cyaneus	New Holland	Carenum, *Bonelli.*
14. 2-pustulatus	American Isles	Clivina, *Latreille.*
15. Arenarius	England	Clivina, *Latreille.*
16. Thoracicus	England	Dyschirius, *Bonelli.*
17. Gibbus	England	Dyschirius, *Bonelli.*
18. Cursor	Europe	Dyschirius? *Bonelli.*
19. Arabs	Arabia?	Scarites, *Fabricius?*

CALOSOMA, Fabricius.

1. Alternans	American Isles	Calosoma, *Fabricius.*
3. Porculatum	New Holland	Adelium, *Kirby.*
6. Sericeum	Hambro'	Calosoma, *Fabricius.*

GALERITA, Fabricius.

Fabrician Species.	*Country.*	*Genera of Authors.*
1. Americana	Pennsylvania	Galerita, *Fabricius.*
2. Attelaboides	Africa ?	Galerita, *Fabricius.*
3. Hirta	Tranquebar	Omphra, *Leach.*
4. Olens	Italy	Zuphium, *Latreille.*
5. Depressa	East Indies	Siagona, *Latreille.*
6. Plana	East Indies	Siagona, *Latreille.*
7. Flesus	East Indies	Siagona, *Latreille.*
8. Bufo	Tangier	Siagona, *Latreille.*
9. Fasciolatus	England	Polistichus, *Bonelli.*

BRACHINUS, Fabricius.

1. Bimaculatus	East Indies	Pheropsophus, *Solier.*
2. Complanatus	St. Domingo	Pheropsophus, *Solier.*
3. Annulus	Tranquebar	Pheropsophus, *Solier.*
4. Fulminans	Guinea	Pheropsophus, *Solier.*
5. Nigripennis	P. B. S.	Aptinus, *Bonelli.*
6. Tripustulatus	Siam	Pheropsophus, *Solier.*
7. Mutilatus	Austria	Aptinus, *Bonelli.*
8. Piger	East Indies	Pheropsophus, *Solier?*
9. Histrio	East Indies	Pheropsophus ?
10. Ruficeps	P. B. S.	Brachinus, *Fabricius.*
11. Fumans	America	———
12. Crepitans	England	———
13. Sclopeta	Paris	———

ANTHIA, Fabricius.

1. Maxillosa	P. B. S.	Anthia, *Fabricius.*
2. Thoracica	P. B. S.	———
3. 10-guttata	P. B. S.	Thermophila, *Leach.*
4. 6-guttata	Calcutta	Pachymorpha, *Hope.*
5. Venator	Senegal	Thermophila, *Leach.*
6. Sulcata	Senegal	———
7. 6-maculata	Barbary	———
8. 7-guttata	P. B. S.	———
9. Nimrod	Senegal	———
10. 4-guttata	P. B. S.	———

Fabrician Species.	*Country.*	*Genera of Authors.*
11. Tabida	P. B. S.	Thermophila, *Leach.*
12. Umbraculata	Guinea	Piezia ? *Brulle.*
13. Variegata	Arabia ?	Graphiptera, *Latreille.*
14. Exclamationis	Barbary	———
15. Trilineata	P. B. S.	———
16. Obsoleta	P. B. S.	———

AGRA, Fabricius.

1. Ænea	S. America	Agra, *Fabricius.*
2. Rufipes	S. America	———
3. Attelaboides	East Indies	Novum Genus.

ODACANTHA, Fabricius.

1. Melanura	England	Odacantha, *Fabricius*
2. Bifasciata	Brazil	Cordistes, *Latreille.*
3. Cyanocephala	East Indies	Casnoidea, *Laporte.*
4. 3-pustulata	Paris	Anthicus ? *Fabricius ?*
5. Elongata	S. America	Cordistes ? *Latreille.*
6. Dorsalis	Carolina	Leptotrachelus, *Latreille.*

DRYPTA, Fabricius.

1. Emarginata	England	Drypta, *Fabricius.*
2. Cylindricollis	Morocco	Desera, *Leach.*

ELAPHRUS, Fabricius.

1. Uliginosus	England	Elaphrus, *Fabricius.*
2. Riparius	Wales	Elaphrus, *Fabricius.*
3. Striatus	Germany	Bembidium ? *Dumeril.*
4. Impressus	Germany	Bembidium, *Illiger.*
5. Atratus	America	Elaphrus ? *Fabricius.*
6. Flavipes	England	Bembidium, *Illiger.*
7. Aquaticus	England	Nothiophilus, *Dumeril.*
8. Semipunctatus	Saxony	———
9. Rupestris	Germany	Peryphus, *Megerle.*
10. Biguttatus	Norway	Nothiophilus, *Dumeril.*

SOLYTUS, Fabricius.

1. Flexuosus	East Indies	Omophron, *Latreille.*
2. Limbatus	France	———
3. Labiatus	Carolina	———

REMARKS AND ANNOTATIONS

ON HE

LINNEAN SPECIES OF CARABUS.

Sp. 1. *Coriaceus*.—This insect is a Procrustes of Bonelli, and one of the family of the Carabidæ. The following Table gives an outline of the genera composing it, from which I have thought fit to separate the Pamboridæ, consisting at present of only two genera, Pamborus and Callimosoma, both of them inhabiting New Holland.

CARABIDÆ, *Latreille.*

Genera.	*Country.*	*Typical Species.*
1. Procerus, *Megerle*	Carniola	C. Scabrosus, *Fabricius.*
2. Procrustes, *Bonelli*	Germany	C. Coriaceus, *Fabricius.*
3. Carabus, *Linneus*	France	C. Granulatus, *Linneus.*
4. Apotomopterus, *Hope*	China	C. Prodigus, *Erichson.*
5. Calosoma, *Weber*	England	C. Sycophanta, *Fabricius.*
6. Chrysostigma, *Kirby*	N. America	C. Calidum, *Fabricius.*

As the major part of the above genera will be referred to in their proper places, I shall only allude at present to the fourth, which as it appears

to differ from any species of known Carabus, I make the type of a sub-genus, naming it Apotomopterus, from αποτομος, broken off, and πτερον, the apex of the elytra having the appearance of having been abruptly broken off. Vid. Act. Acad. Cæs. Leop. Carol. Nat. Cur. Vol. 16, Suppl. Table 37, figure 1. Mr. Kirby in his Fauna Boreali America, forms a sub-genus (named by him Chrysostigma) of some of the species belonging to Calosoma. The type of the latter is Sycophanta, of the former C. Calidum, Fab.; for the characteristic distinctions the reader is referred to the above-mentioned work, page 18.

Sp. 2. *Granulatus.*—Now a Carabus of authors. The granulatus of our English Cabinets is not the same as the C. granulatus of the French collections, the latter appears to be found in the South of France, and is never met with in the British Isles.

Different writers have attempted to form the species of Carabus into sections, which I shall not here introduce, as they require very considerable alteration. In the Histoire Naturelle des Insectes, par Audouin et Brulle, when speaking of the grand Carabi, the following statement occurs, "pendant long temps on a pensè quel n'en existait pas das l'Amerique Meridionale depuis les Voyages du

Naturaliste Eschcholtz, on a acquis la preuve du contraire. Ce n'est que dans le nord de l'Afrique et dans l'Asie Mineure que l'on trouve des especes de ce genre pour chacune de ces deux parties du monde, et l'Australasie n'en a pas encore offert une seule jusqu' ici."

It is singular that neither of the above Entomologists are aware that Fabricius had early described a species from Terra del Fuego, under the name of Car. suturalis. Mr. Charles Darwin has lately brought with him from the same country the above species, and five others. As to Carabus being found only in Asia Minor, it may here be noticed that one species, under the name of Car. Hardwickii, was published by me in the Synopsis of Nepaul Insects, and four other species were in the same collection when it reached this country.

Sp. 3. *Hortensis.*—This insect is subject to be attacked by parasitic worms of the genus Filaria; I have twice seen the worms escape from the insect when dead.

Sp. 4. *Leucopthalmus.*—Now a Sphodrus of Clairville, who first separated this genus from Carabus. The species are widely dispersed in the world, occurring in Europe, Africa, and Asia. Some subgenera from New Holland are allied to it. Sphodrus

ought to be raised to the rank of a family. With regard to the species named leucopthalmus, it lives in the cellars of our metropolis, and feeds, I think, chiefly on Cockroaches.

Sp. 9. *Cephalotes.* — Now a Broschus of Dr. Leach. The Baron De Jean retains Bonelli's generic name of Cephalotes, which ought to be changed, as it is previously used as a genus of Mammalia by Cuvier, in the Regne Animal. The species of Broschus are widely dispersed, as they occur in Europe, Africa, and Asia. The most splendid of them all is from New Holland, and is named by me Sumptuosus.

Sp. 10. 10-*guttata.* — Now a Thermophila of Leach, and one of the genera of Anthiadæ.

Anthiadæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Anthia, *Weber*	P. B. S.	Thoracica, *Fabricius.*
2. Pachymorpha, *Hope*	East Indies	6-guttata, *Fabricius.*
3. Thermophila, *Leach*	P. B. S.	10-guttata, *Fabricius.*
4. Graphiptera, *Latreille*	Africa	Variegata, *Fabricius.*
5. Piezia, *Dupont*	P. B. S.	Axillaris, *Dupont.*

Anthia, *Weber.*

I retain the name of Anthia for those species allied to Anth. Marginata, and Thoracica of Fabricius. Pachymorpha 6-guttata represents in Asia what Anthia does in Africa. Thermophila includes all the sulcated species. The characters of the above genera are as follow, and might be still further subdivided.

(Fissicollia, *Kirby.*)

(Anthia, *Fabricius.*)

Anthia ♂. Aptera, clypeo porrecto rotundato integro. *Thorax* bilobus marginatus, dorso elevato, medio concavo, posticè producto dilatato, lamellis duabus depressis. *Corpus* subdepressum, glabrum sub lente subpunctatum marginatum. *Anthia* ♀, differt præcipue thorace cordiformi bilobo, medio fortissime sulcato. Type Sp. Anthia Thoracica, Fab.

Pachymorpha, *Hope.*

Pachymorpha ♂. Aptera, clypeo fere quadrato integro. *Thorax* cordiformis, bilobus, convexus postice productus, apice fortissime inciso. *Corpus* crassum, valde convexum, punctulatum subsericeum.

Pachymorpha ♀ differt thorace cordiformi, linea longitudinali fortiter impressa.

Thermophila, *Leach.*

Aptera, thorace cordiformi, seu subhexagono, in medio sulcata, seu linea longitudinali impressa, elytris fortissime sulcatis. The sexes in the present genus do not appear to vary in the shape of the thorax. With respect to the localities of the above genera, Anthia and Thermophila belong to Africa, while Pachymorpha seems peculiar to Asia. A new East Indian species will be figured in the plates of the present number. The Anthiadæ I am inclined to think have no intimate relationship with the Helluonidæ; they are connected on one hand with Manticora, and with Cicindela on the other, by means of Graphiptera and Eurymorpha. A singular species of Cicindela, named Ritchii by Mr. Vigors, so closely resembles some of the Graphiptera, that at first sight it might be mistaken for one; Fabricius indeed seems to have been of opinion that these genera were allied; he names one species Cicindeloides. In their habits also they appear to accord. My friend Monsieur Lefebvre, who collected them in Egypt, writes as follows, "Ces

insectes se trouvent (selon lui) pendant la plus grand chaleur du jour, ils courent dans le sable des terrains peu cultives." "They produce a singular sound resembling the utterance of the word xexe, by which they are discovered in their lurking places." The reputed larva of Pachymorpha 6-guttata, (which I cannot consider as a Carabideous larva) will be found figured in Guerin's Magazine of Zoology. It is probable that the larvæ of the African species, when known, will be found to vary considerably from those of the East Indian Anthiadæ.

Sp. 12. *Sycophanta.*—Now a Calosoma of Weber. Linneus states that at night they devour the larvæ of Lepidoptera; I am inclined to think that they are more destructive in the day time. The larvæ when taken, smell strongly, as of lamp oil. The reader is referred to a valuable paper in the Entomological Transactions, by Dr. Hermann Burmeister, on the anatomy of the larva of Calosoma Sycophanta.

Sp. 13. *Buprestoides.* — Schonherr, in his Synonyma Insectorum, has not attempted to say to what genus this insect belongs, and from the concise Latin description it is impossible to determine it with any accuracy.

Sp. 14. *Fastigiatus.* — Now an Aptinus of Bo-

nelli. This insect was originally described by Linneus, and was afterwards named Nigripennis by Fabricius. Olivier was correct in following Linneus. The tabular arrangement of the genera composing this family will be found under Brachinus, among the Fabrician Carabidæ.

Sp. 16. *Marginatus.*—This insect is a Chlænius, and has different names applied to it: the oldest is marginatus, and consequently takes precedence of the Fabrician name vestitus.

Sp. 17. *Complanatus.*—Now of the genus Nebria Latreille. The Nebriadæ require to be separated from the Elaphridæ, with which they have been associated by M. M. Audouin and Brulle, the following genera compose the family.

Nebriadæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Nebria, *Latreille*	N. Europe	Complanata, *Linneus.*
2. Pteroloma, *Schonherr*	Kamtschatka	Forströmii, *Gyllenhall.*
3. Helobia, *Leach*	England	Brevicollis, *Fabricius.*
4. Alpæus, *Bonelli*	Switzerland	Castaneus, *Bonelli.*
5. Leistus, *Frœlich*	England	Spinibarbis, *Fabricius.*

In addition to the above genera, Notiobia of Perty might probably be added. Le Comte de Castelneau, speaking of Notiobia, says, that it has the general appearance of a Nebria; as I am only

acquainted with the figure, I cannot give a decided opinion. A glance at the countries these insects inhabit, tells us at once that they are a northern group; they are abundant amid the Alpine snows and even in Wales and Scotland; they are found to abound more in the range of Alpine vegetation, than in the plains.

With respect to the genus Pteroloma, it appears to be the Adolus of Eschcholtz and the Holocnemis of Schilling, according to Erichson this genus belongs to Agyrtes one of the Silphiadæ. I here cannot help suspecting some error, which I am unable to explain, Eschcholtz was too accurate an Entomologist to have committed so egregious a blunder, as to confound the Carabidæ with the Silphiadæ.

Sp. 18. *Crepitans.*—Now of the genus Brachinus. In the Linnean cabinet there are two distinct insects confounded under the above name; one of them is the Brachinus fumans Fab. from North America, the other the well known European species named Crepitans by Linneus.

Sp. 19. *Americanus.*—Now a Galerita of Fabricius. From the Linnean description "Similis C. crepitanti sed quadruplo major," some have supposed the above species to be a Brachinus, and it is singular that in Lee's cabinet named by Fabricius,

a large species of Brachinus is named by him Americanus.

Sp. 20. *Spinipes*.—Now a Curtonotus of Stephens, and one of the genera of Amaridæ. A species named convexiusculus, by the same author, feeds on the bleached roots of grasses under stones. Respecting the typical species, Scopoli has recorded that it is abundant "super trictici spicas frequens," and why there? Some have imagined that these insects resort to standing corn in quest of the Aphides, my observations lead me to believe they attack the stalk of the wheat and devour it, and in this habit they approach Zabrus. Mr. Stephens in his Systematical Catalogue has placed Bradytus and Curtonotus before Zabrus, evidently proving himself by that judicious arrangement to be, in the language of Barrington, an out-door Naturalist. The researches of Zimmerman induce him to believe that the Amaridæ are vegetable feeders, and from collecting assiduously the Harpalidæ, I am also inclined to think that the Ophoni and Trechidæ, and even some of the species of true Harpalus feed on the roots of grasses. I think it also not improbable that the peculiar smell of the Amaridæ is derived from the vegetation they eat. Lebia, Brachinus, and Panagæus will eventually be found to feed on vegetation. Lam-

prias and Panagæus exhale alike the same disagreeable odour.

Sp. 21. *Cyanocephalus.* — Now of the genus Lamprias of Bonelli, and of the family of Lebiadæ. I differ with M. M. Audouin and Brulle in reuniting Lamprias with Lebia; as it appears a very natural sub-genus, I retain it. If we reject the generic characters given by such a writer as Bonelli, and revert back to early authors, it would be wise to retain the sectional characters those writers adopted, generally expressed in a short Latin sentence; if not, we are again likely to have the self-same species formed into sub-genera, with increased confusion by addition of new names.

Sp. 23. *Vaporariorum.*—Now a Stenolophus of Ziegler. The insect in the Linnean cabinet labelled as Vaporariorum is now a Tarus, and not a Stenolophus; it appears to be the same as Tarus basalis.

Sp. 24. *Latus.*—According to M. M. Audouin and Brulle, the above insect is a Calathus of Bonelli, and is found in France under stones, according to Illiger, his Carabus Cisteloides is the same insect. Erichson, in the Kafer der Mark Brandenburg, vol. 1, page 103, gives Carabus latus

as a synonym of C. apricarius, it must therefore be a Bradytus of Stephens. There is evidently very great confusion respecting this species, as in the Linnean cabinet it is a true Harpalus. Linneus also in the Systema Natura mentions two localities, Europe and North America, probably confounding two species.

Sp. 25. *Ferrugineus.*—Now a Bradytus of Stephens. A genus closely allied to Curtonotus of the same author.

Sp. 27. *Vulgaris.*—Now an Amara of Bonelli. The monograph of Zimmerman on these interesting insects should be studied by all Entomologists; the following genera compose the family, viz. Percosia, Celia, Amara, Bradytus, Leirus, Leiocnemis, Amathitis, and Acrodon; instead of Leirus the name of Curtonotus should be substituted, as previously characterized by Mr. Stephens in his illustrations of British Entomology. In the Linnean cabinet the insect ticketed vulgaris, is not an Amara but a Platysma.

Sp. 30. *Piceus.*—Now an Agonum of Bonelli, according to the specimens preserved in the Linnean cabinet.

Sp. 31. *Velox.*—Now a Bembidium of Illiger.

The Entomologists of Sweden think that Carabus velox of Linneus is only a variety of Bembidium, impressum Gyll.

Sp. 33. *Bipunctatus.* — Now a Tachypus of Megerle, one of the genera of the Bembidiidæ. The following remarks occur in the Histoire Naturelle des Insectes relating to the above family. "C'est Mons. Stephens qui dans son interressant Traité sur les Insectes d'Angleterre en a le *premier publié* les caractères en les regardant toutes comme des genres particuliers ce savant Entomologiste en a porte le nombre à douze qui ne correspondent pas tout-a-fait a celles du species de M. le comte De Jean. Comme elles nous paraissent plus faciles a saisir dans le dernier ouvrage nous adopteron de preference la methode du Naturaliste Francais," Vid. Hist. Nat. des Insect par Audouin et Brulle, Vol. 2. p. 156, &c. Argument is one thing, Nationality another. Because the published genera of Mr. Stephens do not correspond with the Baron De Jean's, or because De Jean's genera at first sight are more readily taken, therefore those of the French Naturalist are to be adopted. If the genera described by the above writers are accurate they must accord; the claim of priority then cannot be set aside on

any other account, excepting that of inaccuracy. It is to be regretted that the names of Megerle and Dahl were adopted by our English Naturalist. The generic details were first published by Mr. Stephens in July, 1828, by De Jean in 1831, in the first part of his fifth volume of the Species general des Coleopteres, where the Megerlean types are given. From enquiry it appears doubtful if Megerle ever published any Entomological brochure. In concluding these observations, a passing remark is added, which has attracted the attention of many individuals. "It is singular that scarcely a reference is ever made by De Jean and other Entomologists to the *two first* works ever published in this country on our Insectal Fauna, those of Messrs. Stephens and Curtis." The works are costly and valuable publications, and such works ever will be, when illustrated by excellent figures; the great cost of them, however, cannot be pleaded as an excuse by the princely De Jean, or by other French writers, as a reason for not quoting them. It is a notorious fact, that the libraries of Natural History in France are far superior to those of England, why then, it must be asked, are our ablest authors passed by and neglected?

Bembidiidæ, *Stephens.*

Genera.	*Country.*	*Typical Species.*
1. Lymnæum, *Stephens*	England	Car. Nigropiceus, *Marsh.*
2. Cillenum, *Leach*	England	Cill. Laterale, *Leach.*
3. Tachys, *Ziegler*	England	Tach. Scutellaris, *Steph.*
4. { Philochthus, *Steph.* / Leia, *Megerle*	England	Bem. biguttatum, *Illiger.*
5. Ocys, *Kirby*	England	Car. Tempestivus, *Panz.*
6. Peryphus, *Megerle*	England	Bem. femoratum, *Sturm.*
7. Notaphus, *Megerle*	England	Car. Ustulatus, *Linneus.*
8. Lopha, *Megerle*	England	Cic. 4-maculata, *Linneus.*
9. Tachypus, *Megerle*	England	Cic. Andreæ, *Fab.*
10. Bembidium, *Illiger*	England	Cic. flavipes, *Linneus.*
11. Chalybe, *Laporte*	Cayenne	Chal. Leprieuri, *Laporte.*
12. { Ægа, *Laporte* / Pselaphopetius, *S.*	Cayenne	Æg. Anthicoides, *Laporte.*

It is probable that the two last genera will be found eventually to connect the Bembidiidæ with the Trechidæ. The above table seems to include all the known genera composing the family. Intermediate forms may be expected to occur, uniting the European and Transatlantic genera; there is, however, much to be done in the investigation of the exotic species, as little of their habits are known.

The name of Leia was, of necessity, changed by Mr. Stephens to Philochthus, as the former had previously been applied by Meigen to designate a genus of Diptera (Vid. Meig. Zw. 1, 253). After paying much attention to this family, I have

adopted the arrangement of Mr. Stephens as the most satisfactory. Three Entomologists of different countries have given different types of the genus Bembidium; Illiger refers to Paludosum Panzer, Latreille to Striatum Fab., and De Jean to Laterale Leach. Mr. Kirby in his Fauna Boreali Americana, exalts Peryphus into a family, which he denominates Peryphidæ. In the following Fabrician Carabidæ the genera composing it will be given.

Sp. 36. *Meridianus.*—Now a Trechus of Clairville. Latreille and De Jean use the term Acupalpus, and Erichson that of Bradycellus; the second name ought to be abandoned, although used by the Prince of Entomologists.

Sp. 37. *Testaceus.*—Most likely an Epaphius of Leach, and probably a pale variety of C. secalis. In this opinion Mr. Stephens seems to accord. In a note in the Synonymia Insectorum of Schonherr, some additional remarks occur respecting this species.

Sp. 41. 4-*maculatus.* —Now belonging to the genus Dromius; according to my views Dromius should be raised to the rank of a sub-family; in habits they are Lebiadous, and at first sight they may be distinguished from the latter by their elongated

form, the elytra also rarely exceed the width of the thorax, while in true Lebia they are very considerably wider.

DROMIIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Demetrias, *Bonelli*	England	Car. Atricapillus, *Linn.*
2. Dromius, *Bonelli*	England	Car. 4-maculatus, *Linn.*
3. Philorhizus, *Hope*	England	Car. Fasciatus, *Fab.*
4. Syntomus, *Hope*	England	Car. Truncatellus, *Fab.*

It was my intention to have used the abandoned term of Rizophilus applied by Dr. Leach to Demetrias; as it might lead to further confusion I merely transpose the word, adopting that of Philorhizus, from φιλος and ριζα. The species of the following genera are apterous; as the types are well known, there is no need of long generic characters, the following may suffice.

PHILORHIZUS, *Hope.*

Apterous, form oblong. Thorax, with its anterior part wider than the posterior. The anterior angles are rounded, while the latter are nearly rectangular. The elytra at the apex are not so abruptly truncated as in Dromius, and are gradually rounded from the external sides till they meet the suture.

Syntomus, *Hope.*

From *συντομος*, brevis. Apterous, body short, contracted. The anterior part of the thorax broader than the posterior, the latter sensibly contracted, and differing from the former genus, which has the angles of the thorax rectangular. The elytra are remarkable for the shoulders being rather prominent. I am acquainted with several tropical species which require sub-division. They occur in the Old and New Continents; none are recorded, I believe, as inhabiting the East Indies; they will, no doubt, occur in the Himalaya.

Sp. 44. *Bimaculatus.*—Now a Brachinus. This last species will be found in the Mantissa Plantarum of Linneus, at page 532, and is the only Carabideous insect therein mentioned. It will be seen that I have omitted the tables of the genera belonging to the families of Trechidæ, Lebiadæ, &c. They were purposely passed by, as they will appear in my remarks on the Fabrician Caraboidea, where they will be associated with their allied groups.

REMARKS AND ANNOTATIONS

ON THE

FABRICIAN CARABOIDEA.

Cychrus, *Fabricius.*

Cychridæ, *Hope.*

Species 1. *Rostratus.*—Now of the genus Cychrus Fab. I am inclined to consider Cychrus as entitled to be raised to the rank of a family; the following genera pertaining to it.

Cychridæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Cychrus, *Fabricius*	Europe	Ten. Rostratus, *Fab.*
2. Irichrous, *Newman*	N. America	Cych. Unicolor, *Knoch.*
3. Sphæroderus, *D. J.*	N. America	Sp. Lecontei, *De Jean.*
4. Scaphinotus, *Latreille*	N. America	Sc. Elevatus, *Fab.*
5. Damaster, *Kollar*	Japan	Dam. Blaptoides, *Kollar.*

Nearly all the species of true Cychrus inhabit northern climates; they are few in number. The same remarks will apply also to the three succeed-

ing genera. Damaster of Kollar, lately published in the Vienna Transactions, belongs to warmer regions. I have long been acquainted with a specimen in this country, it was, however, in too mutilated a state to describe. In the collection at Leyden there are some specimens of the above remarkable insect.

Sp. 3. *Reflexus.*—There are two insects bearing the name of Reflexus, both of them belonging to the Panagæidæ. Pan. reflexus in my collection (was obtained from Lee's Cabinet) and Cychrus reflexus, which I am inclined to consider as a Panagæus, rather than a Cychrus. It is remarkable that the Fabrician locality is Germany, Olivier mentions Coromandel, and Illiger, Sierra Leone; of these countries India appears the most likely. The Baron De Jean erroneously in his last catalogue makes Panagæus Tomentosus Z. J. and Cychrus reflexus Fab. the same insect; instead of being of this opinion, I consider reflexus as the type of a new genus, and as the figure in Olivier is execrable it was better to re-figure it, in order that it may be known. The generic name applied to the species is Camptoderus, from *καμπτω* and *δερη*. Vid. under Panagæidæ some additional remarks.

Sp. 5. *Unicolor.*—This insect is ranked by De

Jean as a Cychrus. In my MSS. I formerly gave it as the type of a new genus, as Mr. Newman, however, has lately published it, it is better to adopt his appellation than create confusion by increase of names, or even by adding to synonyma by publishing manuscript ones. In the 24th number of the Entomological Magazine (April, 1838) at page 385, the generic characters are published.

CARABUS, *Fabricius.*

SP. 1. *Scabrosus.*—Now a Procerus. Under the Linnean species of Carabus will be found the Genera belonging to that particular family. As to the species of Procerus, they are few in number. For figures of them the student is referred to Guerin's Magazine, Tab. 1, No. 9. To Brulle's Morea, No. 149, pl. 33, fig. 4. To Olivier, pl. 7, fig. 83; and lastly, to Adams. Mem. Soc. des Natur. de Moscou, tom. 5, pl. 10, fig. 1—5.

SP. 2. *Coriaceus.*— Now a Procrustes of Bonelli. The species belonging to this genus are rather more numerous than those of Procerus. For an account of them, in addition to the former authorities quoted above, consult Les Etudes Entomologiques de Mons Laporte, De Jean's Species general des Coleopteres ; the Horæ Entomologicæ,

by Charpentier; and the Symbolæ Physicæ of Klug. In Erichson's work, Die Kafer der Mark Brandenburg, there are concise generic characters given of many of the Caraboidea. Vid. Procrustes, p. 11.

Sp. 5. *Meyerlei.*—Now of the genus Tefflus Leach. Probably an error of the press, instead of Megerlei.

Sp. 10. *Carolinus.*—This insect is not in the Banksian collection; it was originally described from the Museum of Gigot d'Orcy; it apparently is unknown at present in Paris. From French writers we may eventually expect some future notice respecting the species, as well as the desired information of what became of the Entomological part of the Museum of the above personage.

Sp. 18. *Hortensis.*—This species is very subject to be attacked by Filaria.

Sp. 20. *Concolor.*—Most likely a true Carabus. Vid. Panzer, Ent. G. 1, p. 46, n. 10.

Sp. 23. *Tædatus.*—There are two specimens still to be found in the Banksian Cabinet. Olivier's figure tolerably well represents the insect.

Sp. 27. *Retusus.*—This insect is evidently a Calosoma; the Fabrician reference to Olivier is incorrect, it ought probably to be Oliv. Ins. 35, p. 30. Tab. 10. fig. 113. The figure, however, is

larger than the real insect; the species may vary considerably in size.

Sp. 28. *Maderæ*.—This insect decidedly belongs to the genus Calosoma; more than forty species of Calosoma have fallen under my inspection; they may be divided into two sections, like the Necrophori, those with straight, and those with crooked tibiæ.

Sp. 31. *Splendens*.—The locality mentioned by Fabricius is erroneous. He describes it as from the island of Jamaica, whereas, it is undoubtedly an European species, occurring abundantly in the Pyrenees.

Sp. 33. *Suturalis*.—This elegant insect, as it is apparently unknown to Continental writers, is worth figuring. Other species closely allied to it from the same country, were brought to England by my zealous friend and Entomologist, Mr. Charles Darwin of Shrewsbury. The new species are already described in a late number of the Entomological Transactions. Vol. ii. part 2, p. 128.

Sp. 36 and 37.—*Granulatus* and *Cancellatus*.—There has been great confusion respecting these species. It appears that Fabricius considered Granulatus Linn. the same as his Carabus cancellatus. He applied, therefore, the Linnean name to ano-

ther species, which Illiger has very properly changed to Cancellatus.

Sp. 41. *Leucopthalmus.*—Now an Omaseus of Ziegler, and one of the genera composing the Feroniadæ of Latreille. I have before recorded my opinion respecting this group. It requires a thorough revision; my friend, Dr. Eschscholtz, informed me by letter that he had undertaken the arrangement of these Carabidæ, and had communicated his views to the Baron De Jean. Is the De Jeanian arrangement of the last Catalogue the same as that of Dr. Eschscholtz? if so, little improvement has been made. I subjoin a Table of the various forms which may be classed together, but not under the name of Feronia, which has previously been used by Dr. Leach to designate a dipterous genus. I propose, therefore, to change the name of the goddess of the groves, for that of one of the Muses, namely Thalia.

Thaliadæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Sogines, *Leach*	England	C. punctulatus, *Fab.*
2. Pæcilus, *Bonelli*	England	C. Cupreus, *Linneus.*
3. Argutor, *Megerle*	France	C. Vernalis, *Fabricius.*
4. Omaseus, *Ziegler*	England	C. aterrimus, *Fab.*
5. Steropus, *Megerle*	England	C. madidus, *Fab.*
6. Platysma, *Sturm*	England	C. niger, *Fab.*
7. Cophosus, *Ziegler*	Hungary	C. Cylindricus, *Herbst.*
8. Pterostichus, *Bonelli*	France	C. fasciatopunctatus, *Fab.*
9. Cheporus, *Latreille*	Austria	C. Metallicus, *Fab.*
10. Omalosoma, *Hope*	N. Holland	O. Vigorsii, *Hope.*
11. Abax, *Bonelli*	England	C. Striola, *Fab.*
12. Percus, *Bonelli*	Spain	C. Navaricus, *Latreille.*
13. Molops, *Bonelli*	England	C. Terricola, *Fab.*
14. Adelosia, *Stephens*	England	C. Macer, *Marsham.*
15. Stereocerus, *Kirby*	N. America	S. similis, *Kirby.*

The last genus named Stereocerus by Mr. Kirby, in the North American Fauna, appears to connect those genera which have robust antennæ, as Omaseus, &c. with those that have those organs more slender, as Pæcilus, &c. Its general aspect is that of Curtonotus, but the intermediate tooth of the labium is entire as in Bradytus ; we have therefore in this genus, an interesting form, uniting the Thaliadæ and Amaridæ. Vide Fauna Boreali Americana, page 34. I have not included Myas of De Jean among the Thaliadæ, as most likely it belongs to a distinct family, it is distinguished from the

latter by the terminal article of the labial palpi being large and triangular; in the Thaliadæ this article is cylindrical. There are various other points of difference which separate Myas from the above group. The following genera, Abaris, Rathymus of De Jean, and Strigia and Heteracantha of Brulle, probably belong to Thaliadæ; as I am totally unacquainted with their forms, I defer giving a decided opinion respecting them. Laporte, I find, places Myas in the family of Trigonotomidæ, to it belong four genera, viz. Myas, Lesticus, Trigonotoma, and Catadromus, they certainly are all allied to Pæcilus. For reference consult Audouin and Brulle, and the writings of Laporte.

Sp. 43. *Terricola.*—Now a Pristonychus of De Jean and of the family Dolichidæ of Audouin and Brulle. The following genera compose it, according to the above authors, and to them they add Calathus, which I detach.

(Dolichidæ, *Audouin and Brulle.*)

Genera.	*Country.*	*Typical Species.*
1. Synuchus, *Gyllenh.*	England	C. Vivalis, *Panzer.*
2. Pristodactyla, *D. J.*	N. America	P. Americana, *De Jean.*
3. Dolichus, *Bonelli*	Austria	C. Flavicornis, *Fabricius.*
4. Onypterygia, *D. J.*	S. America	C. Fulgens, *De Jean.*

I have purposely omitted the genus Calathus, which, in habits, seems to differ from any of the other genera. From the account given of Onypterygia, it seems likely that that genus may belong to a distinct family.

Sp. 44. *Scrobiculatus.* — Now a Platynus and belonging to the family of Agonidæ. Colpodes of MacLeay probably belongs to the family of

AGONIDÆ, *Kirby.*

Genera.	*Country.*	*Typical Species.*
1. Platynus, *Bonelli*	England	C. Angusticollis, *Fabricius.*
2. Anchomenus, *Bonelli*	England	C. Prasinus, *Thunberg.*
3. Agonum, *Bonelli*	England	C. Marginatus, *Linneus.*
4. Cardiomerus, *Bassi*	Sicily	C. Genei, *Bassi.*
5. Euleptus, *Klug*	Madagascar	Eul. Geniculatus, *Klug.*
6. Olisthopus, *De Jean*	France	C. Rotundatus, *Paykull.*
7. Odontonyx, *Stephens*	England	C. Rotundicollis, *Marsham.*

M. M. Audouin and Brulle add to the Agonidæ the genera Loxocrepis of Eschscholtz and Dyscolus of De Jean; the former belongs to the Lebiadæ, the latter seems altogether mis-located.

Sp. 47. *Planus.*—Now a Sphodrus of Clairville. This genus was first separated from Carabus by Clairville. Some modern writers have arranged Sphodrus under the Agonidæ, I have, in a former page included Platynus under the Agonidæ, and

stated my opinion that Sphodrus ought to rank as a family. Pristonychus, which has been separated from Sphodrus on account of its denticulated tarsi, appears to connect the two families; in habits I regard it as a Sphodrus.

SPHODRIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Sphodrus, *Clairville*	England	C. Leucopthalmus, *Linneus.*
2. Pristonychus, *D. J.*	England	C. Terricola, *Paykull.*
3. Promecoderus, *D. J.*	New Holland	P. Brunnicornis, *De Jean.*
4. Craterocerus, *Hope*	New Holland	C. Brunnicornis, *Hope.*

In my MSS. I had given the name of Stereocerus to this genus, which I am obliged to alter, as it is previously used in Mr. Kirby's Fauna Boreali Americana, page 34.

SP. 48. *Striatulus.*— This insect appears to be unknown to the Continental Entomologists; it is a Platysma, and somewhat like the species named Pl. cordicollis, by De Jean. It will be figured among the Carabidæ, among the new genera. I think that it may be considered as the type of a subgenus, which will include many species of Platysma of the New World.

SP. 52. *Quadricolor.*—Now a Chlænius of Bo-

nelli, the genera comprising this family are few in number; the species may be subdivided artificially into four sections. The first containing all the maculated species, they appear common to Africa and Asia. The second have the external edges of the elytra margined with yellow. The third division have the wings deeply sulcated; and the last are generally of uniform colour and spotless, being either green or black; to the latter section, however, there are some few exceptions. The following genera belong to the family of Chlænius.

SARROTHROPODA, *Kirby.*

CHLÆNIADÆ, *Kirby.*

Genera.	*Country.*	*Typical Species.*
1. Lissauchenius, *MacLeay*	Java	C. Rufifemoratus, *MacLeay.*
2. Chlænius, *Bonelli*	Italy	C. Spoliatus, *Rossi.*
3. Epomis, *Bonelli*	Italy	C. Circumscriptus, *Bonelli.*
4. Dinodes, *Bonelli*	France	C. Azureus, *Duftschmidt.*
5. Callistus, *Bonelli*	England	C. Lunatus, *Fabricius.*
6. Vertagus, *De Jean*	Senegal	V. Buqueti, *De Jean.*

SP. 52. *Quadricolor.*—Now a Chlænius. I have no doubt that it inhabits the East Indies, as General Hardwicke had in his collection a species from Bengal, which closely suited the Fabrician insect. The locality of the Cape of Good Hope, mentioned

by De Jean, applies to a species resembling the above, yet is certainly distinct.

Sp. 58. *Femoralis.*—Most probably a Chlænius. From the specimen in the Banksian Cabinet, there can be little doubt of it.

Sp. 61. *Spinibarbis.*—Now a Leistus. I once took this insect in immense numbers congregated together under moss, in the cave of Caractacus, on the Caradock in Shropshire.

Sp. 62. *Æneocephalus.* — In turning to the description in the Ent. Sys. p. 137, 56, it appears that this insect is likely to be a Pæcilus.

Sp. 63. *Humeralis.*—In the Tables the name of Tarus has been given as including the insects allied to the above species. Latreille's name of Cymindis ought to have the preference on the claim of priority.

Cymindidæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. { Cymindis, *Latreille* / Tarus, *Clairville*	England	C. Humeralis, *Fabricius.*
2. Anomæus, *Fischer*	Russia	A. Dorsalis, *Fischer.*
3. Cymindoidea, *Laporte*	Senegal	C. Bisignata, *De Jean.*
4. Corsyra, *De Jean*	Siberia	C. Fusula, *Fischer.*
5. Calleida, *De Jean*	Senegal	C. Fasciata, *De Jean.*
6. Plochionus, *De Jean*	East Indies?	P. Bonsfilii, *De Jean.*
7. { Cryptobatis, *Esch.* / Aspasia, *De Jean*	Brazils	C. Cyanoptera, *De Jean.*

This sub-family seems to be intimately connected with Lebiadæ; there are yet wanting other links more intimately to unite them. According to Laporte, the Cymindidæ follow the family Agridæ, and precede the Lebiadæ; from the latter family I detach the genera Demetrias and Dromius, as will be seen in a future page. The generic characters of Anomæus will be found in the Entomographia de la Russie, Vol. 1. page 124.

Sp. 67. *Trilobus.* — I can give no satisfactory information respecting this insect; it inhabits Guinea and was originally described by Fabricius, from Isert's Cabinet.

Sp. 73. *Cinctus.*—Now a Chlænius of Bonelli; Car. Xanthocrus of Wiedeman, is the same insect, and inhabits the East Indies. C. cinctus Olivier is distinct, and an European species.

Sp. 75. *Rufipes.*—Now a Patrobus of Megerle, and belonging to the Feronians of Latreille. I am inclined to range with the following genera, Cremacanthus of Gray.

PATROBIDÆ, *Kirby.*

Genera.	*Country.*	*Typical Species.*
1. Patrobus, *Megerle*	England	Car. Rufipes, *Fabricius.*
2. Baripus, *D. J.*	Brazils	B. Rivalis, *Germar.*
3. Cnemacanthus, *Gray*	New Holland	C. Gibbosus, *Gray.*

Monsieur Audouin suspects that the original word was Petrobus, and not Patrobus, signifying that these insects live chiefly under stones. The Patrobidæ are connected on one hand with the Pogonidæ and with Broschidæ on the other.

Sp. 76. *Elegans.*—Probably a Catascopus, and one of the genera of the family of the Pericallidæ Hope. At page 105 of this manual will be found a table of the genera belonging to it. Little is known respecting the habits of Catascopus. I consider that in warm climates it takes the place which Elaphrus does in our northern regions. The species are chiefly blue or green, and are more numerous than is generally imagined.

The genera of this family evidently approach the Elaphridæ, and certainly have a close affinity with them. The situation in which they are placed by the Baron De Jean, namely, before the Anthiadæ, is clearly anything but a natural arrangement.

Sp. 79. *Tenuicollis.* — Fabricius mentions this insect as inhabiting the Cape of Good Hope and the East Indies. The former appears to be its correct locality; probably two species have been alluded to.

Sp. 80. *Ruficollis.*—Now a Calleida of De Jean. There is a doubt respecting the country of this

insect. In Dr. Hunter's Cabinet, South America is mentioned; I believe it to be from Africa, and agree with Fabricius.

Sp. 82. *Modestus.*—Now a Peryphus of Megerle. Mr. Kirby considers the insects allied to Peryphus, as affording sufficient characters to entitle them to the rank of a family, the following genera compose it:—

Subulipalpia, *Kirby.*

Peryphidæ, *Kirby.*

Genera.	*Country.*	*Typical Species.*
1. Peryphus, *Megerle*	England	Car. Littoralis. *Olivier.*
2. Lopha, *Megerle*	France	4-maculata, *Linneus.*
3. Eudromus, *Kirby*	North America	E. Nitidus, *Kirby.*
4. Tachyta, *Kirby*	North America	T. Picipes, *Kirby.*

Mr. Kirby, in the Fauna Boreali Americana, states that the Peryphidæ are distinguished from the Bembidiidæ, not only by the shape of the thorax, but by having the apex and sides of the elytra nearly smooth, or with obliterated furrows. The latter family is also distinguished from the Peryphidæ by the elytra having the typical number of furrows, none being obliterated.—Vid. page 52 and 57.

Sp. 88. *Bisbiguttatus.*—Now a Brachinus. A

specimen will be found in the Banksian Cabinet. (Vid. Olivier's figure.) The above species is evidently the same insect as Brachinus 4-pustulatus Fab.

Sp. 93. *Festinans.*—This insect now belongs to the genus Calleida De Jean. There are several other green species from North and South America which are allied to C. festinans Fab.

Sp. 94. *Cephalotes.*—Now a Broschus of Panzer and of the family Broschidæ: the following genera pertain to it.

BROSCHIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Broschus, *Panzer*	England	Car. Cephalotes, *Linn.*
2. { Miscodera, *Esch.* / Oncoderus, *Stephens*	England	C. Arcticus, *Paykull.*
3. Stomis, *Clairville*	England	C. Pumicatus, *Illiger.*

Other species of Broschus from the East Indies and New Holland will eventually form sub-genera.*

Sp. 95. *Megacephalus.*—This is now the type of the genus Camptoscelis of De Jean. The Carabus Hottentottus of Olivier is only a synonym of Megacephala Fab. It seems closely to approach to the Broschidæ, and may unite them to the Thaliadæ.

* I have in my collection also some allied genera from the Swan River, belonging to this family. They will be described in the Fauna Australasiæ.

Sp. 96. *Interruptus.*—Now a Ditomus of Bonelli. M. M. Audouin and Brulle give a table of the genera and sub-genera of Ditomidæ. With some of the insects I am acquainted, and therefore, only remark, at present, that there appears in their arrangement an union of forms which belong to families very different to the true Ditomus. The Morionidæ unite this family with the Scaritidæ.

Ditomidæ, *Audouin.*

Genera.	*Country.*	*Typical Species.*
1. Ditomus, *Bonelli*	France	S. Calydonius, *Rossi.*
1. Distomus, *Leach*	England	Dis. Leachii, *Samouelle.*
1. Aristus, *Ziegler*	France	Dit. Fulvipes, *Lat.*
2. Carterus, *De Jean*	Portugal	C. Interceptus, *De Jean.*
3. Glyptus, *Brulle*	East Indies	Gl. Sculptilis, *Brulle.*
4. Melænus, *De Jean*	Senegal	Mel. Elegans, *De Jean.*
5. Coscinia, *De Jean*	Egypt	Cos. Schuppelii, *De Jean.*
6. Apotomus, *Latreille*	Italy	Ap. Rufus, *Rossi.*

Sp. 100. *Impressus.*—Formerly a Rembus of Latreille, as Germar in his Species Insectorum has applied this name to one of the Curculionidæ. It has been changed by Brulle to Diplocheila, from διπλοος and χειλος, signifying, double-lipped. The following genera belong to the family of Licinidæ.

Licinidæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Licinus, *Latreille*	England	C. Agaricola, *Olivier.*
2. Badister, *Clairville*	England	C. 2-pustulatus, *Fab.*
3. Trimorphus, *Stephens*	England	T. Scapularis, *Stephens.*
4. { Diplocheila, *Brulle* / Rembus, *Latreille*	East Indies	C. Impressus, *Fabricius.*
5. Dicœlus, *Bonelli*	North America	D. Violaceus, *Bonelli.*
6. Asporina, *Laporte*	Brazils	A. Gigantea, *Laporte.*
7. Oodes, *Bonelli*	England	C. Helopoides, *Fab.*

Sp. 105. *Gibbus.*—Now belonging to the genus Zabrus. The insects belonging to this genus are evidently vegetable feeders; they are at present arranged with the Amaridæ, as in habits they are closely allied to them. It is likely that at some future period they will be raised to the rank of a family. The genera Curtonotus and Bradytus of Stephens occur in North America and Europe. I am not aware however of any yet discovered genus in the New World which approaches Zabrus of Europe, such a form may naturally be expected to occur.

Sp. 111. *Globosus.*—It is with doubt that I range this insect under Steropus, it was originally described by Fabricius from Sehestedt's Cabinet.

Sp. 117. *Posticus.*—Probably a Chlænius, as the general description agrees with many species of

that genus. It inhabits the East Indies, and is to be found in Daldorff's collection in Copenhagen. Mr. MacLeay regards it as a Lissauchenius.

Sp. 118. *Micans.*—Evidently a Chlænius. Olivier gives Senegal as the locality of this insect, which is an error, as I have received it from Bengal, which is the same country that Fabricius has mentioned.

Sp. 119. *Notula.*—Most probably a Chlænius. The species referred to by Fabricius is Micans, which according to Olivier's figure is a Chlænius, "statura omnino micantis" warrants the conclusion.

Sp. 121, 122, and 123.—From the brief Latin descriptions of the above species, I am inclined to consider them as belonging to Chlænius. They were originally described from the cabinets of Daldorff, Lund, and Sehestedt, as to C. Stigma it may probably be a Planetes of MacLeay.

Sp. 126. *Binotatus.*—Now an Anisodactylus of De Jean, who has very properly detached it from true Harpalus. Although the Harpalidæ have been studied by many individuals, few have satisfactorily arranged them. The Tables which have been published by M. M. Audouin and Brulle contain the Stenolophidæ, which appear to connect Harpalus and

Trechus. The following are the genera and subgenera belonging to the

HARPALIDÆ.

Genera.	*Country.*	*Typical Species.*
1. Anisodactylus, *De Jean*	Portugal	C. Binotatus, *Fabricius.*
2. Gynandromorphus, *D.J.*	Italy	C. Etruscus, *Schonherr.*
3. Geobænus, *De Jean*	P. B. S.	G. Lateralis, *De Jean.*
4. Harpalus, *Latreille*	England	C. Ruficornis, *Fabricius.*
5. Pangus, *De Jean*	Germany	Harp. Scaritides, *Sturm.*
6. Actephilus, *Stephens*	England	C. Vernalis, *Dufts.*
7. Bradybænus	Senegal	C. Scalaris, *Olivier.*
8. Hypolithus, *De Jean*	Senegal	C. Saponarius, *Olivier.*
9. Ophonus, *Ziegler*	England	Harp. Sabulicola, *Panzer.*
10. Selenophorus, *De Jean*	N. America	C. Palliatus, *Fabricius.*
11. Geodromus, *De Jean*	Senegal	G. Dumolini, *De Jean.*
12. Gynandropus, *De Jean*	N. America	G. Americanus, *De Jean.*
13. Diachromus, *Esch.*	Germany	C. Germanus, *Linneus.*
14. Cratocerus, *De Jean*	Brazils	C. Monilicornis, *De Jean.*
15. Somoplatus, *De Jean*	Senegal	S. Substriatus, *De Jean.*
16. Axinotoma, *De Jean*	Senegal	Ax. Fallax, *De Jean.*

The genera belonging to the Harpalidæ must still be considerably increased. This family, very diversified in form and rich in species, will afford ample employment to any individual bold enough to undertake it. It will be observed that I omit Paramecus, and place it with the Acinopidæ; Acupalpus and Stenolophus belong also to another family. The latter may be considered as the genus which unites them.

SP. 127. *Fulvicollis.*—Now a Lebia of Latreille. The following genera appear to belong to the Le-

biadæ, after detaching the sub-families Dromiidæ, Cymindidæ, and Pericallidæ.

LEBIADÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Lamprias, *Bonelli*	England	C. Cyanocephalus, *Linneus.*
2. Lebia, *Latreille*	England	C. Crux minor, *Linneus.*
3. Physodera, *Esch.*	Manilla	C. De Jeanii, *Esch.*
4. Chelonodema, *Laporte*	Brazils	C. Variabilis, *Laporte.*
5. Onypterygia, *De Jean*	East Indies	O. Fulgens, *De Jean.*
6. Orthogonius, *MacLeay*	East Indies	O. Duplicatus, *Wiedem.*
7. Hexagonia, *Kirby*	East Indies	Hex. Terminata, *Kirby.*
8. Aploa, *Hope*	East Indies	Ap. Picta, *Hope.*
9. Coptodera, *De Jean*	Cuba	C. Festiva, *De Jean.*

The above genera belong to the Lebiadæ. There are wanting particular forms which may more satisfactorily connect them together. Aploa is between Cymindis and Lebia, Hexagonia is quite an anomaly. I suspect that New Holland is the country from whence this insect comes, and not the East Indies.

SP. 131. *Lætus.*—This insect, in the Appendix to the fourth volume of Fabricius, is compared to C. Lepidus, which is evidently a Pæcilus.

SP. 136. *Carnifex.*—Now an Antarctia, and one of the genera belonging to the Amaridæ: for an account of other species the reader is referred to the Species General des Coleopteres by De Jean, to the works of Eschscholtz, and Germar, and also to the Voyage du Bresil par M. M. Spinx et Martius.

It is not unlikely that some of the species of Amara, described by Mr. Kirby in the Fauna Boreali Americana, belong to Antarctia.

Sp. 137. *Vulgaris.*—Now an Amara of Bonelli; and the typical genus of the family Amaridæ.

AMARIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Amara, *Bonelli*	England	C. Vulgaris, *Linneus.*
2. Oodes, *Bonelli*	England	C. Helopioides, *Fabricius.*
3. Acrodon, *Zimm.*	Sweden	H. Brunneus, *Gyll.*
4. Celia, *Zimm.*	Germany	H. Bifrons, *Gyll.*
5. Bradytus, *Stephens*	England	C. Ferrugineus, *Fabricius.*
6. { Curtonotus, *Stephens* / Leirus, *Megerle* }	England	C. Convexiusculus, *Marsh.*
7. Percosia, *Zimm.*	Sicily	Per. Sicula, *De Jean.*
8. Leiocnemis, *Zimm.*	Caucasus	L. Cordicollis, *Menetries*
9. Amathites, *Zimm.*	Egypt	A. Ægyptia, *Klug.*
10. Antarctia, *De Jean*	Buenos Ayres	An. Carnifex, *Fabricius.*
11. Lophidius, *De Jean*	Sierra Leone	L. Testaceus, *De Jean.*

To the above genera might also be added Zabrus, as this genus has been considered worthy of family distinction by Zimmerman, in his valuable Monograph. I give the genera composing it.

ZABRIDÆ, *Zimmerman.*

Genera.	*Country.*	*Typical Species.*
1. Eutroctes, *Zimm.*	S. Russia	E. Congener, *Zimm.*
2. Zabrus, *Clairville*	England	Car. Gibbus, *Fabricius.*
3. { Pelorus, *Bonelli* / Pelobatus, *Fischer* }	Austria	Bl. Spinipes, *Fabricius.*
4. Polysitus, *Zimm.*	Asia Minor ?	P. Farctus, *Zimm.*
5. Acorius, *Zimm.*	Egypt	A. Metallescens, *Zimm.*

For an abstract of the genera of Amaridæ, the reader is referred to the Faunus of Gistl, published at Munich in 1832.

Sp. 139. *Integer.*—This insect is compared with C. Latus; Vid. Sys. Supp. 58. 128. It is most likely therefore a Bradytus, which occurs in North America.

Sp. 144. *Helopioides.*—Now an Oodes of Bonelli. For an account of the species belonging to this genus consult the 2nd and 3rd volumes Des Annales de la Societé Entomologique de France, Germar's Magazine, and the Zoological Atlas by Eschscholtz. In my own collection are three nondescripts from New Holland.

Sp. 147. *Erythrocephalus.*—This is the same insect as Nebria picicornis. Erichson, however, states that it is only a variety of Harpalus fulvipes.

Sp. 148. *Analis.*—Probably a Leistus. Erichson makes it a variety of Bradytus apricarius.

Sp. 149. *Lineola.*—An Agonoderus of De Jean; and one of the genera composing the Acinopidæ of M. M. Audouin and Brulle. I add their Tables, as some of the genera are unknown to me.

Acinopidæ, *Audouin.*

Genera.	*Country.*	*Typical Species.*
1. Acinopus, *De Jean*	France	C. Picipes, *Olivier.*
2. Eucephalus, *Laporte*	P. B. S.	Euc. Capensis, *Laporte.*
3. Amblygnathus, *De Jean*	Cayenne	Amb. Cephalotes, *De Jean.*
4. Platymetopus, *De Jean*	Senegal	Pl. Notitus, *De Jean.*
5. Barysomus, *De Jean*	Mexico	B. Hopfneri, *De Jean.*
6. Cratognathus, *De Jean*	Buenos Ayres	C. Mandibularis, *De Jean.*
7. Daptus, *Fischer*	Russia	D. Vittatus, *Fischer.*
8. Agonoderos, *De Jean*	North America	C. Lineola, *Fabricius.*
9. Paramecus, *De Jean*	Monte Video	P. Cylindricus, *De Jean.*
10. Cratacanthus, *De Jean*	North America	C. Pensylvanicus, *De Jean.*
11. Hippolætis, *Laporte*	Senegal	Hip. Rufa, *Laporte.*

Sp. 151. *Pallidus.*—This insect, according to Paykull, is considered a variety of (Bradytus) ferrugineus Fab.; in the Banksian Cabinet this species is Plochionus Bonsfilii.

Sp. 153. *Surinamensis.*—This insect was described from Lund's Cabinet, in the Ent. Syst. p. 156. There is added, "statura omnino C. pallens ut duplo fere minor," leaving us in doubt where to place it.

Sp. 154. *Dorsiger.*—I can find no account of this species in any modern author; it was described from Vahl's collection.

Sp. 161. *Discoideus.*—Erichson makes this insect a true Harpalus, and synonymous with H. Petifii and Smaragdinus, Duft.

Sp. 163. *Vestitus.*—This is the same species as C. marginatus of Linneus. The latter name should be adopted.

Sp. 166. *Quadrum.*—Now a Tetragonoderus of De Jean; and one of the genera belonging to Stenolophidæ.

STENOLOPHIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Stenolophus, *Ziegler*	England	C. Vaporariorum, *Linneus.*
2. Masoreus,* *Ziegler*	England	M. Luxatus, *De Jean.*
3. Amphasius, *Newman.*	N. America	A. Fulvicollis, *Newman.*
4. Trechus, *Clairville*	England	C. Meridianus, *Linneus.*
4. Acupalpus, *Latreille*	———	———
4. Bradycellus, *Erichson*	Sweden	Harp. placidus, *Gyll.*
5. Blemus, *Ziegler*	England	C. Discus, *Fabricius.*
6. Epaphius, *Leach*	England	C. Secalis, *Panzer.*
7. Æpus, *Leach*	England	Æp. Fulvescens, *Leach.*
8. Tetragonoderus, *De Jean*	Senegal	C. Quadrum, *Fabricius.*
9. Lachnophorus, *De Jean*	Cayenne	L. Impressus, *Brulle.*
10. Aretharia, *Say*	N. America	A. Type unknown.

Mr. Kirby in his Fauna Boreali Americana has given us two families, the Stenolophidæ and Trechidæ. Stenolophus certainly appears closely allied to the Harpalidæ, and conduct us on to Trechidæ, as these sub-families are most intimately connected I have thrown them together. The genus Amphasia Newman is another link between Masoreus and Harpalus, as all the other genera terminate in *us*, Amphasia as well as Aretharia should do the same.

* For an account of the Species of Masoreus, Vid. Gistl's Faunus, page 119.

For an account of the generic characters of the former genus, vide 24th number of the Entomological Magazine for April 1838.

Sp. 168. *Rufibarbis.*—This insect by several persons has been considered as a Leistus of Frölich; in Die Kafer der Mark Brandenburg, Erichson asserts it to be a variety of Harpalus fulvipes; vide page 50, Erster Band.

Sp. 169. *Flavilabris.*—Probably a Dioryche MacLeay, or rather a Colpodes? This insect was described from Daldorff's Cabinet: in the Supplement occurs "affinis C. palliato (Selonophoro D.J.) at distinctus et paullo major, elytra striata apicè sinuata." It is evident from the above description that it cannot be a Selonophorus; Mr. MacLeay therefore is probably right in his conjectures, as far as relates to the genus. (Vide Annul. Javan. page 22.)

Sp. 171. *Lividus.*—Described originally from Lund's Cabinet; and is most likely an immature Amara.

Sp. 173. *Notulatus.*—From the Fabrician description I consider this insect a Panagæus. Mr. MacLeay in his Annulosa Javanica regards it as allied to Dromius.

Sp. 176. *Crux major.*—Certainly a Panagæus; the following genera belong to the family Panagæidæ.

PANAGÆIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Loricera, *Latreille*	England	C. Pilicornis, *Fabricius.*
2. Panagæus, *Latreille*	England	C. Crux major, *Linneus.*
3. Eurysoma, *Oberleitner*	Brazils?	E. Tenebroides, *Klug.*
4. Tefflus, *Leach*	Senegal	T. Megerlei, *Leach.*
5. Coptia, *Laporte*	Cayenne	C. Armata, *Laporte.*
6. Dercylus, *Laporte.*	Brazils	Ater, *Laporte.*
7. Brachygnathus, *Perty*	S. America	B. Festivus, *Perty.*
8. Geobius, *De Jean*	Buenos Ayres	G. Pubescens, *De Jean.*
9. Craspedophorus, *Hope*	Coromandel	C. Reflexus, *Fabricius.*
10. Pelecium, *Kirby*	Brazils	P. Cyanipes, *Kirby.*
11. Eripus, *De Jean*	Mexico	E. Scydmænoides, *DeJean.*

The above genera, according to modern arrangement, belong to the Panagæidæ. Tefflus, by Brulle and Audouin, is justly located; but I cannot agree with them concerning Pamborus, which if it does not belong to the Carabidæ, must naturally belong to a peculiar family, which I would name Pamboridæ. Some of the genera of this group are unknown. Should it turn out that there is a difference in the thorax of the sexes, it must be arranged de novo.

SP. 177. *Crux minor.*—In the Banksian Cabinet the species labelled Crux minor is evidently Stenolophus vaporariorum; there are two specimens remaining.

SP. 178. *Vittatus.*—Now a Lebia of Latreille, it

was described originally from the cabinet of the unfortunate Yeats. I cannot learn what became of his collection. There is in the library of the Linnean Society a presentation copy of Yeats's Institutions of Entomology, which was given to Sir James Smith, the president. The marginal illustrations are coloured by Mr. Sydenham Edwards, and are far superior to any entomological drawings of that period.

Sp. 180. *Angulatus.*—This species has in later years been described under the name of Panagæus tomentosus, Vid. Zool. Journal. The Baron De Jean gives, in his last Catalogue, Cychrus reflexus Fab. as a variety of Panagæus tomentosus; the species differ entirely.

Sp. 190. *Velox.*—The specimens in the Banksian Cabinet labelled Velox are only varieties of Anchomenus sordidus, Marsham.

Sp. 192. *Præustus.*—Schonherr, in his note relating to this species, writes, "sive idem ac C. rufescens sive varietas C. 4-maculati vix enim species distincta," vid. p. 213, 257. Illiger is of opinion that it is only a variety of C. 4-maculatus.

Sp. 194. *Lunatus.*—Now a Callistus. I have lately received from the East Indies a species of this genus, which I name pulchellus; I am not aware of its previous occurrence in Asia.

Sp. 196. *Cursor.*—Apparently a variety of C. micros Herbst, which is at the present day a Trechus.

Sp. 198. *Vaporariorum.*—Now a Stenolophus of Ziegler. In the Banksian Cabinet, the insect labelled as Vaporariorum is Anchomenus prasinus.

Sp. 201. *Comma.*—Probably an Agonoderus. This insect was originally described from Drury's collection; it has never, I believe, been figured, and has scarcely been mentioned in any other entomological work but that of Illiger, who considers it a variety of Agon. furcatum, or C. lineola Fab.

Sp. 211. *Smaragdulus.*—From the Fabrician description, and locality, I am inclined to consider this insect as a Catascopus.

Sp. 213. *Testaceus.*—Now an Epaphius of Dr. Leach, and most likely a pale variety of C. secalis. Vid. Stephens's Illustrations of British Entomology.

Sp. 215. *Abbreviatus.*—Fabricius in his Eleutheratorum adds a note to this species, "Nullo modo Staphylinus caraboides huc pertinet." Abbreviatus Fab. is only a synonym of St. caraboides, Linn. ii. 635. By many this insect is considered as a link uniting the Carabidæ and Brachelytra.

Sp. 222. *Truncatellus.*—The type of the genus Philorhyzus Hope, one of the genera of the subfamily of Dromiidæ. The two following species

may be mentioned as pertaining to it, D. foveolus of Stephens, and D. punctatellus of De Jean; others also will be found in our northern European collections. For an account of the British Dromii, consult Mr. Babington's Monograph in the Entomological Transactions of London, vol. i. c. 80, 1.

CARABIDÆ FABRICIANÆ.

Caraboidea, *Hope.*

Having finished my observations on the species of Cychrus and Carabus, mentioned by Fabricius, I should pass to Manticora, which appears next on the Tables among the Carabideous genera, but as it has already been treated of as a distinct family under the name of Manticoridæ; the next group we have to consider are the Scaritidæ. The genera pertaining to it are as follows:

Scaritidæ, *Leach.*

Genera.	*Country.*	*Typical Species.*
1. Pasimachus, *Bonelli*	N. America	S. Depressus, *Fabricius.*
2. Scapterus, *De Jean*	East Indies	S. Guerini, *De Jean.*
3. Acanthoscelis, *Latreille*	P. B. S.	S. Ruficornis, *Fabricius.*
4. Carenum, *Bonelli* / Armidius, *Leach*	New Holland / ——	C. Cyaneum, *Fabricius.*
5. Oxygnathus, *De Jean*	East Indies	S. Elongatus, *Wiedem.*
6. Eutomus, *Newman*	New Holland	E. Tinctilatus, *Newman.*
7. Scarites, *Fabricius*	S. France	S. Gigas, *Olivier.*
8. Oxystomus, *Latreille*	Brazils	Ox. Cylindricus, *De Jean.*
9. Camptodontus, *De Jean*	Cayenne	C. Cayennensis, *De Jean.*
10. Clivina, *Latreille*	England	C. Arenaria, *Fabricius.*
11. Dyschirius, *Panzer*	England	S. Gibbus, *Fabricius.*

Genus 5. Oxygnathus, *De Jean.*

I formerly gave to this genus the name of Arpephorus, which had better be abandoned; it is consequently not inserted in the Tables.

Genus 6. Eutomus, *Newman.*

For the generic characters of this genus, the reader is referred to the Entomological Magazine of the year 1838, No. 22, page 170.

Fabrician Scaritidæ.

Sp. 3. *Testaceus.*—Schonherr still retains this insect among the Scaritidæ; from the description it appears to be an immature specimen, the species being almost invariably black.

Sp. 6, 10, 12.—These insects are all of them deposited in the Museum at Copenhagen, where we may be enabled to glean further intelligence respecting them; apparently they are unknown to most Entomologists.

Sp. 18. *Cursor.*—Not unlikely to turn out an immature variety of a species of Dyschirius.

Sp. 19. *Aralis.*—Probably the type of a new genus, as the thorax is mentioned as being serrated. This insect was collected in the East by the indefatigable Forskahl.

Calosoma, *Fabricius.*

Amongst my remarks on the Linnean Caraboidea will be found a Table of the genera of the Carabidæ. I have only to observe, before entering on the species, that Fabricius included under Calosoma, the Heteromerous genus Adelium, mistaking analogy for affinity. I have only alluded to three species in the Tables; ten are recorded by Fabricius, as to the rest they require no further notice.

Sp. 6. *Sericeum.*—This insect occurs at Hambro' and in Russia, and in various parts of Germany, enjoying an extended range. De Jean makes Cal. Caspium Fischer a variety of the above. It seems doubtful if C. auropunctatum can be considered as the same species. Dr. Fischer adds a sub-genus Callisthenes, which may be regarded as one of Calosomidous genera. Type, C. Panderi.

Sp. 10. *Longicornis.*—This species of Calosoma appears to be unknown to most of the Continental collectors, not having occurred since the days of Fabricius; it was originally described from Sehestedt's Cabinet, on the authority of Schousboe, the locality is Morocco. This species was accidentally omitted in my Tables; it is too late now to alter the press.

Galerita, *Fabricius.*

The passage from the Cicindeloidea to the Caraboidea, by Mr. Kirby's arrangement, is through the family of Agridæ; by Mr. Stephens' method, by the Dryptidæ; and according to the Comte de Castelneau, by means of Odacanthidæ. It is immaterial by which family we proceed, each of them bearing a close affinity to the other. De Jean, in his last Catalogue, proceeds from the Collyridæ to the Odacanthidæ: as this plan accords not with the Fabrician arrangement but with my views, we will first examine the genera of Dryptidæ, and then the remaining allied families.

Dryptidæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Zuphium, *Latreille*	Italy	G. Olens, *Fabricius.*
2. Polistichus, *Bonelli*	England	G. Fasciolatus, *Fabricius.*
3. { Diaphorus, *De Jean* / Pseudaptinus, *Lap.* }	Cayenne	D. Lecontei, *De Jean.*
4. Drypta, *Fabricius*	England	D. Emarginata, *Fabricius.*
5. Trichognathus, *Latreille*	Brazils	T. Marginatus, *Guerin.*
6. Eunostus, *Laporte*	Madagascar	E. Latreillii, *Laporte.*
7. Galerita, *Fabricius*	N. America	G. Americana, *Fabricius.*
8. Schidonychus, *Klug*	Brazils	S. Brasiliensis, *Klug.*
9. Desera, *Leach*	Morocco	Cylindricollis, *Fabricius.*

Such are the genera belonging to the Dryptidæ at present; Fabricius, among the species of his

Galerita, adds two insects belonging to other families, viz. Planetes and Siagona.

Sp. 2. *Attelaboides.*—This species is evidently a Galerita; from examining the specimen in the Banksian Cabinet, I find that it closely approaches in its form Gal. Africana D.J., of which species I am inclined to think it the other sex. It may be stated that the thorax of Attelaboides is similar to Gal. unicolor D. J.; the insect is all black, its elytra are not so broad as the true Africana; instead of adding the locality of India, I suspect it to be from Sierra Leone.

Sp. 3. *Hirta.*—This insect is an Omphra of Leach, a Planetes of MacLeay, and pertains to the family of Helluonidæ; the table of the genera composing it will be found at the end of the Fabrician Caraboidea. At page 215 of the Eleutheratorum there is a singular remark, after stating that Hirta inhabits Tranquebar, the description is given and terminated thus, "Character generis e Gal. Americana desumptus." It may here be remarked that Galerita has never been found in the East Indies; the genus alluded to is evidently one of the Helluonidæ and a Planetes of MacLeay. I think it will be found eventually that all the species of Helluo of the New World differ generally from those of

the Old Continent. The true type of the genus Helluo is H. Costatus Leach, a New Holland insect, differing entirely from other Asiatic species.

Sp. 5, 6, 7, & 8, belong to the Siagonidæ. The two genera belonging to this sub-family are Enceladus of Bonelli, and Siagona of Latreille. It seems, according to Laporte, that Lævigatus, (Ent. Syst. p. 143, No. 86), is an Enceladus, the country of it is probably Cayenne.

Brachinus, *Fabricius.*

The genera belonging to this family, according to the French writers, are the following:

Brachinidæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Pheropsophus, *Solier*	St. Domingo	B. Complanatus, *Fabricius*
2. Brachinus, *Weber*	England	Car. Crepitans, *Linneus.*
3. Aptinus, *Bonelli*	Austria	C. Mutilatus, *Fabricius.*
4. Pseudaptinus, *Laporte*	Brazils	P. Albicornis, *Laporte.*
5. Ictinus, *Laporte*	Cayenne	Ic. Rogerii, *De Jean.*
5. Pachyteles, *Perty*	S. America	P. Striola, *Perty.*
6. Nomius, *Laporte*	East Indies?	N. Græcus, *Laporte.*
7. Physea, *Brulle*	——	P. Testudinea, *Brulle.*
7. Trachelizus, *Solier*	Brazils	T. Rufus, *Solier.*

The four first genera of this family may be considered as true Brachinidæ, the remaining three will eventually no doubt be formed into a sub-family, as they most probably belong to the Ozænidæ.

Pheropsophus, *Solier.*

This genus includes all the gigantic species of Brachinus Fab.; they are chiefly from exotic and tropical countries, black and yellow being the predominating colours; the lateral margins of the wings are strongly elevated.

Brachinus. *Weber.*

The insects belonging to true Brachinus are small in size compared with Pheropsophus; the prevailing colours are red and green; the elytra are rarely so deeply striated as in the latter genus. For references to the four remaining genera consult Audouin et Brulle's Hist. Nat. des Insectes, vol. 1. page 240. L'Histoire Nat. des Anim. Articulés par Laporte de Castelneau, Livaraison 9, and refer also to page 108 of this number.

Fabrician Species.

Sp. 1. *2-maculatus.*—In the tables this insect is given as a Brachinus, it is a Pheropsophus of Solier.

Sp. 2. *Nigripennis.*—Now an Aptinus. De Jean thinks this insect the same as Fastigiatus of Olivier; it is no longer a matter of doubt that

Fastigiatus of Fabricius is the same as Olivier's insect.

Sp. 6. *3-pustulatus.*—This insect cannot be considered an Helluo; the specimens in the Banksian Cabinet are decidedly of the genus Pheropsophus.

In terminating my observations on the Brachinidæ, it may be stated with regard to the habits of these insects, that the European species live chiefly beneath stones, they are gregarious, and live, as far as I have observed, chiefly on the roots of grass. I have known a dead individual remain a long period, untouched by its confederates, living beneath the same stone. Westermann informs us that the larger species in India, allied to Bimaculatus live beneath the bark of Palm trees, probably the whole of them are naturally vegetable feeders; one part deriving nutriment by sucking grasses, the other feeding more particularly on the luscious sap of trees.

Anthia, *Fabricius.*

As the table of the genera belonging to this sub-family has been given in my observations on the Caraboidea of Linnæus, I shall merely remark on the species.

Sp. 4. 6-*guttata*. — The type of the genus Pachymorpha, a new species lately received from the East Indies, will be figured among the new genera at the end of this part of the Manual.

Sp. 12. *Umbraculata*.—This species is little known, from the description of the joints of the antennæ being compressed, it is probable that Brulle derived his notion of the genus Piezia. It is not unlikely that the above species will prove to be his P. axillaris. For an account of the species of Anthia, refer to Lequien's monograph of that genus.

Agra, *Fabricius*.

Mr. Kirby raises Agra to the rank of a family, uniting it with Casnonia; Laporte more suitably ranges the latter genus with Odacanthidæ; he considers Agra as belonging to the Ctenodactylidæ, preferring Mr. Kirby's term on many accounts, but more particularly as Agra is the typical genus of the family. I consider Ctenodactyla in the light of an allied genus.

Agridæ, *Kirby*.

Genera.	*Country.*	*Typical Species.*
1. Agra, *Fabricius*	Cayenne	A. Ænea, *Fabricius*.
2. Ctenodactyla, *De Jean*	Carolina	Ct. Chrevrolatii.

With regard to Agra it may very properly be subdivided into three sections, according as the species are toothed at the extremity of the wings, and into a fourth where the dentation is evanescent. There are about 50 known species in the European cabinets, for an account of them Vid. Etudes Entomologiques, by Laporte, vol. 1. page 45.

Sp. 3. *Attelaboides.* —The Baron De Jean has stated his opinion that this is an American insect. I have received it from the East Indies and can therefore substantiate the authority of Fabricius, he describes it with a remark, " Habitat in India Orientali, Præcedenti affinis videtur, an satis distincta;" the dentation at the extremity of the wings of Agra settles the question. I regard it as the type of a new genus closely allied to Casnonia, and consequently belonging to the Odacanthidæ instead of Agra.

Odacantha, *Fabricius.*

The following genera belong to the Odacanthidæ, Monsieur Laporte de Castelneau is the first person who raised it to the rank of a family.

Odacanthidæ, *Laporte.*

Genera.	*Country.*	*Typical Species.*
1. Casnonia, *Latreille*	N. America	C. Pensylvanica, *Fabricius.*
2. Casnoidea, *Laporte* / Ophionea, *Klug*	East Indies	C. Cyanocephala, *Fabricius.*
3. Lasiocera, *De Jean*	Senegal	L. Nitidula, *De Jean.*
4. Leptotrachelus, *Lat.* / Spheracia, *Say*	N. America	Lep. Dorsalis, *Fabricius.*
5. Rhagocrepis, *Esch.*	Brazils	R. Riedelii, *Eschscholtz.*
6. Stenidia, *Brulle*	Senegal	St. Unicolor, *Brulle.*
7. Stenocheila, *Laporte*	Cayenne	St. Lacordairei, *Laporte.*
8. Odacantha, *Fabricius*	England	Att. Melanurus, *Linneus.*
9. Cordistes, *Latreille* / Calophæna, *Klug*	Cayenne	C. Acuminatus, *Olivier.*
10. Trigonodactyla, *DeJean*	Senegal	T. Terminata, *De Jean.*
11. Miscelus, *Klug* / Leptodactyla, *Brulle*	Java	M. Javanus, *Klug.*

For references to the above genera, consult the works of Laporte, Audouin, and Brulle; as well as those of Latreille, Klug, De Jean, Eschscholtz, and Say.

Sp. 3. 3-*pustulata.* This insect is described as being found in Paris, and was originally in the possession of Mons. Tigny; as it is impossible to believe that any other Odacantha than Melenura is found in the vicinity of Paris, some other insect must have been confounded with it; the only genus that approaches the form is Anthicus; as no size is mentioned, it is impossible to speak with any certainty respecting 3-pustulata.

DRYPTA, *Fabricius.*

As the genera of this family will be found in a former page, it is only necessary to remark on the second species.

SP. 2. *Cylindricollis.*—Now of the genus Desera of Leach. It differs chiefly from Drypta in having the first joint of the antennæ very long, the palpi are proportionably larger, and the last joint is more dilated than in the latter genus. The tropical species are numerous, abounding particularly in the East Indies, the largest species are from Sierra Leone.

ELAPHRUS, *Fabricius.*

The genera composing this family will be found under the Linnean Cicindelidæ with which they were at that time arranged. They are intimately allied to the Pericallidæ; as this sub-family has accidentally been passed by, I now insert it.

PERICALLIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Catascopus, *Kirby*	East Indies	C. Hardwickii, *Kirby.*
2. Pericalus, *MacLeay*	Java	P. Cicindeloides, *M. L.*
3. Dyscolus, *De Jean*	American Isles	D. Memnonius, *De Jean.*
4. Arsinoe, *Laporte*	Madagascar	A. 4-guttatus, *Laporte.*
5. Promecoptera, *D. J.*	East Indies	P. Marginalis, *Wiedeman.*
6. Eurydera, *Laporte*	Madagascar	E. Armata, *Klug.*
7. Thyreopterus, *D. J.*	Senegal	T. Flavosignatus, *De Jean.*
8. Nyctcis, *Laporte*	Madagascar	N. Madagascarensis, *Lap.*
9. Eucheila, *De Jean*	Brazil	E. Flavilabris, *De Jean.*
10. Belcophorus, *Klug*	Madagascar	B. Cyanipennis, *Klug.*

This family may be considered as a receptacle for various doubtful forms, uniting the whole of the Lebiadæ. By Catascopus we pass readily to the Elaphridæ.

Fabrician Elaphridæ.

Sp. 3. *Striatus.*—Now a Bembidium. By some authors this species has been considered a Nothiophilus.—Vid. Schon. page 247. On the authority of Mr. Stephens, I gave it as a Bembidium.

Sp. 5. *Atratus.*—Described originally from Hybner's Cabinet. It is probably an Elaphrus; the remaining species are scarcely worthy of a remark.

Scolytus, *Fabricius.*

Omophron, *Latreille.*

As the Fabrician name was originally applied to a genus of Bostrichidæ, that of Latreille is adopted and is more appropriate. It was intended to express the agreement of authors respecting the arrangement of these singular insects. They unite the terrestrial and aquatic Caraboidea. In form Omophron is like Haliplus; it lives in the same element, and walks with facility at the bottom of rivers, in this respect evincing an affinity to the

Carabidæ; other forms will yet occur connecting it more closely with the *subaquatic* Elaphridæ. I am induced to rank them as a family under the name of

Cyclosomidæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Omophron, *Lat.*	France	C. Limbatum, *Fab.*
2. Cyclosomus, *Lat.*	East Indies	C. Flexuosus, *Fab.*
3. Metrius, *Esch.*	Kamschatka	M. Contractus, *Esch.*

This genus terminates the Carabidæ of Fabricius, as inadvertently I have omitted some families, and purposely passed over others which may tend to connect the Caraboidea together, I now insert them before proceeding to investigate the aquatics.

Ozænidæ, *Hope.*

When I grouped my Carabidæ, after examining Mons. Audouin's tables of genera belonging to the Brachinidæ, I felt convinced that Ozæna and its affinities were decidedly belonging to a distinct family, with this opinion, I am glad to find another individual agrees. In Guerin's Magazine will be found the genera and sub-genera of Ozæna, which are in my opinion allied to Helluo in form, and may have the Brachinating power as well as some of the Cicin-

delidæ. Its affinity with true Brachinus still remains to be ascertained.

Ozænidæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Ozæna, *Olivier*	Cayenne	Oz. Dentipes, *Olivier.*
2. Ictinus, *Laporte*	Cayenne	Ic. Tenebrioides, *Laporte.*
3. Goniotropis, *Gray*	Brazils	G. Brasiliensis, *Gray.*
4. Pseudozæna, *Lap.*	Java	P. Megacephala, *Laporte.*
5. Physea, *Brulle*	Brazils	P. Testudinea, *Laporte.*
5. Trachelyzus, *Solier*	Brazils	T. Rufus, *Solier.*
6. Pachyteles, *Perty*	S. America	P. Striola, *Perty.*
7. Nomius, *Laporte*	Asia Minor	N. Græcus, *Laporte.*
8. Melisodera, *West.*	N. Holland	M. Picipennis, *Westwood.*
9. Basoleia, *Westwood*	Brazils	B. Brasiliensis, *Westwood.*
9. Axinophorus, *Gray*	——	——
9. Catapiesis, *Brulle*	Brazils	C. Nitida, *Brulle.*

The genera composing the Brachinidæ mentioned at page 99 require alteration, as it is too late now to cancel the press, I consider the first four as Brachinidæ. The remainder, with some others, form the above Table.

Heteromorphidæ, *Hope.*

This family ranks under its genera some of the most singular forms to be found in our collections; they appear to be allied to the Helluonidæ.

Heteromorphidæ, *Hope*.

Genera.	*Country.*	*Typical Species.*
1. Heteromorpha, *Kirby* Drepanus, *De Jean* Axinophorus, *Latreille* Pseudomorpha, *Kirby*	Georgia N. America —— ——	H. Excrucians, *Kirby*. D. Lecontei, *De Jean*. —— ——
2. Silphomorpha, *West.*	N. Holland	S. Fallax, *Westwood*.
3. Sphallomorpha, *West.*	N. Holland	Sp. Decipiens, *Westwood*.
4. Adelotopus, *Hope*	N. Holland	A. Gyrinoides, *Hope*.

The references for some of these genera will be found in the Linnean Transactions, Vol. 14. page 101; and in the Entomological Transactions. Vid. New Coleoptera, Vol. 1. Those named by Mr. Westwood will be described in the Fauna Australasiæ.

Morionidæ, *Hope*.

This family appears to unite on one hand the Scaritidæ and Siagonidæ, and on the other the Ditomidæ and Thaliadæ; the following genera belong to the

Morionidæ, *Hope*.

Genera.	*Country.*	*Typical Species.*
1. Morio, *Latreille*	N. America	M. Monilicornis, *Latreille*.
2. Campylocnemis, *West.* Hyperion, *Laporte*.	N. Holland	Sc. Schrotteri, *Schonherr*.
3. Hemiteles, *Brulle*	Madagascar	H. Interruptus, *Brulle*.
4. Homalomorpha, *Brulle*	Cayenne	H. Castanea, *Brulle*.

I am not at all satisfied with this sub-family. The tables of Audouin and Brulle have been adopted, with the exception of the genus Catapiesis, which is apparently an Ozæna. Campylocnemis, in my opinion, ought to be united with the Trigonotomidæ, if it is not considered as an intermediate between Morio and Catadromus. Of the habits of these insects we are altogether ignorant.

HELLUONIDÆ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Helluo, *Bonelli*	N. Holland	H. Costatus, *Bonelli.*
2. Ænigma, *Newman*	N. Holland	Æn. Iris, *Newman.*
3. Planetes, *MacLeay*	East Indies	Pl. 2-maculatus, *MacLeay.*
4. Macrocheilus, *Kirby*	East Indies	Mac. Bensoni, *Kirby.*
5. Omphra, *Leach*	East Indies	Gal. Hirta, *Fabricius.*
6. Pleuracanthus, *Gray*	Brazils	Pl. Sulcipennis, *Gray.*
7. Helluomorpha, *Lap.*	Brazils	Hel. Heros, *Laporte.*

True Helluo belongs to New Holland, the East Indian sub-genera are allied to it; there is a probability that the sexes of some of these genera, when better known, will lead us to a more accurate grouping than can at present be done. Helluomorpha of the New World will eventually be subdivided into several sub-genera. For an account of the characters of Ænigma, Vid. Ent. Mag. fifteenth part, page 449, where the details are published by Mr. Newman.

Pogonidæ, *Kirby.*

Genera.	*Country.*	*Typical Species.*
1. Pogonus, *Ziegler.* / Raptor, *Megerle*	England	P. Burrellii, *Haworth.*
2. Cardiaderus, *D. J.* / Daptus, *Fischer*	Siberia	C. Chloroticus, *Gebler.*
3. Melanotus, *De Jean*	Buenos Ayres	M. Flavipes, *De Jean.*
4. Omphreus, *De Jean*	Montenegro	O. Morio, *Pareyss.*
5. Stenomorphus, *D. J.*	Carthagena	S. Angustatus, *De Jean.*

The next family (which was purposely omitted) is the Trigonotomidæ of Laporte; as no insects mentioned by Fabricius can with any certainty be ascribed to that family, excepting probably some of the exotic Pæcili, I deferred introducing them till the present moment. In my remarks on the Thaliadæ (Feroniadæ olim), I merely alluded to Myas and some few genera which have been classed under the family

Trigonotomidæ, *Laporte.*

Genera.	*Country.*	*Typical Species.*
1. Myas, *Ziegler*	Hungary	M. Chalybeus, *Ziegler.*
2. Lesticus, *De Jean*	Java	L. Janthinus, *De Haan.*
3 Trigonotoma, *D. J.*	Java	O. Viridicollis, *MacLeay.*
4. Catadromus, *M.L.*	Java	C. Tenebrioides, *Olivier.*
5. Euchroa, *Brulle*	Unknown	E. Nitidicollis, *Brulle.*
6. Microcephalus, *D.J.* / Cynthia, *Latreille*	Brazils	M. Depressicollis, *De Jean.*
7. Microcheila, *Brulle*	Madagascar	M. Picea, *Brulle.*
8. Distrigus, *De Jean*	East Indies	D. 2-pustulatus, *Brulle.*
9. Abacetus, *De Jean*	Senegal	D. Crenulatus, *De Jean.*
10. Drimostoma, *Brulle*	Cayenne	D. fuscipes, *Brulle.*

Such are the genera given by M. M. Audouin, Brulle, and Laporte. As to Myas it is quite out of place, nor do I know where at present it should be located. The affinity of Thaliadæ with the present family is seen at once, by connecting Trigonotoma with Pœcilus; the former genus may be regarded in the East as representing in those countries, what Pœcilus does in our northern climes. The two remaining genera which have been omitted are Colpodes and Mormolyce. The *former* is closely allied to Anchomenus: for a figure refer to the Annulosa Javanica. As to the *latter* my opinion has formerly been stated in my observations on the Indian Fauna, published by Dr. Royle; instead of placing it with the Sphrodidæ, as Latreille has done, I locate it near Agra. If we take away the greatly dilated wings, in thorax and in form it resembles that genus; moreover I believe it to be a vegetable feeder, and that it lives under bark of trees, has, I believe, already been ascertained.

In concluding my observations on the Caraboidea I am willing to allow that the group, as to variety of form, is one of the most interesting that can engage our attention. In numbers they are inferior to the Lamellicorns, in elegance they cannot be compared with the Cicindelidæ, and in beauty and

splendour they must yield to the rich metallic Buprestidæ. If we look to more important ends, viz. the actual benefit derived from groups of insects, and then contrast the Caraboidea with the Lamellicorns, Entomologists, at least, if not others, will allow the superiority of the latter. As to the grouping of the families, I by no means consider them satisfactory; it has been my endeavour to place before the reader what has been done, and, as far as the extent of my private library goes, the modern genera have been weeded out of many volumes, and incorporated in this Manual. If some of the various sub-divisions turn out to be in accordance with nature, my time has not altogether been thrown away. If others prove erroneous, and these errors should induce others to pay attention to isolated groups, and reconstruct them more accurately, I shall equally also not have written in vain.

DYTISCUS, Linneus.

DYTICUS, Geoffroy.

HYDROPHILIDÆ and DYTICIDÆ, Leach.

Linnean Species.	*Country.*	*Genera of Authors.*
1. Piceus	England	Hydröus, *Linneus, MSS.*
2. Caraboides	England	Hydrophilus, *Auctorum.*
3. Scarabæoides	England	Hydrobius, *Leach.*
4. Fuscipes	England	Hydrobius, *Leach.*
5. Luridus	England	Berosus, *Germar.*
6. Latissimus	Germany	Dyticus, *Geoffroy.*
7. Marginalis	England	Dyticus, *Geoffroy.*
8. Semistriatus	England	———
9. Striatus	England	Colymbetes, *Clairville.*
10. Fuscus	England	Colymbetes, *Clairville.*
11. Cinereus	England	Graphoderus, *Eschscholtz.*
12. Sticticus	Barbary	Eunectes, *Erichson.*
13. Sulcatus	England	Acilius, *Leach.*
14. Erythrocephalus	England	Hydroporus, *Clairville.*
15. Maculatus	England	Necticus, *Hope.*
16. Ferrugineus	England	Haliplus, *Latreille.*
17. Bipustulatus	England	Necticus, *Hope.*
18. Ovatus	England	Hyphidrus, *Illiger.*
19. Palustris	England	Hydroporus, *Clairville.*
20. Uliginosus	England	Necticus, *Hope.*
21. Bimaculatus	France	Phaleria, *Latreille.*
22. Granularis	England	Hydroporus, *Clairville.*
23. Minutus	England	Laccophilus, *Leach.*

GYRINUS, Linneus.

1. Natator	England	Gyrinus, *Auctorum.*
2. Americanus	N. America	Cyclous, *Eschscholtz.*

HYDROPHILUS, Fabricius.
HYDROPHILIDÆ, Leach.

Fabrician Species.	*Country.*	*Genera of Authors.*
1. Emarginatus	England	Spercheus, *Fabricius.*
2. Piceus	England	Hydröus, *Linneus.*
3. Ater	S. America	———
4. Olivaceus	Coromandel	———
5. Caraboides	England	Hydrophilus, *Fab.*
6. Ellipticus	Guinea	Hydrophilus?
7. Lateralis	S. America	Tropisternus, *Solier.*
8. Abbreviatus	S. America	Hydröus? *Linneus.*
9. Rufipes	Sumatra	Hydrophilus, *Leach.*
10. Scarabæoides	England	Hydrobius, *Leach.*
11. Picipes	England	———
12. Orbicularis	Germany	Cælostoma, *Brulle.*
13. Subrotundus	America	Hydrobius?
14. Bicolor	England	Philhydrus, *Solier.*
15. Collaris	S. America	Hydrophilus, *Fab.*
16. Testaceus	England	Hydrobius, *Leach?*
17. Undatus	S. America	Berosus, *Leach.*
18. Erythrocephalus	Europe ?	Hydrobius ? *Leach.*
19. Hæmorrhoidalis	Germany	Cercyon, *Leach.*
20. Marginellus	Germany	Philhydrus, *Solier?*
21. Attenuatus	East Indies	Hydrobius, *Leach.*
22. Obscurus	England	Cercyon, *Leach.*
23. Luridus	England	Berosus, *Germar.*
24. Melanocephalus	England	Philhydrus, *Solier.*
25. Griseus	Saxony	Hydrobius, *Leach.*
26. Striatulus	Germany	Laccobius, *Erichson.*
27. 2-punctatus	England	———
28. Minutus	England	Philhydrus, *Solier.*
29. Pygmæus	American Isles	Hydrobius? *Leach.*
30. Nigriceps	East Indies	Hydrobius? *Leach.*
31. Truncatellus	Denmark	Limnebius, *Leach.*

(HYDRACHNA,) Fabricius.

1. Hermanni	England	Pælobius, *Schonherr.*
2. Gibba	England	Hyphidrus, *Illiger.*
3. Ovalis	England	Hyphidrus, *Illiger.*
4. Scripta	East Indies	Hyphidrus, *Illiger.*

DYTISCUS, Fabricius.
DYTICIDÆ, Leach.
DYTICOIDEA, Hope.

Fabrician Species.	*Country.*	*Genera of Authors.*
1. Latissimus	Germany	Dyticus, *Geoffroy.*
2. Limbatus	East Indies	Cybister, *Curtis.*
3. Marginalis	England	Dyticus, *Geoffroy.*
4. Circumflexus	Tangiers	———
5. Punctulatus	England	———
6. Immarginatus	Senegal	Cybister, *Curtis.*
7. Rœselii	France	———
8. Atratus	Isles of the Pacific	Cybister?
9. Costalis	Surinam	Cybister, *Curtis.*
10. Lateralis	Tranquebar	Cybister, *Curtis.*
11. Lævigatus	S. America	———
12. Latus	S. America	Cybister?
13. Ruficollis	Siam	Hydaticus, *Leach.*
14. Sulcatus	England	Acilius, *Leach.*
15. Fasciatus	East Indies	Hydaticus, *Leach.*
16. Striatus	England	Colymbetes, *Clairville.*
17. Fuscus	England	Colymbetes, *Clairville.*
18. Lanio	Madeira	Meladema, *Laporte.*
19. Cicur	P. B. S.	Colymbetes, *Clairville.*
20. Vittatus	East Indies	Graphoderus, *Eschscholtz.*
21. Cinereus	Germany	Acilius, *Leach.*
22. Zonatus	Germany	Graphoderus, *Eschscholtz.*
23. Unifasciatus	Guinea	Eunectes? *Erichson.*
24. Sticticus	S. Africa	Eunectes, *Erichson.*
25. Griseus	East Indies	———
26. 10-punctatus	New Holland	Colymbetes, *Clairville.*
27. Fuliginosus	Germany	Ilybius, *Erichson.*
28. Carbonarius	England	Necticus, *Hope.*
29. Bipustulatus	Holland	Necticus, *Hope.*
30. Cinctus	America	Colymbetes?
31. 2-punctatus	Germany	Necticus, *Hope.*
32. Fenestratus	England	Ilybius, *Erichson.*
33. Ater	England	Ilybius, *Erichson.*
34. Lacustris	Germany	Ilybius, *Erichson.*
35. Hybneri	England	Hydaticus, *Leach.*

Fabrician Species.	*Country.*	*Genera of Authors.*
36. Nitidus	Germany	Necticus ? *Hope.*
37. Stagnalis	England	Hydaticus, *Leach.*
38. Transversalis	England	Hydaticus, *Leach.*
39. Calidus	S. America	Necticus, *Hope?*
40. Abbreviatus	England	Necticus, *Hope.*
41. Ulliginosus	Germany	Necticus, *Hope.*
42. Paludosus	England	Necticus, *Hope.*
43. Irroratus	America	Necticus ?
44. Agilis	England	Rantus, *Boisduval.*
45. Maculatus	England	Necticus, *Hope.*
46. Brunneus	Tangiers	Necticus, *Hope.*
47. Erythrocephalus	England	Hydroporus, *Clairville.*
48. Varius	Sumatra	Necticus ? *Hope.*
49. Interrogatus	Carolina	Coptotomus, *Say.*
50. Notatus	England	Rantus, *Boisduval.*
51. Adspersus	England	Rantus, *Boisduval.*
52. Hæmorrhoidalis	Germany	Rantus?
53. Bicolor	Guinea	Colymbetes? *Clairville.*
54. Posticatus	American Isles	Copelatus, *Erichson.*
55. Planus	England	Hydroporus, *Clairville.*
56. Depressus	Switzerland	———
57. Dorsalis	England	———
58. 6-pustulatus	England	———
59. Palustris	England	———
60. Ovatus	Europe	———
61. Picipes	Germany	———
62. Lituratus	Italy	———
63. Signatus	Patagonia	Rantus, *Boisduval?*
64. 12-pustulatus	England	Hydroporus, *Clairville.*
65. 8-pustulatus	Switzerland	Hydroporus ?
66. Halensis	Germany	Hydroporus, *Clairville.*
67. Granularis	England	———
68. Confluens	England	Hygrotus, *Stephens.*
69. Obliquus	Kiel	Haliplus, *Latreille.*
70. Fulvus	England	Haliplus, *Latreille.*
71. Impressus	Paris	Haliplus, *Latreille.*
72. Semi-punctatus	Europe	Noterus, *Clairville.*
73. Crux	Italy	Hygrotus, *Stephens?*
74. Arcuatus	Germany	Hygrotus, *Stephens.*
75. Geminus	Saxony	Hydroporus, *Clairville.*
76. Lineatus	Germany	———

Fabrician Species.	*Country.*	*Genera of Authors.*
77. Inæqualis	England	Hygrotus, *Stephens.*
78. Minutus	England	Laccophilus, *Leach.*
79. Pygmæus	Denmark	Hydroporus, *Clairville.*
80. Reticulatus	England	Hygrotus, *Stephens.*
81. Crassicornis	Germany	Noterus, *Clairville.*
82. Flavipes	England	Hydroporus, *Clairville.*
83. Pictus	Germany	Hygrotus, *Stephens.*
84. Nigrita	England	Hydroporus, *Clairville.*
85. Pusillus	Italy	Hydroporus, *Clairville.*
86. Parvulus	Denmark	Hygrotus, *Stephens?*

GYRINUS of Linneus and Fabricius.

GYRINIDÆ, Leach.

1. Natator	England	Gyrinus *of Authors.*
2. Bicolor	Switzerland	———
3. Australis	New Holland	Enhydrus, *Laporte.*
4. Americanus	N. America	———
5. Micans	Guinea	Enhydrus?
6. Premorsus	Sierra Leone	Dineutes, *MacLeay.*
7. Hastatus	American Isles	Dineutes?
8. Spinosus	Coromandel	Dineutes, *MacLeay.*
9. Striatus	Barbary	Gyrinus *of Authors.*
10. Minutus	England	———
11. Nitidulus	East Indies	———
12. Strigosus	New Holland	Gyrinus?
13. Rufipes	New Holland	Gyrinus, *Linneus.*
14. Villosus	Germany	Potamobius, *Leach.*

ELOPHORUS, Fabricius.

HELOPHORIDÆ, Leach.

1. Aquaticus	England	Helophorus *of Authors.*
2. Nubilus	Germany	———
3. Elongatus	England	Hydrochus, *Germar.*
4. Humeralis	Germany	Helophorus?
5. Flavipes	Switzerland	Helophorus, *of Authors.*
6. Crenatus	England	Hydrochus, *Germar.*
7. Pygmæus	England	Ochthebius, *Leach.*
8. Minimus	England	Hydræna, *Kugellan.*

PARNUS, Fabricius.

Fabrician Species.	*Country.*	*Genera of Authors.*
1. Prolifecornis	England	Parnus, *Fabricius.*
2. Acuminatus	Saxony	Potamophilus, *Germar.*
3. Obscurus	Germany	Parnus, *Fabricius.*

HETEROCERUS, Fabricius.

1. Marginatus	England	Heterocerus *of Authors.*
2. Dubius	Tranquebar	Heterocerus ?
3. Lævigatus	Germany	Heterocerus, *of Authors.*

SPHÆRIDIUM, Fabricius.

1. Scarabæoides	England	Sphæridium *of Authors.*
2. Lunatum	Germany	———
3. 2-pustulatum	Denmark	———
4. Marginatum	Saxony	———
5. Glabratum	Madeira	Sphæridium ?
6. Abdominale	American Isles	Cyclonotum, *Erichson.*
7. 5-maculatum	East Indies	Sphæridium, *Fabricius.*
8. Dytiscoides	St. Helena	Hydrobius ?
9. Fasciculare	England	Nosodendron, *Latreille.*
10. Colon	Sweden	Strongylus, *Herbst.*
11. Globus	Paris	Agathidium, *Illiger.*
12. Luteum	Sweden	Campta, *Kirby.*
13. Obscurum	S. America	Cercyon, *Leach* ?
14. Rufipes	S. America	———
15. Anale	S. America	———
16. Nitidulum	S. America	———
17. Flavum	S. America	———
18. Atomarium	England	Cercyon, *Leach.*
19. Melanocephalum	Europe	———
20. Lugubre	Paris	———
21. Stercoreum	Germany	Cercyon ?
22. Hæmorrhoidale	England	Cercyon, *Leach.*
23. Flavipes	England	———
24. Unipunctatum	England	———

Fabrician Species.	*Country.*	*Genera of Authors.*
25. Limbatum	Germany	Hydrobius, *Leach.*
26. Ruficolle	Saxony	———
27. Fimetarium	Europe	Phalacrus, *Paykull?*
28. Testaceum	American Isles	Cercyon?
29. Æneum	Germany	Phalacrus, *Paykull.*
30. Minutum	England	Cercyon, *Leach.*
31. Pulicarium	France	Catheretes, *Herbst.*
32. Wintheriæ	Unknown	Unknown.

ANISOTOMA, Fabricius.

1. Ferruginea	Denmark	Anisotoma, *Fabricius.*
2. Humeralis	Styria	———
3. Bicolor	Saxony	Phalacrus, *Paykull.*
4. Nigripennis	Germany	Agathidium, *Illiger.*
5. Seminulum	England	Agathidium.

REMARKS AND OBSERVATIONS

ON THE

LINNEAN AQUATIC COLEOPTERA.

Linneus and Fabricius very properly threw together the Aquatic groups, and certainly did not in the present instance so outrageously violate the Natural System, as later writers have subsequently done by their artificial arrangements. Fabricius, by means of the genus Scolytus, (now the Omophron of Latreille) passes from the Caraboidea to the Aquatics, and if we regard the habits of that genus, and compare the form of it with Haliplus or even with Pælobius, we shall with difficulty find another genus, which so satisfactorily connects the above groups. Other links might be mentioned, which will be found in the various opinions recorded by Entomologists, but the above is sufficient for our purpose, and we therefore proceed to remark on the two grand

divisions into which the Aquatic Beetles may be divided; namely, the Hydradephaga of MacLeay, and the Rypophaga of Stephens. The Gyronecha of Kirby, comprising under that denomination the Whirl Beetles, or Waltzing Beetles, (Gyrinidæ, Leach) appear to be altogether a distinct group, and will be treated as such; instead of therefore dilating at present on the Aquatics generally, it will be better to remark on them separately as they occur in the respective works of Linneus and Fabricius, merely premising that out of twenty-three species published by the former writer, under the term of Dytiscus, these have been subdivided by later authors into fifteen genera.

Dytiscus, *Linneus.*

Sp. 1. *Piceus.*—Now an Hydrous of Leach, and of the family of the Hydrophilidæ of the same Author; the following genera belong to it, viz.

PHILYDRIDA, *MacLeay.*
HYDROPHILIDÆ, *Leach.*
HYDROPHILOIDEA, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Hydrous, *Linneus*	England	D. Piceus, *Linneus.*
2. Hydrocharis, *Lat.* / Hydrophilus *of Authors*	England	D. Caraboides, *Linn.*
3. Philhydrus, *Solier*	Europe	Hyd. bicolor, *Fab.*
4. Hydrobius, *Leach*	England	Hyd. fuscipes, *Linneus.*
5. Tropisternus, *Solier*	Mexico	Hyd. lateralis, *Fab.*
6. Sternolophus, *Solier*	Egypt	Hyd. Rufipes, *Solier.*
7. Volvulus, *Brulle*	Mauritius	Hyd. inflatus, *Brulle.*
8. Berosus, *Leach*	England	Dyt. luridus, *Linneus.*
9. Enoplurus, *Hope*	East Indies	Ber. Orientalis, *Hope.*
10. Spercheus, *Fabricius*	England	Hyd. emarginatus, *Fab.*
11. Limnebius, *Leach*	England	Hyd. truncatellus, *Fab.*
12. Chætarthria, *Water.* / Cyllidium, *Erichson*	England	Hyd. Seminulum, *Paykull.*

1. HYDROUS, *Linneus.*

The species of this genus are much more numerous than Entomologists are aware of, and from the notes contained in my Journal I find, at least, seventy species have fallen under my notice; they seem to be naturally divisible into three sub-genera, 1st. into true Hydrous, which has the wings rounded at the apex and spineless. 2nd. Those species which have the sutural apex of the elytra more or less spined, to which I give the name of

Mesocanthicus, from μεσος and ακανθικος, spinosus, and the last sub-genus has the apex of the elytra conspicuously marked by four spines, and is consequently named Tetracanthicus. Three species in my collection are from Tropical Africa, it will also probably occur in the warmer parts of Asia. The two former genera seem widely dispersed throughout the world, inhabiting both the Old and New Continent. I possess among my aquatics three species of Hydrous belonging to Australia. The above insects weave a sort of coccoon, in which the ova are deposited; as to substance it appears to combine the paper of the Wasp, with the silk of the Bombyx, when submerged beneath the water for many hours the coccoon remains nearly unaltered by the moisture, a secretion produced by the insect probably resists the action of water upon it.

2. Hydrophilus *of Authors.*

Sp. 2. *Caraboides.*—For figures of the Coccoon and Larvæ of Hydrous and Hydrophilus, the student may consult Rosel's Insect. Belust. Vol. 2. Tab. 41; and also Mr. Westwood's Introduction to the Modern Classification of Insects, Vid. Part 3. p. 121. fig. 8, &c.

3. Philhydrus, *Solier.*

For the generic characters of the above genus, the reader is referred to M. M. Audouin and Brulle's Hist. Nat. des Insectes, Vol. 2. p. 276. Syst. Eleuth. p. 252. and also to Gyllenhall's Insecta Suecica.

4. Hydrobius, *Leach.*

For an account of the species peculiar to England, the student may consult with advantage the Illustrations of British Entomology by Mr. Stephens, as well as the writings of Marsham and Dr. Leach. By Fabricius, Solier, Audouin and Brulle, some exotics are also mentioned.

5. Tropisternus, *Solier.*

The insects belonging to the above genus seem peculiar to the New World. Vid. Solier Annales de la Soc. Ent. de France.

6. Sternolophus, *Solier.*

This form appears, as far as is known at present, to be peculiar to Africa, occurring in Egypt, Nubia, and Senegal. Vid. Annales de la Soc. Entom. de France, t. 3. p. 311.

7. Volvulus, *Brulle.*

I suggest the adoption of a new term, instead of Volvulus, as Latin generic names ought not to be adopted. This exotic form is from the Island of Mauritius, a second species has occurred at Ceylon.

Vid. Audouin and Brulle, Vol. 2. p. 282.

8. Berosus, *Leach.*

The species of Berosus are numerous, those which have the wings at the apex armed with spines, I have detached under the name of Enoplurus. For references consult the works of Messrs. Stephens and Curtis, and the Annulosa Javanica, by Mr. MacLeay, page 35.

9. Enoplurus, *Hope.*

In my collection there are several species which have the extremity of the wings armed with spines, they seem to be widely spread, occurring in Africa, Asia, and Europe. One species was discovered by Mr. Rudd at Lymington in Hampshire, and is probably the same as Berosus spinosus of Ahrens.

10. Spercheus, *Fabricius.*

M. M. Audouin and Brulle place this genus along with the Helophoridæ. I am, however, still inclined to rank it with the Hydrophilidæ; and of this opinion Mr. MacLeay appears to be, as well as Mr. Stephens. By the former writer a second species, named Sp. platycephalus, is described from Java, it seems however to deviate from the type; a third has fallen under my inspection from Sierra Leone. Since writing the above, Mr. Westwood, I find, considers this genus as the connecting link between the Hydrophilidæ and Helophoridæ, Vid. part 3, page 122, of the Introduction to the Modern Classification of Insects, for further observations on these singularly formed aquatics.

11. Limnebius, *Leach.*

This genus was established by Dr. Leach to include several minute Hydrophilidæ; they approach in form and habits some of the Hydrobii as well as the Helophoridæ. There are nine species recorded by Mr. Stephens in his Illustrations of British Entomology.

12. Chætarthria, *Waterhouse.*

Hydrophilus Seminulum of Paykull is the type of this genus, which was first separated from Hydrobius by the above writer; Erichson, in the Kafer den Mark Brandenburg, has given the generic name of Cyllidium to the same species; the latter name of course falls. Vid. page 211 of the last quoted work for the generic details, &c. &c.

LINNEAN AQUATICS—*continued.*

Sp. 6. *Latissimus.*—Now a Dyticus, and the type of the genus. The following families, according to my views, belong to the Dyticoidea, viz. Haliplidæ, Dyticidæ, and Gyrinidæ; the genera belonging to the family of Dyticidæ are as follows:

Dyticidæ, *Leach.*

Genera.	*Country.*	*Typical Species.*
1. Dyticus, *Linneus*	France	D. Latissimus, *Linneus.*
2. Leionotus, *Kirby*	England	D. Conformis, *Stephens.*
3. Cybister, *Curtis*	England	Roeselii, *Fabricius.*
3. Trogus, *Leach*	——	——
3. Trochalus, *Eschscholtz*	——	——
4. Hyderodes, *Hope*	New Holland	Hyd. Shuckardii, *Hope.*
5. Acilius, *Leach*	England	Dyt. sulcatus, *Linneus.*
6. Eunectes, *Erichson*	——	——
6. Nogrus, *Eschscholtz*	East Indies	Dyt. griseus, *Fabricius.*
7. Graphoderus, *Esch.*	France	D. Cinereus. *Linneus.*
8. Hydaticus, *Leach*	England	Hybneri, *Fabricius.*
9. Agabus, *Leach*	England	D. Serricornis, *Paykull.*
10. Ilybius, *Erichson*	France	D. Ater, *Fabricius.*
11. Melademe, *Laporte*	Gallia Merid.	D. Coriacea, *Hoffmansegg.*
12. Rantus, *Eschscholtz*	England	D. Pulverosus, *Knoch.*
13. Liopterus, *Eschscholtz*	England	D. Oblongus, *Illiger.*
14. Colymbetes, *Clairville*	England	D. Striatus, *Linneus.*
15. Necticus, *Hope*	England	D. Bipustulatus, *Linneus.*
16. Copelatus, *Erichson*	Brazils	D. Posticatus, *Fabricius.*

To the above sixteen genera, others might be added on investigating the tropical species, which have been comparatively neglected. The genus Thermonectus of Eschscholtz seems peculiar to the New World, as the characters are unpublished, and the type of the genus is only a manuscript name, I consequently pass it over. The remarks on the above genera will appear under the different names as they occur in the Fabrician Tables.

LINNEAN SPECIES—*continued.*

Sp. 16. *Ferrugineus.*—Now an Haliplus, and one of the genera composing the family of

Haliplidæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Haliplus, *Latrielle*	England	Dyt. elevatus, *Panzer.*
2. Cnemidotus, *Erichson*	Austria	Dyt. Cæsus, *Duftschmid.*
3. { Pælobius, *Schon.* / Hygrobia, *Clairville*	England / ——	Dyt. Hermanni, *Linneus.* / ——
4. Hyphidrus, *Illiger*	England	Dyt. Ovatus, *Linneus.*
5. Hygrotus, *Stephens*	England	Hyd. Fluviatilis, *Leach.*
6. Hydroporus, *Clairville*	France	Dyt. 12-pustulatus, *Fab.*
7. Noterus, *Clairville*	Switzerland	Dyt. Crassicornis, *Fab.*
8. Laccophilus, *Leach*	England	Dyt. Minutus, *Linneus.*
9. Hydroporomorpha, *Bab.*	Rio Janeiro	H. parallelus, *Babington.*
10. Anodocheilus, *Bab.*	Rio Janeiro	A. Maculatus, *Babington.*
11. Desmopachrius, *Bab.*	Rio Janeiro	D. Nitidus, *Babington.*

The three last genera will appear in the Entomological Transactions of London. The types are deposited in the collection of that Society by the liberality of Mr. Charles Darwin of Shrewsbury. In a paper read before the Entomological Society of London (now on the eve of publication), the details will be given at length by Mr. Babington of Cambridge.

Sp. 18. *Ovatus.*—Now of the genus Hyphidrus of Illiger; the species are few in number, not more than ten appearing in our European Cabinets; hitherto I believe it has not been found in the New World, it may however be expected to occur there; its geographical range extends over Europe and Asia, and some of the African isles. I am not aware of any known species having been obtained from the African Continent.

Sp. 21. *Bimaculatus.*—This insect, I find, on reference to the Linnean Cabinet, is only a variety of Phaleria Cadaverina.

Gyrinus, *Linneus.*

As only two species are recorded in the Systema Naturæ of Linneus. I shall defer my remarks on the genera and species till we come to the Fabrician Gyrinidæ.

REMARKS

ON THE

FABRICIAN AQUATICS.

HYDROPHILUS, *Fabricius.*

HYDROPHILDÆ, *Leach.*

HYDROPHILOIDEA, *Hope.*

SP. 1. *Emarginatus.*—Now of the genus Spercheus Fab. For the Table of Genera belonging to the Hydrophilidæ refer to a former page, at the commencement of the Linnean Aquatics, the genus Spercheus, by M. M. Audouin and Brulle, is considered as belonging properly to the Helophoridæ. I retain it, however, among the Hydrophilidæ, as I never found it out of water, and have my doubts if it can exist long out of that element, which is no uncommon case with some of the species of Helophoridæ. Mr. Westwood is of opinion that it may be considered as a connecting link of the two families.

SP. 4. *Caraboides.* — Now an Hydrophilus of Authors. By some writers the term Hydrocharus is applied to it. If we retain Hydrous as a

generic name for the larger species of the Hydrophilidæ, it is better not to abandon the Fabrician name of Hydrophilus. The grand difference between Hydrous and Hydrophilus is the prosternum, which in the former is produced, in the latter it is not so. With respect to the species named Caraboides, it is not unusual to meet with it in a crippled state. I possess in my collection a remarkable monstrosity, and have occasionally seen others; when recently captured they smell like Spanish liquorice.

Sp. 5. *Ellipticus.*—As I am unacquainted with this species, I give it as an Hydrophilus with a doubt, as it is compared by Fabricius with Caraboides.

Sp. 7. *Abbreviatus.*—Evidently not a Tropisternus, as the sternum is abbreviated.

Sp. 8. *Rufipes.*—This species has a very wide range of country, extending nearly over the Continent of Asia.

Sp. 11. *Orbicularis.*—Now a Cælostoma of Brulle, and one of the Sphæridiidæ. Occasionally this species of Hydrobius has been confounded with Cercyon, most of which have the elytra striated; the above is an exception to the general rule.

Sp. 12. *Subrotundus.*—Originally described from

the collection of Dr. Pflug, from America; I give it as an Hydrobius. I can add no information of what became of the above collection.

Sp. 13. *Bicolor.*—Now a Philhydrus of Solier. For the characters of the genus refer to the Hist. Nat. des Insectes par Audouin et Brulle, vid. vol. 2. p. 276.

Sp. 17. *Erythrocephalus.*—Described originally from Lund's Cabinet; no locality is given, although it is most likely to be an European species of the genus Hydrobius. Erichson thinks it is only a dark variety of Hydrobius griseus, vide p. 211. Die Käfer der Mark Brandenburg.

Sp. 18. *Hæmorrhoidalis.*—Now a Cercyon of Dr. Leach. Mr. Stephens has described in his Illustrations of British Entomology sixty-one species; the Baron De Jean mentions in his last Catalogue but twenty, including exotics of the Old and New World. This may be taken as an example that the Entomologists of England are not behind their Continental neighbours in research or assiduity.

Sp. 27. *Minutus.*—Now an Hydrobius, and probably only a variety of Hyd. bipunctatus.

Sp. 30. *Truncatellus.*—Now a Limnebius of Leach. Apparently the Chrysomela minuta Linn. described in the Fauna Suecica, is a Limnebius.

Mr. Stephens thinks the Limniidæ ought to rank as a family. The British species are ten in number, and seem widely spread throughout Europe. Monsieur Brulle mentions their occurrence also in Asia Minor.

DYTICUS, *Fabricius.*
DYTICIDÆ, *Leach.*
DYTICOIDEA, *Hope.*

SP. 1. *Latissimus.*—The type of the genus Dyticus. Linneus in his Systema Naturæ, including under one head the Dyticidæ and Hydrophilidæ, records only twenty-three species, whereas, at present, in true Dyticus alone, we have nearly the same number. The genus, according to the Baron De Jean's Catalogue, appears to be confined to the northern regions of the Old and New World; it occurs however in Africa, and on the confines of Asia, and may be expected to occur in the Himalaya generally.

SP. 2. *Limbatus.*—Now a Cybister of Curtis. Dr. Leach gave the name of Trogus to these species of Aquatic Beetles, a name which had previously been applied to some of the Hymenoptera. (Vid. Panz. Krit. Rev. 2. 80.) it is therefore abandoned. Dr. Eschscholtz has since applied to it that of Tro-

chalus. Of the two latter authors, the claim of priority is with Mr. Curtis, and his name should be retained, as that of Dr. Leach cannot be sustained. The species of Cybister are more numerous than those of true Dyticus; they are generally robust, and are the most powerful insects of the Aquatic Adephaga; the destruction they cause among the tropical fishes, as described to me by Indian travellers, is wonderful; they are reported to destroy ten times the quantity they can possibly consume, and may justly be considered amongst the most ravenous of insects.

Sp. 3. *Marginalis.*—Of this species of Dyticus I have seen three remarkable monstrosities; the first was deprived of its anterior tibiæ and tarsi, and had only the rudiments of legs; a second specimen had three anterior right legs. The third monstrosity, is an Hermaphrodite, which I captured at Netley in Shropshire; it has lately been figured by Mr. Westwood, and will probably be published in a future number of the Entomological Transactions.

Sp. 8. *Atratus.*—Probably a Cybister. It was captured by Billiardiere, at some of the islands of the Pacific Ocean.

Sp. 9. *Costalis.*—This species is sometimes dread-

fully afflicted wih Acariasis. A specimen formerly in my possession, was covered with hundreds of an Acarus unknown to me.

Sp. 13. *Ruficollis.*—From the specimen in the Banksian Collection, I am inclined to consider this species an Hydaticus. Luconicus of Dr. Eschscholtz is closely allied to it, if not the self-same species.

Sp. 16. *Striatus.*—The typical species of Colymbetes, according to Clairville. The name of Cymatopterus has been given to it by Dr. Eschscholtz; the former should be retained on the ground of priority.

Sp. 18. *Lanio.*—Now of the genus Meladema Laporte. For the generic characters, consult les Etudes Entomologiques, Liv. 2. p. 98. Dr. Eschscholtz has used the term of Scutopterus for the same sub-genus.

Sp. 19. *Cicur.*—This species was erroneously introduced into our British Fauna by an optician who received collections from the Cape of Good Hope. As it closely resembles Col. striatus, it probably may have been taken for an English insect.

Sp. 20. *Vittatus.*—Now a Graphoderus of Eschscholtz. For the generic characters, vide Die

Kafer der Mark Brandenburg, by Erichson, vol. 1. page 142. The genus Hydaticus, has very properly been divided into three sections.

Sp. 25. *Griseus.*—Type of the genus Eunectes of Erichson, which has also been named Nogrus by Eschscholtz.

Sp. 26. 10-*punctatus.*—Still a Colymbetes. I have lately received five other species from New Holland, which will appear in my forthcoming Fauna Australasiæ.

Sp. 29. *Bipustulatus.*—Now the type of my genus Necticus, from *νηκτικος* natabilis qui natare potest. I have here been compelled to change Erichson's generic name, as I consider Striatus the true type of Colymbetes, and Serricornis that of Agabus of Leach. As both these terms are previously used, it may prevent further confusion by adopting another name. It appears also that the Baron De Jean and Erichson apply their respective generic names to the same species. It may here be added, that Necticus still requires further sub-division—till we are better acquainted, however, with the sexes of several of them, the above name is attached to those species which are allied to Dyt. 2-pustulatus Lin. and Dyt. Carbonarius Fab.

Sp. 30. *Cinctus.*—I give this as a Colymbetes,

with a doubt, being unable to obtain any information concerning it. Fabricius described it from Manduit's Collection; as to what became of that collection, I am equally ignorant.

Sp. 30. *Ater.*—Now an Ilybius of Erichson, and the type of the genus, all the species belonging to it are remarkable for their convexity.

Sp. 36. *Nitidus.*—A Necticus mihi, and is probably the same insect met with in German collections, under the name of Col. Nitens, which I regard only as a dark variety of Col. Sturmii.

Sp. 48. *Varius.*—Probably a Necticus of Hope. Mr. MacLeay informs us in the Annulosa Javanica, that Fabricius in his Ent. Syst., described an insect which he found in the Banksian Cabinet under the name of D. varius. With it, he afterwards confounded a Sumatran species which he saw in Daldorff's Collection, and then he altered the original specific character to suit the new insect. The name Varius, therefore, Mr. MacLeay has changed to that of Fabricii.

Sp. 49. *Interrogatus.*—Now of the genus Coptotomus of Say. The characters will be found in Say's description of new species of North American Insects, page 29, and also in vol. 2. of the Hist. Nat. des Insectes par Audouin and Brulle, p. 211.

Sp. 52. *Hæmorrhoidalis.*—Probably a Rantus of Eschscholtz. This opinion seems confirmed by Erichson, who regards the above species only as a variety of Rantus agilis.

Sp. 53. *Bicolor.*—I am inclined to regard this insect as a species of Colymbetes : it was originally described from Isert's Cabinet. Its locality is Guinea.

Sp. 54. *Posticatus.*—Now of the genus Copelatus of Erichson. These insects have the elytra deeply striated, which at once marks the character of the above genus. The major part of the species are peculiar to the New World ; some, however, are from the Old Continent, inhabiting Asia as well as Africa.

Sp. 61. *Bicipes.*—Evidently a typographical error, it should have been printed Picipes.

Sp. 63. *Signatus.*—This insect is closely allied to Dyticus agilis of Fabricius, which is now a Rantus of Eschscholtz.

Sp. 65. 8-*pustulatus.*—Schonherr in his Synonymia Insectorum, places this insect under his doubtful species. From the description of Fabricius, I regard it as an Hydroporus.

Sp. 68. *Confluens.*—Now an Hygrotus of Stephens. Vide Illustrations of Entomology for the generic

details. The type of the genus is Hyd. flaviatilis Leach.

Sp. 72. *Semipunctatus.*—Now a Noterus of Clairville. Erichson regards Noterus sparsus of Marsham as the same insect; the locality of the East Indies, therefore, is changed to Europe.

Sp. 74. *Arcuatus.*—This species is only a variety of Hygrotus pictus.

Sp. 79. *Pygmæus.*—According to Erichson this insect is only a variety of Hyd. lineatus. Vid. Kafer Brand. page 79.

Sp. 85. *Pusillus.*—This insect is evidently only a variety of Hydroporus geminus.

Sp. 86. *Parvulus.*—Now an Hygrotus of Stephens, which, according to Erichson, is only a variety of Dyt. inæqualis, Fab.

Gyrinidæ, *Leach.*
Gyronecha, *Kirby.*
Gyrinoidea, *Hope.*

Most Entomologists consider that Gyrinus is closely allied to Dyticus, and yet it is difficult satisfactorily to point out the connecting link between them. Mr. W. Sharpe MacLeay, in his Annulosa Javanica, without attempting to sub-divide the Hydradephaga into its several families, gives us

only two, which are the Gyrinidæ and Dyticidæ. Mr. Kirby, also in the Fauna Boreali Americana, adopts this twofold arrangement, and applies to them the terms of Eunecha and Gyronecha. Differing from such high authorities, I am inclined to consider the Gyrinidæ as a totally distinct group which I name Gyrinoidea. It may be regarded as an intermediate family, connecting as it does, according to my views, the Dyticoidea and Hydrophiloidea. The larva of true Gyrinus in appearance resembles a Scolopendra. It is carnivorous, and is therefore allied to Dyticus; the connection with the Hydrophilidæ, however, is not so apparent. I think it is not improbable that the larvæ of Dineutus MacLeay, will eventually be found to approach in form the larvæ of the spine-winged species of Hydrous. In the metallic splendour of some of the individuals of both genera, in the armature of the wings, in the partially carnivorous habits of Hydrous, and the silkiness of the coccoons, the Gyrinidæ will be found evidently more allied to the Hydrophilidæ, than the Dyticidæ. At present, I believe, among the genera composing the latter family, not a single species has yet been found which has spined wings, should such occur, it will most probably be the connecting link so much

desired. The passage from the Hydradephaga to the Philhydrida has been pointed out by Mr. Stephens, by means of the sub-aquatic families of Heterocerus and Parnus. Would it not be a more natural arrangement to keep together all the true Aquatics, as Linneus did at first, and then pass to the terrestrial groups, by families which may justly be considered amphibious in their habits? At present we are imperfectly acquainted with these groups, and know little of their larvæ, and until that period arrives, the natural distribution of these families must still remain in doubt and confusion. The following table is an outline of the genera composing the Gyrinidæ.

GYRINUS, *Linneus.*

GYRINIDÆ, *Leach.*

GYRINOIDEA, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Gyrinus, *Linneus*	England	G. Natator, *Linn.*
2. Enhydrus, *Laporte* Cyclinus, *Kirby* Cyclous, *Eschscholtz*	N. America	G. Australis, *Fab.*
3. Porrorhynchus, *Lap.*	Java	P. Marginatus, *Laporte.*
4. Dineutes, *MacLeay*	East Indies	D. Politus, *MacLeay.*
5. Gyretes, *Brulle* Cybister, *Esch.*	East Indies	G. Æneus, *Brulle.*
6. Potamobius, *Leach*	England	Pot. Modeerii, *Marsham.*
Orectocheilus, *Mul.*	England	G. Villosus, *Fab.*

Sp. 1. *Natator.*—The type of the Linnean Gyrinus. For the anatomy of these singular insects, the reader should consult Dufour's Memoire in the Annales Scien. Natur. 1824. A reference also to Mr. Westwood's new publication, the Modern Classification of Insects, part 2. p. 105, will afford a list of authors who have written on this group, and to them may be added the Fauna Boreali Americana, by Mr. Kirby, wherein some new species will be found described.

Sp. 2. *Bicolor.*—The species named by Fabricius is certainly not the same as G. Bicolor Olivier, as the latter is a variety of Gyr. Minutus, while Elongatus of Marsham is a synonym of the former.

Sp. 6. *Premorsus.*—Probably a Dineutus of MacLeay. The locality given in the Eleutheratorum is Sierra Leone. Is it not singular, that under the above name, Gyrinus Indus, should be found quoted as a synonym? (Vid. Ent. Syst. Supp. 65. 5.) There is evidently some mistake respecting the country. The species of this genus belong to southern and tropical countries, never being found in northern climes as far as is known at present.

Sp. 10. *Minutus.*—Still a Gyrinus. Mr. Kirby, in his Fauna Boreali Americana, tells us that a single specimen was taken in the northern expedi-

tion by Dr. Richardson, in latitude 65°. I have received it from Algiers, and have it noted down in my Journal as occurring also in Egypt.

Sp. 12. *Strigosus.*—Probably a Gyrinus. The Baron De Jean, in his Catalogue of 1837, gives this species as a variety of G. Striatus Fab. The locality of the latter is Europe, of the former New Holland; there is, therefore, evidently some error.

Sp. 14. *Villosus.*—Now a Potamobius of Leach. Most of the Gyrini, when recently captured, emit a very disagreeable odour; this species is scentless; it moreover differs from all others in being a solitary insect, while the rest are social or gregarious. It is reported to be a nocturnal insect, which may probably account for its comparative scarceness.

Remarks.

Linneus only mentions two species of the family, Fabricius fourteen, De Jean sixty-seven, in my own cabinet there are twenty nondescripts; the number, therefore, in the different European collections, may be reckoned at about one hundred species, and this will eventually be considerably increased as we become acquainted with the extra European species, which at present are in propor-

tion of ten to one, and from what is already known, we may conclude that their metropolis is in the tropical regions.

ELOPHORUS, *Fabricius.*

HELOPHORIDÆ, *MacLeay.*

HELOPHORIDEA, *Leach.*

Mr. Westwood, in his late work, makes Spercheus the connecting link between the Helophoridæ and Hydrophilidæ. In its form and structure of the legs it certainly accords with the former; in habits, however, I regard it as an Hydrophilus, and certainly it is more of an aquatic than any of the genera composing the

HELOPHORIDÆ.

Genera.	*Country.*	*Typical Species.*
1. Helophorus, *Leach*	England	Silp. Aquatica, *Linneus.*
2. Hydrochus, *Germar*	France	Elop. elongatus, *Fab.*
3. Enicocerus, *Stephens*	England	Eni. Viridiæneus, *Stephens.*
4. Ochthebius, *Leach*	England	El. Pygmæus, *Fab.*
5. Amphibolus, *Water.*	England	Am. Atricapillus, *Water.*
6. Hydræna, *Kugellan*	England	El. minimus, *Fab.*
7. Empleurus, *Hope*	England	El. Nubilus, *Fab.*

1. Helophorus, *Leach.*

Fabricius originally constituted this genus, giving it the name of Elophorus. Dr. Leach very properly changed it to Helophorus; there are about twelve known species, the major part of them inhabiting Europe. As they are minute insects, they have generally been neglected, few being recorded as inhabiting either Asia or Africa, and none, I believe, as belonging to the New World.

Hydrochus, *Germar.*

A genus peculiarly attached to northern climes. It occurs in the north of Europe and America, and does not extend, I believe, more southward than Spain; a great proportion of the species of the remaining four genera appear more abundant in the northern than southern states of Europe.

Species of Helophorus, *Leach.*

Sp. 1. *Aquaticus.*—As two species have been confounded under the same name, the former takes the name of Grandis, the latter that of Aquaticus.

Sp. 2. *Nubilus.*—The type of my genus Empleu-

rus; Elophorus may properly be divided into two sub-genera: those with striate elytra, and those which have the wings deeply sulcated or porcate. Nubilus is often found at the roots and stalks of cabbages; the water held in the leaves of the plants being quite sufficient to saturate the ground around and satisfy the insects. I have watched the same insects for eight or nine weeks at the same plant, and never knew their numbers during that time increased or diminished. It should be remarked that no water was within a hundred yards, and the nearest was a well many feet beneath the surface of the earth. To this genus belong also El. fennicus Gyll. and probably sulcatus of Dahl and Costatus of Schonherr.

Sp. 4. *Humeralis.*—This insect is not mentioned by any modern writers. I give it as an Helophorus, with a doubt.

Sp. 5. *Flavipes.*—This insect is the same as the Bup. granularis Linn. The Fabrician name of flavipes must therefore be abandoned.

Sp. 6. *Crenatus.*—Mr. Stephens gives this insect as an Hydrochus. Mr. Erichson, however, having examined the Fabrician Cabinet, declares it to be Latridius porcatus.

Parnus, *Fabricius.*

Parnidæ, *MacLeay.*

Parnidea, *Leach.*

This family is composed of but three genera, viz. Parnus, Dryops, and Potamophilus.

Genera.	*Country.*	*Typical Species.*
1. Parnus, *Fab.*	England	P. Prolifecornis, *Fab.*
2. Dryops, *Leach*	France	P. Dumerilii, *Lat.*
3. { Potamophilus, *Germar* / Hydera, *Latreille*	Germany	P. Acuminatus, *Fab.*

Parnus, *Fab.*

There are six, if not seven, British species in our Metropolitan Cabinets: the genus is common to the Old and New World. Lacordaire informs us of several South American species. It occurs also in the United States, as well as in the West Indian Isles.

Dryops, *Leach.*

This genus will be found characterized in the third volume of Dr. Leach's Miscellany. Dry. Hardwickii appears the type of another genus. The remaining genus Potamophilus has eleven joints in the

antennæ: it is peculiar to Europe. The Baron De Jean has mentioned one in his Catalogue, under the name of Orientalis, which is most likely a Dryops of Leach. Mr. MacLeay remarks in the Annulosa Javanica, that Potamophilus leads off to Ochthebius and the Helophoridæ. Omitting any observations on the species, I pass to the family of

(Heterocerus, *Bosc.*)

Heteroceridæ, *MacLeay.*

From the family of Parnus, the approach to the Heteroceridæ is by Mr. Stephens' family Limniidæ; indeed, it cannot be denied that the Parnidæ and Heteroceridæ are intimately connected; till, however, we are better acquainted with some of these minor groups, it is mere idle speculation attempting to connect genera, when we have scarcely any matter before us to support even conjecture. There are seven known British species; the true Heteroceri appear to belong to the northern regions of the Old and New World; Het. Dubius is an exception; it is an East Indian species described by Fabricius, and probably is the type of a sub-genus. As we have but slightly alluded to the genera composing the Limniidæ, I add the table before proceeding to other groups.

Limniidæ, *Stephens.*

Genera.	*Country.*	*Typical Species.*
1. Georyssus, *Lat.* / Cathammistes, *Illiger*	England / Sweden	Pim. Pygmæa, *Fab.*
2. Elmis, *Latreille*	England	E. maugetii, *Latreille.*
3. Stenelmis, *Dufour* / Limneus, *Stephens*	France / ——	El. Parallelepipedus, *Illiger.* / ——

Sphæridium, *Fab.*

Sphæridiidæ, *Leach.*

The transition from the Hydrophilidæ to this family by the genus Chætarthria is easy, and should another connecting link be required, we may pass by means of those species of Cercyon which are subaquatic in their habits. The insects of this group abound in animal stercor and putrescent vegetable matter. They occur in the Old and New Continents, the major part of them preferring northern regions. In tropical climates they are considered very useful auxiliaries to the Coprophagus lamellicorns, materially conducing to purify the air by feeding on putrescence, and thereby preventing miasma. I know of no species more abundant in individuals than Sp. Scarabæoides. At Aldboro' on the Suffolk coast, at the departure of the tide, I have repeatedly

seen them among the rejectamenta maris in countless numbers.

Sphæridiidæ, *Hope.*

Genera.	*Country.*	*Typical Species.*
1. Sphæridium, *Fabricius*	Europe	S. Scarabæoides, *Fabricius.*
2. Cercyon, *Leach*	England	S. Quisquilius, *Linneus.*
3. { Cyclonotum, *Erichson* / Cælostoma, *Brulle*	England	C. Orbiculare, *Fabricius.*
4. Trichopoda, *Brulle*	Madagascar	T. Cassidæformis, *Brulle.*

Sphæridium.

Sp. 6. *Abdominale.*—Now a Cyclonotum of Erichson. The Baron De Jean, in his last Catalogue, gives the above generic name; the characters of the genus will be found in the Hist. Nat. des Insectes, par Audouin & Brulle; the latter writers make use of the term Cælostoma, which has previously been used by Mr. MacLeay, and must therefore be abandoned.

Sp. 13 to 18.—All these insects are mentioned by Fabricius as inhabiting South America. They were originally described from the cabinets of Sehestedt and Lund, now forming part of the Copenhagen collection, from which quarter we still hope for further information respecting them, as well as many other imperfectly known species.

Sp. 18. *Atomanum.*—An error of the press; read Atomarium.

Sp. 25. *Limbatum.* — Now an Hydrobius, and probably the same species as Hyd. globulus of Paykull.

Sp. 28 & 29.—Both these species are described from the Cabinet of Dom. Smidt; the former is probably a Cercyon of Dr. Leach, the latter probably a Phalacrus.

Sp. 32. *Wintheriæ.* — No locality is given by Fabricius to this species; it is described from Lund's Cabinet, and so concisely that it is impossible to form an idea to what genus it ought to be applied.

Anisotomidæ, *Stephens.*
Agathidiidæ, *Westwood.*

Fabricius in his Eleutheratorum very properly placed his genus Anisotoma next to Sphæridium. Mr. Stephens in his Illustrations passes from the Sphæridiidæ by Tritoma; the latter genus has been formed into a distinct family by Mr. Curtis. I am inclined at present, however, to follow the arrangement of Mr. Stephens, as it appears to me more natural. These groups evidently require a more thorough investigation. The chief cause of

the confusion has originated in consequence of Entomologists attending too rigidly to the tarsal system: a better classification can only be satisfactorily attempted when the larvæ of the different genera are more accurately known.

Anisotomidæ, *Stephens.*

Genera.	*Country.*	*Typical Species.*
1. Tritoma, *Fabricius*	Europe	T. Bipustulatum, *Fabricius.*
2. Alexia, *Stephens*	England	T. Pilifera, *Mull.*
3. Phalacrus, *Paykull*	Sweden	Ph. Coruscus, *Paykull.*
4. Ephistemus, *Westwood.*	England	Der. Gyrinoides, *Marsham.*
5. Anisotoma, *Fabricius* / Leiodes, *Latreille*	Denmark	Anis. ferruginea, *Fab.*
6. Agathidium, *Illiger* / Volvoxis, *Kugellan*	England	Silpha seminulum, *Linn.*
7. Clambus, *Fischer* / Ptilium, *Schuppell*	Sweden	Der. Armadillo, *De Geer.*
8. Corylophus, *Leach* / Clypeaster, *Anderson*	England	Der. Cassidoides, *Marsh.*
9. Orthoperus, *Stephens*	England	Der. Punctum, *Marsh.*
10. Sericoderus, *Stephens*	England	Scap. dubium, *Marsh.*

Anisotoma, *Fabricius.*

Sp. 1. *Ferruginea.*— I retain the Fabrician name of Anisotoma in the place of Leiodes; and instead of changing the family name to Agathidiidæ, as Mr. Westwood has done, I prefer that of Anisotomidæ. True Anisotoma seems attached to northern regions; it occurs in the New as well as in the

Old World. I am not aware of its appearance in Africa; some few East Indian species have fallen under my notice, they deviate however from the typical species.

Sp. 3. *Bicolor.*—Now a Phalacrus of Paykull. Of the known European and extra European species, the numbers are nearly equal; they are met with in North America and its adjacent isles, and in Africa, the island of Mauritius, and most likely in various parts of Asia; although I cannot state any recorded species from the latter locality.

Sp. 4 & 5.—Belong at present to Illiger's genus Agathidium. All the known species appear to inhabit Europe.

DESCRIPTIONS

OF THE

NEW GENERA AND SPECIES.

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1. Manticora, *Fabr.*

Sp. Latipennis, *Waterhouse.*—Inhabits Kurrechan in Africa. Long. lin. 21½. lat. lin. 10.

Atra, elytris subcordatis, latis, scabris.

Upon comparing M. Latipennis with Maxillosa the following differences may be observed. In the former the head is larger, exceeding that of the latter nearly one line in length, and about half a line in breadth. It is also more sparingly punctured on the upper parts, and so is likewise the thorax. The elytra are much broader (having the proportion of ten to eight), less convex, the lateral margins are more distinctly recurved, and the minute pointed tubercles (which are observed on the elytra of both species) are not quite so distinct, nor do they extend so far inwards as in M. maxillosa. The disc of the elytra is smooth, rather glossy, and has a pitchy hue. Vid. Mag. of Nat. Hist. new series, vol. i. 1837. The only re-

mark I have to make on the above species, is to change the name of M. Latipennis to that of Waterhouse, who first made us acquainted with the insect. It is one of the grandest discoveries of late years, and may justly be placed at the head of the Cicindeloidea. This magnificent insect was captured by the African traveller, Dr. Smith, at Kurrechan, and presented by him to the Zoological Society.

2. Apteroessa, *Hope.*

Type of the Genus, Cicindela Grossa, *Fab.*

Corpus magnum, apterum, *Antennæ* sicut in Cicindela. Mandibulæ cultriformes margine interno dente lato striato basali, duobus proximis minutis, altero robustiore.

Palpi maxillares longitudine labialibus æquales 1^mo^ minimo, 2^do^ quadruplo longiori, 3^tio^ sequente minori, extimo oblongo-ovato apice truncato.

Mentum lobis duobus interne acute productis dente acuto in medio emarginaturæ.

Labrum breve, medio in spinam parvam producto dentibus duobus utrinq. armatis, angulis lateralibus acutis.

Thorax capite latior, latitudini elytrorum fere æqualis.

Corpus grossum apterum elytris convexis et acuminatis. Pedes fere æquales.

This genus differs from Dromica, particularly in its general form. The mandibles of Dromica also have the first two teeth very prominent, and considerably more robust than in Eurymorpha; the next two teeth are nearly of the same proportion, differing again from Eurymorpha, which has the third tooth more developed than the first two. The Fabrician locality of Coromandel is correct.

3. Eurymorpha, *Hope.*

Corpus apterum metallicum nitidum elytris valde dilatatis. *Caput* ante oculus contractum postice dilatatum et thoracis latitudinem vix superans. *Mandibulæ* capite longiores acutissimæ dente basali majori latiori — 2^do^ minuto, duobus aliis majoribus æqualibus. *Palpi maxillares* labialibus haud æquales. *Mentum* bilobum dente in medio emarginaturæ acuto. *Labrum* breve angulis anticis rotundatis dentibus ternis minutis centralibus armatum.

Type of the genus, Eur. Cyanipes, *Hope.*

Eur. viridis, subnitidus, capite thoraceque albido-pilosis, elytris immaculatis, labro pedibusque cyaneis.

Long. corp. lin. 7. Lat. Elytr. lin. $3\frac{1}{2}$.

Caput obscure-viride, sericeo-punctulatum pilis longis obsitum. Labrum nitide cyaneum. Mandibulæ nigræ. Antennæ articulis basalibus albo-pilosis Palpi viridi-nigri albo pilosi. Thorax transversus, lateribus parallelis angulis posticis truncatis, sericeo-punctulatus, albo pilosus. Pedes cyanei albo pilosi. Elytra viridia subnitida, dilatata, submarginata, ad humeros impressa sub lente punctis minutissimis distantibus, serieque punctorum majorum in lineam, versus suturam, ornatis.

The locality of this insect is unknown; I suspect that originally it was brought from Madagascar. It is now deposited in the collection of the Zoological Society.

4. Oxycheila Bisignata, *Guérin.*

Subviolacea elytris maculâ magnâ rubrâ in medio elytrorum ornatis. Caput violaceum oculis testaceis. Thorax bilobus. Elytra (maculâ inæquali rubrâ ad suturam, at ad margines haud extensa,) parallela ad apicem, rotundata et nigro-violacea. Corpus subtus nigrum pedibus concoloribus. Habitat in agro Surinamensi.

It is probable that this species may be the Oxy. binotata of Laporte. He seems to have considered his O. binotata the same as that described by Gray in Griffith's Animal Kingdom, which is certainly distinct. Mons. Guérin has cleared up the synonymy of the species in the Dictionn. Pittoresq. d'Hist. Nat. tom. 6. p. 572, and has proposed for Mons. Laporte's species the name employed above.

5. Calochroa, *Hope*.

C. *Crucigera*. Long lin. $10\frac{1}{2}$, lat. lin. $3\frac{1}{4}$.

Nigro-violacea elytris tribus fasciis, duobus primis interruptis tertia apicali, Caput læte violaceum inter oculos rugosostriatum. Mandibulæ nigræ ad basin flavescentes. Palpi maxillares nigri. Thorax rugosus atroviolaceus. Elytra fere glabra sub lente punctata, cruce aurantia interrupta in medio disco elytrorum notata, apicibus concoloribus. Corpus infra purpureo-atrum, pedibus violaceis.

Habitat in India Orientali, Madras.

This superb insect was brought to England from the Nilgherry Mountains; it is allied to C. Princeps of Vigors, and Lepida of Gory; there are two other species in my collection from the same

locality, which I name Erichsoni and Lichtenstenii, in honour of Zoologists well appreciated in England for their devotion to science. Short Latin characters of the sub-genus, will be found at p. 19, under the name of Calochroa.

6. Pachymorpha Orientalis, *Hope.*

Long. lin. 14½, Lat. lin. elyt. 5.

Affinis 6 guttatæ Fab. Aptera, atra, thorace, 2-maculato subdepresso, elytris parum convexis depressiusculis, quatuor albis rotundatis maculis notata.

Habitat circa Poonah in India Orientali.

It may be remarked that this species seems peculiar to the western side of India, in the vicinity of Bombay. One specimen from the Himalaya, I received from Dr. Royle. Pach. 6-guttata Fab. is a gigantic insect, and is in every way a more robust species; the elytra are very convex, the markings on the wings are also considerably larger.

7. Plochionus Bonsfilii.

As I am unacquainted with a satisfactory figure of Plochionus, I have thought fit to delineate it

anew with its anatomical details; for the description of species, vid. Syst. Eleuth. Fab. under C. Pallens.

In the Banksian Cabinet this insect is labelled as Carabus pallens. Vid. also Schon. Synonym in loc.

8. Platysma striatulus, *Fab.*

This insect, which is apparently unknown to Continental writers, I have thought worthy of figuring. For the description of the species, Vid. Sys. Eleuth. p. 179. sp. 48.

The locality of the species is Patagonia; some other allied species have been brought to this country from the same regions by Mr. Charles Darwin, of Shrewsbury.

9. Catascopus Whithillii.

Long lin. $8\frac{1}{2}$, lat. lin. $2\frac{3}{4}$.

Corpus supra purpureum nitidum subtus nigro violaceum. Frons subcaniculatus. Elytra purpurea sulcata, interstitiis fortissime punctatis. Pedes femoribus violaceis, tibiis tarsisq. piceis et tomentosis.

Obs. This magnificent insect is named in honour of Col. Whithill, who brought it with him from Darpouillie, along with other undescribed species of the same genus.

10. Craspedophorus,* *Hope.*

Type of the genus, Cychrus reflexus, *Fab.*

Caput utrinque impressum. Thorax rotundatus antice et postice truncatus, depressus, subconcavus lateralibus marginibus latis reflexis.

Elytra striato-punctata octo striis in singulo, apicibus sinuatis.

This species deviates from the true Panagæi, which have the thorax invariably *convex*. One species from New Holland seems to unite the two genera. For a description of the species consult Fab. Eleut. page 166. n. 3. Its true locality is Coromandel and not Europe. I possess in my cabinet another species of Panagæus, named reflexus by Fabricius, which was originally in Lee's collection. For the latter I propose the name of Fabricii, instead of reflexus.

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* From κρασπεδον and φορεω.

11. Macrocheilus, *Kirby.*

Type of the genus, M. Bensoni.

Long. lin. 6. lat. lin. $2\frac{1}{2}$.

Ater, caput nigrum, fronte aurantio, antennæ ♂ articulis longioribus apice dilatatis. Thorax cordiformis. Elytra abbreviata sulcata pubescentia, quatuor maculis signata, pedibus rubropiceis.

Inhabits Madras.

The above insect was originally described from Mr. Kirby's Cabinet; in his MSS. he has given it the name of Macrocheilus Bensoni, which I retain. In form it appears intermediate between Planetes of MacLeay, and Omphra of Leach; the type of the former is Pl. Bimaculatus MacLeay, of the latter, Galerita hirta Fab.

12. Hyderodes, *Hope.*

Type of the genus, Hyd. Shuckardi, *Hope.*

Corpus breve ovatum thorace postice fere elytrorum latitudine. Palpi breves, labiales maxillarium fere longitudine. Elytra feminæ simplicia. Pedes ♀ simplices; antici haud ciliati (♂ ♀) Tarsi antici masculi articulis tribus basalibus in palmam

rotundatam dilatatis, subtus vesiculis perpaucis instructam; intermedii articulis tribus basalibus in palmam oblongo-ovalem formatis. Tarsi postici ♀ subtus haud ciliati; aliter mari similes: unguibus duobus (in utroque sexu similibus) instructi.

Long corp. lin. 9. Lat. lin. 5.

Niger, nitidus, antennis tibiis tarsisque piceis, thoracis marginibus lateralibus rufo-piceis. thorace lineâ punctorum impressorum ad marginem anticum, punctisque nonnullis lineam parvam obliquam utrinque versus marginem posticum formantibus; elytris subtiliter punctulatis, margine laterali lineisque tribus longitudinalibus punctatis. Habitat in Novâ Hollandia.

The above insect is named in honour of Mr. Shuckhard, the author of a valuable publication on the indigenous Fossorial Hymenoptera of Great Britain.

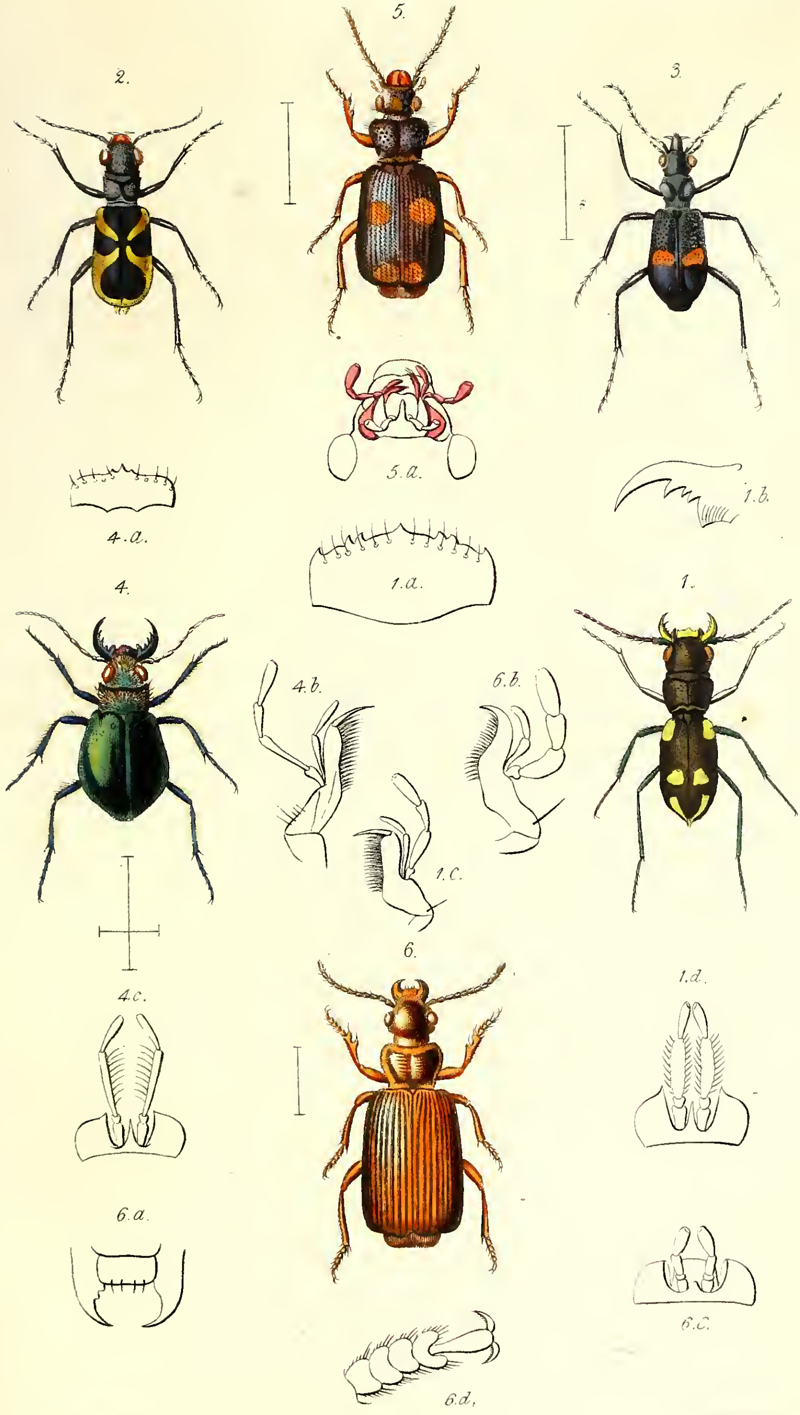
13. Globaria, *Latreille.*

The typical species of this genus is Globaria Leachii of Latreille. As it has not been previously figured, it is here added with its anatomical details. The Globaria nitida of Guérin is not congenerous, or else is very incorrectly figured. The genus

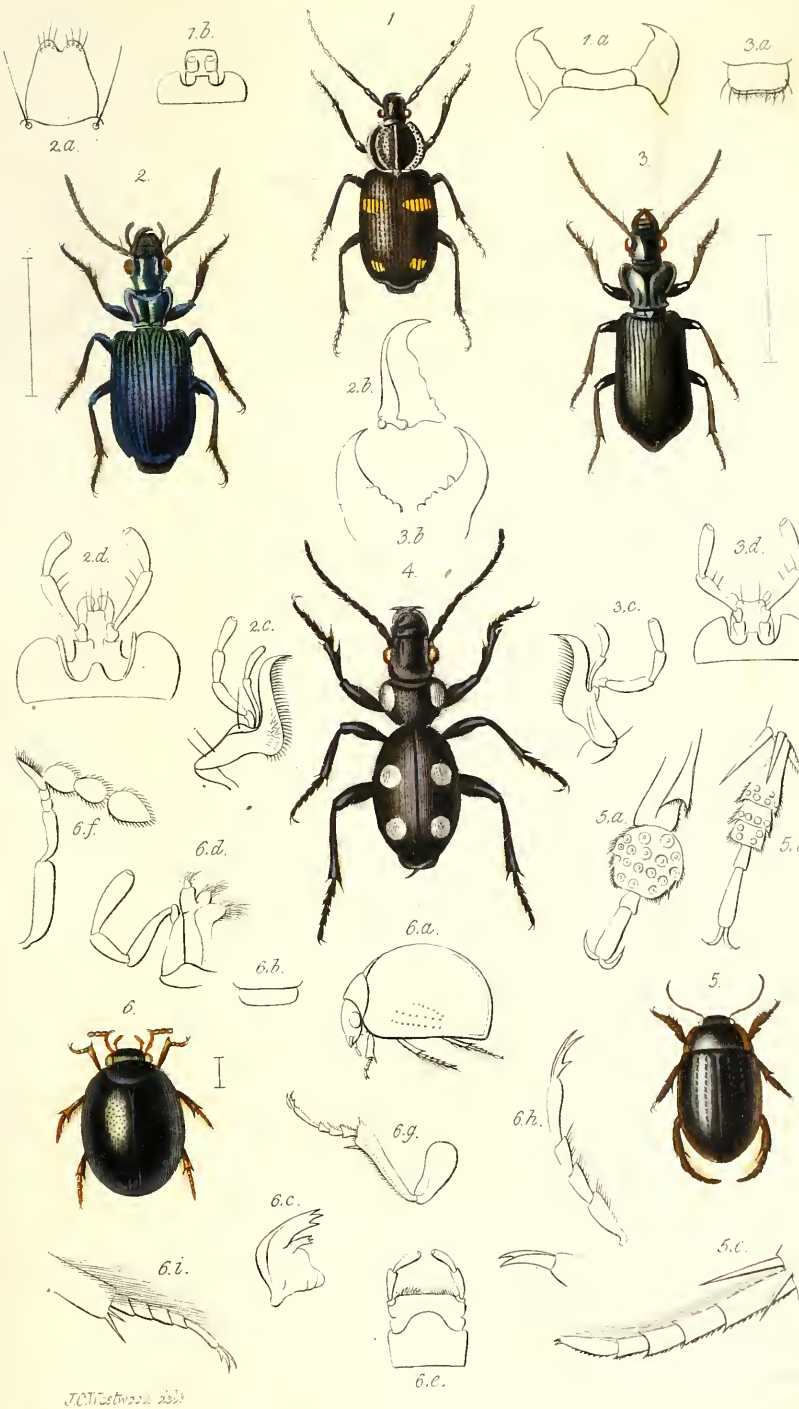
Volvulus is identical with Globaria. Its typical species V. inflatus is longer in proportion. The locality of G. Leachii is the East Indies, while the latter is from the Mauritius. The names of Volvulus and Globaria ought to be changed, in their place I suggest the adoption of Spheroides, from the Greek *σφαιροειδης* sphæræ similis.

FINIS.

G. NORMAN, PRINTER, MAIDEN LANE, COVENT GARDEN.



J.O. Westwood del.



J.C.Westwood sculp.