

Genus 21. NÆSA. *Leach.*

*Tail* on each side of the last segment, with a straight subcompressed process attached to a peduncle: *body* six-jointed, the last joint largest: *antennæ* setaceous, subequal; upper ones with a very large biarticulated peduncle, the first joint largest: space between the antennæ easily to be discerned: *claws* bifid.

Sp. 1. *Næ. bidentata*. Last segment of the body armed with two spines or teeth; colour cinereous, faintly streaked with blue, or reddish.

*Oniscus bidentatus*. *Adams, Trans. Linn. Soc. v. 8. t. 2. f. 3.* *Næsa bidentata*. *Leach, Edin. Encycl. vii. 405.*—*Trans. Linn. Soc. xi. 367.*—*Supp. to Encycl. Brit. i. 427.*

Inhabits the coasts of Wales and Devonshire.

STIRPS 2. *Tail* with two lamellæ on each side.

\* *Superior antenna with a very large peduncle. Claws bifid.*

Genus 22. CYMODICE. *Leach.*

*Eyes* touching the anterior margin of the first segment of the body: *body* seven-jointed: *tail* at the base, on each side with two subcompressed but not foliaceous appendages, the exterior ones largest; the apex of the tail notched, with a lamella in the centre: *claws* bifid.

Sp. 1. *Cy. truncata*. Apex of the tail truncate.

*Oniscus truncatus*. *Montagu's MSS. Cymodice truncata. Leach, Edin. Encycl. vii. 433.*—*Trans. Linn. Soc. xi. 303.*—*Supp. to Encycl. Brit. i. 427.*

This species is very rare, and has been found but three times on the southern coast of Devonshire.

Genus 23. DYNAMENE. *Leach.*

*Eyes* not reaching to the anterior margin of the first segment of the body: *body* seven-jointed: *tail* with two equal foliaceous appendages on each side of its base; the apex notched: *claws* bifid.

*Dynamene*. *Leach, Edin. Encycl. vii. 433.*

There are several indigenous species of this genus, and their characters will be given under the article CYMOTHOADE'ES, in the *Dictionnaire des Sciences Naturelles*, by Dr. Leach.

Genus 24. SPHEROMA. *Latr., Leach.*

*Eyes* not reaching to the anterior margin of the first segment of the body: *body* seven-jointed: *tail* with its apex entire; the base on each side with two equal foliaceous appendages: *claws* bifid.

Sp. 1. *Sph. serrata*. Body smooth, unarmed: tail very smooth on each side; obliquely truncated: lamellæ elliptic, acute, the external ones externally serrated.

*Oniscus Globator*. *Pall. Spec. Zool. fasc. ix. t. 4. f. 18.* *Cymothea serrata*. *Fabr. Ent. Syst. ii. 510.* *Sphæroma cinerea*. *Latr. Gen. Crust.*

et *Insect.* i. 65. *Sphæroma serrata.* Leach, *Edin. Encycl.* vii. 405.  
—*Trans. Linn. Soc.* xi. 303.—*Supp. to Encycl. Brit.* i. 427.

\*\* *Superior antennæ with a very large peduncle. Claws simple.*

Genus 25. *ÆGA.* Leach.

*Eyes* large, granulated, oblong, oblique, marginal: *tail* with its appendages foliaceous.

Sp. 1. *Æga emarginata.* Tail with the last joint acuminate; the interior lamella internally obliquely truncated, externally emarginated.

*Æga emarginata.* Leach, *Trans. Linn. Soc.* xi. 370.—*Supp. to Encycl. Brit.* i. 427. pl. 21.

\*\*\* *Superior antennæ with a moderate peduncle.*

Genus 26. *EURYDICE.* Leach.

*Eyes* distinct, simple, lateral: *head* as broad as the first segment of the body.

Sp. 1. *Eu. pulchra.* Tail with the last joint semioval: body cinereous, variegated with black.

Genus 27. *LIMNORIA.* Leach.

*Head* as broad as the first segment of the body: *eyes* granulated.

Sp. 1. *Lim. terebrans.* Body cinereous: *eyes* pitchy black.

*Limnoria terebrans.* Leach, *Edin. Encycl.* vii. 433.—*Trans. Linn. Soc.* xi. 370.—*Supp. to Encycl. Brit.* i. 428.

Inhabits the British ocean, perforating buildings of wood, piles, &c. It is common at the Bell-rock, and on the coasts of Suffolk and Yorkshire. It generally produces seven young ones.

Genus 28. *CYMOTHOA.* Fabr., Dald., Leach.

*Head* narrow and small: *eyes* obsolete: *body* with the first segment notched to receive the head.

Sp. 1. *Cym. Œstrum.*

*Cymothoa Œstrum.* Fabr. Leach, *Supp. to Encycl. Brit.* i. 428.

C. Tail furnished with two setæ.

#### Fam. VII. APSEUDIADÆ.

Genus 29. *APSEUDES.* Leach.

*Body* six-jointed: *tail* with six segments; the last largest, armed at the apex with appendices: *feet* fourteen; the anterior pair with a finger and thumb; the second pair compressed and dentated; the third and fourth alike and simple; the fifth with a double nail; the sixth and seventh spurious: the superior antennæ with a biarticulated peduncle armed at the apex with a jointed seta; the inferior antennæ bifurcate.

Sp. 1. *A. Talpa,* Rostrum acute, with three excavated longitudinal grooves.

**Cancer Gammarus.** *Montagu, Trans. Linn. Soc. ix. t. 4. f. 6.* *Apsuedes Talpa. Leach, Edin. Encycl. vii. 404.*—*Trans. Linn. Soc. xi. 372.*—*Supp. to Encycl. Brit. 428. vol. i.*

Inhabits the British ocean: length four lines: colour yellowish-white: is very rare.

*D. Tail furnished with styles.*

Fam. VIII. ASELLIDÆ.

*Interior antennæ distinct.*

STIRPS 1. *Styles of the tail exerted: anterior legs monodactyle.*

Genus 30. JANIRA. *Leach.*

*Claws* bifid: *eyes* moderate, lateral-subvertical: *internal antennæ* shorter than the peduncle of the external ones.

Sp. 1. *Jan. maculosa.* Body cinereous, maculated with fuscous.

*Oniscus maculosus. Montagu's MSS. Janira maculosa. Leach, Edin. Encycl. vii. 434.*—*Trans. Linn. Soc. xi. 373.*—*Supp. to Encycl. Brit. i. 428.*

Inhabits the southern coast of Devonshire, amongst marine plants.

Genus 31. ASELLUS. *Geoff., Olivier, Latr., Bosc, Leach. ENTOMON. Klein.*

*Claws* simple: *eyes* minute, lateral: *interior antennæ* of the length of the setiferous joint of the exterior ones.

Sp. 1. *Asel. aquaticus.* Colour cinereous, either spotted with gray or whitish.

*Oniscus aquaticus. Linn. Syst. Nat. i. 1061. Aselle d'eau douce. Geoff.*

*Hist. des Insect. xi. 672. pl. 22. f. 2. Squille Aselle. De Geer, Mém.*

*sur les Insect. vii. 496. pl. 31. fig. 1. Aselle ordinaire. Latr. Hist.*

*Nat. des Crust. et des Insect. vi. 359. Asellus vulgaris. Bosc, Hist.*

*Nat. des Crust. ii. 170. pl. 15. fig. 7. Latr. Gen. Crust. et Ins. i. 68.*

*Leach, Edin. Encycl. vii. 404. Idotea aquatica. Fabr. Supp. Ent.*

*Syst. 303. Entomon hieroglyphicum. Klein, Dub. fig. 5. Asellus aqua-*

*ticus. Leach, Trans. Linn. Soc. xi. 373.*—*Supp. to Encycl. Brit. i. 428.*

Inhabits ponds and ditches, and is generally considered a sign of the purity of the water.

STIRPS 2. *Styles of the tail not exerted. Anterior legs simple.*

Genus 32. JÆRA. *Leach.*

*Eyes* moderately large, situated between the sides and the vertex of the head.

Sp. 1. *Jæ. albifrons.* Cinereous; front whitish.

*Oniscus albifrons. Montagu's MSS. Jæra albifrons. Leach, Edin. Encycl. vii. 434.*—*Trans. Linn. Soc. xi. 373.*—*Supp. to Encycl. Brit. i. 428.*

Inhabits marine plants, and beneath stones on the southern coast of Devon.

Fam. IX. LIGIADÆ. *Leach's MSS.*

*Interior antennæ* distinct. *Style* of the tail double, with double foot-stalks.

Genus 33. LIGIA. *Fabr., Latr., Bosc, Leach.*

*External antennæ* with the last joint composed of several other joints.

Sp. 1. *Lig. oceanica*. *Antennæ* as long as the body: back subscabrose.

*Ligia oceanica*. *Fabr. Supp. Ent. Syst.* 301. *Leach, Edin. Encycl.* vii. 406.

—*Supp. to Encycl. Brit.* i. 423. *Ligia Scopulorum*. *Leach, Edin. Encycl.* vii. 406. *Oniscus oceanicus*. *Linn. Syst. Nat.* i. 1061.

Inhabits the rocky shores of the European ocean. The last joint of the antennæ varies much in the number of its segments, even in the two sides of the same individual.

## Fam. X. ONISCIDÆ.

*Antennæ* two. *Styles* of the tail four, the lateral ones biarticulate.

\* *Body not capable of contracting into a ball.*

a. *External antennæ eight-jointed.*

Genus 34. PHILOSCIA. *Latr., Leach.*

*External antennæ* with their bases naked: *tail* abruptly narrower than the body.

Sp. 1. *Phil. Muscorum*. Body variegated; sometimes pale brick-red.

*Oniscus Muscorum*. *Scop. Ent. Carn.* 1145. *Oniscus sylvestris*. *Fabr.*

*Ent. Syst.* iv. 397. *Philoscia Muscorum*. *Latr. Gen. Crust. et Insect.* i. 69. *Leach, Edin. Encycl.* vii. 406.—*Supp. to Encycl. Brit.* i. 428.

Inhabits France, Germany, and England, under stones and mosses.

Genus 35. ONISCUS *of authors.*

*Antennæ* inserted beneath the anterior margin of the head, on a prominent part.

Sp. 1. *On. Asellus*. Above, obscure-cinereous, rough; the sides and a series of dorsal spots yellowish.

*Oniscus Asellus*. *Linné, Latr., Leach.* *Oniscus murarius*. *Fabr. Supp. Ent. Syst.* 300.

Inhabits rotten wood and old walls throughout the greater part of Europe.

It was formerly used in medicine, and was supposed to cure agues, consumptions, &c. but has now, like many other medicines, deservedly grown out of fashion, and is rejected from the modern Pharmacopœias. It is commonly called Pig's-louse, Wood-louse, Millepede or Carpenter.

b. *External antenna with seven joints.*Genus 86. PORCELLIO. *Latr., Leach.**External antennæ* inserted on a prominence under the anterior margin of the head: *tail* with its lateral styles conic, prominulous.Sp. 1. *Por. scaber*. Body rough.Oniscus Asellus. *Fabr. Supp. Ent. Syst.* 300. Porcellio scaber. *Latr. Gen. Crust. et Insect.* i. 70 *Leach, Edin. Encycl.* vii. 406.—*Trans. Linn. Soc.* xi. 37.—*Supp. to Encycl. Brit.* i. 429.

Inhabits Europe. This species is found under stones, in rotten wood, and on old walls. It varies much in colour, being at one time blueish black, at another time yellow. In Scotland it is called Sclater.

\*\* *Body contracted into a ball.*Genus 87. ARMADILLO. *Latr., Leach.**External antennæ* seven-jointed, inserted on a prominence in a cavity on each side of the head: *tail* with the lateral styles not prominent.Sp. 1. *Arm. vulgaris*. Griseous lead-coloured; hinder margins of the segments whitish.Oniscus Armadillo. *Linn. Syst. Nat.* i. 1062. Armadillo vulgaris. *Latr. Gen. Crust. et Insect.* i. 70.—*Leach, Edin. Encycl.* vii. 406.—*Trans. Linn. Soc.* xi. 376.—*Supp. to Encycl. Brit.* i. 429.Inhabits Europe amongst moss and under stones. It is commonly named the Pill-millepede, and paves the way to the *Myriapoda*: in general external appearance and in economy it is allied to the genus *Glomeris*.

## Class II. MYRIAPODA.

This Class was proposed by Dr. Leach in the *Edinburgh Encyclopædia*, vol. vii. and has since been distinctly established, with its characters more decidedly shown, in a paper published in the eleventh volume of the *Transactions of the Linnean Society*, and also in the Supplement to *Encyclopædia Britannica*, vol. i.

By Linné the animals composing this group were denominated SCOLOPENDRÆ and JULI, and were arranged with apterous insects. His pupil, J. C. Fabricius, in the Supplement to his *Entomologia Systematica*, placed them in a particular Class named MITOSATA, comprehending all the species, like Linné, under the generic appellations of JULUS and SCOLOPENDRA. Cuvier, in his *Tableau Elementaire*, arranged the *Myriapoda* with insects, in which he was followed by Dumeril, who has, however, adopted the new Genera proposed by Latreille.

They were arranged in the older works of Latreille along with Insects; but in his last work he has placed them in a peculiar Order of the Class ARACHNOIDEA, which he had denominated MYRIAPODA; and has divided them into two Families.

Lamarek arranged them with the Arachnoidea in three Genera; 1. SCOLOPENDRA; 2. SCUTIGERA; 3. JULUS; and in his last work he has adopted a fourth genus, POLLYXENUS.

Having given a slight sketch of what has been done by systematic writers, I shall proceed with the arrangement proposed by Dr. Leach, which differs from them merely in considering them as constituting a distinct Class, and in disposing the species under some additional generic heads, which a minute examination of their structure has most fully warranted,

CLASSIFICATION.—All the *Myriapoda* have their head distinct from the body, furnished with two antennæ. *Mandibles* two. *Maxillæ* four, confluent and forming a lower lip. All or most of the segments of the body furnished with two or four legs,

The nervous system is composed of a series of ganglia, one in each segment of the body; these ganglia are brought into communication with each other by two longitudinal bundles of nerves, or, as they are generally but improperly denominated, by a spinal marrow.

The CHILOGNATHA and SYNGNATHA, established as Families by Latreille, are adopted as Orders by Dr. Leach.

Order I. CHILOGNATHA.—*Antennæ* seven-jointed. *Legs* short. *Body* generally crustaceous.

Order II. SYNGNATHA.—*Antennæ* composed of fourteen or more joints. *Legs* elongated. *Body* depressed, coriaceous or membranaceous.

### Order I. CHILOGNATHA,

#### Fam. I. GLOMERIDÆ. Leach,

*Body* contractile into a globe. *Eyes* distinct.

Genus I. GLOMERIS. Latr., Dumér., Leach. ARMADILLO. Cuv. *Antennæ* with the two first joints shortest, the sixth largest including the last, which is very small; *body* elongate-ovate, convex above, arched beneath; first segment a little semicircular lamina; the second larger than the others; the last semicircular and arched; *legs* sixteen pairs.

Sp. 1. *Glo. marginata*. Black; the margins of the segments luteous or orange.

*Oniscus marginatus*. Villers, *Entom.* iv. 187, t. 11. f. 15. *Gloméris bordé*, Latr. *Hist. Nat. des Crust. et des Insect.* vii. 66. *Oniscus marginatus*, Oliv. *Encycl. Méth. Hist. Nat.* vi. p. 24. *Julus oniscoides*. *Townson's Tracts*, p. 151. *Stewart's Elem. Nat. Hist.* ii. 307. *Gloméris marginata*. Latr. *Gen. Crust. et Insect.* i. 74. Leach, *Edin. Encycl.* vii. 407.—*Trans. Linn. Soc.* xi.—*Supp. to Encycl. Brit.* i, 430, pl. 22.—*Zool. Misc.* iii. tab. 132.

Inhabits Britain, France, and Germany, under stones; but has generally been considered by British naturalists as a variety of *Armadillo vulgaris*.

Fam. II. JULIDÆ. Leach.

Body not contractile into a globe: eyes distinct.

Genus 2. JULUS of authors.

Body serpentiform, cylindric: antennæ with the second joint longer than the third: legs a great many.

The British species of this obscure genus may be found described in vol. xi. of the *Transactions of the Linnean Society*. The following species, which is the most common, will best serve as an example of the genus.

Sp. 1. *Jul. sabulosus*. Black-cinereous, with two red dorsal lines; last joint mucronated: legs luteous.

*Julus sabulosus* of authors.

Inhabits Europe, lurking beneath stones, especially in sandy places.

Genus 3. CRASPEDOSOMA. Leach.

Body linear, depressed; the sides of the segments laterally prominent: antennæ towards their extremities somewhat thicker, the second joint shorter than the third.

This genus was discovered by the late R. Rawlins, esq. one of the most promising naturalists of this country.

\* Middle of the segments prominent.

Sp. 1. *Cras. Raulinsii*. Back fuscous-brown, with four lines of white spots: belly and legs reddish.

*Craspedosoma Raulinsii*. Leach, *Edin. Encycl.* vii. 407-434.—*Trans. Linn. Soc.* xi. 380.—*Supp. to Encycl. Brit.* i. 430. pl. 22.—*Zool. Misc.* iii. tab. 134. fig. 1-5.

Inhabits the neighbourhood of Edinburgh, where it occurs in some plenty under stones and amongst moss. It was first noticed by Mr. Rawlins.

\*\* Hinder angles of the segments produced.

Sp. 2. *Cras. polydesmoides*. Body reddish gray: belly pale: legs reddish, with their bases pale; produced angles of the body each furnished with a seta.

*Julus polydesmoides*. Montagu's MSS. *Craspedosoma polydesmoides*. Leach, *Edin. Encycl.* vii. 407-434.—*Trans. Linn. Soc.* xi. 380.—*Supp. to Encycl. Brit.* i. 430. pl. 22.—*Zool. Misc.* iii. tab. 134. fig. 6-9.

Inhabits Devonshire, under stones. It is common all along the borders of Dartmoor, and on the southern coast. It was once taken by Dr. Leach in the garden of the British Museum.

Fam. III. POLYDESMIDÆ. *Leach.*

*Eyes* obsolete.

Genus 4. POLYDESMUS. *Latr., Dumér., Leach.*

*Antennæ* with the second joint scarcely longer than the first, and much shorter than the third; *body* linear; the segments laterally compressed, margined: *eyes* obsolete.

Sp. 1. *Pol. complanatus*. Reddish cinereous; last segment of the body mucronated.

*Julus complanatus*. *Linn. Syst. Nat.* i. 1065. *Fabr. Ent. Syst.* ii. 393. *Polydesmus complanatus*. *Latr. Gen. Crust. et Insect.* i. 76. *Leach, Edin. Encycl.* vii. 408.—*Trans. Linn. Soc.* xi. 381.—*Suppl. to Encycl. Brit.* i. 430. *pl.* 22.—*Zool. Misc.* iii. *tab.* 135.

Inhabits Europe, beneath stones.

Genus 5. POLLYXENUS. *Latr., Leach.*

*Body* elongated, linear, and depressed; the segments on each side with small bundles of scales, ending in pencils: feet twelve on each side; *antennæ* inserted beneath the head at the interior margin.

Sp. 1. *Pol. Lagurus*. *Body* brown; head black: the pencils of the tail white.

*Scolopendra Lagura*. *Linn., Fabr. Pollyxenus Lagurus*. *Latr. Gen. Crust. et Insect.* i. 77. *Leach, Zool. Misc.* iii. p. 38. *pl.* 135. *B. Cur. Reg. An.* 3. 155.

Length of the body from  $1\frac{1}{4}$  to  $2\frac{1}{4}$  lines.

Inhabits Europe. In Britain it is found in profusion beneath the bark of trees.

## Order II. SYNGNATHA.

Fam. I. SCOLOPENDRADÆ. *Leach.*

*Body* with each segment bearing two legs; *hinder legs* distinctly longer than the others.

STRIPS 1.—*Legs* on each side fifteen.

Genus 6. LITHOBIUS. *Leach, Lamarck.*

*Antennæ* conic-setaceous; joints (about forty-five) conic-setaceous, the two first joints largest: *under lip* anteriorly broadly notched; the margin very much denticulated: *eyes* granulated.

Sp. 1. *Lith. forficatus*. Head broad: *under lip* entirely and deeply covered with impressed dots: legs testaceous-yellowish.

*Scolopendra forficata*. *Linn. Syst. Nat.* i. 1062. *Fabr. Ent. Syst.* ii. 390. *Lithobius forficatus*. *Leach, Edin. Encycl.* vii. 408.—*Trans. Linn. Soc.* xi. 381.—*Suppl. to Encycl. Brit.* i. 431. *pl.* 22.—*Zool. Misc.* iii. *tab.* 137.

Inhabits Europe, beneath stones.

The other species are described in the eleventh volume of the *Transactions of the Linnean Society*.

STIRPS 2.—*Legs* on each side twenty-one.

Genus 7. CRYPTOPS. *Leach*.

*Antennæ* conic-setaceous, composed of (seventeen) globose-subconic joints: *under lip* not denticulated; anterior margin scarcely emarginate: *hinder legs* with the first joint toothless: *eyes* obscure.

Sp. 1. *Cryp. hortensis*. Testaceous-ferruginous: back deeper in colour: *antennæ* and *legs* hairy.

*Scolopendra hortensis*. *Donovan's Brit. Ins. Cryptops hortensis*. *Leach, Edin. Encycl.* vii. 408.—*Trans. Linn. Soc.* xi.—*Supp. to Encycl. Brit.* i. 431. *pl.* 22.—*Zool. Misc.* iii. *tab.* 139.

Inhabits gardens in and near Exeter. It has likewise been found near Plymouth in Devonshire.

FAM. II. GEOPHILIDÆ. *Leach*.

*Body* with each segment bearing two legs: *hinder legs* not distinctly longer than the others: *legs* many, varying in number in the same species.

Genus 8. GEOPHILUS. *Leach*.

*Eyes* obscure: (*lip* divided by a fissure?) *mandibles* strong: *antennæ* cylindric in some, towards the apex gradually somewhat narrower in others; composed of (fourteen) subcylindric joints a little narrower at their base.

\* *Antennæ* with short joints.

Sp. 1. *Geoph. carpophagus*. Head, *antennæ*, and arms fulvescent: body violet, anteriorly yellowish: legs pale yellowish. Var.  $\beta$ . Body obscurely subviolet-testaceous, anteriorly subttestaceous.

*Geophilus carpophagus*. *Leach, Trans. Linn. Soc.* xi. 384.—*Supp. to Encycl. Brit.* i. 431.—*Zool. Misc.* iii. p. 43.

Inhabits Devonshire, in garden fruit: it is not uncommon.

Sp. 2. *Geoph. subterraneus*. Body yellow: head subferruginous.

*Scolopendra subterranea*. *Shaw, Trans. Linn. Soc.* ii. 7. *Geophilus subterraneus*. *Leach, Trans. Linn. Soc.* xi. 385.—*Zool. Misc.* iii. p. 44.

Inhabits the earth. It is very common in England.

Sp. 3. *Geoph. acuminatus*. Body ferruginous, anteriorly gradually narrower; head anteriorly, and the legs paler.

*Geophilus acuminatus*. *Leach, Trans. Linn. Soc.* xi. 386.—*Zool. Misc.* iii. p. 45.

Inhabits moss and beneath the ground. It is rare.

\*\* *Antennæ with elongate joints.*

Sp. 4. *Geoph. longicornis*. Body yellow: head ferruginous: antennæ long. *Geophilus longicornis*. Leach, *Trans. Linn. Soc.* xi. 386.—*Suppl. to Encycl. Brit.* i. 481. pl. 22.—*Zool. Misc.* iii. tab. 140. f. 3-6.

Inhabits the earth and under stones.

OBS.—*Scolopendra electrica* of Linné belongs to this genus.

## Class III. ARACHNOÏDA.

ARACHNOÏDA. Fischer.

ARACHNIDES. Lamarck, Latreille, Leach.

From ἀραχνη, a spider, and εἶδος, resemblance. A class of animals formerly arranged with Insects, but first shown to be distinct by the celebrated Lamarck, and established as such by Latreille, Cuvier, and Leach.

Linné arranged all of these animals with which he was acquainted with apterous insects, under the generic titles, PHALANGIUM, ARANEA, ACARUS, and SCORPIO; and in this disposition he was followed by Cuvier.

Lamarck, in his *Système des Animaux sans Vertèbres*, has included amongst the *Arachnoïda* the MYRIAPODA, and certain animals which in the system proposed by Dr. Leach form a distinct order of insects, which will be mentioned hereafter.

Duméril, in his *Zoologie Analytique*, has placed the *Arachnoïda* with the apterous insects. He arranges the genus: 1. IXODES Latr. with PEDICULUS and PULEX; the other genera he has placed in a peculiar family: 2. ARANEA; 3. MYGALE; 4. PHRYNUS; 5. SCORPIO; 6. CHELIFER; 7. GALEODES; 8. PHALANGIUM.

Lamarck, in his *Extrait du Cours, &c.* has placed the *Arachnoïda* with some genuine insects and *Myriapoda*; but he has formed for them a separate Order, which he terms *Arachnides palpati*, and disposes them into the following little groups of Genera.

## I. PYCNOGONIDES.

Genus 1. NYMPHUM: 2. PHOXICHILUS: 3. PYCNOGONUM.

## II. ACARIDES.

\* Parasitic.

a. Six legs.

Genus 4. ASTOMA: 5. LEPTUS: 6. CARIS.

b. Eight legs.

Genus 7. UROPODA: 8. ARGAS: 9. IXODES: 10. ACARUS.

\*\* *Wanderers.*a. *Land.*

Genus 11. ORIBATA: 12. SMARIS: 13. CHEYLETUS: 14. BDELLA:  
15. ERYTHREUS: 16. TROMBIDIUM.

b. *Aquatic.*

Genus 17. ELAIS: 18. LIMNOCHARIS: 19. HYDRACHNA.

## III. PHALANGIDES.

Genus 20. SIRO: 21. TROGULUS: 22. PHALANGIUM: 23. GALEODES.

## IV. SCORPIONIDES.

Genus 24. CHELIFER: 25. SCORPIO: 26. THELEPHONUS: 27. PHEYNUS.

## V. ARANEIDES.

Genus 28. ARANEA: 29. MYGALE.

CLASSIFICATION.—The following Classification is that lately published in the third volume of the *Zoological Miscellany*.

Order I. POLYMEROSOMATA.—*Body* composed of a series of segments: *abdomen* not pedunculated: *mouth* furnished with didactyle mandibles and with maxillæ: *eyes* two, four, six, or eight: *legs* eight.

Order II. DIMEROSOMATA.—*Body* composed of two segments; the abdomen pedunculated: *mouth* furnished with mandibles and with maxillæ: *eyes* six or eight.

Order I. POLYMEROSOMATA. *Leach.*Fam. I. SIRONIDÆ. *Leach.*

*Palpi* simple. *Mandibles* didactyle.

Genus 1. SIRO. *Latreille, Leach.*

*Mandibles* two; two-jointed, cylindric, compressed; their points armed with a forceps: *palpi* two, five-jointed; joints elongate, the second longest: *body* oval: *eyes* two, placed one on each side of the thorax on an erect peduncle: *legs* elongate, filiform; *tibiæ* and *tarsi* two-jointed, the latter parts terminated by an arcuate claw.

Sp. 1. *Siro rubens*. Pale red: legs paler.

*Siro rubens*. *Latr. Gen. Crust. et Insect.* i. 143. *Leach, Edin. Encycl.* vii. 416.—*Trans. Linn. Soc.* xi. 390.—*Supp. to Encycl. Brit.* i. 433. *pl.* 23.

Inhabits moss at the roots of trees and in woods.

Fam. II. SCORPIONIDÆ. *Leach.*

*Palpi* arm-shaped. *Mandibles* didactyle. *Legs* alike.

The animals composing this Family constitute a most natural groupe.

STIRPS 1.—*Tail* none. *Eyes* two, or four. *Pecten* none.

“The ocelli of the animals of this division are placed on the sides of the anterior segment of the body or thorax. They want the tail and the pectinated processes near the base of the abdomen, by which they may very easily be distinguished from those of the second Stirps, with which they were formerly arranged by Fabricius under the title *Scorpio*. Two species only were known to Linné, who referred them to his artificial genus *Phalangium*. The greater number of the species live beneath the bark of decaying trees or under stones; but one at least is parasitical, and attaches itself to the legs of flies.” *Leach's Zool. Misc.* vol. iii. Those genera of the second Stirps include the Scorpion, &c.

Genus 2. OBISIUM. *Illiger, Leach.*

*Body* cylindric: *thorax* composed of one segment: *mandibles* porrect *eyes* four.

Sp. 1. *Obi. trombidoides*. Second joint of the arms elongate: fingers long and straight.

Inhabits France and England, under stones.

A valuable Monograph has been published on the British species of this and the following genus in the third volume of the *Zoological Miscellany*, and is illustrated with very accurate figures of the whole.

Genus 3. CHELIFER. *Geoff., Leach.*

*Thorax* composed of three parts: *mandibles* short: *eyes* two.

Sp. 1. *Ch. fasciatus*. Hands oval; segments of the abdomen bordered with whitish.

*Chelifer fasciatus*. *Leach, Trans. Linn. Soc.* ix.

Inhabits beneath the bark of willow and other trees.

Obs.—Of the second stirps there are no British genera.

Order II. DIMEROSOMATA. *Leach.*Fam. I. PHALANGIDÆ. *Leach.*

*Eyes* two: *anus* simple.

Genus 4. PHALANGIUM *of authors.*

*Eyes* placed in a common peduncle: *mandibles* corneous, subcylindric, compressed, biarticulate, inflexed or geniculated at the second joint,

the apex of which bears a forceps with equal fingers: *palpi* formed like legs, terminated by a hook: *body* more or less oval. *Second pair of legs* almost six times the length of the body: *tarsi* all capillary, very slender, the first joints elongate, four times (or more) longer than broad.

Sp. 1. *Ph. Opilio. Latr.*—Male, *Phalangium cornutum. Linn., Fabr.*  
Female, *Phalangium Opilio. Linn., Fabr.*

Inhabits Europe on walls and rocks.

#### Genus 5. OPILIO. *Leach.*

*Eyes* placed on a common peduncle: *mandibles* corneous, subcylindric, compressed, biarticulate, inflexed or geniculated at the second joint, the apex of which has a forceps with equal fingers: *palpi* formed like legs, terminated by a hook: *body* more or less oval. *Second pair of legs* three or four times the length of the body, the fourth and following joints a little elongate, twice as long as broad.

Sp. 1. *Op. Histrix.*

Inhabits France and England.

### Fam. II. ARANEAE. *Leach.*

#### ARANEIDES. *Latreille.*

*Eyes* six or eight: *anus* with nipples for spinning.

The animals composing this most natural family are familiarly denominated Spiders, and, as before observed, were included by Linné, Fabricius, and other authors in one genus, which they called *Aranea*; but as the species are very numerous, they were obliged to divide them into sections, which they distinguished by the situations of their eyes. These organs are immoveable, and consist each of a single lens, which deprives them of the faculty of seeing in every direction.

“The ARANEAE are by far the most interesting animals of that class of which they form the type; and consequently their habits and structure excited the attention of naturalists at a very early period. Spiders frequently change their skins, and their skins are often found in their webs, being dry and transparent, with their mandibles attached to them. When about to cast their covering, they suspend themselves in some corner, and creep out of a fissure which takes place on their back, gradually withdrawing their legs from the skin, as if from a glove. They have likewise the power of reproducing their legs: the mode in which this takes place was first made known by that accurate observer of nature, Sir Joseph Banks.”

“As he was writing one evening in his study, one of the web-spinning spiders, of more than the middle size, passed over some papers on the table, holding a fly in its mouth. Much surprised to see a spider of this description walking about with its prey, and

being struck with somewhat unusual in its gait, he caught it, and placed it within a glass for examination, when, instead of eight, he perceived it had but three legs, which accounted for the inability of the creature to spin its web; but the curious circumstance of its having changed its usual economy, and having become a hunting instead of a spinning spider, as well as a wish to learn whether its legs would be renewed, induced him to keep the animal in the glass, from whence it could not escape, and to observe its conduct.

“ On the following morning the animal ate two flies given to it, by sucking out the juices, but left the carcasses entire. Two or three days afterwards it devoured the body and head of a fly, leaving only the wings and legs. After this time it sometimes sucked and sometimes ate the fly given to it. At first it consumed two flies in a day, but afterwards not more than one in two days. Its excrement, which it voided, was at first of a milky-white colour, but afterwards the white had a black spot in the centre, of a more solid appearance than the surrounding fluid.

“ Soon after its confinement it attempted to form a web on the side of the vessel, but performed the business very slowly and clumsily, from the want of the proper number of legs. In about a fortnight it had completed a small web, upon which it generally sat.

“ A month after having been caught, it shed its skin, leaving the slough on the web. After this change five new legs appeared, not half as long as the other three legs, and of very little use to the animal in walking. These new members, however, extended themselves a little in three days, and became half as long as the old ones. The web was now increased, and the animal continued immoveably sitting on it in the day time, unless drawn from it, or attracted by a fly thrown to it as its usual provision.

“ Twenty-nine days afterwards it again lost its skin, leaving the slough hanging in the web, opposite to a hollow cell it had woven, so as to prevent it from being completely seen when lodged in it. The legs were now larger than before the change of skin, and they grew somewhat longer still in three or four days, but did not attain the size of the old legs.

“ The animal now increased its web, and being put into a small bowl as a more commodious residence, soon renewed a better web than the first. In this state it was left on the first of November. No further observations have yet been made on the subject.”

“ The principal use of the *Araneada*, in the economy of nature, seems to be that of preventing the too great increase of insects.”

STIRPS 1.—*Legs simple, hinder eyes not placed on the anterior and superior part of the thorax, nor forming an irregular hexagon. The two exterior nipples of the anus longer than the others, and project-*

ing. *Lip* not advancing between the maxillæ nor prominent, but as long as broad.

\* *Eyes eight. Mandibles projecting.*

Genus 6. ATYPUS. *Latr., Leach. OLETERA. Walckenæer.*

*Eyes* on each side geminated: *lip* very small and quadrate, inserted under the base of the maxillæ: *palpi* inserted at the external base of the maxillæ, which are dilated at that part.

Sp. 1. *Aty. Sulzeri*. Black and shining: mandibles very long and strong: thorax nearly quadrate; plain behind, abruptly elevated before: the two middle eyes placed on an eminence: back of the abdomen coriaceous and more shining: joints of the legs shining.

Oletère difforme. *Walck. Tab. des Aran. 7. Atypus Sulzer. Latr., Leach.*

Inhabits France and England. In the latter country it was discovered by Dr. Leach near Exeter, and it has twice occurred near London.

\*\* *Mandibles perpendicular. Eyes six.*

Genus 7. SEGESTRIA. *Latreille, Walckenæer, Leach.*

*Maxilla* straight, longitudinal, with the base thickened, dilated externally, somewhat wedge-shaped, the middle longitudinally convex: *Lip* elongate-quadrate, longer than broad, the middle longitudinally convex or subcarinated: *legs*, the first pair longest, rest in proportion, the second, then the fourth, the third pair being shortest: *eyes* placed in a transverse line, the extremities somewhat recurved.

Sp. 1. *Seg. senoculata*. Thorax blackish-brown: abdomen oblong, griseous, with a longitudinal band of blackish spots: legs pale brown with obscure bands.

*Aranea senoculata. Fabr. Segestria senoculata. Walck., Latr., Leach.*  
Inhabits rocks and old buildings. It is common in France, near Paris, and in England it is not rare.

Genus 8. DYSDERA. *Latreille, Walckenæer, Leach.*

*Maxilla* straight, longitudinal, with the base thickened and externally dilated at the insertion of the palpi: the apex internally obliquely truncated, and thence externally acutely terminated: *palpi* with the first joint short and nearly obsolete: *lip* elongate, quadrate, gradually narrowing towards its point: *eyes* forming the figure of a horse-shoe, the open part in front: *legs* with the first, then the fourth, then the second pair longest, the third shortest: *claws* with a little brush beneath.

Sp. 1. *Dys. erythrina*. Mandibles and thorax sanguineous: legs lightly coloured: abdomen soft, grayish yellow and silky.

*Aranea erythrina. Fourcroy Fn. Paris. ii. 224. Dysdera erythrina. Latr., Walck., Leach.*

Inhabits the south of France, and England, beneath stones. It is rare in this country, but has been taken in Devonshire, near Plymouth and Exeter, and near London.

\*\*\* *Mandibles perpendicular. Eyes eight.*

Genus 9. DRASSUS. *Walck., Latr., Leach.* GNAPHOSA. *Latr.*

*Palpi* inserted under the lateral and external margin of the maxillæ towards their middle: *maxilla* longitudinal, arcuated, gradually becoming broader from the base towards the middle, somewhat concave internally, smooth externally, their middle impressed, the points bent inwards above the lip, and obliquely truncated within: *lip* elongate, ovate-quadrangle, or rather oval; the base transversely truncated, inclosing the maxilla: *legs* with the first, and afterwards the second pair longest.

\* *Lip somewhat oval; the external side of the maxilla much bent and arched.*

Sp. 1. *Dras. melanogaster.* Mandibles blackish: thorax and legs obscure brown: thighs light reddish-brown: abdomen cinereous-brown and silky.

*Drassus melanogaster. Latr., Leach.* *Drassus lucifuge. Walck.*  
Inhabits France and England, under stones.

\*\* *Lip ovate quadrangle.*

Sp. 2. *Dras. ater.* Entirely black.

*Drassus ater. Latr., Leach.*

Inhabits the vicinity of Paris, and near London, under stones.

Genus 10. CLUBIONA. *Latr., Walck., Leach.*

*Maxilla* straight and longitudinal: the basis a little dilated externally: the apex rounded and obliquely truncated on the inside: *lip* elongate, quadrangle, gradually narrowing towards the point: *legs*, the first or the fourth pair longer than the second pair.

\* *The two outermost eyes on either side neither placed very close together, nor inserted on a distinct prominence. (The maxilla in all with an incrassated base; the fourth pair of feet (rarely the first) longest.)*

Sp. 1. *Chu. lupidicola.* Thorax and mandibles pale reddish: feet very light red: abdomen ash-grey coloured.

Inhabits France and England under stones, constructing a globular cell of the size of a common hazel nut, in the centre of which are deposited a vast number of pale yellowish eggs agglutinated into a spherical mass.

The mandibles of the male are porrect, and rather more than half the length of the thorax; those of the female rather vertical.

\*\* *The two external eyes on each side placed rather close to each other. (Maxillæ not always thickened at their base; the first and then the second pair of legs longest.)*

A. *Maxillæ somewhat thickened at their base, and transversely impressed before the middle.*

Sp. 2. *Clu. Nutrix*. Ungulæ black: thorax and mandibles light red: legs very light red: abdomen yellowish green, with an obscure longitudinal band.

It has once occurred in England, near Cheltenham.

B. *Maxillæ not thickened at their base; front not transversely impressed.*

Sp. 3. *Clu. atrox*. Brown: legs pale: tibiæ with dark spots: middle of the back of the abdomen with a somewhat quadrate black spot, margined with yellow.

Inhabits old walls and the fissures of rocks. It is very common in Britain and France.

Genus 11. ARANEA of authors. TEGENERIA. Walck.

*Maxillæ* straight and longitudinal, with their internal angle distinctly truncate, diameter equal, apex rounded: *lip* elongate, nearly quadrate, longer than broad, towards the superior angles a little narrower: *legs*, the anterior pair about the same length with the fourth pair; third pair shortest: *eyes* disposed in two transverse lines near each other, and bent backwards.

Sp. 1. *Ar. domestica*. Livid-cinereous; thorax of the *male* immaculate; of the *female*, on each side with a longitudinal blackish band: abdomen blackish, middle of its back with a longitudinal, maculose, dentated band, and the lateral lineolæ livid.

*Aranæa domestica*. Linn., Fabr., Latr., Leach. *Tegeneria domestica*. Walck.

Inhabits houses in Europe; spinning its web in a place where there is a cavity, such as the corner of a room. The mode of constructing the web is curious. Having chosen a convenient situation, she fixes one end of the thread to the wall, and passes on to the other side, dragging the thread along with her, till she arrive at the other side, where she fixes the other end of it. Thus she passes and repasses until she has made as many parallel threads as are necessary; she then crosses these by other threads. This net is intended for the capture of her prey; and, in addition to it, the animal prepares a cell for herself, where she remains concealed, and on the watch. Between the cell and the net the spider builds a bridge of threads, which,

by communicating with the threads of the large net, both gives her intelligence when any thing touches the web, and enables her to pass quickly in order to seize it.

Genus 12. AGELENA. *Walckenaer, Leach.*

*Maxilla* straight and longitudinal, their internal angle slightly truncate; diameters equal, apex rounded: *lip* not longer than broad, towards the superior angle a little narrower: *legs* moderately long, the anterior and fourth pairs of nearly equal length, the third pair shortest; *eyes* disposed in two transverse lines near to each other, and bent backwards.

Sp. 1. *Ag. labyrinthica*. Griseous pale-reddish; thorax on each side with a blackish longitudinal line: abdomen black, above and on each side with white oblique lines forming obtuse angles, running together anteriorly in pairs; the weaving appendices or nipples conic, elongate.

Inhabits the fields. It is very common in most parts of Europe during the summer months. In Britain it is most abundant in the autumn. It spins a horizontal web on the ground, in which it watches for its prey, consisting of flies and other dipterous insects. The spider itself lives in a funnel-shaped cavity, often extending below the surface of the ground.

Genus 13. ARGYRONETA. *Latreille, Walckenaer, Leach.*

*Maxilla* short, straight, elongate quadrate, the sides of nearly equal diameters; anteriorly convex; the apex rounded: *lip* short, shorter than the maxillæ; of a narrow elongate-triangular form; the anterior aspect convex; the apex obtuse or truncate: *legs*, the first, the fourth pair longest; the second pair shortest: *eyes* with the four middle ones forming a quadrangle, the two on each side set obliquely and subgeminated.

Sp. 1. *Arg. aquatica*. Blackish-brown: abdomen black velvety, with some impressed dots on its back.

*Aranea aquatica, Linn., Fabr. Argyroneta aquatica. Latr., Walck., Leach.*

Inhabits Europe, frequenting slow running waters and ditches, spinning a web most beautifully constructed under the water, in which it lives, being surrounded with air, which shines through the water with a silvery lustre. The eggs are deposited in a globose silky bag. It is extremely common in most of the ditches round London, and may be observed, especially in the beginning of the summer, building its nest beneath the water, or running along the lines by which it is suspended.

STIRPS 2.—*Legs* simple: *hinder eyes* not placed on the anterior and superior of the thorax, nor forming an irregular hexagon: *nipples*

of the anus short and nearly equal, of a conic form: *lip* nearly semicircular, broader than long, and projecting between the maxillæ: (*eyes* eight.)

\* *Eyes* not describing the segment of a circle. *Maxillæ* straightened towards their extremities, but not dilated.

Genus 14. SYCTODES. *Latreille, Walckenäer, Leach.*

*Maxillæ* oblique and longitudinal, covering the sides of the lip; their bases thickened, the apex internally obliquely truncated: *lip* somewhat quadrate, the base a little contracted: *legs* with the fourth, then the first pair longest; the third pair shortest.

Sp. 1. *Syc. thoracica*. Pale reddish-white, spotted with black: thorax large and somewhat orbicular, elevated roundly behind: abdomen lighter in colour, and subglobose.

Inhabits Paris, in houses. It has twice occurred near Dover, but both the individuals were females.

Genus 15. THERIDIUM. *Walckenäer, Latreille, Leach.*

*Maxillæ* with an oblique direction covering the sides of the lip, converging towards their points; of equal breadth; the internal apex obtuse, or obliquely truncated: *lip* small, triangular, or semicircular; the apex truncate or subrounded: *legs* elongate, the first, then the fourth pair longest: *eyes* with four in the centre, forming a quadrangle, the under ones placed on a common elevation; two others on each side geminated, and situated on a common elevation.

Sp. 1. *Th. sisiphum*. Rufous: abdomen globose, with three lines.

*Theridium sisiphum*. *Leach.*

Inhabits Europe, in the corners of buildings, walls, and rocks. *It is figured by Lister, t. 14. fig. 14.*

Genus 16. PHOLCUS. *Walckenäer, Latreille, Leach.*

*Maxillæ* oblique, covering the sides of the lip, converging from the base to the apex: *apex* internally truncated: *lip* transversely quadrate; the lateral angles of the apex rounded and somewhat margined: *legs* very long and very slender; the first, then the second and fourth (nearly equal) the longest: *eyes* inserted on a tubercle; two geminated and placed transversely in the middle; three on each side amassed in a triangle, one larger than the rest.

Sp. 1. *Ph. phalangioides*. Pale-livid; abdomen elongate, cylindrical-oval, very soft, obscure cinereous; tip of the tibiae and thighs with a pale ring of a whitish colour.

*Pholcus phalangioides*. *Walck., Latr., Leach, Aranea Pluchii, Scopol. Aranea opilionides. Schrank. Aranea phalangioides. Fourcroy.*

Inhabits houses in Europe; in the western parts of England it is extremely common. Its body vibrates like that of a tipulideous insect.

\*\* *Eyes not describing the segment of a circle. Maxilla straight, with their points dilated.*

Genus 17. TETRAGNATHA. *Latreille, Leach.*

*Eyes* subequal; disposed in two straight and almost parallel transverse lines, the four middle ones forming nearly a regular quadrangle: *maxilla* straight, elongate and narrow, almost equally broad; the apex externally dilated and round: *lip* semicircular and somewhat notched: *legs* very long and very slender; the first pair longest, then the second, afterwards the fourth.

Sp. 1. *Tet. extensa*. Reddish; abdomen oblong, golden green, with the sides and two lines below yellowish; the middle below longitudinally black.

*Aranea extensa*. *Linn., Fabr.* *Tetragnatha extensa*. *Latr., Walck., Leach.* Inhabits Europe; frequenting moist places, in which it constructs a vertical web, sitting on it with its legs extended.

Genus 18. EPEÏRA. *Walckenäer, Latreille, Leach.*

*Latreille* has divided this genus into sections, most of which would form good genera.

*Eyes* with the four middle ones placed on an abruptly formed tubercle in the form of a quadrangle, the two anterior ones largest and most distant; the lateral eyes on each side subgeminated and placed obliquely on a tubercle: *maxilla* subcircular, internally membranaceous: *lip* semicircular; short, with the point membranaceous: *legs* moderately long, hispid, the thighs rather strong; the first pair largest, then the second, afterwards the fourth pair: *thorax* inversely elongate subcordate, anteriorly broadly truncated: *abdomen* subglobose, large, much broader than the thorax.

Sp. 1. *Ep. Diadema*. Reddish; abdomen globose-oval, with an elevated angle on each side of its base; dorsal band broad, triangular, dentated, darker, with a triple cross of luteous white dots or spots, and with four impressed dots disposed in a quadrangle.

*Aranea Diadema*. *Linn.* *Araignée à croix*. *De Geer.* *Epeïra Diadema*. *Walck., Latr., Leach.*

Inhabits Europe. It frequents the borders of woods, rocks, and gardens, and is well known in Britain by the names Sceptre or Diadem Spider.

\*\*\* *Eyes describing the segment of a circle.*

Genus 19. THOMISUS. *Walck., Latr., Leach.* HETEROPODA,  
*Lutp. MISUMENA. Latr.*

*Eyes* generally subequal, placed in two transverse lines in a kind of semicircle: *maxilla* oblique, covering the side of the lip and in some degree converging; the internal apex truncate: *lip* somewhat-oval

or nearly quadrate, generally longer than broad: *legs*, the first and second pair longest: the second rather longest; the third and fourth pair of legs much less, sometimes one being largest, sometimes the other.

The *mandibles* of the animals composing this genus are either perpendicular or somewhat inflexed; in many conical with many short claws.

\* *Thorax convex, cordiform; the sides, especially behind, abruptly sloping, anteriorly broadly truncate; the largest legs not double the length of the body; the first and second pair much thicker than the others, sometimes one sometimes the other being longest. The first joint of the tarsi, with several moveable little spines, in a single or in a double series; the claws of the tarsi naked. Lip somewhat oval, the apex truncate or obtuse. Apex of the maxilla wedge-shaped.*

Sp. 1. *Tho. citreus*. Thorax at the insertion of the eyes transversely elevated; the sides anteriorly produced and prominent: eyes equal; abdomen roundish, trigonal, broader behind, with a red line on each side: body yellowish citron-coloured.

Inhabits Europe, living in flowers. It is very common in Britain. The male is rare, smaller than the female; of a brown colour banded with yellowish green.

\*\* *Thorax convex, cordiform; the sides, especially behind, abruptly sloping, the anterior part broadly truncated; the larger legs not twice the length of the body, all of nearly an equal degree of thickness; the hinder four not much shorter; the anterior with four little spines: the claws of all the tarsi scarcely visible. Lips somewhat oval: the apex truncate or obtuse. Maxilla at their points wedge-shaped.*

Sp. 2. *Tho. lynceus*. Lateral eyes largest, placed on an eminence, the tubercles of the hinder ones thickest: body pale yellowish-grey, variegated with punctures and spots of a blackish colour: abdomen very large, of a triangular-oval form, broader behind.

Inhabits France and Scotland. Latreille considers it to be much allied to *Thomisus onustus* of Walckenaër.

\*\*\* *Thorax depressed, somewhat oval, very obtuse before; the larger legs not twice the length of the body; all the legs of equal thickness; the tarsi hairy beneath, the first joint with a few little spines: the apex with two brushes under the claws: abdomen oblong: the maxilla beyond the insertion of the palpi, nearly of equal breadth, distinctly and abruptly truncated: lip somewhat quadrate: hinder eyes distant.*

Sp. 3. *Tho. oblongus*. Pale-yellowish, with white hairs above: abdomen somewhat cylindrical, with obscure longitudinal lines.

Inhabits France, Denmark, and England, on plants.

**STIRPS 3.**—*Legs* not formed for leaping. *Hinder eyes* placed on the anterior and superior part of the thorax, forming an irregular hexagon. (*Hinder pair of legs* longest.)

Genus 20. LYCOSA. *Latreille, Walckenaer, Leach.*

*Maxilla* straight, anteriorly convex; externally towards the side somewhat arcuated; internally slightly margined, gradually narrowing towards the base; the apex obliquely truncated, forming almost an inverted triangle: *lip* elongate, quadrate: *legs* strong, the fourth pair longest, then the second; the third shortest.

Sp. 1. *Lyc. saccata*. Above smoky-black clouded with cinereous villosity; carina of the thorax obscure, reddish, with a cinereous villosous line; base of the abdomen with a little bundle of griseous hairs: legs livid-red, with blackish spots.

Inhabits Europe. It is very common in Britain: the female may be observed in gardens carrying her bag of eggs, of a green colour: palpi, mandibles, and anterior margin of the thorax livid-red in the female, black in the male.

Genus 21. DOLOMEDES. *Latreille, Walckenaer, Leach.*

*Maxilla* straight, oval-quadrate; the apex externally rounded, internally obliquely truncated: *lip* somewhat square, the diameters nearly equal, the points of the angles rounded: *legs* elongate; the fourth pair longest, then the second; the third shortest: *claws* exerted, without brushes below.

Sp. 1. *Dol. mirabilis*. Pale reddish, covered with greyish down: thorax heart-shaped, anteriorly abruptly sloping: the anterior angles and dorsal line whitish: abdomen conical, suboval: back darker.

*Aranea saccata*. Linn. *Dolomedes mirabilis*. *Walck., Latr., Leach.*  
*Aranea Listeri*. *Scopoli*. *Aranea obscura*. *Fabr.*

Inhabits woods.

**STIRPS 4.**—*Legs* formed for leaping: (*Eyes* eight. *Thorax* never carinated.)

Genus 22. SALTICUS. *Latr., Leach.* *ATTUS*. *Walck.*

*Maxilla* straight, longitudinal, subrhomboidal, or inverse-cuneate-ovate: *lip* elongate, suboval, the apex obtuse: *palpi* clavate: *thorax* truncate-ovate or parallelogrammic: *eyes* disposed in the form of a horse-shoe, the two middle ones largest: *legs* thick and short; the first pair thickest and not longer than the fourth pair; the second and the third pairs of nearly an equal length, and shorter than the two other pairs.

Sp. 1. *Sal. scenicus*. Black; margin of the thorax covered with white down: abdomen short ovate; above with a reddish-gray pubescence, with three transverse arcuate lines, and the anus white; the first band basal and entire, the others acutely bent anteriorly, and interrupted in their middle.

*Aranea scenica*. Linn., *Fabr.* Atte paré. *Walck.* *Salticus scenicus*. *Latr., Leach.*

Inhabits walls and palings. It is found in most parts of Europe, and is called in Britain the Hunting Spider.

Genus 23. ATTUS. *Walck., Leach's Supp. to Encycl. Brit.* SAL-  
TICUS. *Latr., Leach's Edin. Encycl.* vol. vii.

*Maxilla* straight, longitudinal, subrhomboidal or inversely cuneate-ovate: *lip* elongate, suboval, with the apex obtuse: *palpi* filiform: *thorax* elongate, narrow, subconic: *eyes* disposed in the form of a horse-shoe; the two middle eyes largest: *legs* slender, elongate, the first pair thickest and not longer than the fourth pair; the second and third pairs of nearly an equal length and shorter than the other pairs.

Sp. 1. *Att. formicarius*. Thorax anteriorly black, behind red: abdomen fuscous, with a white spot on each side: legs red.

*Attus formicarius*. *Walck.* *Salticus formicarius*. *Latr., Leach.* Araignée fourmi. *De Geer.*

Inhabits Europe, residing on plants and walls. It is very rare in Scotland, and has not been observed in England.

#### Class IV. ACARI. *Leach's MSS.*

In the *Supplement to Encycl. Brit.* vol. i. the animals of this Class were arranged with the Arachnoida and formed the Order Monomerosomata. Since that paper was written, Dr. Leach has, from a further investigation of their characters, separated them from the Arachnoida (in which they differ essentially), and considers them as a distinct class; they are for the most part parasitic, living on the bodies of other animals: to the lovers of the microscope these animals will afford an extensive field for their research and investigation; they are very numerous, highly interesting, and as yet but imperfectly known.

CHARACTER.—*Body* formed but of one segment: *mouth* rostriform, or in some furnished with maxillæ and mandibles: *legs* six or eight: *tracheæ* for respiration.

#### Section I.—*Legs formed for walking.*

##### A. *Mouth with mandibles.*

##### Fam. I. TROMBIDIADÆ. *Leach.*

*Palpi* porrect, and furnished at their extremities with a moveable appendage. *Eyes* two, placed on a pillar. *Body* apparently divided into two parts by a transverse line; the anterior division bearing the eyes, mouth, and four anterior legs.



*Acarus geniculatus*. Linn.

Inhabits trees and beneath stones. It is common in Sweden, Germany, and England.

Genus 5. NOTASPIS. Hermann.

Body covered by a coriaceous skin, the anterior part rostrated, the produced part inclosing the organs of mastication: *abdomen* subglobose, the sides anteriorly with a wing-like process: *tarsi* with claws.

Sp. 1. *Not. humeralis*. Abdomen blackish-chesnut; the produced parts membranaceous.

Mitte à rebord. De Geer. *Oribita humeralis*. Latr., Leach.

Inhabits moss and beneath stones. It is not uncommon in the southern parts of Devonshire.

Genus 6. ACARUS of authors.

Body soft: *mouth* naked: *tarsi* with a pedunculated vesicle at their extremities.

Sp. 1. *Aca. domesticus*. White, with two brown spots; body ovate, the middle coarctate, with very long hairs: legs equal.

*Acarus Siro*. Linn., Fabr., Leach Edin. *Encycl.* vii. 415. *Acarus domesticus*. Latr., Leach *Supp. to Encycl. Brit.* i. 444.

Inhabits houses, living in cheese and flour that have been kept too long.

B. Mouth furnished with a rostrum.

Fam. IV. IXODIADÆ. Leach.

Eyes obscure or concealed.

STIRPS 1.—Palpi and rostrum exerted.

Genus 7. IXODES. Latreille, Leach. CYNORHGESTES. Hermann. Palpi equally broad, longer than broad.

Sp. 1. *Ix. Ricinus*. Scutum rounded, smaller; with the vagina of the rostrum and the legs fuscous: abdomen varying in colour.

*Acarus Ricinus*. Linn., Fabr. *Ixodes Ricinus*. Latr., Leach.

Inhabits Europe, attaching itself to dogs. In Britain it is called the Dog-tick.

Dr. Leach has written a paper on the British species of this genus, which is published in the eleventh volume of the *Transactions of the Linnean Society*.

STIRPS 2.—Palpi and rostrum hidden.

Genus 8. UROPODA. Latreille, Leach.

Body oval, orbiculate: back corneous, clypeiform, the disc being gradually convex; beneath flat: anus produced into a long filiform peduncle (by which it adheres to coleopterous insects): legs very short, pressed close to the body, the first pair shortest, the second pair rather longer, the third distinctly longer, the fourth pair longest.

Sp. 1. *Uro. vegetans*. Brown, very smooth, shining.

Mitte vegetative. *De Geer.*, vii. 123. *pl.* 7. *fig.* 15.

*Uropoda vegetans*. *Latr.*, *Leach*.

Inhabits France and England, attaching itself to the legs, abdomen, and elytra of *Histeres*, *Aphodii*, &c. by its pedunculated anus.

Fam. V. CHEYLETIDÆ. *Leach*.

*Eyes* distinct: *palpi* concealed.

STIRPS 1.—*Palpi* distinct.

Genus 9. SARCOPTES. *Latreille*, *Leach*.

Sp. 1. *Sar. Scabiei*. Subrotundate; legs short, reddish; four hinder ones, with a very long seta: the plantæ of the four anterior ones terminated by a swelling.

Mitte de la Gale. *De Geer.* *Acarus Scabiei*. *Fabr.* *Le Ciron de la Gale*. *Geoff.* *Sarcopte de la Gale*. *Latr. Hist. Nat. des Crust. et des Insect.* viii. 55. et vii. *pl.* 66. *Sarcoptes Scabiei*. *Latr.*, *Leach*.

Inhabits the ulcers of the itch. *Acarus exulcerans* of *Linné* is probably this animal, or is at least referable to the same genus.

Section II.—*Legs* formed for swimming.

Fam. HYDRACHNADÆ.

*Mouth* with mandibles.

Genus 10. HYDRACHNA. *Müll.*, *Oliv.*, *Latr.*, *Leach*.

*Palpi* subcylindric, porrect, arcuate inflexed, four-jointed, the last acute unguiform: *mouth* produced into a conic rostrum: *body* globose: *legs* fimbriated with hairs, and situated at equal distances from each other.

Sp. 1. *Hy. geographica*. Black, with coccineous spots and dots.

*Hydrachna geographica*. *Müll. Hydr.* 59. *tab.* 8. *fig.* 3-5. *Latr.*, *Leach*.

Inhabits waters that flow gently. It is a most beautiful animal, and is very common near London.

Genus 11. LIMNOCHARES. *Latr.*, *Leach*.

*Palpi* incurved, the apex acute simple: *mouth* with a very short rostrum: *body* depressed: *legs* short, the four hinder ones remote: *eyes* two.

Sp. 1. *Lim. holosericea*. Body ovate, red, rugose, soft; eyes black.

*Acarus aquaticus*. *Linn.* *La Tique rouge satinée aquatique*. *Geoff.*

*Mitte satinée aquatique*. *De Geer.* *Trombidium aquaticum*. *Fabr.*

*Limnochares holosericea*. *Latr.*, *Leach*.

Inhabits Europe. It is very common in most of our ponds during the summer months. It varies much in colour, but is generally found of a bright red or greyish-red colour, and of all the intermediate varieties of shape.

Class V. *INSECTA*.

*History*.—*INSECTA*, so named from *in* (into) and *seco* (to cut). This term was applied to these animals by the Latins; by the Greeks they were named *Entoma* (ἐντομα), from ἐν, *into*, and τέμνω, *to cut*. Insects were so named, because their bodies are composed of many joints or segments; on which account several of the ancient and older naturalists placed them with the classes *Crustacea*, *Myriapoda*, *Arachnoïda*, and *Vermes*.

The oldest records on this subject are to be found in the sacred writings, where mention is made of locusts, flies, and caterpillars; and it is probable that Moses had acquired some knowledge of insects from the Egyptian sages, as his writings abound with passages relating to insects.

Hippocrates, as we are told by Pliny, wrote on insects; and the writings of the earlier Greek and Latin philosophers, quoted by Pliny, afford extracts of his labours.

Aristotle, in his *History of Animals*, has devoted a very considerable portion of his attention to insects, and has described their general external structure with great accuracy.

Aldrovandus, in 1602, published a very voluminous work, *De Animalibus Insectis*, in which he divides insects into *Terrestrial* and *Aquatic*.

In 1612, Wolfgang Frantzius published *Historia Animalium Sacra*, which contains some new observations, and a distribution of insects into *Aërial*, *Aquatic*, and *Terrestrial*.

Swammerdam, who published his *Historia Insectorum Generalis* in 1669, divided genuine insects into, 1st, Those which, after leaving the egg, appear under the form of the perfect insect, but have no wings, which parts are afterwards produced: 2dly, Those insects which appear, when hatched from the eggs, under the form of a larva, and, when full grown, change into a chrysalis, where it remains until its parts are fit to be developed: 3dly, Those which, having attained the pupa (chrysalis or nymphæ) state, do not divest themselves of their skin. His other divisions refer to animals of the classes *Arachnoïda*, *Crustacea*, and *Myriapoda*; and the whole of his work contains much valuable observation on the structure and economy of these animals.

In 1735, Linné published the first edition of his *Systema Naturæ, sive Regna tria Naturæ systematicè proposita per Classes, Ordines, Genera, et Species*, in which work Insects are distributed into four Orders, according to the number and form of their wings: 1. *COLEOPTERA*; 2. *ANGIOPTERA*; 3. *HEMIPTERA*; 4. *APTERA*.

With the last Order he included *Crustacea*, *Arachnides*, *Myriapoda*, *Vermes*, and certain *Zoophytes*; but in subsequent editions of this work

he separated the Vermes, as Aristotle had done before him, and established them as a class distinct from Insects.

Schæffer, in 1741, published a valuable work, under the title *Icones Insectorum circa Ratisbonam indigenorum*. The classification proposed by the author differs entirely from that of Linné, and approaches in some respects that proposed by Geoffroy.

In 1764, Geoffroy published his most valuable System of Insects, under the title *Histoire abrégée des Insectes, &c.* in which these animals are arranged into six sections.

In 1776, J. C. Fabricius, a pupil of Linné, published a new system of entomology, under the title *Systema Entomologiæ*, in which the principles of a new mode of classification, founded on the organs of deglutition and mastication, is for the first time developed. This system, which has undergone several modifications, is named the *Cibarian System*.

Scopoli, in 1777, published his *Introductio ad Historiam Naturalem*, in which work he divides insects into five tribes, under the singular appellations of, 1. *Swammerdami-Lucifuga*; 2. *Geoffroy-Gymnoptera*; 3. *Roeselii-Lepidoptera*; 4. *Reaumurii-Proboscidea*; 5. *Frischii-Coleoptera*, identifying each tribe by the name of each author, who has, in his opinion, been most successful in the explanation of that to which his name is attached.

The *Lucifuga* includes the lice; *Gymnoptera*, his *halterata*, *aculeata*, and *caudata*; *Lepidoptera*, the moths and butterflies; *Proboscidea* he has divided into terrestrial and aquatic; and the *Coleoptera* he divides into those inhabiting water, and those the land.

In 1780, Linné produced the twelfth edition of his *Systema Naturæ*, which was the last systematic work of that illustrious naturalist.

In 1793, P. A. Latreille published his *Précis des Caractères Génériques des Insectes*, in which he divided Insects into I. AILE'S: 1. *Coleoptera*, 2. *Orthoptera*, 3. *Hemiptera*, 4. *Neuroptera*, 5. *Lepidoptera*. II. APTÈRES: 6. *Suctoria*, 7. *Thasynoura*.

In 1798, J. C. Fabricius produced his last general systematic work, the *Supplementum Entomologiæ Systematicæ*, which presents an outline of his system in its latest state; and which, being the result of much knowledge, demands a considerable portion of attention.

In the *Entomologie Helvétique*, a work published in 1798, Clairville, its author, has arranged Insects in the following manner:

\* PTEROPHORA; MANDIBULATA. With wings and jaws.

- Section 1. ELYTROPTERA. Wings crustaceous.  
 2. DERATOPTERA. Wings coriaceous.  
 3. DICTYOPTERA. Wings reticulated.  
 4. PHLEBOPTERA. Wings veined.

\*\* PTEROPHORA; HAUSTELLATA. With wings and a haustellum.  
Section 5. HALTERIPTERA. Wings with poisers.

6. LEPIDOPTERA. Wings with powder.

7. HEMIMEROPTERA. Wings partly obscure, partly diaphanous.

\*\*\* APTERA; HAUSTELLATA. Without wings; with a sucker,

8. ROPHOPTERA. Sucker sharp,

\*\*\*\* APTERA; MANDIBULATA. Without wings, with jaws.

9. PODODUNERA. Legs formed for running.

In 1800, Cuvier, with the assistance of Duméril, published his *Anatomie Comparée*, in which the organization of Insects is treated of at great length.

In 1801, J. B. Lamarck produced his *Système des Animaux sans Vertèbres*, in which work he has arranged some of the genuine Insects with the *Arachnoïda*; the rest he distributes into the following Orders:

\* *With mandibles and jaws.*

Order I. COLEOPTERA. II. ORTHOPTERA. III. NEUROPTERA.

\*\* *With mandibles, and with a kind of proboscis.*

Order IV. HYMENOPTERA.

\*\*\* *No mandibles. A trunk or sucker.*

Order V. LEPIDOPTERA. VI. HEMIPTERA. VII. DIPTERA. VIII. APTERA.

In 1806, Latreille published his *Genera Crustaceorum et Insectorum*, in which he has denominated the true Insects *Insecta Pterodictera*; and has arranged them in the following manner:

Century I. ELYTHROPTERA.

Elytra two, covering the wings entirely.

Cohors I. ODONTOTA.

Mouth with mandibles, maxillæ, and lip. Wings folded.

Order I. COLEOPTERA. II. ORTHOPTERA.

Cohors II. SIPHONOSTOMA.

Order III. HEMIPTERA.

Century II. GYMNOPTERA.

Wings naked.

## Cohors I. ODONTATA.

Mouth with mandibles, maxillæ, and lip. Wings four.

## Order IV.—NEUROPTERA. V. HYMENOPTERA.

## Cohors II. SIPHONOSTOMA.

Mouth tubular, formed for sucking.

## Order VI. LEPIDOPTERA. VII. DIPTERA. VIII. SUCTORIA.

Latreille has retained the same general arrangement in his last work, *Considerations Générales sur l'Ordre Naturelle, &c.* but he has rejected the divisions into Legions, Centuries, and Cohorts.

Duméril, in his *Zoologie Analytique*, arranges insects into Eight Orders, the last of which also comprehends the Classes *Arachnoïda* and *Myriapoda*.

In 1812 Lamarck published a little work, entitled *Extrait du Cours de Zoologie du Muséum d'Histoire Naturelle*, in which he has continued the general arrangement published by him in 1801.

In 1815, vol. ix. of the *Edinburgh Encyclopædia* was published, in which Dr. Leach gave the following arrangement of Insects into Orders, and has added to them the *Parasita* and *Thysanoura*, which Latreille placed with the *Arachnoïda*.

## Subclass I, AMETABOLIA.

## Order I. THYSANURA. II. ANOPLURA.

## Subclass II. METABOLIA.

## Century I. ELYTHROPTERA.

Insects with elytra.

## Cohors I. ODONTOSTOMATA.

Mouth with mandibles.

\* *Metamorphosis incomplete.*

## Order III. COLEOPTERA.

\*\* *Metamorphosis nearly coarctate.*

## Order IV. STREPSIPTERA.

\*\*\* *Metamorphosis semi-complete.*

## Order V. DERMAPTERA. VI. ORTHOPTERA. VII. DICTYOPTERA.

## Cohors II. SIPHONOSTOMATA.

Mouth with an articulated rostrum.

## Order VIII. HEMIPTERA. IX. OMOPTERA.

## Century II. MEDAMOPTERA.

Insects without wings or elytra.

## Order X. APTERA.

## Century III. GYMNOPTERA.

Insects with wings but no elytra.

## Cohors I. GLOSSOSTOMATA.

Mouth with a spiral tongue.

## Order XI. LEPIDOPTERA.

## Cohors II. GNATHOSTOMATA.

Mouth with maxillæ and lip.

## Order XII. TRICHOPTERA.

## Cohors III. ODONTOSTOMATA.

Mouth with mandibles, maxillæ, and lip.

## Order XIII. NEUROPTERA. XIV. HYMENOPTERA.

## Cohors IV. SIPHONOSTOMATA.

Mouth tubular, formed for sucking.

## Order XV. DIPTERA.

As the above arrangement is subject to various objections, I shall adopt that since given by the same author in vol. iii. of his *Zoological Miscellany*.

## Class V. INSECTA.

## Subclass I. AMETABOLIA.

Insects undergoing no metamorphosis.

Order I. THYSANURA.—*Tail* armed with setæ.Order II. ANOPLURA.—*Tail* without setæ.

## Subclass 2. METABOLIA.

Insects undergoing metamorphosis.

Order III. COLEOPTERA.—*Wings* two, transversely folded, covered by two crustaceous or hard coriaceous elytra, meeting (generally) with a straight suture. *Mouth* with mandibles. (*Metamorphosis* incomplete.)

Order IV. DERMAPTERA.—*Wings* two, longitudinally and transversely folded. *Elytra* subcrustaceous, abbreviated, with the suture straight. *Mouth* with mandibles. (*Metamorphosis* semi-complete.)

Order V. ORTHOPTERA.—*Wings* two, longitudinally folded, covered by two coriaceous elytra, the margin of one elytron covering the same part of the other. *Mouth* with mandibles. (*Metamorphosis* semi-complete.)

Order VI. DICTYOPTERA.—*Wings* two, longitudinally folded, twice or more, covered by two coriaceous elytra; one elytron decussating the other obliquely. *Mouth* with mandibles. (*Metamorphosis* semi-complete.)

Order VII. HEMIPTERA.—*Wings* two, covered by two crustaceous or coriaceous elytra (the tips of which are generally membranaceous), horizontal, one decussating the other obliquely. *Mouth* with an articulated rostrum. (*Metamorphosis* semi-complete.)

Order VIII. OMOPTERA.—*Wings* two, covered by two elytra which are entirely coriaceous or membranaceous; meeting obliquely with a straight suture. *Mouth* with an articulated rostrum. (*Metamorphosis* semi-complete or incomplete.)

Order IX. APTERA.—*No wings* or elytra. *Mouth* with a tubular jointed sucking rostrum. (*Metamorphosis* incomplete.)

Order X. LEPIDOPTERA.—*Wings* four, membranaceous, covered with meal-like scales. *Mouth* with a spiral tongue. (*Metamorphosis* incomplete.)

Order XI. TRICHOPTERA.—*Wings* four, membranaceous; the pterigostia or wing bones hairy. *Mouth* with maxillæ and lip. (*Metamorphosis* incomplete.)

Order XII. NEUROPTERA.—*Wings* four, membranaceous, generally of equal size, with numerous decussating pterigostia resembling a network. *Mouth* with mandibles, maxillæ, and lip. (*Metamorphosis* incomplete or semicomplete.)

Order XIII. HYMENOPTERA.—*Wings* four, membranaceous, the hinder ones always smallest; the pterigostia not decussating each other, so as to resemble a net-work. *Mouth* with mandibles, maxillæ and lip. (*Metamorphosis* incomplete.)

Order XIV. RHIPIDPTERA.—*Wings* two, longitudinally folded. *Mouth* with mandibles. (*Metamorphosis* subcoarctate.)

Order XV. DIPTERA.—*Wings* two, with halteres or balancers at their base. *Mouth* tubular, formed for sucking. (*Metamorphosis* incomplete or subcoarctate.)

Order XVI. OMALOPTERA.—*Mouth* furnished with mandibles and

elongated maxillæ: *lip* simple. *Wings* two or none. (*Metamorphosis* coarctata.)

Subclass I. INSECTA AMETABOLIA.

Order I. THYSANURA. *Leach*.

THYSANOURA. *Latreille*.

*Tail* furnished with setæ or filaments: *mouth* with mandibles, palpi, labrum, and labium,

The body of the animals which compose this Order is generally covered with scales or hair. Their motion is extremely rapid, or performed by leaping.

Fam. I. LEPISMADEÆ. *Leach's MSS.*

*Palpi* very distinct and prominent, or exerted: *antennæ* composed of a vast number of very short joints: *tail* with three exerted setæ.

STIRPS 1.—*Body* depressed, and moving with a running motion: *tail* with three nearly equal filaments.

Genus 1. LEPISMA. *Linn., De Geer, Fabr., Latr., Leach. SE-*  
TOURA. *Brown. FORBICINA. Geoff., Lamarck.*

*Antennæ* inserted between the eyes: *maxillary palpi* slender, composed of five joints, the last of which is elongate and very slender: *labial palpi* with their joints compressed, dilated, and round: *eyes* small and remote.

Sp. 1. *Lep. saccharina*. Body covered with silvery scales.

Inhabits Europe. It is very common amongst books, clothes, &c. and wanders about during the night. It is supposed to have been originally introduced into Europe from America, where it is said to live amongst sugar.

STIRPS 2.—*Body* convex, with an arched back formed for springing. *Tail* with three setæ, the middle one longest.

Genus 2. FORBICINA. *Geoff., Leach. LEPISMA. Linn., Olivier.*  
MACHILIS. *Latr.*

*Antennæ* inserted under the eyes, shorter than the body: *maxillary palpi* thick, with six joints, the last conic: *labial palpi* with the apex membranaceous: *eyes* large and contiguous.

Sp. 1. *For. polypoda*. Smoky brown, with obscure rust-coloured spots.

*Lepisma polypoda. Linn. Lepisma saccharina. Vill. Ent. 4. tab. 11. fig. 1. Machilis polypoda. Latr. Gen. Crust. et Ins. 1. p. 165. tab. 6. fig. 4. magnified. La Forbicine cylindrique. Geoff. Forbicina polypoda. Leach.*

Inhabits all the temperate parts of Europe, and is found in woods and under stones.

Genus 3. PETROBIUS. *Leach's Zoological Miscellany*, vol. iii. tab. 145. LEPISMA. *Fabr.*?

*Antennæ* longer than the body, inserted under the eyes: *maxillary palpi* six-jointed; the fifth joint inversely conic, the sixth conic: *labial palpi* with the last joint obliquely truncate, with the apex acute, and not membranaceous: *eyes* large and contiguous.

Sp. 1. *Pet. maritimus*. Blackish, with golden scales: feet yellowish: setæ of the tail annulated with white.

Inhabits all the rocky shores of Britain. Dr. Leach first observed this species on the Devonshire coast, and afterwards in Ireland, Scotland, and Wales. It is very active, runs fast, and leaps to a great distance. Dr. L. suspects that it has been confounded by Fabricius with *Forbicina polypoda*.

Fam. II. PODURADÆ. *Leach*.

*Palpi* not exerted nor very conspicuous: *antennæ* composed of four joints, the last sometimes formed of several other minute articulations: *tail* forked, and bent beneath the abdomen.

Genus 4. PODURA. *Linn.*, *Geoff.*, *De Geer.*, *Fabr.*, *Lam.*, *Hermann*, *Leach*.

*Antennæ* with the last joint solid, not articulated: *abdomen* elongate, linear.

Sp. 1. *Pod. plumbea*. Lead-coloured, shining, with griseous head and feet.

*Podura plumbea*. *Linn.*, *Fabr.*, *Latr.*, *Leach*. *Podure plombée*. *De Geer*. *La Podure grise commune*. *Geoff*.

Inhabits Europe under stones.

There are a great number of species in this and the following genus, which are worthy of attention. Fabricius has placed these two genera together without the slightest distinction, and has described several species, which it is hoped some future zoologist will be induced to examine.

Genus 5. SMYNTHURUS. *Latr.*, *Leach*. PODURA. *Linn.*, *Fabr.*, *De Geer*, *Geoff*.

Sp. 1. *Smynt. fuscus*. Body entirely brown.

*La Podure brun enfumée*. *Geoff*. *Podura atra*. *Linn.*? *Fabr*. *Smynturus fuscus*. *Latr.*, *Leach*.

Inhabits Europe; is common on the ground and in damp hedges.

Order II. ANOPLURA. *Leach*.

PARASITA. *Latreille*.

*Tail* without setæ or filaments: *mouath* in some furnished with two teeth (or mandibles?) and an opening beneath; in others with a tubulose very short haustellum.

The animals of this Order are parasitical, and were by Latreille

placed in an order which he named *Parasita*. This name Dr. Leach has changed for the sake of harmony, and also to render the name more easy of retention in the memory, the characters being drawn from the same parts.

Their motion is slow, and their nourishment is derived from the blood of mammalia, birds and insects.

"It is almost an established fact, that every species of bird (and probably mammiferous animal) has its own peculiar parasite; and there is no instance of the same species of louse having been observed on two distinct species of birds, although some birds (as the raven oyster-catcher, &c.) are infested with several species of parasites." The importance of clearly ascertaining the truth is such to the ornithologist, that Dr. Leach has employed a considerable portion of time for the purpose of investigating and of describing the species with accuracy, little more than a bare catalogue of names and habitats having been given in the works of Linné, Fabricius, and Gmelin. The result of his examinations he does not consider himself as able to communicate at present; but it is his intention, when the subject has arrived at maturity, to give a paper on this Order to the Linnean Society of London.

#### Fam. I. PEDICULIDÆ. *Leach.*

*Mouth* consisting of a tubulose, very short haustellum.

Genus 6. PHTHIRUS. *Leach.* PEDICULUS. *Linn., Redi, Latr., Fabr.*

*Anterior pair of feet* simple; two hinder pair didactyle: *thorax* extremely short, scarcely visible.

Sp. 1. *Phth. inguinalis*. Body whitish.

*Pediculus inguinalis*. *Redi.* *Pediculus pubis*. *Linn., Fabr., Latr. Le Morpion. Geoff.* *Phthirus inguinalis*. *Leach.*

Inhabits the eyebrows, &c. of men and women, being commonly known under the titles Crabs, Crab-lice, &c.

Genus 7. PEDICULUS. *Linn., Fabr., De Geer, Geoff., Redi, Hermann, Lam., Leach.*

*Feet* all armed with a finger and thumb: *thorax* composed of three distinct equal segments.

Sp. 1. *Ped. humanus*. Body oval, lobate, white and nearly immaculate.

*Pediculus humanus*. *Fabr., Linn., Latr., Leach.*

Inhabits the bodies and garments of men, and is known by the name of the body-louse. On the continent of Europe, especially in Spain and Portugal, it is very abundant. In Britain it is of rare occurrence, and may have been introduced from the neighbouring countries.

Sp. 2. *Ped. cervicalis*. Body oval, lobed, cinereous, with a black interrupted band on either side.

Le Pou ordinaire. *Geoff.* *Pediculus humanus. var. Linn.* *Pediculus cervicalis. Latr., Leach.*

Inhabits the heads of man throughout Europe. In Britain it is extremely common, especially in the heads and upper part of the necks of children, whence they are extracted by means of a fine-toothed comb, or are destroyed by rubbing calomel mixed with a little fat amongst the roots of the hair. This species has been by many authors confounded with the preceding species.

Genus 8. HÆMATOPINUS. *Leach.*

Thorax narrow and distinct from the abdomen: abdomen very broad.

Sp. 1. *Hæm. Suis.*

*Pediculus Suis. Linné. Hæmatopinus Suis. Leach's Zool. Misc. iii. 66. pl. 146.*

Inhabits swine.

Fam. II. NIRMIDÆ. *Leach.*

Mouth with a cavity, and two teeth or mandibles.

Genus 9. NIRMUS. *Hermann, Leach. RICINUS. De Geer, Oliv., Lam., Latr. PEDICULUS. Linn., Geoff., Fabr.*

The character of this genus is given in that of the tribe. All the species inhabit birds. The term *ricinus* having been used in botany is rejected, and that of Dr. Hermann's is adopted.

Sp. 1. *Nir. Cornicis*. Whitish: head heart-shaped; segments of the thorax on each side produced into a tooth: abdomen oval, transversely banded with brown.

*Ricinus Cornicis. Latr.*

Inhabits the *Corvus Cornix* of Linné.

## Subclass II. INSECTA METABOLIA.

### Order III. COLEOPTERA.

Order COLEOPTERA. *Linn., Cuv., Lam., Latr., &c.*

Class ELEUTERATA. *Fabr.*

This Order is divided into five great sections, from the general number of joints in the tarsi.

#### Section I.—PENTAMERA.

The number of joints in the tarsi is generally five, but in some of the aquatic genera the number is less.

Fam. I. CICINDELIADÆ. *Leach.*

*Maxillary palpi* four, the interior ones two-jointed: *labial* two: *antennæ* filiform, never moniliform: *maxillæ* furnished at their extremities with a distinct articulated hook: *mandibles* with many teeth: *feet* formed for running; hinder ones with trochanters.

All the insects of this family live on other insects.

Genus 10. CICINDELA. *Linn., De Geer, Fabr., &c. BUPRESTIS. Geoff.*

*Thorax* short, almost as wide as the head: *abdomen* elongate quadrate: *elytra* flat, separate, rounded: *wings* two: *exterior maxillary palpi* as long or longer than the labial: *antennæ* inserted into the anterior margin of the eye: *clypeus* shorter than the labrum.

Sp. 1. *Cic. sylvatica*. Obscure æneous above; each elytron with an external lunule at the base, with a mark at the apex, and an intermediate transverse, narrow sinuated band of white; with many impressed punctures at the suture. (*Pl. 3. fig. 8.*)

*Cicindela sylvatica*. *Linn., Oliv., Latr.*

Inhabits Europe. Is found on Martlesome Heath, Suffolk, occasionally; near Christchurch in Hampshire; and near Cobham and Godalming in Surry it is very common.

There are three other British species, viz. 2. *C. campestris*, which is taken in sandy places and in highways in great plenty. 3. *C. hybrida*, found on the sea-shore near Yarmouth and Swansea. 4. *C. Germanica*, which is common at a place called Black Gang-way in the Isle of Wight, and is occasionally found in chalk-pits near Dartford, Kent, in the months of June and July.

## Fam. II. CARABIDÆ.

The mandibles of the *Carabidæ* are entirely pored; their hinder legs are formed for running, and they feed on other insects.

“Professor F. A. Bonelli, of Turin, has lately written an admirable monograph on the European genera of this family. This is published under the title of *Observations Entomologiques*, and has been sanctioned by the Imperial Academy. From the parts studied it proves that Bonelli is a man of accurate judgement, and fully entitled to rank amongst the first entomologists of the present day.” *Leach's MSS.*

OBS.—For the characters of most of the Genera in this extensive Family I am indebted to Dr. Leach, who with his usual liberality allowed me the free use of his MSS.

I. *Anterior tibiæ* not notched within. *Elytra* entire, covering the whole abdomen. *Antennæ* linear or setaceous.

STERNUM 1.—*Palpi* with the fourth joint thicker than the third, the apex

dilated: *antennæ* with the second joint as long or longer than the fourth: *wings* wanting, or two incomplete: *abdomen* oval or ovate.

Genus 11. CYCHRUS. *Fabr., Payk., Latr., Bonelli, Leach, Schönherr.*

*Palpi* with the fourth joint spoon-shaped: *lip* with the tooth of the notch simple: *labrum* bilobate: *elytra* deflexed, embracing the sides of the abdomen: *wings* none, or very short.

Dr. Leach has observed that the *palpi* of the male are larger than those of the female. Anterior tarsi in both sexes simple.

Sp. 1. *Cyc. rostratus*. *Fabr., Panz., Latr., Leach, Schönherr.*

*Carabus rostratus*. *Marsh. Ent. Brit. i.*

Inhabits pathways in woods, roots of trees, beneath stones, and under moss.

Genus 12. CARABUS of authors. TACHYPUS. *Weber.*

*Palpi* with their last joint securiform: *lip* with the tooth of its notch simple: *labrum* bilobate: *elytra* not embracing the abdomen: *wings* very short or entirely wanting.

The males have their anterior tarsi more or less dilated, and their thorax is evidently narrower than that of the females.

Sp. 1. *Car. violaceus*. Black; margins of the thorax and *elytra* violet-copper: *elytra* finely rugulose, somewhat smooth: abdomen elongate-oval.

*Carabus violaceus*. *Linn., Fabr., Oliv., Marsh., Latr.*

Inhabits Europe. It is frequent in Britain at the roots of trees, under stones, &c.

Sp. 2. *Car. catenulatus*. Black: margins of thorax and *elytra* violet: thorax broader than long, deeply emarginate behind; each *elytron* with about fourteen striae; the fourth, eighth, and twelfth from the suture interrupted; the intervals with a distinct, somewhat rugose line: abdomen oval.

*Carabus catenulatus*. *Scop., Fabr., Latr.* *Carabus intricatus*. *Marsh., Oliv.*

Inhabits the south of France, Germany, and Britain. It is sometimes found quite black, at other times with a tinge of fine violet: and is very plentiful in this country.

Sp. 3. *Car. intricatus*. Black violet above, black beneath: thorax narrow, with nearly equal diameters: *elytra* with irregular striae; the intervals punctate-rugose; each *elytron* with three elevated catenulated lines.

*Carabus intricatus*. *Linn., Latr.* *Carabus cyaneus*. *Fabr., Panz.*

Inhabits Europe. There is but one instance of its having occurred in Britain. Dr. Leach took a single specimen under a stone in a wood opposite the Virtuous Lady Mine, on the river Tavy below Tavistock in Devonshire, in the last week in May.

Sp. 4. *Car. nemoralis*. Black; margin of the *elytra* and sides of the

thorax violet: elytra obscure, copper, rugulose, with three longitudinal rows of excavated spots.

*Carabus nemoralis*. Illig., Latr. *Carabus hortensis*. Oliv., Marsh., Fabr.

Inhabits gardens, and is very common in this country.

Sp. 5. *Car. monilis*. Brassy-green or violet-black above, black beneath; each elytron with about fourteen elevated lines, two in the middle more distinct than the rest; the fourth, eighth, and twelfth from the suture catenulated: abdomen elongate-oval.

*Carabus monilis*. Fabr., Latr. *Carabus catenulatus*. Marsh.

Inhabits France and Germany: in England it is found in gardens and pathways in June, July, and August.

Sp. 6. *Car. morbillosus*. Brassy or black copper above, black beneath; each elytron with three ribs, one at the suture; the interstices with a catenulated line, and on each side of it with a less distinct smooth punctate-rugose line: abdomen elongate-oval. (Pl. 3. fig. 17.)

*Carabus morbillosus*. Fabr., Latr. *Carabus granulatus*. Marsh.

Inhabits Europe. In Britain it is found occasionally under stones and moist places, and in abundance in rotten willows in the winter.

STIRPS 2.—*Palpi* with the fourth joint not thicker than the other joints: *antennæ* with the second joint shorter than the fourth: *wings* two, generally complete: *abdomen* quadrate.

Genus 13. CALOSOMA. Web., Fabr., Latr., Clairv., Bonelli, Panz., Leach.

*Palpi* moderate, with equal joints: *lip* with the tooth of its notch simple: *antennæ* setaceous, straight: *abdomen* quadrate: *wings* two. (*Anterior tarsi* of the male with the three first joints very much dilated.)

Sp. 1. *Cal. Sycophanta*. Fabr.

Inhabits Europe; and although rare in Britain, has several times been taken near Dartmouth and Norwich.

*Calosoma Inquisitor* of Fabricius has been taken at Norwood in June by Mr. D. Bydder and Mr. W. Weatherhead, and by Dr. Leach near Tavistock in Devonshire; but it must be esteemed a rare British insect. It once occurred in great plenty near Windsor, on the white-thorn hedges, feeding on the larvæ of lepidopterous insects.

Genus 14. NEBRIA. Latr., Clairv., Bonel., Panz., Leach, Gyll.

*Palpi* moderately long: *labial* with equal joints: *maxillary* with the fourth joint longer than the preceding: *lip* with the tooth of its notch bifid: *antennæ* linear straight: *abdomen* elongate, quadrate: *wings* two: *thorax* truncate; the basilar angle straight. (*Anterior tarsi* of the male with their three first joints dilated.)

Sp. 1. *Neb. complanata*. Leach.

*Carabus complanatus*. Linné. (Pl. 3. fig. 18.) *Carabus arenarius*. Fabr.

Inhabits the sandy shores of the sea near Swansea beneath drifted wood, where it was first discovered by Sir J. Banks, and twenty years after was likewise taken in great profusion by Dr. Leach.

The other British species are *N. livida*, *N. brevicollis*, and *N. Gyllenhalli*.

Genus 15. LEISTUS. *Fröl., Clairv., Bonel., Panz.* POGONOPHORUS. *Latr., Leach, Gyll.*

*Palpi* elongate: *labial* with the third joint very long: *lip* with the tooth of its notch bifid: *antennæ* linear, deflexed: abdomen quadrate, oblong: wings two: thorax with the base truncate, the angles straight: (*mouth* spinose: *anterior tarsi* of the male with the three first joints dilated.)

Sp. 1. *Leistus ceruleus*. Latr.

*Carabus spinibarbis*. Marsham.

Inhabits sandy situations, and under stones in May and June.

II. *Anterior tibia emarginate within, or with an elevated internal spur. Elytra not truncate, most frequently covering the whole abdomen.*

A. *Palpi elongate. Anterior tarsi of the male generally with only two dilated joints. Thorax on each side rounded. (Palpi with the last joint deeply truncate.)*

Genus 16. PANAGÆUS. *Latr., Clairv., Bonel., Panz., Leach, Gyll.*

*Mandibles* acute, simple: *lip* with the tooth of its notch bifid: *neck* distinct: *mouth* acute: *palpi* with their fourth joint triangular: wings two: thorax suborbiculate, entire: (*anterior tarsi* of the male with the two first joints penicillate-dilated.)

Sp. 1. *Pan. Crux-major*. Latr.

Inhabits Europe. In Britain it is rare, but is occasionally found at the roots of trees, and in sandy situations.

STIRPS 3.—*Mandibles* obtuse or above towards their points emarginate-truncate or with a large and very obtuse tooth: *neck* none: *mouth* very obtuse: (*body* depressed.)

Genus 17. BADISTER. *Clairv., Latr., Bonel., Panz., Leach.*  
AMBLYCHUS. *Gyll.*

*Palpi* with their last joint oval: thorax anteriorly and posteriorly notched: wings two. (*Anterior tarsi* of the male with the three first joints dilated.)

Sp. 1. *Bad. bipustulatus*. Latr., Leach.

Inhabits Europe. In England it is found under stones, and in sandy situations.

B. *Palpi moderately porrected. Anterior tarsi of the male with three or four dilated joints. (Neck none.)*

\* *Anterior tibiæ notched on their hinder or lower side.*

STIRPS 4.—*Wings two (habit of the Cicindeladæ).*

Genus 18. NOTHIOPHILUS. *Duméril, Bonel., Panz., Leach.*

*Labrum* quadrate, its apex rounded: *labium* on each side dilated rounded: *lingula* rather long, broad, corneous: *thorax* flat, subquadrate, subtransverse, as broad as the head and abdomen: *eyes* prominent: *wings* two. (*Anterior tarsi* of the male not distinctly dilated.)

Sp. 1. *Not. aquaticus*. Panz.

*Cicindela aquatica*. Marsh.

Inhabits Europe, and is very common in Britain.

Genus 19. ELAPHRUS. *Fabr., Latr., Bonel., Leach, &c.*

*Labrum* transverse, truncate: *lip* on each side obliquely subtruncate: *lingula* short, narrow, membranaceous: *thorax* truncate-obcordate, convex and unequal, narrower than the head and abdomen: *eyes* very prominent. (*Anterior tarsi* of the male distinctly dilated.)

Sp. 1. *Elaph. riparius*. Fabr.

Inhabits the edges of ponds on Epping Forest, Coombe Wood, and Battersea Fields.

Genus 20. BEMBIDIUM. *Leach, Gyll.* BEMBIDIION. *Latr., Bonel., Panz.* OCYDROMUS. *Frölich, Clairv.*

*Labrum* transverse: *thorax* narrower than the abdomen, and as broad as the head: *eyes* more or less prominent: *wings* two, generally perfect. (*Anterior tarsi* of the male with the first joint very much dilated.) *Maxillary palpi* with their last joint minute, abruptly narrower than the preceding joint.

Sp. 1. *Bemb. flavipes*. Latr.

Inhabits sandy places, and roots of grass.

Genus 21. CILLENUS. *Leach's MSS.*

*Labrum* transverse: *thorax* narrower than the abdomen and as broad as the head: *eyes* rather prominent: *wings* two, imperfect. *Anterior tarsi* with the second, third, and fourth joints transverse (of the male wider than those of the female: *body* depressed.)

Sp. 1. *Cill. lateralis*. Thorax purple bronze cordate with an impressed longitudinal line: *elytra* livid purple striated, with some impressed discoidal punctures, the striæ running together behind, margins of the *elytra* inflexed, base of the antennæ and legs testaceous: head purplish or greenish-bronze.

Inhabits the sea-shore. First discovered by Dr. Leach near Porto Bello on the Frith of Forth, and afterwards taken at Cromer in Norfolk, in great profusion.

\*\* *Anterior tibiæ notched on their interior side.*

STIRPS 5.—Palpi with their fourth joint conic acute.

Genus 22. TRECHUS. *Clairv., Latr., Bonel., Panz., Leach.*

Wings complete: *thorax* narrower behind, the hinder margin straight, the angles subrounded (*anterior* and *middle tarsi* of the male with the four first joints dilated).

This genus is very nearly allied to the insects of the next Stirps.

Sp. 1. *Tr. meridianus*. *Clairv., Leach.*

Inhabits the roots of grass and gardens.

Gen. 23. EPAPHIUS. *Leach's MSS.*

Eyes moderately large: wings none: *thorax* narrower behind, with the posterior margin straight, the angles acute. (*Anterior tarsi* of the male with two dilated joints.)

Sp. 1. *Epa. secalis*.

*Carabus secalis*. *Payk.*

Inhabits Europe: it is rare in Britain.

Genus 24. AEPUS. *Leach's MSS.*

Eyes very minute: wings none: *thorax* subtriangulate, the posterior apex deeply truncate.

Sp. 1. *Aep. fulvescens*. Colour somewhat fulvescent; head and antennæ slightly tinted with ferruginous.

Inhabits the southern coast of Devon, and is found under stones at the mouths of the rivers Tamar and Yalm.

STIRPS 6.—Palpi with their fourth joint truncate, never conic. (*Tarsi anterior and intermediate* of the male with four dilated joints.)

Genus 25. HARPALUS. *Latr., Bonel., Leach, Panz.*

Palpi with their fourth joint oval: *thorax* subquadrate transverse, with an impression on each side of its base: wings two.

Sp. 1. *Har. ruficornis*. *Latr., Leach.*

Inhabits Europe. Is common in Britain, under stones and in sandy situations.

STIRPS 7.—Palpi with their fourth joint never conic: wings two; *tibiæ* anterior, not palmate-dentated: *mandibles* short and simple: *lip* with the tooth of its notch simple: *thorax* as broad as the base of the abdomen: *Body* broad convex: *antennæ* linear: *tarsi* anterior of the male with three dilated joints; intermediate ones simple.

Genus 26. ZABRUS. *Clairv., Bonel., Panz., Leach.*

Palpi with their fourth joint shorter than the third: labrum emarginate: *anterior tibiæ* at their extremities with a triple spur: *thorax* quadrate, with its base transversely subimpressed: *body* gibbous oblong.

Sp. 1. *Zab. gibbus*.

*Carabus gibbus*. *Fabr.* *Carabus gibbosus*. *Marsh.*

Inhabits Europe. Is found at the roots of grass in Battersea Fields.

Its natural history is given in Germar's *Magazin der Entomologia* for 1813.

Genus 27. OODES. *Bonelli, Panz., Leach.*

*Palpi* with the third and fourth joints equal in length: *labrum* entire: *anterior tibiæ* at their extremity with a double spur: *thorax* broadest at its base, not transversely impressed: *body* slightly-convex oval.

Sp. 1. *Ood. helopoides*. *Panz.*

Inhabits Germany, and England on moist banks: it is sometimes found in Battersea Fields.

STIRPS 8.—*Palpi* with their last joint never conic: *wings* two: *tibiæ* anterior not palmate-dentated: *mandibles* simple, or towards their bases denticulated: *lip* with the tooth of the notch simple: *thorax* obcordate, sessile, with the lateral impression obsolete or solitary: *body* depressed: *antennæ* linear: *tarsi* of the male with three dilated joints; intermediate tarsi simple.

Genus 28. LORICERA. *Latr., Clairv., Bonel., Panz., Leach.*

*Antennæ* setaceous, pilose, with the first five joints globose clavate: *neck* distinct.

Sp. 1. *Lor. anea*. *Latr., Leach.*

*Carabus pilicornis*. *Marsh.*

Inhabits moist banks at the roots of grass.

STIRPS 9.—*Palpi* with their last joint never conic: *wings* two: *tibiæ* anterior not palmate-dentate: *mandibles* simple, or towards their bases denticulated: *lip* with the tooth of its notch simple: *thorax* obcordate, sessile, with the lateral impression obsolete or solitary: *body* depressed: *antennæ* linear: *tarsi* anterior of the male with three dilated joints; intermediate tarsi simple.

Genus 29. CALLISTUS. *Bonelli, Panz., Leach.*

*Palpi* with their last joint oval, subacuminate and of the same length with the third joint; *labrum* much notched, its base narrowed; *thorax* convex punctate, the basal angles straight; *body* convex.

Sp. 1. *Cal. lunatus*.

*Carabus lunatus*. *Fabr.*

Inhabits Europe. It is very rare in Britain.

Genus 30. AGONUM. *Bonelli, Panz., Leach.*

*Palpi* with the last joint oval, truncate and of the same length with the third joint: *labrum* transverse, quadrate, entire: *thorax* flat, smooth, the basal angles rounded: *body* depressed.

Sp. 1. *Ag. sex-punctatum*.

*Carabus sex-punctatus*. *Fabr.*

Inhabits moist places. In Coombe Wood it has been found very abundant. (*Pl.* 3. *fig.* 20.)

Genus 31. SYNUCHUS. *Gyllenhal, Leach.*

*Intermediate palpi* with their last joint cylindric elongate, the apex truncate; *hinder palpi* with their last joint thickened at their extremity, the apex obliquely acuminate: *thorax, labrum, and body* as in Agonum.

Sp. 1. *Syn. vivalis.*

*Carabus vivalis. Illig.*

Inhabits

Genus 32. ANCHOMENUS. *Bonelli, Panz., Leach.*

*Palpi* with their fourth oval, scarcely truncate, of the length of the third joint: *labrum* quadrate, transverse entire: *thorax* flat, smooth, the basal angles straight: *body* rather depressed.

Sp. 1. *Anc. prasinus.*

*Harpalus prasinus. Latr., Leach.*

Inhabits

STIRPS 10.—*Palpi* with their last joint never conic: *wings* two: *tibiae anterior* not palmate-dentate: *mandibles* simple, or towards their base denticulated: *lip* with its notch-tooth bifid: *thorax* obcordate or suborbiculate-sessile: *body* moderately or very much elongated: *tarsi* anterior of the male with three or four dilated joints; *intermediate tarsi* simple.

\* *Antennae* compressed, narrower towards their extremities (*thorax obsolete*).

Genus 33. PLATYSMA. *Bonelli, Panz., Leach.*

*Palpi* with their fourth joint cylindric, its base attenuated; those of the maxillæ with their fourth joint shorter than the preceding: *thorax* with the base on each side with two striæ, the exterior stria very small: *basal angles* straight: (*body* depressed.)

Sp. 1. *Pl. nigratum.*

*Carabus nigratus. Fabr. Carabus aterrimus. Marsh.*

Inhabits damp woods.

Genus 34. CHLÆNIUS. *Bonelli, Panz., Leach.*

*Palpi* with the fourth joint oval, of the length of the third joint: *thorax* with its base on each side with one stria: (*body* punctulate, varied with colour; *elytra* generally with a pale margin.)

Sp. 1. *Chl. festivus.*

*Carabus festivus. Fabr. Car. vestitus. Marsh.*

Inhabits moist banks and woods.

Genus 35. EPOMIS. *Bonelli, Panz., Leach.*

*Palpi* with their fourth joint triangular, compressed; maxillary ones with their fourth joint shorter than the third: *thorax* with one stria on each side of its base.

Sp. 1. *Ep. cincta.*

*Carabus cinctus*. Panz.

Inhabits the fields near Bristol and Plymouth.

\*\* *Antennæ linear.*

Genus 36. SPHODRUS. *Clairv., Bonel., Panz., Leach.*

*Palpi* with their fourth joint cylindrical: *labial* attenuated at their base, shorter than the third: *mandibles* elongate: *antennæ* with their third joint elongate, as long as the two first taken together: *thorax* obcordate, the base on each side with one stria, the angles straight: (*wings* sometimes abbreviated: *front tarsi* of the male with four dilated joints.)

Sp. 1. *Sph. planus*. Clairv.

*Carabus leucophthalmus*. Linné.

Inhabits houses.

Genus 37. AMARA. *Bonelli, Panzer, Leach.*

*Palpi* with their fourth joint oval, of the length of the third: *mandibles* short: *antennæ* with their third joint shorter than the first: *thorax* broad, its base transversely impressed; hinder angles straight.

This genus contains *Carabus vulgaris* of Linné, and its affinities, all of which have the fore tarsi of the male with three dilated joints.

\*\*\* *Antennæ compressed, thicker towards their extremities. Palpi with their fourth joint elongate, oval, or subcylindric.*

Genus 38. BLETHISA. *Bonelli, Panz. HELOBIUM. Leach.*

*Maxillary palpi* with the fourth shorter than the third joint: *labrum* emarginate: *mandibles* with their base subdenticulated: *thorax* obcordate, the base on each side with one stria (*elytra* with large excavated dots): *anterior tibiæ* with their notch near the apex: *anterior tarsi* of the male with four dilated joints; *wings* perfect.

Sp. 1. *Ble. multipunctata*.

*Car. multipunctatus*. Fabr.

Inhabits moist places; it occurs occasionally in Battersea Fields.

Genus 39. CALATHUS. *Bonelli, Panz., Leach.*

*Maxillary palpi* with the fourth joint of the length of the third: *labrum* entire: *mandibles* with their base multidentate: *thorax* trapeziform, rather flat, behind on each side punctulate impressed: *body* elliptic: *wings* generally abbreviated: *anterior tarsi* of the male with three dilated joints.

Sp. 1. *Cal. cistloides*. Panz.

*Carabus cistloides*. Illig.

Inhabits under stones and the bark of trees.

Genus 40. POECILLUS. *Bonelli, Panz., Leach.*

*Maxillary palpi* with the first joint of the length of the third: *labrum* truncate entire, or scarcely notched: *mandibles* with their base subdenticulated: *thorax* with its base narrower, with two striæ on each side, the exterior stria very small, or with obliterated impressed dots: *wings* sometimes abbreviated: (*anterior tarsi* of the males with three dilated joints.)

Sp. 1. *Poe. cupreus*.

*Carabus cupreus*. Linné.

Inhabits sand-pits and path-ways.

STIRPS 11.—*Palpi* with their last joint never conic: *wings* two: *tibiæ* anterior not palmate-dentate: *mandibles* sharp within or strongly unidentate: *lip* with the tooth of its notch simple: *thorax* obcordate, its base very narrow or pedunculated: *body* convex most often elongate: *head* large: *tarsi* anterior of the male with three or four dilated joints; intermediate *tarsi* simple.

Genus 41. STOMIS. *Clairville, Bonelli, Panz., Leach.*

*Mandibles* very porrect without teeth internally, that of its right side with its middle incised: *palpi* with the fourth joint oval, *maxillary* ones with the fourth joint larger than the third: *labrum* bilobate: *lip* on each side subrounded: *antennæ* longer than the *thorax*, the third joint as long as the fourth: *thorax* oblong: *wings* none; (*anterior tarsi* of the male with three dilated joints.)

Sp. 1. *Sto. pumicatus*.

*Carabus pumicatus*. Illig. *Car. tenuis*. Marsh.

Inhabits moist banks at the roots of grass.

Genus 42. BROSCUS. *Panzer, Leach.* CEPHALOTES. *Bonelli.*

*Mandibles* moderate, their middle internally with one tooth; *labial palpi* with their fourth joint obconic; *maxillary* ones with the same joint of the length of the third, cylindrical: *labrum* transversely quadrate, entire: *lip* rounded on each side: *antennæ* as long as the *thorax*, with the third joint as long as the fourth: *thorax* with equal diameters: *wings* perfect: (*anterior tarsi* of the male with three dilated joints.)

Sp. 1. *Bros. cephalotes*.

*Carabus cephalotes*. Fabr.

Inhabits the sea shores near Swansea.

STIRPS 12.—*Palpi* with their last joint never conic: *wings* two or none: *tibiæ* anterior palmate dentate: *thorax* pedunculated: *lip* with the tooth of its notch simple.

Genus 43. CLIVINA. *Latr., Clairv., Bonel., Panz., Leach.*

*Mandibles* denticulated from their base to their apex: *thorax* quadrate: *anterior tibiæ* externally and at their apex digitated: *wings* two, sometimes incomplete.

Sp. 1. *Cli. Fossor*.

*Tenebrio Fossor*. Linné. *Clivina arenaria*. Latr. *Carabus distans*. Marsh.

Inhabits sandy situations.

Genus 44. DYSCHIRIUS. *Panzer, Leach.*

*Mandibles* denticulated at their base: *thorax* globose: *anterior tibiæ* with their extremities (rarely also externally slightly) digitated: *wings* two perfect.

Sp. 1. *Dys. gibbus*.

*Clivina gibba*. Latr., Leach.

Inhabits moist places; is pretty common at Battersea.

STIRPS 13.—*Palpi* with their last joint oval, wings none: *tibiæ* anterior not palmate-dentated: *thorax* sessile; *lip* with the tooth of its notch bifid: *tibiæ* of the third pair of legs behind spinulose: (*elytra* with no impressed discoidal spots: anus in both sexes very smooth.)

\* *Antennæ setaceous*.

Genus 45. ABAX. Bonelli, Panzer, Leach.

*Body* broad, equal depressed: *elytra* united, their shoulders carinate plicate: *antennæ* rather longer than the thorax: *thorax* transversely quadrate, the base on each side with two striæ, the basal angles straight: (*anterior tarsi* of the male with three dilated joints.)

Sp. 1. *Abar Striola*.

*Carabus Striola*. Fabr. Car. depressus. Oliv.

Inhabits beneath the bark of trees and under stones.

STIRPS 14.—*Wings* incomplete or none: *tibiæ* anterior simple: *thorax* sessile: *lip* with the tooth of its notch simple and obtuse: (*elytra* obliquely emarginate-truncate, without any larger impressed, discoidal spots.)

Genus 46. CYMINDIS. Latr., Bonel., Panz., Leach. TARUS.

*Clairo*. CYMIDIS. Gyll.

*Labrum* subquadrate, emarginate: *maxillary palpi* with the fourth joint rounded oval, of the labial palpi compressed, its apex more or less dilated: *wings* none, or very imperfect.

Sp. 1. *Cym. humeralis*.

*Carabus humeralis*. Fabr.

Inhabits moist banks.

III. *Anterior tibiæ* notched at their internal side before the apex. *Elytra* abruptly truncated, shorter than the abdomen. *Wings* complete in both sexes.

STIRPS 15.—*Palpi* short filiform: *lip* with its notch simple, or with a bifid tooth: *mandibles* dentate at their base: *palpi* with their fourth joint deeply truncate: *thorax* oblong: *body* convex: *wings* two or none: *neck* none: *labrum* transverse: *tarsi* with their fourth joints simple.

Genus 47. BRACHINUS. Fabr., Bonel., *Clairo*., Latr., Panz.,  
*Schönh.*, Leach.

*Lip* with the tooth of its notch wanting: *labrum* not or scarcely emarginate: *labial palpi* with their fourth joint rounded, oval: *elytra* slightly truncated: *legs* moderately long: *wings* two.

Sp. 1. *Bra. crepitans*. Fabr.

*Carabus crepitans*. Linné, Marsh.

Inhabits under stones, near Gravesend in profusion, and occasionally beneath clods of earth in ploughed fields in May. (Pl. 3. fig. 19.)

**STIRPS 16.**—*Palpi* short, filiform, the fourth joint truncate, with the tooth of its notch acute: *mandibles* without teeth: *thorax* transverse: *body* depressed, broad: *wings* two: *neck* none: *labrum* entire.

Genus 48. LAMPRIAS. *Bonelli, Panz.* ECHIMUTHUS. *Leach.*

*Tarsi* with their fourth joint simple: *antennæ* linear: *wings* short.

Sp. 1. *Lam. cyanocephala*. Intense blue-green; first joint of the antennæ, thorax, thighs, and tibiæ red; elytra with punctured striæ, the spaces between the striæ punctured; knees black.

*Carabus cyanocephalus*. *Linné, Schönher.* *Echimuthus cyanocephalus*. *Leach.*

Inhabits Europe: is very rare in Britain, where it was first discovered by Dr. Leach.

Sp. 2. *Lam. chlorocephala*. Intense green; the three first joints of the antennæ, thorax, and legs red; elytra with punctured striæ, the spaces between the striæ very obsoletely and irregularly punctulated; tarsi black.

*Carabus cyanocephalus*. *Marsham.*

Inhabits the broom and under the bark of trees. It is very abundant occasionally in Coombe Wood, near London, and is not uncommon in other parts of Britain:—it has been considered as *L. cyanocephala* by all British collectors.

Genus 49. LEBIA. *Lutr., Bonelli, Panz., Leach.*

*Tarsi* with their fourth joint bifid: *antennæ* more slender at their base: *wings* long. The palpi of this genus are scarcely truncate.

Sp. 1. *Leb. Crux-minor*.

*Carabus Crux-minor*. *Linné.*

Inhabits Europe: in Britain it is very rare.

**STIRPS 17.**—*Palpi* short, filiform: *lip* with the tooth of its notch acute: *mandibles* dentated at their bases: *palpi* with their fourth joints scarcely truncated: *thorax* with subequal diameters, or longer than broad: *body* depressed, flat, narrow: *wings* two: *labrum* emarginate.

Genus 50. DROMIUS. *Bonelli, Leach.*

*Tarsi* with their fourth joint simple: *head* not remarkably produced behind: *thorax* obcordate, margined flat, a little broader than long.

Sp. 1. *Dro. quadrimaculatus*.

*Lebia 4-maculata*. *Lutr.*

Inhabits beneath the bark of trees during the winter months.

Genus 51. DEMETRIAS. *Bonelli.* RISOPHILUS. *Leach.*

*Tarsi* with the fourth joints bifid: *head* behind very much produced: *thorax* rather longer than broad, obcordate, margined, narrower than the head.

Sp. 1. *Dem. atricapilla*. Body pale yellowish: head black: mouth and thorax reddish: elytra very obsolete striated: wings elongated; epigastrium and base of the belly fuscous.

*Lebia atricapilla*. Latr.

Inhabits beneath the bark of trees.

Sp. 2. *Dem. monostigma*. Body pale yellowish: head black: thorax reddish: elytra obsolete striated, towards their tips with one fuscous spot: wings abbreviated.

*Risophilus monostigma*. Leach.

Inhabits Europe amongst the roots of plants. It is very common near Swansea.

Genus 52. ODACANTHA. *Fabr., Latr., Bonel., Clairv., Panz., Leach, Gyll.*

*Tarsi* with their fourth joint simple: head behind much produced: thorax oblong, subcylindric, narrower than the head.

Sp. 1. *Odacantha melanura*.

*Attelabus melanurus*. Linné.

Inhabits marshes in Norfolk and near Swansea.

STIRPS 18.—*Palpi* very much elongated, the fourth joint with its apex dilated: lip with the tooth of its notch bifid: labrum trilobate, the middle lobe largest: mandibles very prominent: (maxillæ with a very thin perpendicular claw: tarsi with the fourth joint bifid: neck distinct.)

Genus 53. DRYPTA. *Latr., Fabr., Bonel., Panz., Leach.* CARABUS. *Rossi, Marsh.* CICINDELA. *Oliv.*

Thorax cylindric: head narrowed or lengthened behind: mandibles much elongated and very prominent: exterior maxillary and labial palpi terminated by a large nearly obconic joint, (maxillary ones much lengthened:) lip elongate linear, with two auricles.

Sp. 1. *Dryp. emarginata*. Blue, punctate, villose: mouth, antennæ, and feet red: thorax with an impressed longitudinal line; elytra with punctured striæ; apex of the first and middle of the third joint of the antennæ brown.

*Drypta emarginata*. *Fabr. Latr. Gen. Crust. et Insect. i. 197. tab. 7. fig. 3. Leach, Edin. Encycl. ix. 81. Carabus chrysostomus. Marsham,* Inhabits Europe. In Britain it is rare; but has been taken near Hastings and Faversham.

Fam. III. DYTICIDÆ. *Leach.*

HYDROCANTHARI. *Latreille.*

DYTICUS. *Geoffroy.*

DYTISCUS. *Linné, &c.*

All the Dyticidæ inhabit the water, both in the state of larvæ

and when perfect, living on other insects. The anterior and middle tarsi in some of the genera have but four joints.

A. *With a scutellum, feet formed for walking: tarsi, the whole of them with five joints; claws didactyle.*

STIRPS 1.—Hinder thighs covered at their base with a shield-shaped plate.

Genus 54. HALIPLUS. *Latr., Gyll., Leach.* CNEMIDOTUS. *Illig.*  
HOPLITUS. *Clairo.*

“\* *Body oblong oval. Elytra with elevated ridges.*” Leach.

*Labial and external maxillary palpi subulate.*

Sp. 1. *Hal. elevatus.* Panz.

Inhabits running streams.

“\*\* *Body oval. Elytra striated.*” Leach.

Sp. 2. *Hal. ferrugineus.* Linné.

Inhabits ponds and ditches.

STIRPS 2.—Hinder thighs without the shield at their base: (eyes prominent.)

Genus 55. PÆLOBIUS. *Schönherr, Leach.* HYGROBIA. *Latreille.*  
HYDRACHNA. *Fabr.*

*External maxillary palpi with the last joint subclavate.*

Sp. 1. *Pæl. Hermanni.* Black: head, transverse band on the thorax, base and border of the elytra and feet ferrugineous. (*Pl. 3. fig. 14.*)

*Dytiscus Hermanni.* *Marsh., Oliv.*

Inhabits ponds. The last segment of the abdomen when rubbed against the elytra produce a noise.

B. *Scutellum none. Feet, hinder ones, for the most part formed for swimming.*

STIRPS 3.—The four anterior tarsi with four, the two posterior with five joints.

Genus 56. HYPHYDRUS. *Latr., Gyll., Illig., Schönh., Leach.*

*Body nearly globose: the four anterior tarsi with the last joint short; the hinder feet with but one claw.*

Sp. 1. *Hyp. ovatus.* Obscure, ferrugineous, impunctate; the base of the elytra with an impression at the base of the suture.

*Dytiscus ovatus.* Linné.

Inhabits ponds.

Genus 57. HYDROPORUS. *Clairville, Leach.* HYPHYDRUS.  
*Illig., Schönh., Gyll.*

*Body oval; the breadth exceeding the height: the four anterior tarsi with four joints, the last joint slender: claws didactyle.*

\* *Body elongated.*

Sp. 1. *Hyp. 12-pustulatus.*  
Inhabits ponds and ditches.

\*\* *Body oval.*

Sp. 1. *Hyp. confluens.*  
*Dytiscus confluens. Marsham.*  
Inhabits ponds and ditches.

STIRPS 5.—All the *tarsi* with five articulations.

Genus 58. NOTERUS. *Clairo., Latr., Leach.*

*Antennæ* with a fifth or seventh joint dilated: *hinder feet* but slightly adapted for swimming.

Sp. 1. *Not. Geerii.* Oval, convex, brown: head and thorax ferruginous: *elytra* sprinkled with impressed dots: *antennæ* of the male thick.

*Dytiscus crassicornis of authors. Dytis clavicornis. De Geer.*  
Inhabits stagnant waters.

Sp. 2. *Not. sparsus.* *Elytra* with impressed dots.  
*Dytiscus sparsus. Marsh., i. 430.*  
Inhabits stagnant waters near London.

Genus 59. LACCOPHILUS. *Leach, Edin. Encycl. vol. ix.*

*Antennæ* with the joints simple: *hinder feet* well adapted for swimming.

Sp. 1. *Lac. hyalinus.*  
Inhabits canals and slowly running waters.

Sp. 2. *Lac. minutus.* Greenish-testaceous: legs yellowish.  
*Dytiscus minutus. Linné, Marsh., Gyll.*  
Inhabits stagnant waters.

C. *With a scutellum: hinder feet compressed and formed for swimming: all the tarsi with five articulations.*

STIRPS 6.—*Tibiæ* posterior elongated: *claws* on the *hinder feet* didactyle.

Genus 60. COLYMBETES. *Clairville, Latr., Leach.*

*External maxillary palpi* with the second and third joint equal; fourth long, obtuse at the apex.

Sp. 1. *Col. striatus.*  
Inhabits stagnant waters.

Sp. 2. *Col. maculatus. (Pl. 3. fig. 15.)*  
Inhabits ditches.

Genus 61. HYDATICUS. *Leach, Edinb. Encycl. vol. ix.*

*External maxillary palpi* with the second joint short, third and fourth long but equal and subulated: *anterior tarsi* of the male patelliform: female with the thorax rough on both sides: *elytra* smooth.

Sp. 1. *Hyd. Hybneri*. Black; front and margin of the thorax ferruginous, margins of the elytra yellow with black spots.

*Dytiscus parapleurus*. Marsh.

Inhabits ponds: is of rare occurrence near London.

Genus 62. ACILIUS. *Leach's Zool. Misc.* vol. iii.

*External maxillary palpi* with the second joint obconic, third elongate obconic, fourth longer, nearly cylindrical, and rounded at its apex.

*Anterior tarsi* of the male patelliform: *elytra* of the female sulcated.

Sp. 1. *Ac. sulcatus*.

*Dytiscus sulcatus* of authors.

Inhabits ponds and stagnant waters, and is very common.

Genus 63. DYTICUS. *Geoff., Illig., Leach.* DYTICUS. *Linné, Fabr., Latr., Marsh.*

*External maxillary palpi* with the third and following joint of equal length; the last gradually increasing from the middle: *anterior tarsi* of the male patelliform: (*Pl. 3. fig. 13. a.*) *elytra* of the female sulcated.

Sp. 1. *Dyt. marginalis*. Ovate, olive-black above, luteous red beneath; the scutellum of the same colour with the elytra: clypeus, whole margin of the thorax, and border of the elytra, red clay-colour; bifurcation of the sternum lanceolate. (*Pl. 3. fig. 13. c.*)

Inhabits Europe. In Britain it is common in ponds at all seasons of the year.

*Dytiscus circumflexus* of Fabricius is abundant in the ponds near London. It is distinguished from *marginalis* by its more elongate shape, by the bifurcate process of the sternum being spine-shaped, and by the colour of the scutellum, which is invariably ferruginous. (*Pl. 3. fig. 13. b. sternum.*)

#### FAM. IV. GYRINIDÆ. *Leach.*

*Internal maxillary palpi* composed of one part: *antennæ* very short: *eyes* divided so as to appear as four: *four hinder feet* compressed, foliaceous, formed for swimming.

Genus 64. GYRINUS. *Linn., Fabr., Latr., Gyll., Leach.*

"\* *Elytra* naked, with punctured striæ." *Leach.*

Sp. 1. *Gyr. Natator*. Oval: elytra with punctured striæ; the inflexed margin testaceous. (*Pl. 2. fig. 2. a. antennæ magnified, b. the hinder leg magnified.*)

Inhabits stagnant waters.

"\*\* *Elytra* smooth, villose." *Leach.*

Sp. 2. *Gyr. villosus*. *Fabr., Gyll.*

*Gyrinus Moderii*. *Marsham.*

Inhabits rivers and running waters.

FAM. V. BUPRESTIADÆ. *Leach.*

**Mandibles** with their extremities entire: *antennæ* filiform or setaceous, often pectinated or serrated: *body* convex.

I. *Palpi* filiform.

Genus 65. BUPRESTIS. *Linn., Fabr., Latr., Marsh., Leach.*

*Antennæ* filiform, serrated in both sexes: *thorax* with the hinder margin applied to the base of the elytra: *body* cylindric linear.

Sp. 1. *Bup. biguttata*. Green above, blue-green beneath; scutellum transversely impressed: apex of the elytra serrated; a white villose spot on each side of the suture, and three on the sides of the abdomen.

*Buprestis biguttata.* *Fabr., Oliv., Marsh., Latr., Leach.*

Inhabits France and Germany. In England it is very rare.

Sp. 2. *Bup. viridis.* (*Pl. 3. fig. 9. a. antennæ magnified.*)

Inhabits the birch and nut-tree.

Genus 66. TRACHYS. *Fabr., Gyll., Leach.*

*Antennæ* serrated and filiform: *thorax* with the hinder margin lobed and applied to the base of the elytra: *scutellum* obsolete: *body* short, ovate or triangular.

Sp. 1. *Tra. minuta*. Coppery-brown above; front impressed: elytra with slightly elevated spaces and transverse undulating bands of white hair.

*Buprestis minuta.* *Linn., Marsh., Latr.* *Trachys minuta.* *Gyll., Fabr., Leach.*

Inhabits the birch and nut-tree in June and July.

Genus 67. APHANISTICUS. *Latr., Leach.*

*Antennæ* massive.

Sp. 1. *Aph. emarginatus.* *Latr., Leach.*

*Buprestis emarginatus.* *Fabr.*

Inhabits France and England.

II. *Palpi* terminated by a thick joint.

Genus 68. MELASIS. *Oliv., Fabr., Latr., Leach.* ELATER. *Linn.*

*Tarsi* with entire joints.

Sp. 1. *Mel. flabellicornis.* Obscure blackish: *antennæ*, *tibiæ*, and *tarsi* red-brown: head punctate; *thorax* rough, with elevated punctures, having an impressed dorsal line: elytra finely rugulose and striated.

*Elater buprestoides.* *Linn.* *Melasis flabellicornis.* *Oliv., Panz., Fabr., Leach.* *Melasis buprestoides.* *Latr.*

Inhabits Germany and the south of France. In England it has been once taken by Mr. J. Curtis, of Norwich, an excellent artist and an industrious entomologist; and several times near Windsor, where it was first observed by Mr. Herschel.

Fam. VI. ELATERIDÆ. *Leach.*

*Palpi* thick at their extremities: *antennæ* filiform: *body* formed for leaping: *hinder thighs* with a trochanter.

Genus 69. CERATOPHYTUM. *Leach.* CEROPHYTUM, *Latr.*

*Mandibles* without notch at their extremities: *tarsi* with their last joint but one bifid.

Sp. 1. *Cer. Latreillii.* *Leach.*

*Cerophytum Elateroides.* *Latr., Leach.*

Inhabits Germany, Switzerland, France, and England. In the latter country it was discovered by Mr. Millard in the New Forest, Hants.

Obs.—Latreille referred this genus to the preceding family (as a section of his family *Sterroxi*); but it has been referred to the *Elaterridæ* by Dr. Leach in his MSS.

Genus 70. ELATER of authors.

*Mandibles* notched or bifid at their extremities: *tarsi* with all their joints entire.

This genus should be divided into several others, but the characters have not yet been developed. They may be divided into the following sections, as given by Latreille in his *Genera Crustaceorum et Insectorum.*

\* *The last joint of the antennæ with the apex so abruptly acuminate as to give the appearance of a twelfth joint.*

Sp. 1. *Elat. ferrugineus.* *Antennæ* serrated; colour black: thorax with the exception of the hinder margin and elytra red, finely punctated, pubescent: elytra with punctured striæ.

*Elater ferrugineus.* *Linn., Fabr., Oliv., Panz., Marsh., Leach.*

Inhabits rotten trees, especially willows. In Britain it is very rare. It sometimes occurs in Kent; varies in size and colour. In Dr. Leach's collection (now in the British Museum) is a variety with the thorax entirely black.

\*\* *Last joint of the antennæ oval or oblong, not abruptly acuminate.*

I. *Body not linear, but three times as long as broad; abdomen oblong-triangulate.*

A. *Antennæ (of the male at least) pectinated or serrated.*

Sp. 2. *Elat. castaneus.* *Antennæ* of the male pectinated, colour black: head and thorax red-tomentose: elytra yellow punctate-striated: apex black.

*Elater castaneus.* *Linn., Fabr., Panz., Leach.*

Inhabits

B. *Antennæ simple: joints conic.*

Sp. 3. *Elat. murinus*. Black-fuscous, clouded with cinereous down: thorax bituberculate: antennæ and tarsi red.

*Elater murinus*. Linn., Fabr., Marsh., Leach.

Inhabits Europe. Is common on thistles, willows, and under stones in sandy situations.

II. *Body linear, nearly four times longer than broad: thorax oblong-quadrate.*

Sp. 4. *Elat. marginatus*. Black: front retuse: antennæ, sides of the thorax, feet, anus, and hinder margins of the abdominal segments, brownish-yellow; suture and outer margin of the elytra black.

*Elater marginatus*. Linn., Fabr., Oliv., Marsh., Leach.

Inhabits various herbaceous plants in fields.

Plate 3. represents fig. 7, *Elater æneus*, Linn., *E. cyaneus*, Marsh.—fig. 6. *E. semiruber*, Hoffmannsegg's MSS. a species very common in the New Forest, Hampshire; and has, together with many other species, been confounded under the general name *sanguineus*.

#### Fam. VII. TELEPHORIDÆ. Leach.

*Tarsi* with the last joint but one bifid: *antennæ* filiform, composed of ten joints: *elytra* soft, flexible: *thorax* nearly quadrate or semicircular.

Genus 71. DASCILLUS. Latr. ΑΤΟΡΑ. Paykull, Fabr., Leach.

CHRYSOMELA. Linn. CRIOCERIS. Marsh. CISTELA. Olivier.

*Maxillary palpi* filiform, the last joint somewhat cylindrical: *labial palpi* not bifurcate: *body* ovate: *feet* simple.

Sp. 1. *Das. cervina*. Black, with cinereous down: antennæ, feet and elytra, pale yellow.

*Chrysomela cervina*. Linn. *Atopa cervina*. Payk., Fabr., Leach. *Dascillus cervinus*. Latr.

Inhabits hedges and woods.

Genus 72. ELODES. Latr. CYPHON. Fabr., Payk., Gyll., Leach.

*Maxillary palpi* filiform, the last joint somewhat cylindrical: *labial palpi* bifurcate: *body* sub-ovate or round-ovate: *feet* with their tibiæ simple, and their thighs not thickened.

Sp. 1. *El. pallida*. Sub-ovate, pale-red, punctulated, pubescent: eyes, antennæ (with the exception of their base), apex of the elytra, and abdomen, blackish: thorax somewhat semicircular, transverse, lobate behind.

*Elodes pallida*. Latr. *Cyphon pallidus*. Fabr., Leach.

Inhabits the white-thorn and umbelliferous plants.

Genus 73. SCIRTES. *Illiger, Leach.* CYPHON. *Payk., Fabr.*

ELODES. *Latr.* CHRYSOMELA. *Linn., Marsh.*

*Maxillary palpi* filiform, the last joint somewhat cylindrical: *labial palpi* bifurcate: *body* ovate, inclining to round, convex: *feet* with their tibiae terminated with a strong spine: *hinder thighs* thickened and formed for leaping.

Sp. 1. *Scir. hemisphærica*. Black, smooth: thorax short, transverse, anterior margin somewhat concave: tibiae, tarsi, and base of the antennae pale fuscous.

Cyphon hemisphæricus. *Fabr., Payk.* Elodes hemisphærica. *Latr.*  
Chrysomela hemisphærica. *Marsh.*

Inhabits aquatic plants in ditches.

Genus 74. DRILUS. *Oliv., Lam., Latr.* PTILINUS. *Fabr., Geoff.*

CANTHARIS. *Marsh.*

*Maxillary palpi* with their apex acute; *labial* short, somewhat cylindrical: *antennae* with their internal edge pectinated: *maxilla* with one process: *mandibles* notched at their points: *body* soft, anteriorly arcuate, inflexed.

Sp. 1. *Dri. flavescens*. Black, pubescent: elytra yellowish.

Drilus flavescens. *Oliv., Latr., Leach.* Cantharis serraticornis. *Marsham.*

Inhabits Europe. Is found in Darent Wood, Kent, amongst grass in tolerable abundance, some years.

Genus 75. LYCUS. *Fabr., Oliv., Lam., Leach.* CANTHARIS. *Linn.*

LAMPYRIS. *Geoff., Marsh.*

*Mandibles* with their entire end pointed: *antennae* compressed, more or less serrate, inserted near each other: *palpi* of the maxillae with the last joint somewhat triangular, having their points broader: *head* with the mouth produced into a kind of rostrum: *maxilla* with one process: *elytra* nearly of equal breadth: *thorax* somewhat quadrate, the anterior margin transverse, straight.

Sp. 1. *Ly. minutus*. Elytra with four elevated lines: thorax black, with the margins much elevated; last joint of the antennae reddish.

Lycus minutus. *Gyll.* Lampyris pusilla. *Marsh.*

Inhabits oaks and hedges; is rare in England.

Genus 76. LAMPYRIS of authors.

*Mandibles* pointed at their tips, sharp, and entire: *antennae* approximate, the joints cylindrical and compressed, the third of the same length as the following joints, the second small: *head* concealed by the thorax: *mouth* small: *maxilla* with a double process: *maxillary palpi* with the last joint triangular-ovate, compressed, the apex acute: *eyes* very large: *body* soft, of the male with elytra and wings; of the female apterous: *thorax* semicircular.

Sp. 1. *Lam. noctiluca*. Common Glow-worm. (*Pl. 3. fig. 1. ♂. fig. 2. ♀.*

Genus 77. TELEPHORUS. *Schaff., De Geer, Leach, Oliv., Lam., Latr.* CANTHARIS. *Linn., Fabr., Marsh., Gyll.*

*Mandibles* with their apex acute and entire: *antennæ* distant: joints cylindrical, elongate: *maxillæ* bifid: *body* soft: *palpi* with their last joint securiform: *elytra* the length of the abdomen.

Sp. 1. *Tel. fuscus*. Cinereous-black: mouth, base of the antennæ, thorax, back of the abdomen, sides of the belly and anus, red: thorax with a black spot. (*Pl. 3. fig. 4.*)

*Cantharis fusca*. *Linn., Fabr.* *Telephorus fuscus*. *Latr.*

Inhabits various plants in the spring and beginning of summer.

Genus 78. MALTHINUS. *Latr., Leach.* CANTHARIS. *Linn., Fabr., Marsh.* TELEPHORUS. *Oliv., De Geer.*

*Antennæ* distant, joints elongate, cylindrical: *maxillæ* bifid: *mandibles* with their points entire and very sharp: *body* soft: *palpi* with their last joint ovate, acute: *elytra* shorter than the abdomen: *head* attenuated behind more or less.

Sp. 1. *Mal. flavus*. Head much attenuated behind: thorax not broader than long, margined all round, the middle longitudinally impressed: body yellowish: antennæ (base excepted), vertex, and dorsal mark of the thorax blackish: *elytra* with punctured striæ, yellow at their points.

*Telephorus minimus*. *Oliv.* *Malthinus flavus*. *Latr.*

Inhabits the oaks of England and France.

#### Fam. VIII. MELYRIDÆ. *Leach.*

*Tarsi* with the last joint but one bifid: *mandibles* notched: *maxillæ* bifid: *antennæ* filiform, composed of ten joints: *elytra* soft, flexible: *thorax* quadrate or semicircular.

Genus 79. DASYTES. *Payk., Fabr., Latr., Leach.* MELYRIS. *Olivier, Lam., Illig.* TILLUS. *Marsh.*

Head somewhat transverse, retracted within the thorax, even to the eyes: *tarsi* with nails apparently bifid: *antennæ* with short turbinate joints nearly as broad as long: *lip* with the apex deeply notched, almost bifid: *body* without papillæ.

Sp. 1. *Das. ater*. Oblong, black, widely punctate, hairy, the hairs black and cinereous: head with a double impression in front, which is ovate and roughish.

*Dasytes ater*. *Latr., Fabr.* *Melyris ater*. *Olivier.*

Inhabits Europe, amongst grass and moss.

Genus 80. MALACHIUS. *Fabr., Oliv., Lam., Latr., Leach.* CANTHARIS. *Linn., Marsh.* TELEPHORUS. *Schaff., De Geer.*

Head somewhat transverse, retractile even to the eyes within the thorax: *tarsi* with apparently bifid nails: *antennæ* with conic or cylindrical-conic joints, longer than broad, in some few pectinated: *labium*

with apex entire or scarcely notched: *body* with two papillæ on each side, one under the anterior angle of the thorax, the other at the base of the abdomen.

Sp. 1. *Mal. æneus*. Brassy-green: head anteriorly red-yellowish: elytra blood-red, with the base and half the suture brassy-green. (*Pl. 3. fig. 5.*)

*Malachius æneus*. *Fabr., Latr., Oliv., Gyll., Leach.* *Cantharis ænea*. *Linn., Marsh.*

Inhabits various plants.

Fam. IX. TILLIDÆ. *Leach.*

*Antennæ* thicker at their extremities, serrated in some, solid in others: *elytra* covering the whole abdomen: *body* cylindrical: *thorax* narrow behind.

STIRPS 1.—*Tarsi* with first joint very distinct, longer than the preceding joint.

Genus 81. TILLUS. *Oliv., Fabr., Marsh., Latr., Leach.* CHRYSOMELA. *Linnaeus.* CLERUS. *Fabr., Oliv.*

*Maxillary palpi* filiform: *labial palpi* securiform, nearly completely serrated: *thorax* cylindrical or somewhat cordate.

\* *Thorax* cylindrical.

Sp. 1. *Til. elongatus*. Black, villous: thorax red, black before.

*Tillus elongatus*. *Fabr., Oliv., Marsh., Latr.* *Chrysomela elongata*. *Linn.*

Inhabits oaks in June.

*T. ambulans* of Marsham is a mere variety of this species.

\*\* *Thorax* subcordate.

Sp. 2. *Til. unifasciatus*. Black, pubescent: elytra red at their base, with a white transverse band in the middle.

*Clerus unifasciatus*. *Fabr., Oliv.* *Tillus unifasciatus*. *Latr.*

Inhabits England.

Genus 82. THANASIMUS. *Latr., Leach.* CLERUS. *Geoff., De Geer, Fabr., Oliv.* ATTELABUS. *Linn.* CLEROIDES. *Schæffer.*

*Maxillary palpi* filiform: *labial palpi* securiform: *antennæ* with their extremities thick and not serrated: *thorax* somewhat cordate.

Sp. 1. *Tha. formicarius*. Black: thorax and base of the elytra red: *elytra* with two transverse bands.

*Attelabus formicarius*. *Linn.* *Clerus formicarius*. *Fabr., Oliv., Marsh.*  
Inhabits trees in Europe.

STIRPS.—*Tarsi* with the first joint very short, the upper part concealed by the base of the second articulation.

Genus 83. OPILUS. *Latr., Leach.* EUPOCUS. *Illiger.*

*Palpi* securiform: *antennæ* with the ninth and tenth joints obconic, the last oval, obliquely truncate: *eyes* not notched: *thorax* conic-cylindric, narrower behind.

Sp. 1. *Op. mollis*. Fuscous, villous: base and apex of the elytra and a middle transverse band with the under parts of the thighs yellowish gray. Abdomen red. (*Pl.* 12. *fig.* 1.)

*Notoxus mollis*. *Fabr.* *Clerus mollis*. *Oliv., Marsh.* *Attelabus mollis*. *Linn.* *Opilus mollis*. *Latr.*

Inhabits Europe, under the bark of trees and in the wood of decayed willows, eating the larvæ of other insects.

Genus 84. NECROBIA. *Latr., Oliv., Leach.* DERMESTES. *Linn.*

*Clerus*. *Geoff., De Geer, Marsh.* CORYNETES. *Paykull, Fabr.*

*Palpi* terminated by an obconic joint: *antennæ* with the three last joints forming an oblong triangulate mass, obtuse both externally and internally.

Sp. 1. *Nec. ruficollis*. Blue-black: thorax and base of the elytra red.

*Dermestes ruficollis*. *Linn.* *Corynetes ruficollis*. *Fabr.*

Inhabits Europe, feeding on decayed animal substances.

FAM. X. SILPHIADÆ. *Leach's Zool. Misc.* vol. iii.

*Antennæ* gradually thickening towards their extremities, or terminated by a solid or perfoliate club: *elytra* covering the greater portion of the abdomen: *body* oval or parallelopiped.

STIRPS 1.—*Palpi* very distinct: *mandibles* with their apex entire.

Genus 85. NECROPHAGUS. *Fabr., Oliv., Lam., Leach.* SILPHA. *Linn., De Geer, Marsh.* DERMESTES. *Geoff.*

*Antennæ* not much longer than the head, terminated abruptly in a perfoliated knob: *elytra* truncated in a straight line, the external margin not channelled or keeled: *body* long quadrate.

Sp. 1. *Necr. spinipes*. Black: *antennæ* ferruginous at their points: *elytra* with their external margin and a double transverse undulated band of orange: trochanters of hinder thighs produced into a spine.

Sp. 2. *Necr. Vespillo*. (*Pl.* 2. *fig.* 6. a. *antennæ* magnified.)

Inhabits putrid fungi and dead animals.

Genus 86. NECRODES. *Wilkins's MSS.* *Leach.*

*Body* elongate oval: *thorax* orbicular: *apex* of the elytra obliquely truncate: *hinder thighs* of the male thicker than the rest.

Sp. 1. *Necr. littoralis*. Black: *antennæ* with the three last joints ferruginous: *elytra* with three elevated lines, the two external ones connected by a tubercle: *hinder tibiæ* of the male arcuate: the thighs toothed.

*Silpha littoralis*. Linn., Fabr., Latr., Oliv., Marsh.

Inhabits dead bodies, on the banks of rivers or on the shores of the sea.

Genus 87. OICEOPTOMA. Leach.

Body oval: *thorax* nearly semicircular, transverse, emarginate before: *antennæ* with the club abrupt, distinct: *elytra* whole (female in general emarginate).

\* *Elytra* whole in both sexes.

Sp. 1. *Oic. thoracica*. Black: *thorax* unequal, ferruginous, somewhat silky: each *elytron* with three elevated lines.

*Silpha thoracica*. Linn., Fabr., Latr., Marsh.

Inhabits Europe, in dead animals and putrid fungi.

\*\* *Elytra* of the female with the apex emarginated.

Genus THANATOPHILUS. Leach.

Sp. 1. *sinuata*—*Silpha sinuata*. Fabr., &c.

Genus 88. SILPHA. Linn., Leach, Fabr., Latr., Marsh.

"\* *Elytra* with elevated lines."

Body oval: *thorax* nearly semicircular, truncate in front: *antennæ* with a gradually formed club.

Sp. 1. *Sil. obscura*. Black, dull above, finely punctate, shining beneath: *thorax* smoothly punctate, the punctures small and close. Each *elytron* with three elevated straight lines.

*Silpha obscura*. Linn., Latr., Marsh.

Inhabits Europe. Is very common under stones and on pathways in the spring and summer.

Sp. 2. *Sil. quadrimaculata*. (Pl. 2. fig. 7. a. *antennæ* magnified.)

Inhabits oaks.

"\*\* *Elytra* smooth."

Sp. 3. *Silpha lævigata*. Fabr.

Inhabits pathways in sandy situations.

Genus 89. PHOSPHUGA. Leach's Zool. Misc. vol. iii.

Body oval or nearly rounded: *thorax* semicircular, anterior part truncated: *elytra* whole: *antennæ* with the three last joints abruptly increasing towards their apex.

Sp. 1. *Phos. atrata*. Oval and black: *elytra* rough and punctured, with three elevated lines.

Inhabits beneath the bark of trees and under moss in winter, sandy situations and pathways in spring.

Sp. 2. *Phos. subrotundata*. Nearly round and black: *elytra* rough, and punctured with three elevated lines.

*Phosphuga subrotundata*. Leach, Zool. Misc. vol. iii. 75.

Inhabits Ireland, beneath stones; is very rare.

STIRPS 2.—*Palpi* very distinct: *mandibles* notched at their extremities.

Genus 90. SCAPHIDIUM. *Oliv., Payk., Fabr., Latr., Marsh.*

*Antennæ*, with an abrupt club composed of five somewhat hemispheric joints: *body* acuminate at each extremity: *elytra* truncated: *palpi* filiform: *scutellum* distinct.

Sp. 1. *Sca. quadrimaculatum*. Body black, shining: thorax somewhat coarctate on each side behind: *elytra* widely punctured, with two blood-red spots on each: *tibiæ* striated.

Inhabits Germany, France, and England, in *fungi* and rotten wood.

Genus 91. SCAPHISOMA. *Leach.* SCAPHIDIUM. *Fabr., Latr. Oliv.*

*Antennæ*, with a club composed of five somewhat oval joints: *body* acuminate at each extremity: *elytra* truncated: *palpi* filiform: *scutellum* none.

Obs.—The hinder margin of the thorax at the middle is produced into an angle.

Sp. 1. *Sca. agaricinum*. Body black, shining, very smooth; *antennæ*, apex of the *elytra*, and feet, pale brown.

Inhabits the *Boletus versicolor* and other *fungi*.

Genus 92. CHOLEVA. *Latr., Spence, Leach.* CATOPS. *Fabr., Payk., Gyll.* PTOMOPHAGUS. *Illiger.* MORDELLA. *Forster, Marsh.* HELOPS. *Panz.* CISTELA. *Oliv., Fabr.* LUPEBUS. *Frölich.* DERMESTES. *Rossi.*

*Antennæ* straight, with a five-jointed club: *maxillary palpi* with the last joint subulate, conic: *labial palpi* with the last joint obtuse: *thorax* with the hinder angles obtuse.

The species of this genus are numerous, and have afforded the subject of a learned and interesting monograph, by that excellent entomologist, W. Spence, esq. published by the *Linnean Society* in the eleventh volume of their *Transactions*.

Sp. 1. *Cho. oblonga*. Narrow, oblong: thorax narrower behind, the hinder angles obtuse, the middle slightly foveolated: *antennæ* somewhat filiform.

*Cistela angustata.* *Fabr.* *Choleva oblonga.* *Latr., Spence.* *Catops elongatus.* *Paykull, Gyll.* *Ptomophagus rufescens.* *Illig.* *Mordella picea.* *Marsh.* *Luperus cisteloides.* *Frölich.*

Inhabits moss and under stones.

Genus 93. CATOPS. *Fabr., Payk., Gyll., Panz., Leach.*

*Antennæ* straight clavate, the club five-jointed: *maxillary palpi* with the last joint subulate, conic; *labial* with the last joint obtuse: *thorax* with the hinder angles acute: *elytra* more or less striated.

Sp. 1. *Cat. sericeus*. Ovate, gibbous-convex, brown-pitch; *antennæ* and legs pitchy-rust-coloured.

Inhabits moss.

Genus 94. PTOMOPHAGUS. *Illig., Knoch, Leach.*

*Antennæ* straight clavated, club five-jointed: *maxillary palpi* with the last joint subulate, conic: *labial* with the last joint obtuse: *thorax* with the hinder angles acute: *elytra* never striated.

Sp. 1. *Ptom. villosus.*

Inhabits dead animals.

Genus 95. MYLÆCHUS. *Latr., Leach.*

*Antennæ* incurved, shorter than the thorax; the basal joints distinctly thicker than the rest; club five-jointed, the joints transverse: *palpi* of the maxilla with the last joint subulate: *labial palpi* with the last joint obtuse.

Sp. 1. *Myl. brunneus.* Oblong-ovate, black-brown, finely but widely punctate, slightly pubescent.

*Catops brevicornis.* *Payk.* *Mylæchus brunneus.* *Latr.* *Choleva brunnea.* *Spence.*

Inhabits France, Sweden, and England: in the latter country it has occurred but twice.

Genus 96. CRYPTOPHAGUS. *Herbst, Payk., Gyll., Leach.*

*Body* depressed; *back* plain: *tarsi* with elongate slender joints: *antennæ* with a compact three-jointed club.

Sp. 1. *Crypt. cellaris.* Testaceous ferrugineous, widely punctate, pubescent: *thorax* finely denticulated, on each side distinctly unidentate, anterior angles dilated, rounded, ending behind in an obsolete tooth.

*Ips cellaris.* *Oliv., Latr.* *Dermestes cellaris.* *Scopoli.* *Cryptophagus cellaris.* *Payk., Gyll., Leach.* *Cryptophagus crenatus.* *Herbst.* *Dermestes Fungorum.* *Panzer.*

Inhabits damp wood, paper, &c. in cellars.

Genus 97. ENGIS. *Payk., Fabr., Gyll., Leach.*

*Body* depressed, *back* plain: *antennæ* with a three-jointed much perfoliated club: *tarsi* with the three first joints short.

Sp. 1. *Engis humeralis.* Elliptic, black, shining, punctate; *antennæ*, head, *thorax*, humeral spot on the *elytra* and feet red approaching to blood red.

*Engis humeralis.* *Payk., Fabr., Gyll.* *Ips humeralis.* *Herbst.* *Dacne humeralis.* *Latr.*

Inhabits Europe, under the bark of trees and in *boleti*.

Genus 98. THYMALUS. *Latr., Leach.* PELTIS. *Kugellan, Illiger, Payk., Fabr.* OSTOMA. *Laicharting.*

*Body* depressed; *back* plain: *tarsi* with the third joint neither bifid nor dilated: *palpi* terminated by a thick joint: *mandibles* prominent: *antennæ* with a three-jointed club.

Sp. 1. *Thym. ferrugineus*.

Inhabits beneath the bark of trees.

Genus 99. NITIDULA. *Linn., Fabr., Payk., Olivier, Marsh., Leach.*

*Mandibles* prominent: *body* short, depressed; *back plain*: *thorax* generally broad: *antennæ* with the third joint twice as long as the second; *club* abrupt and orbicular, composed of three joints.

Sp. 1. *Nit. bipustulata*. *Body* elliptic, brown, blackish: *thorax* emarginate; *elytra* with a red spot on each.

*Nitidula bipustulata*. *Linn., Latr., Fabr., Marsh.*

Sp. 2. *Nit. discoidea*. (*Pl. 2. fig. 5. a. antennæ magnified.*)

*Nit. discoidea*. *Marsh.*

Inhabits dead carcasses, dried bones, *boleti*, and under the bark of trees.

Genus 100. IPS. *Fabr., Herbst, Gyll., Leach.* NITIDULA. *Latr.*

*Mandibles* prominent, strong, and much bent at their points: *body* elongate-quadrate; *back plain*: *thorax* transverse-quadrate: *antennæ* with the third joint twice as long as the second; *club* abrupt and orbicular, composed of three joints.

Sp. 1. *Ips quadripustulatus*.

Inhabits the decayed stumps of trees under the bark.

Genus 101. BITURUS. *Latr., Leach.* IPS. *Olivier.* DERMESTES. *Geoff., De Geer, Fabr.*

*Antennæ* with the third joint not twice as long as the following joint; *club* composed of three joints: *mandibles* prominent: *body* oval or oblong; *back plain*: *thorax* broad behind, with the angles pointed: *elytra* covering the abdomen.

Sp. 1. *Bit. tomentosus*. *Antennæ* shorter than the *thorax*: *thorax* short, the posterior angles broadly depressed, reflected; *body* oval, black, with a reddish-yellow down; *antennæ* and feet yellow red.

Inhabits the white-thorn and umbelliferous plants in May and June.

Genus 102. CATERETES. *Herbst, Latr., Leach.* BRACHYPTERUS. *Kugellan.* DERMESTES. *Linn., Fabr.* STRONGYLUS. *Herbst.* NITIDULA. *Oliv.* CERCUS. *Latr.*

*Antennæ* with the third and following joint scarcely differing in length; *club* compressed, perfoliate, obconic, composed of three joints; *thorax* rounded, without angles behind: *elytra* very short: *body* depressed, *back plain*: *mandibles* prominent.

Sp. 1. *Cat. rufilabris*. Black, shining, with gray down.

*Cercus rufilabris*. *Latr.*

Inhabits *junci* near Hull.

STIRPS 3.—*Labial palpi* scarcely distinct: *antennæ* placed in an excavation of the thorax: *mandibles* with their apex arcuate and acute.

Genus 103. MICROPEPLUS. *Latr., Leach.*

*Antennæ* with the club composed of but one joint: *maxillary palpi* with the last joint subulate.

Sp. 1 *Micr. porcatus*. Black; elytra cancellated.

*Staphylinus porcatus*. *Paykull.*

Inhabits sandy ground.

#### Fam. XI. STAPHYLINIDÆ.

*Antennæ* gradually thickening towards their extremities, or terminated by a perfoliated mass: *elytra* covering about half the abdomen, or less, but very rarely more: *body* long, and more or less narrow.

Gravenhorst has written an admirable monograph on this family, entitled *Monographia Coleopterorum Micropterorum*.

This is a very extensive family; several hundred species are found in this country. They inhabit fungi in all its states; dung, roots of grass, flowers, under the bark of trees; and may be found in immense numbers in sand pits, and in the dung of animals, from which they may be driven by immersing the dung in water in the spring and summer months; by this means many hundred specimens may be obtained in a single day: the smaller species should be placed on a piece of gummed paper, with the legs and antennæ carefully extended to show their characters. It is necessary to collect great numbers of them, as they demand a very minute examination, which, in many instances, requires the aid of a microscope, the characters being so very obscure.

Division I.—*Anterior margin of the head (bearing the mandibles) immediately behind the eyes, terminated by a transverse straight line, (or with a line slightly bent in the middle,) not rounded or crooked at their sides. Antennæ inserted below the middle part of the abovementioned line. Thorax long. Neck distinct. Body very long and narrow. Elytra covering a very small portion of the abdomen.*

Genus 104. STAPHYLINUS. *Linn., Fabr., Latr., Oliv., Lam., Gravenh., Leach.*

*Palpi* filiform: *antennæ* towards their extremities distinctly thicker, moniliform, the last joint obliquely truncate or emarginate: *lip* deeply emarginate.

Sp. 1. *Staph. erythropterus*. Black; the greater part of the antennæ, elytra, and feet red; hinder margins of the head and thorax, the

breast, and a double series of spots on each side of the abdomen, golden-yellow tomentose. (*Pl. 4. fig. 10.*)  
Inhabits Europe in dung, and under stones.

Obs.—Several new genera have been formed from this genus, of which the following species may be considered as the types :

Genus CREOPHILUS. *Kirby.*  
Staph. maxillosus of *authors.*

Genus VELLEIUS. *Leach.*  
Staph. dilatatus. *Paykull.*  
Staph. concolor. *Marsham.*

Genus EMUS. *Leach.*  
Staph. hirtus of *authors.*

Genus STAPHYLINUS.  
Staph. erythropterus.

Genus OCYPUS. *Kirby.*  
Staph. cyaneus.

Genus GYROHYPNUS. *Kirby.*  
Staph. fulgidus.

To my kind and valuable friend Dr. Leach I am indebted for the above and following notice of new genera, as lately established by the celebrated entomologists whose names are affixed.

Genus 105. LATHROBIUM. *Gravenhorst, Latr., Leach.* PÆDERUS. *Gravenh., Fabr., Oliv.* STAPHYLINUS. *Linn., Geoff.*

*Palpi* subulate, with the last joint acicular and minute: *antennæ* nearly filiform, joints nearly conic, those towards the extremities more rounded, and somewhat globose: *lip* deeply notched, nearly bilobate.

Sp. 1. *Lath. elongatum.* Pubescent, minutely but widely punctated, black, shining; with the mouth, *antennæ*, apex of the elytra, and feet, red-brown: head ovate: *antennæ* about the length of the thorax, with the outermost joints nearly globose: thorax elongate-quadrated, with obtuse angles, the breasts equal, the middle dorsal line smooth.

*Lathrobium elongatum.* *Gravenh., Latr., Leach.* *Staphylinus elongatus.* *Linn.* *Pæderus elongatus.* *Fabr.*

Inhabits putrid vegetables, and under stones.

Obs.—*Lathrobium depressum* may be considered as the type of the Genus ACHENIUM of *Leach.*

Division II.—*Anterior margin of the head circumscribed by a curved line, the antennæ inserted on this side of the level of the line. Elytra covering half the abdomen or more. Thorax generally longer than broad, or with equal diameters.*

Subdivision 1.—*Maxillary palpi longer than the labial one, with their extremities thickest; the last joint obscure. Body linear. Head with a distinct neck. Thorax orbicular or cylindric.*

Genus 106. PÆDERUS. *Fabr., Oliv., Latr., Payk., Lam., Gravenh., Leach.* STAPHYLINUS. *Linn., Geoff., De Geer.*

*Antennæ inserted before the eyes, insensibly thickening towards their extremities; the third joint very long: eyes moderately large.*

Sp. 1. *Pæd. riparius.* Body red, shining: head, antennæ (four basal joints excepted), apex of the abdomen, and knees, black: elytra blue, with white impressed dots. (*Pl. 4. fig. 12.*)

*Pæderus riparius.* *Fabr., Latr., Oliv., Gravenh.* *Staphylinus riparius.* *Linn.*

Inhabits banks and under stones.

Obs.—*Pæderus orbiculatus* is the type of the Genus RUGILUS of *Leach.*

Genus 107. STENUS. *Latr., Cuv., Lam., Fabr., Payk., Gravenh., Leach.*

*Antennæ inserted at the exterior margin of the eyes, abruptly thicker at their extremities, the inferior joints cylindric, the outer ones conic globose: eyes nearly globose, large.*

\* *Tongue long, anus without setæ.*

Sp. 1. *Stenus biguttatus.* Black, with gray down, minutely punctate, somewhat rugulose: vertex of the head with an elevated line: thorax behind with an impressed little line; each elytron with a reddish round spot. (*Pl. 4. fig. 13.*)

*Staphylinus guttatus.* *Linn., Marsh.* *Stenus biguttatus.* *Fabr., Payk., Gravenh., Latr.*

\*\* *Tongue obsolete. Anus with two setæ.*

Genus DIANOUS. *Leach.*

Sp. 2. *Stenus cærulescens.* *Gyllenhall.*

Subdivision 2.—*Maxillary palpi not much longer than the labial, not thicker at their extremities; the last joint distinct.*

A. *Mandibles strong, with their external edge with one or more teeth. Head free.*

a. The second, third, and fourth joints of the tarsi very short; the last joint as long as the others united.

Genus 108. OXYPORUS. *Fabr., Oliv., Lam., Leach, Grav., Latr.*  
*Antennæ* scarcely longer than the head, terminated by a perfoliated mass: *maxillary palpi* filiform; the *labial ones* terminated by a very large lunate joint: *thorax* semicircular: *head* broader than the *thorax*.

Sp. 1. *Oxy. rufus*. Red; suture and apex of the elytra, anus and breast, black. (*Pl. 4. fig. 11.*)

*Oxyporus rufus*. *Fabr., Latr., Gravenh., Oliv.* *Staphylinus rufus*. *Linn.*

Inhabits *boleti* and other fungi.

Genus 109. OXYTELUS. *Grav., Latr., Leach.*

*Antennæ* somewhat broken, incurved, thicker externally, with the last joints foliate above; the extreme joint globose ovate; the basal joint very long conic: *palpi* subulate: *anterior tibiæ* very spiny, with their extremities notched or narrowed externally, with their *tarsi* capable of being reflected from their sides.

Sp. 1. *Oxy. carinatus*. Black, shining, distinctly and widely impresso-punctate; front unequal, somewhat inclined to be rugulose; the anterior space between the eyes rather smooth: *thorax* impressed on each side; the middle with three grooves, and four *carinæ*; the two middle ones joining together: feet blackish: *tibiæ* with very short little spines.

*Oxytelus carinatus*. *Grav., Latr.*

Inhabits dung.

Obs.—The following genera have lately been formed from this genus:

Genus OXYTELUS. *Latr.*

*Palpi* acuminate.

Sp. 1. *Oxy. carinatus*: 2. *Oxy. rugosus*.

Genus BLEDIUS. *Leach.*

Sp. 1. *Oxy. armatus*. *Panz.*

Genus CARPELIMUS. *Kirby.*

*Palpi* capitate.

Genus ERISTHETUS. *Knoch.*

*Palpi* with their last joint ovate.

*Erist. scaber*. *Knoch.*

Taken on an old oak near Plymouth by Dr. Leach.

Genus 110. OMALIUM. *Grav., Latr., Leach.* STAPHYLINUS.

*Geoff., Fabr., Oliv.*

*Palpi* filiform: *antennæ* thicker towards their extremities, the last joints rounded, somewhat perfoliate: *thorax* transverse-quadrate, the anterior angles rounded.

Sp. 1. *Omal. rivulare*. Blackish, punctate; base of the *antennæ* and

feet pale brown: head with two impressions between the eyes: thorax marginated, impressed at the hinder angles; back with two grooves: elytra twice as long as the thorax, obscure brown.  
*Omalium rivulare*. *Gravenh., Latr.* *Staphylinus rivularis*. *Payk.*  
 Inhabits dunghills.

Obs.—The following species may be considered as types of as many genera:

Genus ELONIUM. *Leach.*  
*Omalium striatum.*

Genus OMALIUM. *Gravenhorst.*  
*Omal. depressum.*

Genus ANTHOBIUM. *Leach.*  
*Omal. melanocephalum.*

b. Tarsi with elongate joints, the last joint shorter than the others united.

Genus 111. LESTIVA. *Latr.* ANTHOPHAGUS. *Graven., Leach.*  
 STAPHYLINUS. *Fabr., Payk., Oliv.* CARABUS. *Panz., Marsh.*

*Antennæ* nearly filiform, the second and third following joints obconic: *palpi* filiform: *thorax* elongate, somewhat cordiform, narrow, and truncate behind.

Sp. 1. *Lest. punctulata.* Black, fuscous, somewhat smooth, minutely and finely punctate: *antennæ* and feet obscure rufous.

*Carabus dimidiatus.* *Panz.* *Carabus staphylinoides.* *Marsh.* *Lestiva punctulata.* *Latr.*

Inhabits France and England; in the latter it is rare.

Genus 112. PROTEINUS. *Latr., Leach.*

*Antennæ* evidently thicker towards their extremities: *palpi* subulate: *thorax* transverse.

Sp. 1. *Prot. brachypterus.* Depressed, flat, black, shining, smooth, silky above; mandibles, basal joint of the *antennæ*, and feet, brown red: head a little narrower than the *thorax*, triangular: *thorax* short, smooth, anteriorly a little narrower, the sides somewhat rounded, very slightly margined, the hinder margin twice as broad as long, the angles slightly prominent and somewhat reddish: *scutellum* very small: *elytra* elongate-quadrate, externally marginate, the hinder and external margins rounded: *abdomen* with the four last joints naked.

*Proteinus brachypterus.* *Latr.*

Inhabits France and England.

B. *Mandibles without denticulations on their internal edge. Head inserted into the thorax more or less.*

a. *Antennæ wide apart, inserted before the eyes; the fifth and following joints longer than broad: tibiæ spinose.*

Genus 113. TACHINUS. *Grav., Latr., Leach.* OXYPORUS. *Fabr.*  
STAPHYLINUS. *Linn., Geoff., Oliv., Payk.*

*Palpi filiform.*

Sp. 1. *Tach. rufipes.* Black, shining, smooth: antennæ fuscous: elytra and feet generally brown; external apex of the elytra paler.

*Staphylinus rufipes. Paykull.* *Tachinus rufipes. Grav., Latr.* *Oxyporus rufipes. Fabricius?*

Inhabits the dung of oxen and horses.

Obs.—The following may be considered as types of the

Genus TACHYNUS. *Grav.*

Sp. 1. *Tach. subterraneus.*

Genus BOLITOBIVS. *Leach.*

*Tach. analis.*

Genus 114. TACHYPORUS. *Grav., Latr., Leach.* STAPHYLINUS.  
*Linn., Oliv., Geoff., Marsh.* OXYPORUS. *Fabr.*

*Palpi subulate.*

Sp. 1. *Tach. chrysomelinus.* Black, shining, smooth: thorax, elytra (base excepted), and feet, red yellow: thorax somewhat transverse: abdomen with the extremity truncate.

*Tachyporus chrysomelinus. Grav., Latr., Leach.* *Oxyporus chrysomelinus. Fabr.* *Staphylinus chrysomelinus. Linn., Marsh.*

Inhabits flowers, the roots of grass and moss.

b. *Antennæ more or less approximate, inserted at the anterior internal margin of the eye, fifth and following joints broader than long: tibiæ not spiny.*

Obs.—*Tachyporus Granum. Gravenh.* is the type of the Genus CYPHA.  
*Kirby.*

Genus 115. ALEOCHARA. *Knoch, Gravenh., Latr., Leach.* STAPHYLINUS. *Linn., Fabr., Geoff., De Geer, Oliv., Marsh.*

*Head with the hinder part received into the thorax.*

Sp. 1. *Aleo. canaliculata.* Red fuscous, feet paler: head and the two last joints (save one of the abdomen), black: elytra together transverse-quadrate; back of the thorax excavated with an impressed longitudinal line in the middle.

*Aleochara canaliculata. Grav., Latr.* *Staphylinus canaliculatus. Fabr.*  
Inhabits sandy banks and under stones.

Obs.—Of this genus the following species may be considered as types of the undermentioned genera:

Genus ALEOCHARA. *Grav.*

Sp. 1. Aleo. fuscipes.

Genus DRUSILLA. *Leach.*

Sp. 1. Aleo. canaliculata.

Genus FALAGRIA. *Leach.*

Sp. 1. Aleo. sulcata.

Genus AUTALIA. *Leach.*

Sp. 1. Aleo. impressa. 2. Aleo. rivularis.

Genus 116. LOMECHUSA. *Grav., Latr., Leach.*

Head disengaged from the thorax behind, with an inconspicuous neck or none: *thorax* transverse, the sides rounded: *antennæ* distinctly perfoliated.

Sp. 1. *Lom. emarginata*. Brown-reddish rather opaque, minutely punctulated: elytra pale, testaceous; hinder angles of the thorax and elytra terminating in spinous points.

*Lom. emarginata*. *Grav.*

Inhabits dry sand spots under stones.

Obs.—Genus DINARDA. *Leach.*

The type of this genus is *Lomechusa dentata*. *Grav.*

#### Fam. XII. PSELAPHIDÆ. *Leach.*

DIMERA. *Latreille.*

*Elytra* abbreviated: *tarsi* with three articulations: *claws* monodactyle.

“Latreille supposed that these animals had but two joints to their tarsi, and therefore placed them in a peculiar section of the Coleoptera; observing, however, that they are allied to *Aleochara*, to whose family they are even referred by Kirby.”

Dr. Leach considers them as constituting a distinct family, whose situation is intermediate between the *Staphylinidæ* and *Scydmanidæ*, to both of which they are intimately allied; but may be distinguished from either by the structure of their claws, and from the latter also by their abbreviated elytra.

In the third volume of the *Zoological Miscellany* is given an excellent monograph of the genera of this family, in which are enumerated nineteen British species, five of which are new, and none of them were known to Mr. Marsham, who has not described one species in his *Entomologia Britannica*.

1. *Antennæ* with eleven joints. *Maxillary palpi* elongated.

STIRPS 1.—*Body* elongated and depressed.

Genus 117. EUPLECTUS. Kirby, MSS. Leach, Zool. Misc. vol. iii. *Antennæ* with the first and second joint thick: *maxillary palpi* with the last joint conical.

Sp. 1. *Eup. Reichenbachii*. Leach.

Inhabits ————. Taken in Norfolk by Mr. J. Curtis.

STIRPS 2.—Body short and convex.

A. *Maxillary palpi* with the last joint securiform.

Genus 118. BYTHINUS. Leach. PSELAPHUS, Family II. Reichenbach.

*Antennæ* with the first joint round and considerably larger than the second, which is but a little increased, of the male internally acutely produced; the third and succeeding to the eighth joint round and of an equal size, ninth and tenth larger, eleventh oval, the last acute: *maxillary palpi* with the first articulation filiform, increasing towards the apex; second oval, third securiform, the base with a large angle.

Sp. 1. *Byth. Curtisii*.

Inhabits sand-pits.

Genus 119. ARCOPAGUS. Leach.

*Antennæ* with the first and second joint increasing; the first elongated, the second round; the third and following to the eighth nearly globose; ninth increasing, nearly globose and lenticular; the tenth larger; the eleventh and remainder increasing, oval, the apex of the last joint acuminate: *maxillary palpi* with the first joint filiform, gradually increasing to a club; the second elongate-oval; the third oval securiform, base angular.

\* *Antennæ* with the first joint cylindrical.

Sp. 1. *Arc. glabricollis*. Leach. *Pselaphus grabricollis*. Reich.

Inhabits woods, under moss.

\*\* *Antennæ* with the first joint internally dilated.

Sp. 2. *Arc. bulbifer*. Leach. *Pselaphus bulbifer*. Reich.

Inhabits ———— Norfolk. Messrs. Sims and Jos. Hooker.

Genus 120. TYCHUS. Leach.

*Antennæ* with the first and second joint enlarged and nearly round, the first a little more lengthened and thicker than the second; third and following to the eighth nearly globose; third and fourth a little longer than the fifth, which is somewhat larger; ninth and tenth globose, increasing, and lenticular, the tenth larger than the ninth; the eleventh with the others gradually increasing.

Sp. 1. *Tych. niger*.

Inhabits ———? Taken near London and Bristol, as well as in the vicinity of Norwich.

B. *Maxillary palpi with the last joint clavate.*

Genus 121. BRYAXIS, Knoch, Leach. PSELAPHUS, Fam. III. A. Reich.

*Antennæ* with the first and second joint enlarged and nearly cylindrical; third and following to the seventh nearly cylindrical; the fifth the longest, eighth small and subglobose, ninth and following gradually increasing: *maxillary palpi* with the first joint clavated, narrow at the base; second nearly globose; third conical.

\* *Foveolæ* of the thorax connected by a furrow. *Antennæ* with the apex of the last joint acute, third and four following joints, elongated.

Sp. 1. *Bry. longicornis*. Leach, Zool. Misc. iii. 85.

Inhabits the roots of grass on the sloping banks Battersea fields.

\*\* *Thorax* with the furrow very conspicuous. *Antennæ* with the last joint nearly obtuse; the third and following to the seventh, short. (Ninth subglobose; tenth lenticulated.)

Sp. 2. *Bry. impressa*.

Ps. impressus. Reich., Monog. Ps. t. 2. f. 15.

Inhabits ——— Norfolk.

C. *Maxillary palpi with the last joint clavated.*

Genus 122. PSELAPHUS. Herbst, Latr., Leach, &c. PSELAPHUS, Fam. I. Reichenbach.

*Antennæ* with the first and second joint elongated and nearly cylindrical; third and following to the eighth nearly globular and equal; ninth and tenth increasing, nearly equal and globular; eleventh and remainder gradually increasing: *maxillary palpi* with the first joint filiform, the apex almost abruptly clavated; second nearly globose; third with the apex gradually clavated.

Sp. 1. *Psel. Herbstii*, (Pl. 4. fig. 15.) magnified: the line beneath shows the natural size.

Inhabits banks and river sides.

Obs.—The *Pselaphi* are obtained by seeking at the roots of grass, in sand-pits, &c. but being so exceedingly minute they easily escape the eye of the entomologist unless he looks very close to the ground; the usual practice is either to sit or lie down, and by this means many highly interesting and rare insects may be taken whilst the entomologist rests from a more laborious mode of collecting.

## Fam. XIII. SCYDMENIDÆ, Leach,

PALPATORES. Latreille.

*Body* ovoid, rounded at each extremity: *palpi* very long: *tarsi* short; *clytræ* hard, covering the abdomen: *antennæ* gradually thicker towards their extremities.

Genus 123. SCYDMENUS. *Illig., Paykull, Leach.* ANTHICUS.  
*Fabr.*

*Antennæ* gradually thickening towards their extremities: *maxillary palpi* terminated by an acicular obscure joint.

Sp. 1. *Scyd. Hellwigii*. Last joint of the maxillary palpi obsolete; three last joints of the antennæ forming a club: thorax ovate: body fuscous-red-brown, pubescent: head, thorax, and abdomen darker: elytra smooth.

*Pselaphus Hellwigii*. *Herbst, Payk., Illig., Leach.* Anthicus *Hellwigii, Fabr.* Scydmenus *Hellwigii, Latr.*

Fam. XIV. PTINIDÆ. *Leach.*

PTINIORES. *Latreille.*

*Antennæ* much longer than the head, filiform, or terminated by three large joints not united into a mass.

STIRPS 1.—*Antennæ* uniform, not terminated by three joints, larger than the rest.

Genus 124. PTINUS. *Linn., Fabr., Latr., Lam., Oliv., Leach.*  
BRUCHUS. *Geoff.*

*Antennæ* simple filiform, approximate, inserted between the eyes: *eyes* projecting: *thorax* hood-like: *abdomen* nearly oval: *elytra* united in the male.

Sp. 1. *Ptin. Fur.* Red-fuscous: thorax with four tubercles transversely striated, the two middle ones highest, with tufts of hair, contracted and margined behind: abdomen ovate, rounded at the base: elytra villose, with two yellow-gray bands; the second joint of the antennæ shorter than the third: under part of the body with short gray-yellow hairs.

*Ptinus Fur.* *Linn., Fabr., Latr., Oliv., Leach.*

Inhabits houses, and commits great devastation in museums.

Obs.—*Ptinus testaceus* of Marsham is merely the male of this species.

Genus 125. GIBBIUM. *Latr., Leach.*

*Antennæ* simple, setaceous, inserted behind the eyes: *eyes* not prominent: *thorax* simple: *abdomen* nearly globular: *elytra* united in both sexes.

Sp. 1. *Gib. Scotias.* *Latr., Leach.*

Inhabits houses. It has been three times taken in Bristol.

Obs.—*Ptinus sulcatus*, *Marsham*, forms the type of the genus MEZIUM, *Leach's MSS.*, and is akin to GIBBIUM.

Genus 126. PTLINUS. *Geoff., Oliv., Lam., Fabr., Latr., Leach.*  
ANOBIUM. *Illiger.* SERROCFERUS. *Kugellan.* PTINUS. *Linn., Marsh.*

*Antennæ* inserted before the eyes, very much pectinated in the males, serrated in the females; *body* long-ovoid, nearly cylindrical: *thorax* somewhat globose,

Sp. 1. *Pti. pectinicornis*. Body blackish: elytra obscure brown: antennæ and feet reddish: thorax rough: elytra punctate.

*Ptilinus pectinicornis*. *Fabr., Oliv., Latr., Leach.* *Ptinus pectinicornis*. *Linn., Marsh.* *Dermestes pectinicornis*. *Linn.?*

Inhabits old trees and houses, perforating them to destruction.

Obs.—*Ptinus serraticornis*, Marsham, is the female of this insect.

STIRPS 2.—*Antennæ* terminated by three joints differing from the rest in size.

Genus 127. ANOBIUM. *Fabr., Oliv., Lamarck, Latr., Leach.*

*PTINUS*. *Linn., De Geer, Marsh.* *BRUCHUS*. *Geoff.*

*Antennæ* eleven-jointed, with the three last joints abruptly thicker than the others; the ninth and tenth joints obconic; the tenth oval.

\* *Elytra* not striated.

Sp. 1. *Anob. tessellatum*. Thorax bilobate behind, the lateral margins reflexed: body fuscous, sprinkled with villose, obscure luteous spots: elytra not striated

*Anobium tessellatum*. *Fabr., Latr., Leach.* *Ptinus tessellatus*. *Marsh.* Inhabits the wood of rotten trees, especially willows, during the winter months.

\*\* *Elytra* striated.

Sp. 3. *Anob. striatum*. Fuscous, with grayish down: thorax with a gibbous protuberance, unisulcate above, with the angles compressed: hinder margins somewhat marginated: elytra longitudinally punctate.

*Anobium striatum*. *Latr., Oliv., Illig., Leach.* *Anobium pertinax*. *Fabr., Payk.*

Inhabits rotten trees.

Fam. XV. DERMESTIDÆ. *Leach.*

DERMESTINI. *Latreille.*

*Antennæ* slender, longer than the head, and terminated by a large ovoid mass.

STIRPS 1.—*Sternum* not produced to the mouth, or over it like a neck-cloth: *tibiæ* spinose.

Genus 128. DERMESTES. *Linn., Fabr., Latr., Marsh., Herbst, Oliv., Leach.*

*Antennæ* with an ovate club, the last joint short, not (or but little) longer than the preceding joint: *body* narrow oval: *thorax* with the hinder margin straight or obtusely lobed: *palpi* very short: *maxillary palpi* shorter than the maxillæ, or scarcely as long.

Sp. 1. *Der. lardarius*. Black: base of the elytra with a cinereous band with black points.

*Dermestes lardarius*. *Linn., Fabr. Latr., Marsh., Leach.*

Inhabits decayed animal substances, paper, &c. is common in houses.

Genus 129. **ATTAGENUS.** *Latr., Leach.* **MEGATOMA.** *Herbst.*

**DERMESTES.** *Fabr., Linn., Latr., Marsh.*

*Antennæ* with an elongate-ovate club, the last joint longer than the preceding (especially in the male), triangular or conic: *body* broad-oval: *thorax* with the posterior margin narrowly and acutely lobed: *maxillary palpi* exerted, longer than the *maxillæ*; the last joint elongate-cylindric, very long in some.

Sp. 1. *Att. Pellio.* Black; middle of the *antennæ* and of the *tarsi* obscure red: hinder margin of the *thorax* with three spots, and the *elytra* with a spot on each side of the suture villose-white: *antennæ* of the male with the last joint ensiform, very long.

*Dermestes Pellio.* *Linn., Fabr., Marsh., Latr.* *Megatoma nigra.* *Herbst.* (variety of the male.)

Inhabits skins in houses, old wood, and paper.

**STIRPS 2.**—*Sternum* produced over the mouth like a neckcloth: *tibiæ* not or but slightly spined.

Genus 130. **MEGATOMA.** *Herbst., Latr., Leach.* **DERMESTES.**

*Linn., De Geer, Fabr.*

*Body* narrow-oval: *antennæ* with an oval or oblong club with the internal edge simple.

Sp. 1. *Meg. undatum.* Black; sides of the *thorax* and two undulated bands on the *elytra* white villose: *tarsi* obscure red.

*Megatoma undulata.* *Herbst.* *Megatoma undatum.* *Latr.* *Dermestes undatus.* *Linn., Fabr., Oliv., Panz.*

Inhabits birch trees (beneath the bark) in the months of March and April: the larva spins a silken web in which it changes to a pupa.

#### Fam. XVI. **BYRRHIDÆ.** *Leach.*

**BYRRHI.** *Latreille.*

*Body* ovoid: *feet* entirely or semicontractile: *sternum* anteriorly produced to a mouth in the form of a neckcloth: *antennæ* thicker towards their extremities: *tarsi* with five very distinct articulations: *antennæ* straight, not inserted in the cavity of the eyes: *feet* perfectly contractile: *mandibles* but little or not at all prominent.

Genus 131. **ANTHRENUM.** *Geoff., Fabr., Oliv., Lam., Latr.,*

*Leach.* **BYRRHUS.** *Linn., Marsh.* **DERMESTES.** *De Geer.*

*Antennæ* shorter than the *thorax* with the club solid: *palpi* filiform, short: *body* orbiculate-ovate: *scutellum* very minute.

Sp. 1. *Anth. Scrophulariæ.* Black: sides of the *thorax* and three transverse bands on the *elytra* gray: suture and external margin of the *elytra* and hinder margin of the *thorax* red lutescent.

*Anthrenus Scrophulariæ.* *Fabr., Latr., Leach.* *Byrrhus Scrophulariæ.* *Linn., Marsh.*

Inhabits the blossoms of various plants.

Genus 132. THROSCUS. *Latr., Leach.* ELATER. *Linn., Oliv., Geoff.* DERMESTES. *Fabr., Payk., Illiger.*

*Antennæ* as long as the thorax, with the three last joints large, forming an oval club: *palpi* short, with the last joint securiform: *body* elliptic, narrow, depressed.

Sp. 1. *Thr. dermestoides*. Brown, with gray-yellowish down: *elytra* with punctated striæ.

Elater *dermestoides*. *Linn., Oliv.* Dermestes *adstrictor*. *Payk., Illig., Fabr.* Throscus *dermestoides*. *Latr., Leach.*

Inhabits European plants; is very rare in Britain.

Genus 133. BYRRHUS. *Linn., Fabr., Oliv., Lam., Latr., Illiger, Gyll., Leach.* CISTELA. *Geoff., Marsh.* DERMESTES. *De Geer.*

*Antennæ* a little shorter than the thorax, with the four or five terminal joints gradually thicker, compressed: *palpi* short, the last joint longest, thick, somewhat ovate: *body* somewhat ovate, very convex above: *scutellum* minute.

Sp. 1. *Byr. Pilula*.

Inhabits pathways and sandy situations.

#### Fam. XVII. HISTERIDÆ. *Leach.*

Genus HISTER. *Linn., Fabr., Latr., Marsh., &c.* HISTEROIDES. *Gyll., Payk.*

*Antennæ* geniculated, terminated by a nearly solid club of three articulations: *elytra* shorter than the abdomen, the margin of the sides inflexed: *tarsi* with five joints; contractile.

The insects of this Family are numerous: their habitation is the dung of animals, and some are found in rotten wood. A valuable paper has been published in the third volume of the *Zoological Miscellany*, from which the following is selected.

STIRPS 1.—*Body* thick, nearly globose or quadrate: *tibiæ* elongated and straight: *tarsi* long and slender: *sternum* simple.

Genus 134. ABRÆUS. *Leach's Zool. Misc. vol. iii.*

*Antennæ* with the first articulation somewhat elongated, second and third nearly cylindrical, straight: fourth short; fifth, sixth, and seventh, nearly globose and equal; eighth nearly globose, lenticular; ninth, tenth, and eleventh forming a short oval club.

Sp. 1. *Abr. perpusillus*.

Hister *perpusillus*. *Marsh.*

Inhabits the dung of animals.

Genus 135. ONTHOPHILUS. *Leach's Zool. Misc. vol. iii.*

*Antennæ* with the first joint long, the second cylindrical, closely joined at the base; third obconic; fourth and fifth short and obconic; sixth and seventh shorter and nearly globose; eighth nearly lenticular; ninth, tenth, and eleventh forming an oval club.

Sp. 1. *Onth. striatus*. Payk., Monogr. Hist. 100. t. 11. f. 1.  
Inhabits dung.

STIRPS 2.—*Body* depressed: *tibiæ* broad: *tarsi* short: *sternum* dilated, the fore part forming a cavity for the head, which is capable of being retracted even to the mandibles.

A. *Tibiæ*, the four posterior with two series of spines.

Genus 136. *HISTER* of authors.

*Body* above nearly convex: *thorax* with the anterior part straight.

A. *Elytra* with the outer striæ extending their whole length.

a. *Thorax* with the sides striated, the striæ extending their whole length.

\* *Elytra* with marginal striæ.

Sp. 1. *Hist. unicolor* of authors.

Inhabits dung.

\*\* *Elytra* without the marginal striæ.

Sp. 2. *Hist. sinuatus*. Illiger. *4-maculatus*. Marsh.

b. *Thorax* with the sides not striated.

\* *Elytra* with no marginal striæ.

Sp. 3. *Hist. parvus*. Marsh., Leach.

\*\* *Elytra* with a marginal striæ.

Sp. 1. *Hist. purpurascens*. Fabr., Leach. *Hist. bipustulatus*. Marsh.

b. *Elytra* with the external striæ abbreviated.

Sp. 1. *Hist. nitidulus*. (Pl. 2. fig. 1. a. *antennæ magnified*.) Fabr., Leach,  
—*Hist. semipunctatus*. Marsh.

B. *Four posterior tibiæ* with only one row of spines.

Genus 137. *DENDROPHILUS*. Leach's Zool. Misc. vol. iii.

*Body* with the upper part nearly convex: *thorax* short, the anterior part straight.

Sp. 1. *Den. punctatus*.

*Hister punctatus*. Ent. Heft.

Genus 138. *PLATYSOMA*. Leach.

*Body* with the upper part plain: *thorax* transverse or nearly equal quadrangle.

\* *Elytra* without striæ. *Body* finely punctured.

Sp. 1. *Plat. picipes*. Leach. *H. picipes*. Fabr.

\*\* *Elytra* without external striæ. *Body* not punctured.

Sp. 2. *Plat. flavicornis*. Leach. *H. flavicornis*. Herbst.

\*\*\* *Elytra externally striated. Body without punctures.*

Sp. 3. *Plat. depressum*. Leach. *H. depressus*. Marsh.

Subdivision 3.—*Antennæ straight, not inserted in the cavity of the eyes. Feet semicontractile.*

Genus 139. LIMNIUS. Müller, Gyll., Leach. DYTISCUS. Panz.  
CHRYSOMELA. Marsh. ELMIS. Latr.

*Antennæ* nearly filiform, the last joint largest, somewhat oval.

Sp. 1. *Lim. Volckmari*. Leach.

*Dytiscus Volckmari*. Panzer.

*Chrysomela buprestoides*. Marsh.

Fam. XVIII. PARNIDÆ. Leach.

*Antennæ* inserted in the anterior canthus of the eye: *elytra* not shorter than the abdomen.

Genus 140. PARNUS. Fabr., Illig., Marsh., Leach. DERMESTES.  
Geoff. ELATER. Rossi. DRYOPS. Oliv., Lam., Latr.

*Antennæ* composed of three joints, the last joint articulated: *tarsi* with five joints.

Obs.—The insects of this genus inhabit the roots and blades of grass at the sides of ponds and ditches; the method of finding them is to loosen the grass in those places, by which means the insects will be found floating on the water: we have several species in this country that have not yet been clearly defined, but have been confounded with *prolificornis*.

Sp. 1. *Par. sericeus*. Leach's MSS. (*Pl. 3. fig. 10. a. antennæ magnified.*)

Genus 141. HETERO CERUS. Bosc., Fabr., Illig., Latr., Marsh.,  
Leach.

*Antennæ* composed of eleven joints, the seven last forming a dentate or serrated mass: *tarsi* with four joints.

Sp. 1. *Het. marginatus*. Blackish villose; sides of the thorax and abdomen with spots on the *elytra*, margins of the abdomen, and feet pale luteous. (*Pl. 3. fig. 11.*)

Inhabits marshy places, burrowing in the muddy and clayey banks of ponds.

Fam. XIX. HELOPHORIDÆ. Leach.

*Mandibles* without teeth at their extremities: *body* oblong: *antennæ* terminated by a club.

STIRPS 1.—*Clypeus* whole: *maxillary palpi* with the last joint thick and oval.

Genus 142. HELOPHORUS. *Leach.* ELOPHORUS. *Fabr., Oliv., Latr., Gyll.*

*Eyes* sessile; *thorax* transverse.

\* *Thorax and elytra furrowed.*

Sp. 1. *Hel. stagnalis.* Hydrophilus stagnalis. *Marsh.*

Inhabits ponds, floating on the surface and walking on aquatic plants.

\*\* *Thorax and elytra with elevated lines.*

Sp. 1. *Hel. nubilus.* Gyll.

Genus 143. HYDROCHUS. *Germar., Leach.* ELOPHORUS. *Fabr., Illig., &c.*

*Eyes* rather prominent; *thorax* elongated.

Sp. 1. *Hydr. cicindeloides.* Hydrophilus cicindeloides. *Marsh.*

Inhabits ponds, and may frequently be found in the mud at the sides.

STIRPS 2.—*Clypeus* entire.

Genus 144. OCHTHEBIUS. *Leach's Edinb. Encycl.—Zool. Misc.* vol. iii. ELOPHORUS. *Fabr.* HYDRÆNA. *Latr., Illig.*

*Marillary palpi* with the middle and last joint slender and acute.

Sp. 1. *Och. riparius.* Leach. Hydrophilus impressus. *Marsh.*

Genus 145. HYDRÆNA. *Kugellan, Leach.*

*Marillary palpi* with the last joint long and acuminate.

Sp. 1. *Hyd. Kugellani.* Leach. Hydro. longipalpus. *Marsh.*

#### Fam. XX. HYDROPHILIDÆ.

*Mandibles* at their points bidentate; *body* oval or round; *antennæ* terminated by a club.

STIRPS 1.—*Clypeus* emarginate; *sternum* simple; *antennæ* with six articulations.

Genus 146. SPERCHEUS. *Fabr., Latr., Leach.*

Sp. 1. *Sper. sordidus.* Spercheus sordidus. *Fabr.* Hydr. sordidus. *Marsh.*

Inhabits stagnant waters.

STIRPS 2.—*Clypeus* whole; *sternum* simple.

A. *Elytra* with the apex whole. *Scutellum* small.

Genus 147. BEROSUS. *Leach's Zool. Misc.* vol. iii.

*Body* narrow before; *thorax* convex; *eyes* rather prominent.

Sp. 1. *Ber. luridus* of authors.

Inhabits ponds.

Genus 148. HYDROBIUS. *Leach.*

*Body* oval, convex, obtuse: *eyes* simple.

\* *Elytra* striated.

Sp. 1. *Hydr. fuscipes.*

Inhabits ponds.

\*\* *Elytra* smooth.

Sp. 1. *Hydr. melanocephalus.*

Inhabits ponds.

B. *Elytra* with the apex truncated. *Scutellum* small.

Genus 149. LIMNEBIUS. *Leach.*

*Body* rather depressed: *eyes* simple.

Sp. 1. *Lim. nitidus.* *Hydrophilus nitidus.* *Marsh.*

Inhabits ponds and ditches.

STIRPS 3.—*Clypeus* whole: *sternum* produced into a spine.

Genus 150. HYDRÖUS. *Linné's MSS., Leach.*

*Scutellum* large: *anterior tarsi* of the male dilated in the middle with unequal claws: *antennæ* with their last joint acuminate.

Sp. 1. *Hydr. piceus* of authors.

Inhabits ponds and ditches.

## Genus 151. HYDROPHILUS of authors.

*Body* with the posterior part slightly obtuse: *antennæ* with the last joint obtuse: *scutellum* moderate: *anterior tarsi* in both sexes simple.

Sp. 1. *Hydr. caraboides* of authors. (*Pl.* 3. *fig.* 16.)

Inhabits ponds; is very common.

Fam. XXI. SPHÆRIDIÆ. *Leach.*

*Antennæ* terminated by a club: *maxillary palpi* very long: *mentum* large, clypeiform: *head* with the front rounded, cowl-shaped: *feet* formed for walking: *tarsi* with the basal joint as long or longer than the second joint (in the male with the last joint on the anterior tarsi large). The insects of this family are very nearly akin to the *Hydrophilii*.

Genus 152. SPHÆRIDIDIUM. *Fabr., Oliv., Lamarck, Leach. DERMESTES. Linn., De Geer, Marsh.*

*Body* somewhat hæmispheric: *eyes* immersed: *thorax* transverse: *tibiæ* spinose, armed with heels: *sternum* behind produced into a conic spine.

Sp. 1. *Sph. scarabæoides.* Black, shining, smooth: *scutellum* forming a long triangle: *feet* very spiny: each *elytron* at the base with a blood-

red spot, and a livid reddish spot at the apex. (*Pl. 3. fig. 12. a. antennæ magnified.*)

Sphæridium scarabæoides. *Fabr., Latr. Dermestes scarabæoides. Marsh., Linn.*

Inhabits dung.

Genus 153. CERCYON. *Leach's Zool. Misc. vol. iii. DERMESTES. Marsh.*

*Antennæ* with the club imbricated (*Pl. 3. fig. 12. b. magnified*): *anterior tarsi* in both sexes simple.

Sp. 1. *Cer. unipunctatum.*

Inhabits dung.

Sp. 2. *Cer. melanocephalum.*

Inhabits dung and flowers.

#### Fam. XXII. COPRIDÆ. *Leach.*

##### COPROPHAGI I. *Latreille.*

*Labial palpi* very hairy, the last joint smaller than the preceding: *scutellum* none or very obscure: *elytra* taken together not longer than broad: *posterior feet* situated near the anus: *antennæ* eight- or nine-jointed, terminated by an abrupt lamellated mass: *anterior tibiæ* large and dentated: *mentum* not very large: *mandibles* membranaceous: *maxillæ* membranaceous: *clypeus* semicircular.

Subdivision 1.—*Labial palpi, with the last joint very distinct. Thorax much shorter than the elytra; much broader than long. Anterior tibiæ long, arcuate.*

Genus 154. COPRIS. *Geoff., Illig., Fabr., Lam., Latr., Leach. SCARABÆUS. Linn., De Geer., Oliv., Marsh.*

*Scutellum* none: *abdomen* elevated, convex: *anterior tibiæ* longer than the others; externally with three strong teeth terminated by a tarsus: *antennæ* nine-jointed.

Sp. 1. *Cop. lunaris.*

*Copris lunaris. Fabr., Latr., Leach. Scarabæus lunaris. Linn., Marsh. Scarabæus emarginatus* of Marsham is merely the female.

Inhabits dung in sandy situations and lanes, entering the earth two or three inches beneath the surface.

Subdivision 2.—*Labial palpi with the last joint not distinct. Thorax longer than the elytra. Tibiæ all terminated by a tarsus.*

Genus 155. ONTHOPHAGUS. *Latr. COPRIS. Geoff., Illiger, Fabr. SCARABÆUS. Linn., Herbst., Oliv., Marsh.*

Sp. 1. *Onth. Vacca.*

Inhabits dung: this and many others are very abundant under dung in April and May.

Fam. XXIII. APHODIADÆ. *Leach.*COPROPHAGI II. *Latreille.*

*Labial palpi* nearly smooth, filiform, the joints nearly equal, cylindrical: *feet* all separated by equal distances; hinder ones distant from the anus: *scutellum* distinct.

Genus 156. APHODIUS. *Illiger, Fabr., Latr., Leach. SCARABÆUS Oliv., Marsh., Linn.*

Sp. 1. *Aph. rufipes.*

Inhabits dung in the spring of the year.

This genus may be divided, for the sake of convenience, from the clypeus.

1. *Clypeus* smooth, emarginate.
2. *Clypeus* smooth, entire.
3. *Clypeus* tuberculate.

Fam. XXIV. GEOTRUPIDÆ. *Leach.*GEOTRUPINI. *Latreille.*

*Antennæ* eleven-jointed, terminated by a lamellated club: *anterior tibiæ* large, dentate: *mentum* not large: *mandibles* corneous, porrect: *labrum* prominent: *clypeus* rhomboidal.

Genus 157. GEOTRUPES. *Latr., Dumeril, Lam., Leach. SCARABÆUS. Linn., Geoff., Fabr., Oliv., De Geer.*

*Antennæ* terminated by an oval lamellated club: *thorax* shorter than the abdomen, not horned: *hinder feet* distant from the anus: *head* not produced behind the eyes: *scutellum* obvious.

Sp. 1. *Geo. stercorarius.*

Inhabits Europe; boring cylindrical holes beneath the dung, and flying about in the dusk of the evening.

Genus 158. TYPHÆUS. *Leach. SCARABÆUS. Fabr., Gyll., Marsh.*

*Antennæ* terminated by an oval lamellated club: *thorax* shorter than the abdomen; on each side in front with a long process which extends along the sides of the head: *hinder feet* distant from the anus: *head* not produced behind the eyes: *scutellum* obvious.

Sp. 1. *Typ. vulgaris.* (*Pl. 1. fig. 1.*)

*Scarabæus typhæus. Fabr., Gyll., Marsh.*

Inhabits the dung of horses on heaths, in the spring of the year.

OBS.—*Scarabæus mobilicornis, Marsh.,* forms the genus ODONTEUS, *Köppe.*

Fam. XXV. MELOLONTHIDÆ. *Leach. SCARABÆIDES. Latr.*

*Antennæ* ten-jointed (in some nine), terminated by a lamellated club: *mandibles* corneous in part: *clypeus* triangular or quadrate: *anterior tibiæ* large and dentate: *mentum* not large.

STIRPS 1.—No scale between the posterior angles of the thorax and the exterior base of the elytra.

Division I.—Thorax almost quadrate, more or less transverse. Mandibles entirely corneous.

Subdivision 1.—Labrum prominent even beyond the clypeus. Maxillæ interiorly armed with a horny hook, simple or bifid. Body nearly globular or ovoid. Elytra tumid, embracing the sides of the abdomen.

Genus 159.—ÆGIALIA. Latr., Leach. APHODIUS. Panz., Illig.  
PSAMMODIUS. Gyll.

Antennæ distinctly longer than the head, composed of nine joints, the first of which is cylindrical and a little hairy: body nearly globular: wings none.

Sp. 1. *Ægi. globosa*. Black, shining: head granulated: elytra striated, impunctate.

Aphodius globosus. Illig. Psammodius globosus. Gyllenhal. *Ægialia globosa*. Latr., Leach.

Inhabits the sandy shores of the sea.

Genus 160. PSAMMODIUS. Gyll., Leach.

Body elongate, convex: antennæ distinctly longer than the head: wings two: thorax transversely striated.

Sp. 1. *Psam. Sulcicollis*. Gyll.

Aphodius Sulcicollis. Illig.

Inhabits sandy places. Taken at Swansea by Mr. W. S. Millard, a most assiduous and successful collector of British insects.

Genus 161. TROX. Fabr., Oliv., Lam., Latr., Leach. SCARABÆUS.  
Linn., Marsh., Geoff., De Geer.

Antennæ scarcely longer than the head, composed of ten joints, the first obconic and very hairy: body ovoid: maxillæ with a simple hook.

Sp. 1. *Trox sabulosus*.

Inhabits sandy places.

Subdivision 2.—Labrum not projecting beyond the clypeus. Body not globose. Elytra not embracing the sides of the abdomen.

\* Body subcylindric.

Genus 162. SINODENDRON. Fabr., Latr., Don., Leach. SCARABÆUS. Linn., De Geer., Oliv. LUCANUS. Marsh.

Antennæ with a lamellated club not capable of being folded: the lamella very short, resembling the teeth of a saw; body cylindrical: maxillæ coriaceous, bilobate.

Sp. 1. *Sin. cylindricum*. Black, shining, impressed-punctate, cicatriculose; the punctures umbilicated, the umbilici perforate. (Male with a conic-compressed horn, the female with a short horn on the head.)

*Sinodendron cylindricum*. *Fabr., Latr., Don., Leach.* *Scarabæus cylindricus*. *Linn., De Geer, Oliv.* *Lucanus cylindricus*. *Marsh.*  
Inhabits old trees, especially the ash. Is very abundant near Cheltenham and near Plymouth.

\*\* *Body ovoid-oblong.*

Genus 163. MELOLONTHA. *Fabr., Oliv., Lam., Latr., Leach.*

*Elytra* with their external edge not sinuated, very slightly narrower at their base than at their points: *tibiæ* armed with very distinct heels.

Sp. 1. *Mel. vulgaris*. (Common Cockchaffer.)

*Melolontha vulgaris*. *Latr., Fabr.* *Scarabæus melolontha*. *Linn., Marsh.*

Inhabits various trees in May and June.

Genus 164. ANOMALA. *Köppe, Leach's MSS.*

*Elytra* with the external edge not sinuated, very slightly narrower at their base than at their points: *tibiæ* terminated by very distinct heels: *antennæ* of both sexes nearly equal in size, with a lamellated club: *body* ovate or short ovate convex.

*A. Frischii*. *Mel. Frischii*. *Fabr.*

Inhabits the sandy coasts of the sea.

The following may be considered as the type of the

Genus AMALOPHIA, Sp. 1. *Melolon. ruricola*.

Genus 165. HOPLIA. *Illig., Latr., Leach.* SCARABÆUS. *Linn., Geoff., De Geer.* MELOLONTHA. *Fabr., Oliv.*

*Elytra* with their external edge sinuated: *tibiæ* with very obscure spurs or heels.

Sp. 1. *Hopl. pulverulenta*.

Inhabits heaths.

Division II.—*Thorax* as long as broad, nearly orbicular, or almost ovoid and truncate at their extremities. *Mandibles* partly membranaceous, sometimes entirely corneous. *Maxillæ* terminated by a membranaceous or coriaceous lobe. *Labrum* not prominent.

Genus 166. TRICHIUS. *Fabr., Latr., Leach.*

*Antennæ* with the first joint very large: *clypeus* quadrate: *palpi* short, with their first joint very large: *clypeus* quadrate: *tarsi* with equal nails.

Sp. 1. *Tr. fasciatus*.

*Trichius fasciatus*. *Latr., Fabr., Leach.* *Cetonia fasciata*. *Oliv.* *Scarabæus fasciatus*. *Linn.*

Inhabits Europe on umbelliferous plants, but is rare in Britain.

Sp. 2. *Tr. nobilis*. (*Pl. 1. fig. 2. a. antenna magnified.*)

STIRPS 2.—A triangular scale interposed between the posterior angles of the thorax, and the exterior of the base of the elytra.

Genus 167. CETONIA. *Fabr., Latr., Oliv., Lamarck, Leach.* SCARABÆUS. *Linn., Geoff., De Geer, Marsh.*

*Mandibles* almost membranaceous, or coriaceous: *mentum* of a moderate size: *thorax* triangular, with the anterior point truncate: *elytra* abruptly sinuated at their internal side towards the base.

Sp. 1. *Cet. aurata.*

Inhabits the flowers of roses, the larvæ live in decayed wood.

Fam. XXVI. LUCANIDÆ. *Leach.*

LUCANIDES. *Latreille.*

*Antennæ* with a pectinated club: *anterior tibiæ* large and dentated: *palpi* four: *labrum* generally wanting: *mandibles* very strong, corneous, dentated, exerted: *mentum* corneous.

Genus 168. LUCANUS of authors. PLATYCERUS. *Geoff.*

*Palpi* long: *lip* bifid, very hairy, the *lacinia* resembling pencils.

Sp. 1. *Luc. Cervus.* (Stag Beetle.) (*Pl. 1. fig. 3.*)

## Section II. HETEROMERA.

Four anterior *tarsi* five-jointed, hinder pair four-jointed: *antennæ* eleven-jointed, never lamellated or furnished with a pectinated head.

Fam. XXVII. BLAPSIDÆ. *Leach.*

*Mentum* small, or moderately large, quadrate or orbicular: *palpi* terminated by a thick joint; the last joint of the maxillary one securiform.

Genus 169. BLAPS. *Fabr., Oliv., Lam., Latr., Marsh., Leach.*  
TENEBRIO. *Linn., Geoff.*

*Back* flat: *thorax* almost quadrate: *antennæ* with the third joint much longer than the fourth: *elytra* with their extremities pointed.

Sp. 1. *Blaps mortisaga.*

Inhabits dark cellars and damp places.

Fam. XXVIII. TENEBRIONIDÆ. *Leach.*

*Mandibles* bifid at their extremities: *head* more or less triangular, without a contraction behind, at its junction with the thorax: *tarsi* with entire joints: *antennæ* moniliform, not perfoliated or serrated: *maxillæ* unguiculated.

Genus 170. PEDINUS. *Latr., Leach.* TENEBRIO. *Linn., Geoff., Marsh.* BLAPS. *Fabr., Herbst.* HELOPS. *Olivier.* OPATRUM. *Illig.*

*Body* oval: *maxillary palpi* terminated by a thick joint: *antennæ* filiform; the last joint globose or turbinated.

Sp. 1. *Ped. maritimus.* *Leach.* (*Pl. 4. fig. 2.*) ♂ *Tenebrio femoralis.* *Marsh.* ♀ *T. gemellatus.* *Marsh.*

Inhabits sandy places: is very abundant on the sea shore near Swansea, South Wales.

Genus 171. OPATRUM. *Fabr., Oliv., Lam., Leach.* SILPHA.  
*Linn. TENEBRIO. Geoff., Marsh.*

*Body* oval: *maxillary palpi* with their last joint obtrigonal: *antennæ* gradually thicker towards their extremities: the last joints transverse, compressed.

Sp. 1. *Opat. sabulosum.* (*Pl. 2. fig. 8. a. antennæ magnified.*)

*Opatrum sabulosum. Fabr., Latr.* *Silpha sabulosa. Linn. Tenebrio sabulosus, Marsh.*

Inhabits sandy places.

Genus 172. TENEBRIO. *Linn., Geoff., De Geer, Fabr., Latr., Leach.*

*Thorax* behind as broad as the elytra: *body* elongate: *antennæ* scarcely gradually thicker towards their extremities; the eighth, ninth, and tenth joints transverse; the last subglobose: *mentum* somewhat quadrate; the upper margin rounded: *maxillary palpi* with their last joint thick.

Sp. 1. *Ten. Molitor.* (*Pl. 4. fig. 1.*)

Inhabits houses; the larvæ in meal and flour; and is well known under the name of meal-worm.

Fam. XXIX. DIAPERIDE. *Leach.*

*Mandibles* bifid at their extremities: *head* more or less triangular, without a contraction behind, at its juncture with the thorax: *tarsi* with entire joints: *antennæ* not moniliform, their extremities perfoliated or serrated.

STIRPS 1.—*Body* linear, or nearly so. *Thorax* almost quadrate. *Antennæ* terminated by a club. *Maxillæ* unguiculated.

Genus 173. SARROTRIUM. *Illig., Fabr., Leach.* HISPA. *Linn., Marsh. TENEBRIO. De Geer. ORTHOCERUS. Latr.*

*Antennæ* with the last six joints forming a thick, fusiform, downy mass.

Sp. 1. *Sarr. muticum.* (*Pl. 2. fig. 16. a. antennæ magnified.*)

*Sarrotrium muticum. Payk., Fabr., Leach.* *Hispa mutica. Linn., Marsh. Orthocerus hirticornis. Latr.*

Inhabits sandy places. In Britain it is rare, or at least very local. It has been found in gravel-pits near Norwich by Mr. Joseph Hooker, and near Hampstead by Mr. Stephens, in the months of June and July.

STIRPS. 2.—*Antennæ* not moniliform. *Body* oval, or nearly orbicular: a little longer than broad.

a. *Antennæ* not serrated at their extremities.

Genus 174. PHALERIA. *Latr., Leach. TENEBRIO. Fabr.*

*Anterior tibiæ* elongate-trigonal: *tarsi* short: *antennæ* gradually thickening towards their extremities, where they are perfoliated: *body* oval.

Sp. 1. *Phal. cadaverina*.  
*Tenebrio cadaverina*. *Fabr.*  
 Inhabits sandy places.

Genus 175. DIAPERIS. *Geoff., Fabr., Oliv., Lam., Leach.* CHRYSOMELA. *Linn., Marsh.* TENEBRIO. *De Geer.*

*Antennæ* gradually enlarging towards their extremities, from the fourth joint perfoliated: *body* nearly hemispheric, very convex above.

Sp. 1. *Dia. Boleti* of authors.  
*Chrysomela Boleti*. *Linn., Marsh.*  
 Inhabits the *boleti* of trees: is rare.

Genus 176. TETRATOMA. *Herbst, Fabr., Payk., Leach.*

*Antennæ* terminated by a club of four joints, the other joints very small: *body* oval: *tibiæ* not spiny.

Sp. 1. *Tetr. Fungorum*.  
 Inhabits *fungi*.

Genus 177. LEIOIDES. *Latr., Leach.* ANISOTOMA. *Illig., Fabr.* SPHÆRIDIMUM. *Olivier.* TETRATOMA. *Herbst.*

*Antennæ* abruptly terminated by a five-jointed club, the eighth joint (the second of the club) very small: *thorax* almost hemispheric: *tibiæ* spinose.

Sp. 1. *Lei. picea*.  
*Anisotoma piceum*. *Illig.* *Anisotoma picea*. *Panz.* *Leoides picea*.  
*Latr.*  
 Inhabits sandy places in Europe.

b. *Antennæ* terminated by joints, resembling in their form the teeth of a saw.

Genus 178. BOLILOPHAGUS. *Illig., Fabr.* ELEDONA. *Latr., Leach.* OPATRUM. *Oliv., Marsh.* DIAPERIS. *Oliv.*

*Palpi* filiform; *maxillary* ones with their last joint almost cylindrical: *antennæ* arcuate: *body* oval, convex, generally rough: *thorax* transverse, emarginate before; the sides often with acute margins.

Sp. 1. *Boli. Agaricola*.  
*Bolilophagus Agaricola*. *Illig., Fabr.* *Eledona Agaricola*. *Latr., Leach.*  
*Opatrum Agaricola*. *Oliv., Marsh.*  
 Inhabits *boleti* and other *fungi*.

STIRPS 3.—*Antennæ* nearly or quite filiform, with their extremities simple.

a. *Mandibles* with their extremities bifid.

Genus 179. HELOPS. *Fabr., Oliv., Lam., Illig., Latr., Rossi, Leach.* TENEBRIO. *Linn.*

*Maxillary palpi* terminated by a securiform joint: *antennæ* as long or longer than the *thorax*: *thorax* quadrate or semicircular: *body* convex.

Sp. *Hel. lanipes*.

*Helops lanipes*. *Fabr.*, *Latr.*, *Oliv.* *Tenebrio lanipes*. *Linn.*  
Inhabits Europe under the bark of trees.

b. *Mandibles with their points entire. Tarsi with denticulated nails.*

Genus 180. *CISTELA*, *Fabr.*, *Latr.*, *Lam.*, *Oliv.*, *Leach.* *CHRY-*  
*SOMELA*. *Linn.* *MORDELLA*. *Geoff.*

*Body ovate; antennae serrated; feet rather long.*

Sp. 1. *Cist. ceramboides*.

*Cistela ceramboides*. *Fabr.*, *Latr.*, *Oliv.* *Chrysomela ceramboides*,  
*Linn.*

Sp. 2. *Cist. sulphurea*. (*Pl. 4. fig. 6.*)

*Crioceris sulphurea*. *Marsh.* 219. 1.

Fam. XXX. MELYANDRYADE. *Leach*,

*Mandibles bifid at their extremities; head more or less triangular, without a contraction behind, at its juncture with the thorax: four anterior tarsi with the last joint but one bilobate: maxillary palpi with the last joint large, securiform, or obtrigonal.*

STIRPS 1.—*Hinder tarsi with entire joints.*

Genus 181. *SERROPALPUS*. *Oliv.*, *Payk.*, *Illig.*, *Latr.*, *Leach*,  
*DIRCÆA*. *Fabr.*

*Antennae filiform; body almost cylindrical, and very long.*

An insect of this genus has lately been taken in this country, and was first discovered in Windsor Forest. In July 1817, being in Hampshire in company with my friend Mr. John Chant, we took four specimens from a rotten oak near Lyndhurst.

Genus 182. *ORCHESIA*. *Latr.* *DIRCÆA*. *Fabr.*, *Leach.* *HALL-*  
*LOMENUM*. *Illig.*, *Payk.*, *Hellwig.* *MEGATOMA*. *Herbst.* *MOR-*  
*DELLA*. *Marsh.*

*Hinder feet formed for leaping; antennae clavate; body elliptic.*

Sp. 1. *Orc. micans*. *Fabr.*

*Hallomenus micans*. *Paykull.* *Serropalpus micans*. *Illiger.* *Mega-*  
*toma picea*. *Herbst.* *Mordella Boleti*. *Marsh.* *Orchesia micans*.  
*Latr.*, *Leach.*

Inhabits *boleti*.

STIRPS 2.—*Tarsi altogether with their last joint but one bilobate.*

Genus 183. *MELANDRYA*. *Fabr.*, *Latr.*, *Leach.* *CHRYSONELA*,  
*Linn.* *SERROPALPUS*. *Illig.*, *Bosc.*

*Antennae simple, filiform: maxillary palpi terminated by an elongate securiform joint: body nearly elliptic; thorax trapezoid, broad behind.*

Sp. 1. *Mel. caraboides*.

*Chrysomela caraboides*. *Linn.* *Serropalpus caraboides*. *Oliv.*, *Illig.*  
*Melandra serrata*. *Fabr.*, *Latr.* *Crioceris caraboides*. *Marsh.*

Inhabits rotten trees.

Genus 184. LAGRIA. *Fabr., Oliv., Lam., Leach.* CHRYSOMELA.  
Linn. CANTHARIS. *Geoff.* TENEBRIO. *De Geer.*

*Antennæ* simple, growing insensibly thicker towards their extremity: *maxillary palpi* double the size of the labial, with the last joint large, securiform; *labial palpi* with the last joint ovate: *body* oblong (generally villose).

Sp. 1. *Lag. hirta.*

*Lagria hirta.* *Fabr., Latr.* *Chrysomela hirta.* Linn. *Auchenia hirta.* Marsh.

Inhabits the white-thorn in May and June.

Fam. XXXI. PYROCHROIDE. *Leach.*

PYROCHOIDES. *Latreille.*

*Head* cordiform, abruptly strangulated at its junction with the thorax: *tarsi* with their penultimate joints all bilobate: *body* elongate, depressed, or convex and cylindrical: *thorax* almost cordate.

STIRPS 1.—*Antennæ* pectinated, serrated, or branched.

Genus 185. PYROCHROA. *Fabr., Geoff., De Geer, Oliv., Latr., Leach.* CANTHARIS. Linné.

*Antennæ* pectinated or serrated: *thorax* orbicular.

The prevailing colour in this genus is red and black.

Sp. 1. *Pyr. rubens.* *Fabr., Latr., Oliv.*

Inhabits white-thorn hedges in May and June.

Sp. 2. *Pyr. coccinea.* (*Pl. 3. fig. 3.*)

Inhabits the woods of Kent.

STIRPS 2.—*Antennæ* simple.

Genus 186. SCRAPTIA. *Latr., Leach.*

*Labial palpi* terminated by a semilunar, or large triangular joint: *thorax* almost semicircular.

Sp. 1. *Scr. fusca.*

*Scraptia fusca.* *Latr., Leach.*

Inhabits *boleti*.

Genus 187. NOTOXUS. *Geoff., Oliv., Illig., Latr., Leach.* MELŒ. Linn., *Donovan.* ANTHICUS. *Payk., Fabr.*

*Labial palpi* terminated by a small truncate joint: *thorax* almost cordiform, produced into a porrected horn in front: *antennæ* simple.

Sp. 1. *Not. monoceros.* (*Pl. 2. fig. 23. a. antennæ, head, and thorax magnified.*)

*Melœ monoceros.* Linné, *Don.* *Notoxus monoceros.* *Oliv., Illig., Latr.* *Anthicus monoceros.* *Fabr., Payk.*

Inhabits sandy situations; and has been taken in profusion on the sandy sea shores of Swansea.

Genus 188. ANTHICUS. *Payk., Fabr., Leach.* NOTOXUS. *Illig., Latr.* LYTTA. *Marsh.*

*Labial palpi* terminated by a small truncate joint: *thorax* almost cordiform, not anteriorly produced.

Sp. 1. *Anth. fusca*.

*Lytta fusca*. Marsh.

Inhabits dung in the neighbourhood of stables.

Fam. XXXII. MORDELLADE. Leach.

MORDELLANÆ. Latreille.

Head cordiform, abruptly strangulated at its junction with the thorax: *hinder tarsi* (sometimes the others) with their penultimate joint entire: *body* elevated, arcuate, laterally compressed, and terminated by a point: *head* very large: *elytra* very short, or very narrow and pointed behind: *hinder feet* large: *tibiæ* with spurs.

Genus 189. RHIPIPHORUS. Bosc, Fabr., Payk., Oliv., Lam., Leach. MORDELLA. Marsh., Linné.

*Tarsi* with all the joints simple: *palpi* almost filiform: *antennæ* pectinated or flabellate: *scutellum* none, or concealed.

Sp. 1. *Rhip. paradoxus*.

*Mordella paradoxa*. Linn. *Rhipiphorus paradoxus*. Latr., Leach.

Inhabits Europe. In Britain it is extremely rare. The larvæ inhabit the nests of *Vespa Crabro* (the hornet). *Mordella paradoxa* of Marsham, which is distinct from the Linnean species, has been found in the nest of a wasp.

Genus 190. MORDELLA. Linn., Geoff., Fabr., Latr., Marsh., Leach.

*Tarsi* with all their joints simple: *maxillary palpi* terminated by a securiform joint: *antennæ* simple, or very slightly serrated: *scutellum* distinct.

Sp. 1. *Mord. aculeata*.

*Mordella aculeata*. Linn., Fabr., Latr., Oliv., Marsh., Leach.

Inhabits the blossoms of the crab-tree, white-thorn, &c.

Sp. 2. *Mord. fasciata*. (Pl. 4. fig. 8.)

Genus 191. ANASPIS. Latr., Geoff., Leach. MORDELLA. Linn., Fabr., Oliv., Marsh.

Penultimate joint of the four anterior tarsi bilobate: *maxillary palpi* with the last joint securiform: *scutellum* none.

Sp. 1. *Anas. frontalis*.

*Mordella frontalis*. Fabr., Oliv., Payk., Marsh. *Anaspis frontalis*. Latr., Leach.

Inhabits flowers, especially those of the umbellate plants.

Fam. XXXIII. CANTHARIDE. Leach.

CANTHARIDE. Latreille.

Head large, cordiform: *neck* distinct: *mandibles* not notched at their points: *thorax* almost quadrate, or cordiform: *elytra* flexible: *tarsi* generally with entire joints.

STIRPS 1.—*Antennæ* of equal thickness, tapering towards their points, or subclavate, longer than the thorax, composed of globular or obconic joints; *elytra* covering only a part of the abdomen; short, oval, diverging at the suture: *wings* none: *tarsi* with all their joints entire.

Genus 192. MELÔE of authors.

*Abdomen* very large, generally soft: *antennæ* various.

Obs.—Dr. Leach has written an excellent monograph on this genus, which will be found in the eleventh volume of the *Transactions of the Linnean Society*, and is illustrated by highly finished figures of the species by that celebrated artist and excellent naturalist Mr. Sowerby. An enumeration of the species and habitats will be found in the calendar.

STIRPS 2.—*Antennæ* composed of cylindrical or obconic joints, longer than the thorax.

Genus 193. CANTHARIS. Geoffroy, De Geer, Oliv., Lam., Latr., Leach. MELÔE. Linn. LYTTA. Fabr., Marsh.

*Elytra* soft, elongate, linear, with the sides somewhat inflexed, the back convex, rounded: *maxillæ* with two membranaceous laciniae, the external one acute within, subuncinate: *antennæ* with the first joint larger than the others; the second very short, transverse; the rest obconic, the last ovoid.

Sp. 1. *Canth. vesicatoria*, (Spanish fly.) (Pl. 4. fig. 5.)

*Meloe vesicatorius*. Linn. *Cantharis vesicatoria*. De Geer, Geoff., Oliv., Latr. *Lytta vesicatoria*. Marsh., Fabr.

Inhabits Europe: is found on the ash, but is rare in England: it is the common blister-fly of the shops.

Fam. XXXIV. ŒDEMIRADE. Leach.

ŒDEMERITES. Latreille.

*Antennæ* filiform or setaceous: *rostrum* not very flat, and dilated at its extremity: *head* produced into a kind of rostrum.

Genus 194. ŒDEMERA. Latr., Oliv., Leach. NECYDALIS. Linn., Fabr. CANTHARIS. Marsh.

*Antennæ* inserted at the anterior internal margin of the eyes: *rostrum* not elongate: *eyes* prominent: *elytra* tubulate: *palpi* with the last joint broader than the penultimate joint.

Sp. 1. *Œdem. cœrulea*.

*Necydalis cœrulea*. Linn., Fabr. *Œdemera cœrulea*. Latr., Oliv., Leach.

Inhabits Europe on the flowers of umbelliferous plants.

Genus 195. MYCTERUS. Clairv., Oliv., Leach. RHINOMACER. Fabr., Latr. MYLABRIS. Schaeffer.

*Antennæ* inserted before the eyes on the rostrum: *rostrum* elongate,

narrow: *eyes* globose, prominent: *elytra* hard: *palpi* with the last joint compressed.

Sp. 1. *Myc. curculionides*.

Rhinomacer curculionides. *Fabr., Latr.* Mycterus griseus. *Clairo.*  
Mycterus curculionides. *Leach.*

Inhabits Europe: has been taken in South Devon by the late Mr. John Cranch, of Kingsbridge, zoologist in the late unfortunate expedition to the Congo. For a most interesting biographical account of this indefatigable naturalist, see *Capt. Tuckey's Narrative*, and *Journal of Arts*, No. IX.

Fam. XXXV. SALPINGIDÆ. *Leach.*

*Antennæ* thicker at their extremities: *rostrum* very flat, and dilated at its extremity: *head* produced into a rostrum.

Genus 196. SALPINGUS. *Illiger, Leach.* CURCULIO. *Linn., De Geer, Marsh.* ANTHRIBUS. *Fabr., Payk., Panz., Clairv.* RHINOSIMUS. *Latr.*

*Antennæ* inserted before the eyes: *elytra* rigid.

Sp. 1. *Sal. Roboris*.

Rhinosimus Roboris. *Latr.* Curculio ruficollis. *Marsh.* Salpingus Roboris. *Leach.*

Inhabits Europe under the bark of trees.

Section III. TETRAMERA.

*Tarsi* with four joints.

Division I.—*Head* anteriorly rostrated; the mouth at the apex of the rostrum.

Fam. XXXVI. BRUCHIDÆ. *Leach.*

BRUCHELE. *Latreille.*

*Palpi* obvious, filiform, not very minute: *rostrum* broad: *labrum* exerted: *antennæ* eleven-jointed, subclavate, with the club formed of distinct joints, in some; filiform, or gradually thicker towards their points, in others; serrated or pectinated.

Genus 197. PLATYRHINUS. *Clairville, Leach.* ANTHRIBUS. *Fabr., Geoff., Payk., Latr.* MACROCEPHALUS. *Oliv.*

*Antennæ* clavate, the club elongate: *eyes* not emarginate: *elytra* covering the anus above: *body* ovate, oblong: *abdomen* somewhat elongate-quadrate.

Sp. 1. *Pl. latirostris*.

Anthribus latirostris. *Fabr., Latr., Payk.* Platyrhinus latirostris. *Clairo., Leach.* Macrocephalus latirostris. *Oliv.*

Inhabits *boleti* in woods: is rare in Britain.

Genus 198. ANTHRIBUS. *Paykull, Fabr., Latr., Geoff., Leach.*

MACROCEPHALUS. *Oliv.*

*Antennæ* clavate: the club ovate, abrupt, incrassated: *eyes* not emarginate: *elytra* covering the anus above: *body* short, oval, thick: *thorax* transverse, broader behind, lobated: *rostrum* short.

Sp. 1. *An. scabrosus.*

*Anthribus scabrosus.* *Payk., Fabr., Latr., Leach.* *Bruchus scabrosus.*

*Marsh.* *Macrocephalus scabrosus.* *Olivier.*

Inhabits the elm and horse-chesnut.

Genus 199. RHINOMACER. *Oliv., Fabr., Leach.* ANTHRIBUS.

*Payk., Latr., Leach.*

*Antenna* clavate: *eyes* not emarginate: *elytra* covering the anus above; *abdomen* elongate, narrow: *thorax* roundish, nearly equally broad: *rostrum* at the base much narrower than the head, the longitudinal diameter many times exceeding the breadth: *tarsi* with the second joint not including the third.

Sp. 1. *Rhi. attelaboides.*

*Anthribus rhinomacr.* *Payk., Latr.* *Rhinomacer attelaboides.* *Fabr., Leach.*

Inhabits pine-trees.

Genus 200. BRUCHUS. *Linn., De Geer, Oliv., Fabr., Latr., Marsh., Leach.* MYLABRIS. *Geoff.*

*Antennæ* nearly filiform: *eyes* emarginate for the insertion of the antennæ: *body* short, oval, thick: *elytra* not covering the anus above.

Sp. 1. *Bru. Pisi.*

*Bruchus Pisi.* *Linn., Fabr., Oliv., Latr., Leach.*

Inhabits the south of Europe and the north of America. The larva is frequently found in peas.

Fam. XXXVII. CURCULIONIDÆ. *Leach.*

CURCULIONITES. *Latreille.*

*Palpi* very small, conic-subulate, scarcely discernible: *rostrum* rounded, thick, often proboscis-shaped: *labrum* none: *antennæ* with distinct joints, the eighth or ninth generally clavate, the club regular, the joints coriaceous: *head* from the eyes more or less narrowed, distinctly produced into a rostrum: *mandibles* small or minute: *mentum* not cylindric-cordate: *body* rarely cylindric: *anterior tibiæ* never triangular.

A. *Antennæ* straight, not geniculated at the second joint. *Body* of all, from the base of the thorax, narrower, not cylindric.

Genus 201. ATTELABUS. *Linn., Fabr., Oliv., Latr., Leach.*

CURCULIO. *De Geer.*

*Head* behind simply elongate, produced with no neck: *tibiæ* with one

hook at their joints: *body* ovate: *abdomen* quadrate, rounded behind: *labium* corneous, quadrate; the middle of the upper margin emarginate, obtusely unidentate.

Sp. 1. *Att. curculionoides*.

*Attelabus curculionoides*. Linn., Latr., Oliv., Marsh., Leach.

Inhabits the nut-tree and willow.

Genus 202. APODERUS. Oliv., Latr., Leach. ATTELABUS. Linn., Fabr., Payk. CURCULIO. Marsh.

*Head* with a distinct neck: *tibiæ* with one hook at their joints: *body* ovate: *abdomen* quadrate, rounded behind: *labium* corneous, quadrate, the middle of the upper margin emarginate, obtusely unidentate.

Sp. 1. *Apo. Coryli*.

*Attelabus Coryli*. Linn., Fabr., Payk. *Curculio Coryli*. Marsham. *Apo-derus Coryli*. Latr., Leach.

Inhabits the nut-tree, and is very common.

Genus 203. RHYNCHITES. Herbst., Latr., Leach. CURCULIO. Linn., De Geer, Marsh. RHINOMACER. Geoff., Clairv. ATTELABUS. Fabr., Oliv.

*Head* elongate behind the eyes, with no neck: *clypeus* dentate: *tibiæ* with very short heels: *abdomen* quadrate, rounded behind: *body* ovate, narrowly produced before: *thorax* conic-cylindric, broader behind (often with a spine on each side in the male): *labium* membranaceous, small, the apex rounded, villose, entire.

Sp. 1. *Rhyn. Bacchus*.

Inhabits Europe, and is found in England on the nut- and plum-tree, but is very rare.

Genus 204. DEPORÄUS. Leach's MSS.

*Head* elongate, with no neck: *clypeus* subdentate: *tibiæ* with short heels: *abdomen* quadrate-rounded behind: *hinder thighs* thick and formed for leaping.

Sp. 1. *Dep. Betulæ*.

*Rhynchites Betulæ*. Herbst.

Inhabits the oak, birch, and hazel.

Genus 205. APION. Herbst, Latr., Kirby, Leach. CURCULIO. Linn., Marsh.

*Eyes* prominulous: *head* elongate behind: *abdomen* subovate: *tibiæ* with obsolete heels: *labium* subquadrate, entire.

The Rev. William Kirby has given an admirable paper to the *Linnean Society of London*, in which upwards of sixty species of this genus are described, in the ninth volume of their *Transactions*. He has added a supplement which is published in the tenth volume.

The whole of the insects of this genus are very small; they are in general found at the roots of grass, on the blossoms of clover, &c. and in sand-pits: in the months of April, May and June, they may be taken in profusion.

B. *Antennæ geniculated, the basal joint very much elongated, generally received in a lateral oblique groove, (at the base at least,) or the sides of the rostrum. (Antennæ in all clavate, the club generally composed of firmly connected joints, the last acute. Tarsi with the last joint but one bifid, or emarginate above, cordate.)*

a. *Antennæ inserted beyond the base of the rostrum, larger than the head; the club distinctly many-jointed, ovate. Mandibles generally obtuse. Tibiæ at the apex ciliated with spines, in a few terminated by a strong hook. Body ovate or elliptic. Colours various.*

Genus 206. CURCULIO of authors. BRACHYRINUS. Latr.

Body ovate, convex, narrower before: thorax round or conic-cylindric, narrower than the base of the elytra: scutellum extremely minute: abdomen ovate-conic, subovate, or globose: lip minute: antennæ eleven-jointed: hinder feet not formed for leaping.

Sp. 1. *Cur. argentatus.*

*Curculio argentatus. Gmelin, Marsh., Fabr., Leach. Brachyrinus argentatus. Latr.*

Inhabits Europe, and is very abundant in this country on the oak in May and June.

Genus 207. LIXUS. Latr., Fabr., Leach. LEPTOSOMA. Leach.  
CURCULIO. Linn., Geoff., Fabr., Marsh.

Body elongate-ovate: rostrum as broad as the head: lip small, entire, transverse-quadrate, corneous, narrower than the mentum.

Sp. 1. *Lix. paraplecticus.*

*Lixus paraplecticus. Leach.*

Inhabits the *Phellandrium aquaticum.*

Genus 208. RHYNCHÆNUS. Fabr., Oliv., Leach. CURCULIO.  
Linn., Geoff., Lam., Latr.

Body oblong-ovate, twice as long as broad: antennæ eleven-jointed, the club distinct: wings perfect: rostrum moderate.

Sp. 1. *Rhyn. Pini.*

*Rhynchænus Pini. Leach. Curculio Pini. Linné.*

Inhabits the *Pinus sylvestris.*

Genus 209. BALANINUS. Germar.

Body oblong, twice as long as broad: antennæ twelve-jointed: wings perfect: rostrum very long and very slender.

Sp. 1. *Bal. Nucum.*

Rhynchænus Nucum. *Fabr.*

Inhabits the nut-tree: the larva living on the kernel of the fruit is called the nut-maggot.

Genus 210. LIPARUS. *Oliv., Leach.* CURCULIO. *Linn., Latr., Marsh.* RHYNCHÆNUS. *Fabr.*

Body oblong-ovate, twice as long as broad: *antennæ* with the club three-jointed beginning at the ninth joint, or four-jointed beginning at the eighth joint: *wings* none.

Sp. 1. *Lip. Germanus.*

Curculio Germanus. *Linn., Marsh.* Rhynchænus fusco-maculatus. *Fabr.* Liparus Germanus. *Leach.*

Inhabits Europe: is rare in Britain, but has been taken near Dover and Hastings.

Genus 211. CRYPTORHYNCHUS. *Illig., Leach.* CURCULIO. *Linn., Marsh.* RHYNCHÆNUS. *Fabr.*

Body round-oval, half as long again as broad: *abdomen* short, triangular-quadrate: *anus* naked: *rostrum* applied to the breast: *coleoptra* subquadrate, the diameters nearly equal: *hinder feet* not formed for leaping: *mentum* corneous, sub-obtrigonal.

Sp. 1. *Crypt. Erysimi.*

Rhynchænus Erysimi. *Fabr.* Cryptorhynchus Erysimi. *Illiger, Leach.*  
Inhabits

Genus 212. CIONUS. *Clairo., Latr., Leach.* RHYNCHÆNUS. *Fabr.*  
CURCULIO. *Linn., Geoff., Oliv.*

Body quadrate-ovate, thick, a little longer than broad: *abdomen* large, subquadrate, a little narrower and rounded behind: *anus* not naked: *rostrum* applied to the breast: *coleoptra* convex, as broad as long, inflexed behind: *hinder feet* not formed for leaping.

Sp. 1. *Cio. Scrophulariæ.*

Curculio Scrophulariæ. *Linn., Marsh.* Rhynchænus Scrophulariæ. *Fabr.*  
Cionus Scrophulariæ. *Clairo., Leach.*

Inhabits the water betony.

Genus 213. ORCHESTES. *Oliv., Illig., Leach.* RHYNCHÆNUS. *Clairo., Fabr., Latr.* CURCULIO. *Linn., Marsh.*

Body ovate: *abdomen* elongate-quadrate, rounded behind: *clytra* inflexed behind, covering, or at least touching the *anus*: *hinder feet* formed for leaping.

Sp. 1. *Orc. Alni.*

Curculio Alni. *Linn., Marsh.* Rhynchænus Alni. *Fabr.* Orchestes Alni. *Leach.*

Inhabits the alder.

- b. *Antennæ inserted at the base of the rostrum. Tarsi inflected to the internal side of the tibiæ.*

Genus 214. CALANDRA. *Clairo., Fabr., Leach. CURCULIO. Linn., Geoff., Oliv. RHYNCHOPHORUS. Herbst.*

*Body elliptic-oval, flat above: eyes immersed, oblong, encircling the head beneath: rostrum thickened at the insertion of the antennæ: elytra plain, not covering the anus above: anus acutely prominent: feet strong.*

Sp. 1. *Cal. granaria.*

*Calandra granaria. Fabr., Latr., Leach. Curculio granarius. Marsh.*

Inhabits

Genus 215. COSSONUS. *Clairo., Fabr., Latr., Leach. CURCULIO. Payk., Herbst.*

*Body very much lengthened, sublinear or subcylindric, narrow before: elytra covering the anus above: tibiæ terminated by a hook internally: back flat, depressed.*

Sp. 1. *Cos. linearis.*

*Cossonus linearis. Clairo., Fabr., Latr., Leach. Curculio linearis. Payk., Marsh. Curculio parallelopipedos. Herbst.*

Inhabits trunks of trees in Windsor Forest.

Obs.—In addition to the above in *Germar's and Zincker Sommer's Magazin der Entomologie*, vol. iii. for 1817, notice is given of the following genera as lately established, (the species mentioned may be considered the types).

Genus MAGDALIS. *Germar.*

Sp. 1. *Cur. atetrimus.*

Genus BAGOUS. *Germar.*

Sp. 1. *Cur. binodulus. Herbst.* 2. *Cur. Alismatis. Gyll.*

Genus SITONA. *Germar.*

Sp. 1. *Cur. hispidulus.* 2. *Cur. lineatus.*

Genus CURCULIO.

Sp. 1. *Cur. sulcirostris.*

Genus GRYPHUS. *Germar.*

Sp. 1. *Cur. Equiseti.*

Genus LEPYRUS. *Germar.*

Sp. 1. *Cur. triguttatus.*

Genus PACHYGASTER. *Germar.*

Sp. 1. *Cur. niger.*

Genus HYPERA. *Germer*.

Sp. 1. *Cur. nigrorostris*.

Genus THYLACITES. *Germer*.

Sp. 1. *Cur. incanus*.

Division II.—*Head not gradually prolonged into a rostrum. Tarsi not spongy beneath. Antennæ forming a solid mass, shorter or not much longer than the head.*

Fam. XXXVIII. BOSTRICIDÆ. *Leach*.

BOSTRICINI. *Latreille*.

*Body* cylindric or globose: *head* globose: *tibiæ* compressed, the anterior ones dentated: *antennæ* eight- or ten-jointed; the first joint elongate, the two or three last joints forming a large mass: *palpi* very small, generally conic, rarely filiform.

STIRPS 1.—*Club of the antennæ commencing before the ninth joint.*

Genus 216. HYLURGUS. *Latr., Leach.* Ips. *De Geer, Marsh.*  
SCOLYTUS. *Oliv.*

*Tarsi* with the penultimate joint bifid: *antennæ* with the club commencing at the eighth joint, very little or not at all compressed.

Sp. 1. *Hyl. Piniperda*.

Ips *Piniperda. Marsh.* *Hylurgus Piniperda. Latr.*

Inhabits this country, perforating the bark of the pine.

Genus 217. TOMICUS. *Latr., Leach.* DERMESTES. *Linneus.*  
Ips. *De Geer.* BOSTRICIUS. *Fabr., Payk.* SCOLYTUS. *Oliv.*

*Tarsi* with entire short joints: *antennæ* with the club much compressed, beginning at the seventh joint, distinctly annulated: *body* not linear.

Sp. 1. *Tom. Typographus*.

*Dermestes Typographus. Linn.* Ips *Typographe. De Geer.* *Bostrichus Typographus. Fabr., Payk.* Ips *Typographus. Marsh.* *Scolytus Typographus. Oliv.* *Tomicus Typographus. Latr., Leach.*

Inhabits Europe, under the bark of trees, which it gnaws into various labyrinth-like passages.

Genus 218. PLATYPUS. *Herbst, Latr., Leach.* BOSTRICIUS. *Hellwig., Fabr.* SCOLYTUS. *Panz.*

*Tarsi* with entire long joints: *antennæ* with the club much compressed, commencing at the sixth joint: annulations not or but slightly distinct: *body* linear.

Sp. 1. *Pla. cylindricus?*

*Platypus cylindricus*. *Herbst*, *Latr.* *Bostrichus cylindricus*. *Fabr.*  
*Scolytus cylindricus*. *Oliv.*

Discovered to be a native of Britain by Mr. D. Bydder, who took it in the New Forest of Hampshire from beneath the bark of trees.

**STIRPS 2.**—*Antennæ* with the club beginning at the ninth joint.

Genus 219. SCOLYTUS. *Geoff.*, *Schæffer*, *Latr.*, *Oliv.*, *Leach*.

*Tarsi* with the last joint but one bifid: *antennæ* with the club compressed, obovoid, the apex rounded.

Sp. 1. *Sco. Destructor*.

*Scolytus Destructor*. *Oliv.*, *Latr.* *Ips Scolytus*. *Marsh.* *Hylesinus Scolytus*. *Fabr.*

Inhabits beneath the bark of the elm.

Genus 220. HYLESINUS. *Fabr.*, *Latr.*, *Leach*.

*Tarsi* with their penultimate joint bifid: *antennæ* with the club little or not compressed, ovoid, the extremity pointed.

Sp. 1. *Hyl. crenatus*.

*Hylesinus crenatus*. *Fabr.*, *Latr.* *Scolytus crenatus*. *Oliv.*

Inhabits Europe, under the bark of trees.

#### Fam. XXXIX. CISIDÆ. *Leach*,

*Body* ovoid or oblong; in some depressed, in others linear: *palpi* filiform or bent at their extremities: *antennæ* ten-jointed, increasing towards their extremities or terminated by a perfoliated mass.

**STIRPS 1.**—*Antennæ* with the club three-jointed, perfoliated.

Genus 221. CIS. *Latr.*, *Leach*.

*Antennæ* twice as long as the head: *body* oval, depressed.

Sp. 1. *Cis Boleti*.

*Dermestes Boleti*. *Scopoli.* *Anobium Boleti*. *Fabr.*, *Illig.*, *Payk.* *Anobium bidentatum*. *Oliv.* *Ptinus Boleti*. *Marsh.*

Inhabits the *Boletus versicolor*.

**STIRPS 2.**—*Antennæ* with a nearly globose two-jointed club.

Genus 222. CERYLON. *Latr.*, *Leach*.

*Body* elongate: *thorax* quadrate, with the hinder margin straight, contiguous with the elytra: *abdomen* not pedunculated.

Sp. 1. *Cer. histeroidea*.

*Lyctus histeroidea*. *Fabr.*, *Payk.*, *Panz.* *Rhyzophagus histeroidea*. *Herbst.* *Cerylon histeroidea*. *Latr.*

Inhabits Europe, beneath the bark of trees.

Genus 223. MONOTOMA. *Herbst, Leach.* CERYTON. *Latr.*

Body elongate, linear: *thorax* quadrate, with the hinder margin distant from the base of the elytra: *abdomen* somewhat pedunculated.

Sp. 1. *Mon. Juglandis.*

*Lyctus Juglandis. Fabr., Payk., Panz.* *Corticaria taxicornis. Marsh.*  
Inhabits Europe, under the bark of the stumps of trees, particularly those in damp situations.

Fam. XL. MYCETOPHAGIDÆ. *Leach.*

Body ovoid or oblong; in some depressed, in others linear: *palpi* filiform or bent at their extremities: *antennæ* eleven-jointed: *mandibles* little or not at all prominent.

STIRPS 1.—*Antennæ* gradually thickening towards their extremities.  
*Tarsi* with the first joint longer than the following one.

Genus 224. MYCETOPHAGUS. *Fabr., Payk., Oliv., Panz., Latr., Leach.* TRITOMA. *Geoff.* DERMESTES. *Thunb.* SILPHOIDES. *Herbst.* BOLETARIA. *Marsh.*

Body oval: *antennæ* with the last joint elongate, ovate: *maxillary palpi* prominent.

Sp. 1. *Myc. quadripustulatus.*

*Mycetophagus quadripustulatus. Fabr., Latr., Panz., Payk.* *Boletaria quadripustulata. Marsh.*

Inhabits *fungi*.

STIRPS 2.—*Antennæ* gradually thickening towards their extremities, or with a three-jointed club.

a. *Tarsi* with the first joint longer than the second. *Palpi* very short, the *maxillary* ones but little or not at all prominent. *Antennæ* as long as the *thorax* or less.

Genus 225. LATRIDIDIUS. *Herbst, Leach.* IPS. *Oliv.* CORTICARIA. *Marsham.* DERMESTES. *Fabr., Paykull.*

*Antennæ* with the second joint larger than the third.

Sp. 1. *Lat. porcatus.*

*Latridius porcatus. Herbst, Leach.* *Latridius minutus. Latr.* *Dermestes marginatus. Paykull.*

Inhabits damp paper and old wood in houses.

Genus 226. SILVANUS. *Latr., Leach.* TENEBRIO. *De Geer.*  
DERMESTES. *Fabr., Panz.* IPS. *Olivier.* COLYDIUM. *Payk.,*  
*Herbst.* CORTICARIA. *Marsham.*

*Antennæ* with the second and following joints to the eighth joint nearly equal.

Sp. 1. *Sil. frumentarius.*

*Colydium frumentarium.* *Panzer.* *Corticaria frumentaria.* *Marsh.*  
*Silvanus frumentarius.* *Latr., Leach.*

Inhabits damp cellars in old wood and paper.

STIRPS 3.—*Antennæ* eleven-jointed. *Mandibles* prominent or exerted.

\* *Mandibles* small. *Body* long and linear.

Genus 227. LYCTUS. *Fabr., Payk., Leach.*

*Antennæ* with a two-jointed club: *thorax* long and linear.

Sp. 1. *Lyc. oblongus.*

*Lyctus oblongus.* *Latr., Leach.* *Lyctus canaliculatus.* *Fabr.* *Ips ob-*  
*longus.* *Oliv.* *Bitoma unipunctata.* *Herbst.* *Corticaria oblonga.*  
*Marsh.*

Inhabits old wood.

\*\* *Mandibles* large. *Body* elongate, much depressed, nearly equally broad.

Genus 228. TROGOSITA. *Fabr., Oliv., Illig., Latr., Lam., Leach.*

*Thorax* almost quadrate, separated from the abdomen by a remarkable interval: *antennæ* moniliform, shorter than the *thorax*, compressed towards the apex: *labrum* exerted, coriaceous, small, hairy in front.

Sp. 1. *Tro. mauritanica.*

*Tenebrio mauritanicus.* *Rossi, Marsh.* *Trogosita caraboides.* *Fabr.,*  
*Illig., Payk., Herbst, Latr.* *Trogosita mauritanica.* *Oliv., Leach.*

Inhabits Europe, under stones on the banks of rivers.

Fam. XLI. PRYONIDÆ. *Leach.*

*Lip* much widened at its extremity, cordiform: *body* elongate: *antennæ* long, generally inserted in a notch in the eyes: *labrum* very small or almost none.

Genus 229. PRIONUS. *Geoff., Fabr., Oliv., Latr., Leach.*

*Thorax* with the sides gently sloping, dentated: *antennæ* serrated, a little shorter than the body; of the male twelve, of the female eleven-jointed.

Sp. 1. *Pri. coriarius.*

*Cerambyx coriarius.* *Linn., Marsh.* *Prionus coriarius.* *Latr., Fabr.,*  
*Oliv., Leach.*

Inhabits old trees; flies in the evening.

Fam. XLII. CERAMBYCIDÆ. *Leach.*CERAMBYCINI II. *Latr.*

*Lip* much widened at its extremity, cordiform: *body* elongate: *labrum* very apparent: *antennæ* inserted in a notch in the eyes.

Subdivision 1.—*Head* vertical. *Palpi* almost filiform.

Genus 230. LAMIA. *Latr., Fabr., Leach.*

*Antennæ* ten-jointed, longer than the body.

*This genus is divided into sections.*

A. *Body* depressed,

Sp. 1. *Lam. ædilis.*

*Lamia ædilis.* *Fabr., Latr., Leach.* *Cerambyx ædilis.* *Linn., Marsh.*

Inhabits the trunks of trees, but is very rare in Britain.

B. *Body* not depressed.

Sp. 2. *Lam. nebulosa.*

*Cerambyx nebulosus.* *Fabr., Marsh.* *Lamia nebulosa.* *Latr., Leach.*

Inhabits dried faggots in woods, hurdles, &c.

Sp. 3. *Lam. Textor.* (*Pl. 2. fig. 24.*)

*Lamia Textor.* *Fabr., Latr.* *Cerambyx Textor.* *Marsh.*

Inhabits the wood of willow-trees in Hampshire and near Bristol.

C. *Body* linear. *Thorax* not spined at the sides.

Sp. 4. *Lam. oculata.*

*Cerambyx oculatus.* *Marsh.* *Saperda oculata.* *Fabr.* *Lamia oculata.*

*Latr.*

Inhabits the trunks of trees, but is very rare in England.

Genus 231. SAPERDA. *Leach.*

*Antennæ* eleven-jointed, longer than the body: *body* linear: *thorax* without spines.

Sp. 1. *Sap. lineato-collis.*

*Cerambyx lineato-collis.* *Marsh.* *Saperda lineato-collis.* *Leach's Zool.*

*Misc. vol. i.*

Inhabits the trunks of trees, but is very rare. Dr. Leach suspects this species to be *Saperda Cardui* *Fabr.*

Subdivision 2.—*Head* nutant. *Palpi* with the last joint thicker than the others.

Genus 232. CERAMBYX. *Linn., Fabr., &c.*

*Antennæ* longer than the body: *palpi* with the last joint obconic, compressed: *thorax* with a spine on each side.

Sp. 1. *Cer. moschatus.*

Inhabits willows in Europe, emitting, whilst alive, a fine smell of musk.

Genus 233. CLYTUS. *Fabr., Leach.* CERAMBYX. *Linn., Marsh.*

*Labial palpi* with the last joint obtriginate: *thorax* without spines, globose: *antennæ* shorter than the body: *hinder thighs* clavate.

Sp. 1. *Cly. Arietis*. (Pl. 2. fig. 25.)

*Cerambyx Arietis*. Linn., Marsh. *Clytus Arietis*. Fabr., Leach. *Callidium Arietis*. Latr.

Inhabits trunks of trees in sunny weather.

Genus 234. CALLIDIUM. Fabr., Latr., Leach. CERAMBYX.  
Linn., Marsh.

*Labial palpi* with the last joint obtrigonal: *thorax* orbicular, depressed or but little convex: *antennæ* setaceous, as long as the body: *hinder thighs* abruptly clavate.

Sp. 1. *Cal. violaceum*.

*Cerambyx violaceus*. Linn., Marsh. *Callidium violaceum*. Fabr., Latr., Leach.

Inhabits Europe. In Britain it is generally found on palings. I lately bred a specimen from a larva found in a Norway deal, and I am informed by an intelligent carpenter from whom I received the larva, that he has frequently met with them in new wood. Mr. Kirby has given an interesting history of this species in the *Transactions of the Linnæan Society*, vol. v.

Genus 235. MOLORCHUS. Fabr.

*Elytra* abbreviated.

Sp. 1. *Mol. major*.

*Necydalis major*. Linn. *Molorchus Umbellatarum*. Fabr.

Inhabits flowers and hedges.

Fam. XLIII. LEPTURADÆ. Leach.

*Lip* much widened at its extremity, cordiform: *body* elongate: *labrum* very apparent: *antennæ* inserted between the eyes.

Genus 236. LEPTURA of authors.

*Thorax* not spined on each side.

Sp. 1. *Lep. elongata*.

*Leptura elongata*. Fabr., Latr., Marsh., Leach.

Inhabits various flowers in hedges, and is pretty common.

Sp. 2. *Lep. quadrifasciata*. (Pl. 2. fig. 26.)

Inhabits umbelliferous plants; is rather scarce.

Genus 237. RHAGIUM. Fabr., Leach. LEPTURA. Linn., Latr., Marsh.

*Thorax* with a spine on each side: *antennæ* setaceous.

Sp. 1. *Rha. vulgare*. Leach.

*Leptura Inquisitor*. Latr., Marsh. *Rhagium Inquisitor*. Fabr.

Inhabits umbelliferous plants in woods, and may be found in decayed stumps of trees in the winter months.

Genus 238. HARGIUM. Leach's MSS.

*Thorax* with a spine on each side: *antennæ* thickest in their middle

Sp. 1. *Rha. Inquisitor*.

*Leptura Inquisitor*. Linné. *Rhagium Indagator*. Fabr.  
Inhabits England, but is very rare.

Fam. XLIV. CRIOCERIDÆ. Leach.

*Lip* not cordiform: *maxilla* with their external division not resembling a two-jointed palpus: *body* elongate: *thorax* cylindrical or quadrate: *mandibles* bifid or notched at their extremities.

Genus 239. DONACIA. Fabr., Payk., Hoppe, Oliv., Latr., Leach.

LEPTURA. Linn., Marsh.

*Antennæ* with elongate-cylindric joints, those of the base obconic: *eyes* not notched: *abdomen* elongate, triangular: *hinder thighs* thick.

\* *Hinder thighs* dentated.

Sp. 1. *Don. micans*.

*Donacia micans*. Hoppe, Leach. *Leptura micans*. Marsh.

Inhabits aquatic plants.

\*\* *Hinder thighs* simple.

Sp. 2. *Don. simplex*.

*Leptura simplex*. Marsh.

Inhabits aquatic plants.

Obs.—*Donacia Zosteri* Fabr., and *Equiseti*, both of which have lately been taken in Britain, constitute the genus *MACROPLEIA* of Hoffmannsegg.

Genus 240. CRIOCERIS. Geoff., Oliv., Lam., Leach.

*Antennæ* moniliform, with the exception of the basal joints which are globose: *eyes* notched: *neck* distinct: *abdomen* quadrate.

Sp. 1. *Cri. merdigera*. (Pl. 2. fig. 14.)

*Crioceris merdigera*. Latr., Leach. *Lema merdigera*. Fabr. *Auchenia merdigera*. Marsh. *Chrysomela merdigera*. Linn.

Inhabits the white lily.

Fam. XLV. CHRYSOMELIDÆ. Leach.

CHRYSOMELINÆ. Latreille.

*Lip* not cordiform: *maxilla* with their external division resembling a biarticulate palpus: *body* more or less ovoid or oval: *thorax* transverse, or not longer than broad.

STIRPS 1.—*Palpi* very small: *antennæ* inserted near each other between the eyes, at a distance from the mouth: *body* shield-shaped: *thorax* semicircular.

Genus 241. CASSIDA of authors.

*Antennæ* thicker towards their extremities, their base concealed by the thorax: *body* nearly orbiculate.

Sp. 1. *Cass. equestris*.

*Cassida equestris*. Fabr., Payk., Panz., Latr., Leach. *Cassida viridis*. Marsh., Illig.

Inhabits the *Mentha sylvestris*.

STIRPS 2.—*Maxillary palpi* very apparent: *antennæ* inserted very near to each other, between the eyes, towards the middle of the face.

Division I.—*Feet not formed for leaping.*

Genus 242. GALERUCA. *Geoff., Latr., Fabr., Oliv., Leach.*

*Palpi* with the two last joints very slightly different in size, the last conic: *antennæ* shorter than the body, the joints obconic; the second joint half the length of the third.

Sp. 1. *Gal. Tanacetii.* (*Pl. 2. fig. 13.*)

*Chrysomela Tanacetii.* *Marsh.* *Galeruca Tanacetii.* *Latr., Fabr.*

Inhabits chalk-pits.

Genus 243. ADIMONIA. *Schrank, Leach.*

*Palpi* with the two last joints not very different in size, the last joint conic: *antennæ* shorter than the body, the joint obconic, with the second and third joints shorter than the fourth joint.

Sp. 1. *Ad. nigricornis.*

*Crioceris nigricornis.* *Fabr.* *Galeruca nigricornis.* *Latr.* *Chrysomela halensis.* *Marsh.* *Adimonia nigricornis.* *Leach.*

Inhabits hedges.

Genus 244. LUPERUS. *Geoff., Oliv., Latr., Leach.*

*Palpi* with the two last joints nearly equal in size, the last conic: *antennæ* as long as the body, the joints cylindric, elongate.

Sp. 1. *Lup. flavipes.*

*Luperus flavipes.* *Latr., Leach.* *Crioceris flavipes.* *Fabr.*

Inhabits bushes in damp woods.

Division II.—*Hinder feet formed for leaping, the thighs being incassated.*

Genus 245. HALTICA. *Leach.* ALTICA. *Geoff., Oliv., Panz.,*

*Latr.* CHRYSOMELA. *Linn., De Geer, Marsh.* CRIOCERIS.

*Fabr.* LEMA. *Fabr.* GALERUCA. *Fabr.*

*Antennæ* with the second joint generally a little shorter than the first.

\* *Body ovate.*

Sp. 1. *Hal. oleracea.*

*Altica oleracea.* *Latr., Panz.* *Chrysomela oleracea.* *Marsh.* *Haltica oleracea.* *Leach.*

Inhabits sand-pits, and nettles in hedges.

\*\* *Body nearly orbiculate.*

Sp. 2. *Hal. testacea.*

*Galeruca testacea.* *Fabr.* *Altica testacea.* *Latr.* *Chrysomela testacea.* *Marsh.* *Haltica testacea.* *Leach.*

Inhabits sand-pits, and nettles in hedges.

STIRPS 3.—*Maxillary palpi* very apparent: *antennæ* inserted before the eyes, gradually thickening towards their points: *head* nutant, forming an obtuse angle with the thorax.

Division I.—*Mandibles short, obtuse, truncated or terminated by a very short point: antennæ with the four last joints globose or turbinate.*

Subdivision 1.—*Antennæ with the last four joints turbinate. Body hemispheric or oval. Thorax transverse.*

Genus 246. CHRYSOMELA. *Latr., Fabr., &c.*

*Palpi* terminated by two joints of nearly an equal length, the last almost ovoid truncate or nearly cylindrical: *sternum* not produced.

\* *Thorax with the sides incrassated, as if margined: body ovate quadrate.*

Sp. 1. *Chry. Banksii.*

*Chrysomela Banksii. Fabr., Latr., Marsh., Leach.*

Inhabits nettles in lanes.

\*\* *Thorax with the sides not incrassated. Body ovate quadrate.*

Sp. 2. *Chry. Litura.*

*Chrysomela Litura. Fabr., Latr., Marsh., Leach.*

Inhabits the broom.

\*\*\* *Body elongate-ovate quadrate.*

Sp. 3. *Chry. marginella.*

*Chrysomela marginella. Fabr., Latr., Marsh., Leach.*

Inhabits plants growing by the side of ditches.

Obs.—*Chrysomela tenebricosa Linn.* forms the Genus TIMARCHA (of Hoppe)?

Subdivision 2.—*Antennæ with the four last joints semi-globose, almost forming a club. Body elongate-quadrate. Thorax as long as broad.*

Genus 247. HELODES. *Payk., Fabr., Oliv., Leach.*

*Palpi* short, thicker at their middle, the last joint short-obconic.

Sp. 1. *Hel. Phellandrii.*

*Helodes Phellandrii. Payk., Fabr. Proscuris Phellandrii. Latr.*

Inhabits flowers in meadows.

STIRPS 4.—*Maxillary palpi* very apparent: *antennæ* inserted before the eyes: *head* vertical: *palpi* with the last joint conic-cylindrical: *body* short-cylindrical.

Genus 248. CRYPTOCEPHALUS. *Geoff., Fabr., Oliv., Latr., Lam., Marsh., Leach.*

*Antennæ* simple, filiform, about the length of the body.

Sp. 1. *Crypt. sericeus.*

*Chrysomela sericea. Linn. Cryptocephalus sericeus. Fabr., Oliv., Marsh., Leach.*

Inhabits the flowers of the dandelion.

Genus 249. **CLYTHRA**. *Laicharting, Fabr., Oliv., Latr., Leach.*  
*Antennæ* short, serrated, exserted: *palpi* alike.

Sp. 1. *Cly. quadripunctata.*

*Clythra quadripunctata. Fabr., Latr., Leach.* *Cryptocephalus quadripunctatus. Marsh.* *Chrysomela quadripunctata. Linn.*

Inhabits the oak, but is very local.

Fam. XLVI. EROTYLIDÆ.

*Antennæ* moniliform below, terminated by an ovoid club: *thorax* elevated at the middle: *tibiæ* elongate-triangular.

STIRPS 1.—*Palpi* all terminated by large semilunar or securiform joints.

Genus 250. **TRITOMA**. *Fabr., Oliv., Latr., Leach.*

*Body* short-ovate, the back elevated in the middle: *thorax* with the middle of the hinder margin dilated into an angle.

Sp. 1. *Trit. bipustulatum. (Pl. 2. fig. 9.)*

*Tritoma bipustulatum. Fabr., Payk., Latr., Leach.*

Inhabits *boleti*.

Genus 251. **TRIPLAX**. *Payk., Fabr., Oliv., Leach.* **SILPHA**. *Linn., Marsh.*

*Body* oval.

Sp. 1. *Tri. russica.*

*Silpha russica. Linn., Marsh.* *Triplax russica. Payk., Fabr.* *Tritoma russica. Latr., Leach.*

Inhabits dead trees and *fungi*.

STIRPS 2.—*Maxillary palpi* filiform, or thicker towards their extremities.

\* *Tarsi* with the penultimate joint bilobate: *Body* hemispheric, but not contractile into a ball.

Genus 252. **PHALACRUS**. *Latr., Payk., Leach.*

*Antennæ* with a three-jointed club.

Sp. 1. *Pha. bicolor.*

*Phalacrus bicolor. Payk., Latr., Leach.* *Dermestes Calthæ. Scopoli.*  
*Anisotoma bicolor. Illig., Fabr.*

Inhabits various flowers.

\*\* *Tarsi* with the joints entire. *Body* nearly globose, contractile into a ball.

Genus 253. **AGATHIDIUM**. *Illig., Latr., Leach.*

*Antennæ* with a three-jointed club.

Sp. 1. *Agath. nigripenne.*

*Agathidium nigripenne*. Illig., Latr., Leach. *Sphæridium ruficollæ*.  
Oliv. *Anisotoma nigripennis*. Fabr.  
Inhabits sand-pits.

## Section IV. TRIMERA.

*Tarsi* all three-jointed.

## Fam. XLVII. COCCINELLIDÆ. Leach.

*Antennæ* shorter than the thorax: *maxillary palpi* terminated by a large securiform joint: *body* hemispheric: *thorax* transverse, the hinder margin arcuated.

Genus 254. COCCINELLA of authors.

*Thorax* (even behind) narrower than the elytra: *body* hemispheric, approaching to ovate.

Sp. 1. *Coc. septempunctata* (Common Lady-cow or Lady-bird).

*Coccinella septempunctata* of authors.

Inhabits Europe.

Genus 255. CHILOCORUS. Leach.

*Thorax* lunate, without hinder angles: *body* entirely marginated.

Sp. 1. *Chi. Cacti*.

*Coccinella Cacti*. Latr., Fabr. *Chilocorus Cacti*. Leach.

Inhabits white-thorn hedges.

## Fam. XLVIII. ENDOMYCHIDÆ. Leach.

*Antennæ* longer than the thorax: *maxillary palpi* not terminated by a large joint: *body* more or less ovoid: *thorax* almost quadrate.

Genus 256. ENDOMYCHUS. Payk., Fabr., Leach.

*Antennæ* with the greater portion of their joints very short, nearly cylindrical; the ninth joint longer than the one before it, the last with the apex truncate or obtuse: *palpi* with their extremities thicker: *thighs* not abruptly clavate: *body* ovate: *thorax* short, with the base gradually enlarging from the apex, not narrowed behind: *mandibles* with their points distinctly bifid or bidentate.

Sp. 1. *End. coccineus*.

*Chrysomela coccinea*. Linn. *Endomychus coccineus*. Payk., Latr., Fabr., Leach. *Tenebrio coccineus*. Marsh.

Inhabits beneath the bark of the stumps of trees: this is a very local insect. In Coombe Wood, Surrey, they occurred for a year or two in profusion in the months of May and June. The larvæ resemble the female glow-worm, but are not more than a quarter of an inch in length, and are found beneath the bark of trees, particularly those in moist places.

Genus 257. LYCOPERDINA. *Latr., Leach.*

*Antennæ* moniliform, gradually thickening towards their extremities, the ninth joint scarcely longer than the one before it: *maxillary palpi* filiform: *labial palpi* with the last joint large, almost ovoid: *thighs* abruptly clavate: *body* elongate-ovate: *thorax* with the anterior angles a little dilated, narrowed behind: *mandibles* with their points very acute, undivided.

Sp. 1. *Lyc. Bovistæ.*

*Endomychus Bovistæ.* *Payk., Fabr.* *Tenebrio Bovistæ.* *Marsh.* *Lycoperdina immaculata.* *Latr.* *Lycoperdina Bovistæ.* *Leach.*

Inhabits the *Lycoperdium* or puff-ball.

Order IV. DERMAPTERA. *De Geer, Leach, Kirby,*

Order COLEOPTERA. *Linné, Marsham.*

Order ORTHOPTERA. *Latreille, Lamarck.*

*Characters of the Order.*

*Elytra* somewhat crustaceous and abbreviated, of a square form; the suture straight: *wings* membranaceous, externally coriaceous, large, folded transversely and longitudinally: *anus* armed with forceps, which is horny and moveable: *body* linear depressed: *antennæ* inserted before the eyes, composed of from twelve to thirty joints; the first articulation largest, the second very small, the others short, obconic or nearly globose: *mandibles* with their points bidentate: *palpi* filiform, terminated with a very obscure tuberculiform little body or spine: *tarsi* three-jointed, villose beneath: *eyes* triangular-orbicular, and but little prominent.

Obs.—The genera are founded on the number of joints in the antennæ.

Genus 258. FORFICULA *of authors.*

*Antennæ* composed of fourteen joints.

Sp. 1. *For. auricularia.* Forceps at the base internally denticulated, and a little beneath with a tooth on each side: *elytra* yellowish-brown, with the disk darker.

*Forficula auricularia* *of authors.*

Inhabits Europe. Mr. Marsham has considered the sexes of this insect as two species, under the names *auricularia* and *neglecta*.

Genus 259. LABIA. *Leach.*

*Antennæ* twelve-jointed.

Sp. 1. *Lab. minor.* Forceps denticulated within. (*Pl. 4. fig. 16.*)

*Forficula minor.* *Fabr., Panzer, Leach.*

Inhabits dung-hills, under clods of earth, stones, &c. The forceps of

the male are somewhat larger than that of the female, which character Mr. Marsham has considered as specific.

Genus 260. LABIDURA. *Leach.*

*Antennæ* with about thirty joints.

Sp. 1. *Labid. gigantea*. Entirely testaceous yellow.

*Forficula gigantea*. *Fabr.*

Inhabits Europe. It was discovered to inhabit Britain by the Rev. William Bingley, who observed them on the sea-coast under stones near Christchurch, Hampshire, where they occurred in great abundance.

Order V. ORTHOPTERA. *Leach.*

Order ORTHOPTERA. *Oliv., Lam., Latr.*

Class ULONATA. *Fabr.*

Order HEMIPTERA. *Linné.*

*Characters of the Order.*

*Elytra* coriaceous, the internal margin of one overlapping the same margin of the other: *wings* membranaceous, the anterior margin coriaceous, longitudinally folded: *palpi* short: *body* elongate, narrow: *tarsi* with three or four very rarely with five joints.

Fam. I. ACHETIDÆ. *Leach.*

GRYLLIDES. *Latreille.*

*Elytra* horizontal: *wings* longitudinally folded, often produced beyond the elytra: *tarsi* three-jointed: *hinder feet* formed for jumping.

STIRPS 1.—*Antennæ* not longer than the thorax: *anterior feet* compressed, formed for digging: *oviduct* not exerted.

Genus 261. GRYLLOTALPA. *Ray, Latr., Leach.*

*Antennæ* setaceous, composed of a vast number of joints (beyond sixty): *anterior tibiæ* and *tarsi* formed for digging; two first joints of the *tarsi* very large, dentiform: *hinder feet* little formed for jumping.

Sp. 1. *Gryl. vulgaris*. Above fuscous, ferruginous yellowish beneath: *anterior tibiæ* quadridentate: *wings* twice the length of the elytra.

*Gryllus Gryllotalpa*. *Linn.* *Acheta Gryllotalpa*. *Fabr.* *Gryllotalpa vulgaris*. *Latr., Leach.*

Inhabits Europe in gardens and cultivated places, especially the sides of ponds and banks of streams: they burrow and work underground like the mole, raising a ridge as they proceed, but seldom throw up hillocks. They sometimes destroy whole beds of cabbages, young legumes and flowers. At night they come abroad and make long excursions. In fine weather, about the middle of April, and at the close of day, they begin to utter a low, dull, jarring note, continued for a long time without interruption. About the beginning of May

they lay their eggs, two hundred or more, below ground, the female being excessively solicitous to preserve them from cold and accidents. They are said to be attracted to gardens by horse-dung, and to be expelled by the dung of hogs. They are common in some parts of Hampshire and Wiltshire.

**STIRPS 2.**—*Feet* not formed for digging: *oviduct* exerted: *antenna* longer than the thorax.

Genus 262. *ACHETA*. *Fabr., Leach.* *GRYLLUS*. *Linn., Geoff., Latr., Oliv., Lam.*

Sp. 1. *Ach. campestris*. Body three times longer than broad, black, shining.

*Gryllus campestris*. *Linn., Latr.* *Acheta campestris*. *Fabr., Leach.*

Inhabits the temperate parts of Europe; is not very common in Britain.

The house cricket belongs to this genus.

Fam. II. *GRYLLIDÆ*. *Leach.*

*LOCUSTARIÆ*. *Latreille.*

*Elytra* and *wings* oblique: *hinder feet* formed for jumping: *tarsi* four-jointed: *antennæ* setaceous: *oviduct* exerted.

Genus 263. *CONOCEPHALUS*. *Thunb., Leach.* *LOCUSTA*. *Geoff., De Geer, Fabr., Oliv., Lam., Latr.*

*Thorax* deflexed, convex, truncated: *head* acuminate: *hinder feet* twice the length of the body: *antennæ* as long as the body.

Sp. 1. *Con. viridissimus*. Green: *antennæ*, vertex, dorsum of the thorax, and suture of the *elytra* fuscous ferruginous.

*Locusta viridissima*. *Fabr., Latr.* *Gryllus viridissimus*. *Linné.*

Inhabits Europe. In the autumn the perfect insect may be found in great plenty in the marshes near London.

Fam. III. *LOCUSTIDÆ*. *Leach.*

*ACRYDII*. *Latreille.*

*Elytra* and *wings* oblique: *hinder feet* formed for jumping: *tarsi* with three joints: *antennæ* filiform or ensiform: *oviduct* not exerted.

**STIRPS 1.**—*Hinder legs* as long as the body: *antennæ* filiform: *scutellum* short.

Genus 264. *LOCUSTA*. *Leach.* *GRYLLUS*. *Fabr., Panz., Linn.*

*Antennæ* filiform, or terminated in a club: *hinder legs* not, or scarcely, longer than the body.

**Obs.**—We have many indigenous species of this genus.

Sp. 1. *Loc. migratoria*. Thorax somewhat carinated: mandibles blue.

This species, though not a native of this country, has been occasionally taken in Britain; in the year 1748 it appeared in several

irregular flights in many parts of Europe, and visited England: but they perished in a very short time, before they did much harm.

“Of all the insects which are capable of adding to the calamities of the human race, locusts seem to possess the most formidable powers of destruction. Legions of these voracious animals of various species are produced in Africa, where the devastation they commit is almost incredible. The air is darkened by their numbers; they carry desolation with them wherever they pass, and in the short space of a few hours are said to change the most fertile provinces into a barren desert.

“Some of the species serve as food, and are eaten fresh as well as salted. In the latter state they are constantly exposed to sale in the Levant, but the quantity of nutritious matter is said to be very small.”

STIRPS 2.—*Hinder legs* longer than the body: *antennæ* capitate: *scutellum* short.

Genus 265. GOMPHOCERUS. *Leach's MSS.* GOMPHOCEROS.  
*Thunb.*

*Hinder legs* longer than the body: *antennæ* capitate; club of the *antennæ* spoon-shaped in both sexes: *anterior tibiæ* simple.

Sp. 1. *Gomph. rufus.*

*Gryllus rufus.* *Linné.*

Inhabits England.

STIRPS 3.—*Wings* covered by the scutellum.

Genus 266. ACRYDIUM. *Fabr., Geoff., De Geer, Oliv., Leach.*

Sp. 1. *Acr. subulatum.* Obscure, testaceous brown, granulose: thorax carinated, margined.

*Gryllus subulatus.* *Linn.* *Acrydium subulatum.* *Fabr., Oliv., Leach.*

*Tetrix subulata.* *Latr.*

Inhabits Europe. It is found on hot and sandy banks, and is subject to some variation in colour.

The species of *Acrydium* are but little understood. We seem to possess three very distinct indigenous species, all varying in size, sculpture, and colour.

Order VI. DICTYOPTERA. *Leach.*

Order HEMIPTERA. *Linné.*

Class ULONATA. *Fabr.*

Order ORTHOPTERA. *Latr.*

*Characters of the Order.*

*Elytra* coriaceous, nervose, decussating each other: *wings* membranaceous, with a few longitudinal folds: *maxillary palpi* elongate: *body* depressed, oval, or somewhat orbicular: *tarsi* with five joints.

Genus 267. *BLATTA*. Linn., Fabr., &c.

Sp. 1.

"The genus *Blatta* may be defined (as it now stands), to be a general reservoir for all insects agreeing with the character of the Order. The foreign species are numerous, and but little known: much might be done towards elucidating this hitherto neglected part of entomology, and it is hoped some entomographer who has time will devote some share of his attention to the examination of the genera and species."

#### Order VII. HEMIPTERA.

Order HEMIPTERA. Linn., Lam., Cuv., Leach.

Class RHYNGOTA. Fabr.

Order HEMIPTERA. Section I. *Heteroptera*. Latr.

##### *Characters of the Order.*

*Rostrum* attached to the anterior extremity of the head: *elytra* somewhat crustaceous or coriaceous, with the apex membranaceous, placed in an horizontal direction, one decussating the other: *thorax* with the first segment (which bears the feet) larger than the following one: *haustellum* with three setæ: *ocelli* or little eyes two, one obsolete. (*Metamorphosis* semicomplete.)

##### Section I. *TERRESTRIA*. Latr., Leach.

The insects which compose this section are not only distinguished from the second section by their economy, but likewise by the structure of some essential organs: the *antennæ* of this division are exserted, and are very distinct.

##### Fam. I. *PENTATOMIDÆ*. Leach.

*CORISIA* I. Latreille.

*Antennæ* composed of five joints: *rostrum* with four distinct joints, the three first of nearly an equal length: *labrum* very long, striated: *tarsi* with three distinct joints, the first elongate: *head* trigonate, immersed even to the eyes in the *thorax*.

*SCIRPS* 1.—*Scutellum* elongate, covering the *elytra* and the wings.

Genus 268. *TETYRA*. Fabr., Leach. *SCUTELLERA*. Latr. *CRIMEX*. Linn.

*Scutellum* longer than broad, not covering the sides of the abdomen: *thorax* very narrow in front: *antennæ* with the second joint longer than the third.

Sp. 1. *Tet. Maura*. Fabr.

Inhabits

STIRPS 2.—*Scutellum* not covering the wings or elytra.

Genus 269. *ÆLIA*. *Fabr., Leach.*

*Body* ovate: *thorax* with the anterior margin much narrower than the hinder: *head* longer than broad: *antennæ* with the second joint not longer than the third, their base covered by the lateral margins of the head.

Sp. 1. *Æl. acuminata*. Pale-yellowish, longitudinally lined with fuscous, impressed-punctate; a fuscous band running down the middle of the back divided by a whitish line; last joint of the antennæ red.

*Cimex acuminatus*. *Linn.* *Ælia acuminata*. *Fabr., Leach.* *Pentatoma acuminatum*. *Latr.*

Inhabits grassy places: is rare in Britain.

Genus 270. *PENTATOMA*. *Oliv., Latr., Leach.* *CIMEX*. *Fabr., Wolff.*

*Body* ovate: *thorax* with the anterior margin much narrower than the hinder: *head* with nearly equal diameters.

Sp. 1. *Pent. bidens*. Body griseous above; thorax with a lengthened spine on each side behind.

*Cimex bidens*. *Fabr.* *Pentatoma bidens*. *Latr., Leach.*

Inhabits Europe.

Sp. 2. *Pent. prasinus*. Green above; hinder angles of the thorax without spines.

*Cimex prasinus*. *Fabr.* *Pentatoma prasinus*. *Leach.*

Inhabits woods and ferns on heaths.

Genus 271. *CYDNUS*. *Fabr., Leach.* *PENTATOMA*. *Latr.*

*Body* ovate, somewhat orbicular; anterior margin of the thorax narrower than the hinder: *head* nearly semicircular: *antennæ* with the second joint longer than the third: *tibiæ* spinulose.

Sp. 1. *Cyd. oleraceus*. Brassy dark green; sides of the head and thorax with a longitudinal line, on the latter red; outer margin of the elytra a spot on each, and the apex of the elytra red; thighs (apex excepted) and the middle tibiæ yellowish.

Inhabits woods and sandy situations.

Fam. II. *COREIDÆ*. *Leach.*

*CORISIA* II. *Latreille.*

*Antennæ* composed of four joints: *rostrum* with four distinct joints, the first three of nearly an equal length: *labrum* very long, striated: *tarsi* with three distinct joints, the first elongate: *head* trigonate, immersed even to the eyes within the thorax.

Genus 272. COREUS. *Fabr., Lam., Wolff, Latr., Leach.* CIMEX.  
*Linn., Geoff.*

*Antennæ* inserted above a line drawn from the eyes to the base of the labrum; the last joint thick: *thorax* with the anterior narrower than the posterior margin: *body* ovate, the sides of the abdomen dilated: *head* trigonate; neck not apparent.

Sp. 1. *Cor. marginatus*. Red-fuscous, obscure; sides of the abdomen elevated, acute; antennæ with their internal base unidentate, the first and last joints blackish, the middle ones red; thighs beneath with a canal, and a few little teeth.

*Coreus marginatus.* *Fabr., Latr., Leach.* *Cimex marginatus.* *Linné.*  
Inhabits Europe, and is common in Britain in hedges and on the dock.

Genus 273. BERYTUS. *Fabr., Leach.* NEIDES. *Latr.*

*Antennæ* inserted above a line drawn from the eyes to the base of the labrum; geniculated about the middle; the first joint very long, the last thick: *body* filiform: *head* somewhat conic: *neck* not apparent: *scutellum* minute, linear conic: *sect* elongate: *thighs* clavate.

Sp. 1. *Ber. tipularius*. Reddish-gray; antennæ as long as the body, with the last joint fuscous; clypeus acuminate, and produced; thorax with three elevated lines, which are parallel and longitudinal; two of these are marginal, the other dorsal; elytra striate nervous, impressed-punctate, spotted with fuscous.

*Cimex tipularius.* *Linné.* *Berytus tipularius.* *Fabr., Leach.* *Neides tipularius.* *Latr.*

Inhabits grassy places.

Genus 274. LYGÆUS. *Fabr., Wolff, Latr., Leach.* CIMEX. *Linn., De Geer.*

*Antennæ* filiform, inserted beneath a line drawn from the eyes to the base of the labrum: *body* elongate ovate: *head* trigonate, neck not apparent.

Sp. 1. *Lyg. apterus*. Red with black spots: elytra abbreviated.  
Inhabits woods in the autumn.

Genus 275. CAPSUS. *Fabr., Latr., Leach.* CIMEX. *Linn.*

*Head* trigonate, neck not apparent: antennæ setaceous; the second joint at the apex thick, the two last when combined much shorter than the one before it.

Sp. 1. *Cap. ater*. Body black.  
Inhabits grassy places, and is very common.

Genus 276. MIRIS. *Fabr., Latr., Leach.* CIMEX. *Linn., Geoff., &c.* LYGÆUS. *Wolff.*

*Antennæ* setaceous, the second and following joints alike: *head* trigonate: *neck* not apparent.

Sp. 1. *Mir. vagans.* *Leach.*

Genus 277. MYODOCHA. *Latr., Leach.* CIMEX. *De Geer.*

*Head* ovoid, with a distinct neck: *antennæ* slightly thicker towards their extremities.

*Sp. 1. Myo. tipuloides.*

*Myodocha tipuloides. Latr., Leach.* \**Cimex tipuloides. De Geer, Mem. sur les Insectes, v. 354. tab. 35. fig. 18.*

Inhabits

Fam. III. CIMICIDÆ. *Leach.*

CIMICIDES I. 1. *Latreille.*

*Rostrum* with two or three distinct joints: *labrum* very short, not projecting: *feet* simple: *eyes* not very large: *feet* formed for walking on the earth, with distinct nails.

Genus 278. REDUVIUS. *Fabr., Olio., Lam., Latr., Leach.* CIMEX. *Linn., Geoff., De Geer.*

*Body* not linear: *antennæ* inserted above a line drawn from the eyes to the base of the rostrum: *rostrum* with the middle joint evidently longer than the others: *thorax* bilobate, abruptly elevated behind: *tibia* alike, elongate, somewhat cylindrical.

*Sp. 1. Red. personatus. Black.*

*Reduvius persomatus. Latr., Fabr., Leach.*

Inhabits Europe: is rare in Britain.

Genus 279. PLOIARIA. *Scopoli, Latr., Leach.* GERRIS. *Fabr.* CIMEX. *Geoff.*

*Body* filiform: *four posterior feet* very long, filiform: *anterior feet* raptorious, with very long coxæ.

*Sp. 1. Plo. vagabunda.*

*Gerris vagabundus. Fabr. Ploiaria vagabunda. Leach.*

Inhabits

Genus 280. CIMEX. *Linn., Latr., Leach.* ACANTHIA. *Fabr.*

*Body* depressed: *rostrum* short, setaceous: *wings* none.

*Sp. 1. Cim. lectularius.* Reddish brown, with short hair.

*Cimex lectularius. Linn., Latr., Leach. Acanthia lectularia. Fabr.*

Inhabits Europe in houses, sucking the blood of man. The common bed-bug.

Genus 281. TINGIS. *Fabr., Latr., Leach.* CIMEX. *Linn., Geoff., De Geer.*

*Body* entirely depressed, reticulated: *feet* all simple: *antennæ* terminated by an oval joint, the third joint very long.

*Sp. 1. Tin. Cardui.* Body grayish.

*Tingis Cardui. Fabr., Panz., Latr.*

Inhabits thistles, and is very abundant.

## Fam. IV. HYDROMETIDÆ. Leach.

## Cimicides I. 2. Latreille.

*Rostrum* with two or three distinct joints: *labrum* very short: *eyes* moderate: *feet* very long, formed for walking on the water, with the nails very minute, inserted laterally into a fissure at the extremity of the last joint of the tarsi.

Genus 282. HYDROMETRA. Latr., Lam., Fabr., Leach. CIMEX.

Linn., Geoff. AQUARIUS. Schellenberg.

*Antennæ* setaceous, the third joint longer than the rest: *anterior feet* simple: *head* elongate-cylindric, apex thickened.

Sp. 1. *Hyd. stagnorum*. Black above: feet brown reddish.

*Hydrometra stagnorum*. Fabr., Leach. Cimex stagnorum. Linn.

*Aquarius paludum*. Schellenberg.

Inhabits Europe in most places, and walks on the surface of the water.

Genus 283. VELIA. Latr., Leach. CIMEX. Rossi. HYDROMETRA. Fabr.

*Antennæ* filiform, the first joint longest: *anterior feet* raptorious: *rostrum* two-jointed: *head* somewhat vertical.

Sp. 1. *Vel. rivulorum*. Black; sides of the thorax and margins of the abdomen red: thorax with two anterior punctures; each elytron with three and a spot of white; inferior sides of the abdomen punctured with black.

*Hydrometra rivulorum*. Fabr. *Velia rivulorum*. Latr., Leach.

Inhabits running waters and springs.

Genus 284. GERRIS. Latr., Leach. CIMEX. Linn., De Geer, Schrank, Geoff.

*Antennæ* filiform, the first joint longest, the last cylindric: *anterior feet* raptorious: *rostrum* three-jointed: *head* porrected.

Sp. 1. *Ger. paludum*. Brown-olive, black above, cinereous, silky beneath: abdomen nearly equally broad: trunk as long as the head, carinated beneath, a series of impressed lines on each side: antennæ and feet black: thorax with an elevated line extending to the middle of the back: lateral margins of the thorax and abdomen with the anus reddish.

*Hydrometra paludum*. Fabr. *Gerris paludum*. Latr., Leach.

Inhabits ponds and ditches in France, England, and Sweden.

Obs.—The species of this genus are certainly but little known; they are either subject to great variation, or are very numerous.

## Fam. V. ACANTHIDÆ. Leach.

## Cimicides II. Latreille.

*Labrum* very prominent: *eyes* very large: *feet* formed for walking and jumping.

Genus 285. ACANTHIA. *Schränk, Latr., Leach.* CIMEX. *Linn., De Geer, Geoff.* SALDA. *Fabr.* LYGEUS. *Wolff.*

*Antenna* filiform: *rostrum* straight, long.

Sp. 1. *Acan. maculata*. Black spotted with pale colour.

*Acanthia maculata.* *Latr., Leach.*

Inhabits grassy banks.

## Section II. AQUATICA. Leach.

Fam. HYDROCORISIDÆ. *Latreille.*

*Antenna* very minute, not exerted, inserted beneath the eyes. All the insects of this section live in the water.

Fam. VI. NEPADÆ. *Leach.*

*Anterior tarsi* united with the tibiæ: *body* depressed or linear.

STIRPS 1.—*Anus* without setæ: *tarsi* of the four posterior feet distinctly biarticulate: *antenna* four-jointed.

Genus 286. NAUCORIS. *Geoff., Fabr., Oliv., Latr., Leach.* NEPA. *Linn., De Geer.*

*Four posterior feet* ciliated, formed for swimming: *antenna* inserted beneath the eyes: *body* ovate, much depressed.

Sp. 1. *Nau. cimicoides*.

Inhabits ponds.

STIRPS 2.—*Anus* furnished with two setæ: *tarsi* of the four posterior feet one-jointed: *antenna* three-jointed.

Genus 287. NEPA. *Linn., De Geer, Fabr., Oliv., Lam., Latr., Leach.* HEPA. *Geoff.*

*Rostrum* perpendicularly inflected: *body* oval: *anterior thighs* thick: *four hinder feet* not elongate-filiform.

Sp. 1. *Nepa cinerea*. Dark grayish-black. (*Pl. 5. fig. 4.*)

*Nepa cinerea.* *Linn., Fabr., Latr., Leach.*

Inhabits ditches: is very common.

Genus 288. RANATRA. *Latr., Fabr., Schellenberg, Leach.* NEPA. *Linn., De Geer, Oliv., Lam.* HEPA. *Geoff.*

*Rostrum* porrected: *body* linear: *four hinder feet* very long, filiform: *thighs of anterior feet* elongate.

Sp. 1. *Ran. linearis*. Grayish brown.

*Ranatra linearis.* *Fabr., Latr., Schell., Leach.* *Nepa linearis.* *Linn.*

Inhabits the ditches and ponds of Europe. It is very local in this country. It may occasionally be found near London in ponds on Epping Forest, Copenhagen Fields, and near Hammersmith.

Fam. VII. NOTONECTIDÆ. *Leach.*

“Linné and all his predecessors comprehended the species under the generic appellation *Notonecta*. The accurate Geoffroy was the first who separated *Notonecta* into two genera, which have been adopted by most succeeding writers, excepting Linné, who in his last edition of the *Systema Naturæ* has merely given the synonyms of that author, without taking the least notice of the important characters which induced him to separate them.”

De Geer confounded the animals of this tribe with *Nepa* and *Naucoris*, whilst Latreille and Olivier placed them in a division of their family *Hydrocorisæ*. In the *Edinburgh Encyclopædia* Dr. Leach separated them from the *Hydrocorisæ*, and placed them in a particular tribe, named in that work *Notonectides*, and in the twelfth volume of the *Transactions of the Linnean Society* he has given an excellent paper, in which are described at large the whole of the British species hitherto discovered, which consist of four very natural genera.

STIRPS 1.—*Body* cylindrical oval, or nearly square: *tarsi* with two articulations. (*Scutellum large.*)

“All the insects of this family swim on their back, moving by means of their long hinder legs, which resemble oars; whence they have been aptly named *boat-flies*.”

## Genus 289. NOTONECTA of authors.

*Body* oval and cylindric: *antennæ* with the third articulation slenderer than the second: *anterior tarsi* with the first articulation long: *claws* of the hinder feet very minute.

Besides the above characters, the following will be useful, in order to enable the young entomologist to distinguish this genus from PLEA, from which it was first separated by that close examiner of nature Dr. Leach.

The *thorax* is hexagonal; the anterior part is much attenuated, and the hinder margin is straight: the head is narrower than the broadest part of the thorax: the eyes are oblong, and converge a little behind: the *hinder legs* are much ciliated, and the *claws* are so minute as to be discovered with great difficulty: the tips of the *elytra* are notched.

Sp. 1. *Not. furcata*. Elytra black, with two grayish spots at the base, and two larger ones at the posterior part.

*Notonecta furcata*. *Fabr., Oliv., Leach.*

Var.  $\beta$ . Elytra with ferrugineous spots.

Inhabits ponds and ditches in England and Scotland.

Sp. 2. *Not. maculata*. Elytra dark brown and varied with spots: back ferrugineous with a darker fascia.

*Notonecta maculata*. *Oliv., Leach.* *Notonecta glauca*. Var.  $\beta$ . *Latr.*