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On the Pausidae, a family of coleoptero



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J. O. Westwood

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J. O. Westwood

April 13 1830

XXXIV. *On the Paussidæ, a Family of Coleopterous Insects.*
By Mr. J. O. Westwood, F.L.S.

Read June 1, 1830.

INFLUENCED by the desire which every naturalist ought to entertain, that the treasures of Nature collected and discovered by his countrymen, or added to our museums and cabinets through their zeal and assiduity, should also be made known by fellow-naturalists of his native rather than of foreign countries, (although for the advancement of science it might even be wished that these treasures, rather than remain unnoticed and undescribed, should be thrown open to the examination of and be described by foreign naturalists ;) and considering it the duty of every member of the Linnean Society to add his mite, however scanty, to the stores of knowledge which are recorded in its Transactions,—it was my intention, on becoming acquainted with the interesting nondescript insect, subsequently described under the name of *Pentaplatarthrus Paussoides*, merely to have offered to the Society its description, with a few observations upon its affinities, to prove its relationship to the *Paussidæ*, one of the most interesting families of Coleopterous insects. On discovering, however, in our cabinets, in addition to this new genus, not only several other undescribed species belonging to the family, but also such a variation of structure in some of the known species as to warrant their separation from *Paussus*, and finding that confusion had been introduced into the nomenclature even of the few species composing the

Widdowson & Moulton of 32 F. 565. T. 6. 6 April 2 26

family,—I considered that it might not be deemed uninteresting to extend my observations to the whole family, and which I trust will not be regarded as unworthy of attention, both from the great interest which the insects themselves possess from the extreme singularity of their structure, (for, as Latreille has observed in the *Nouveau Dict. d'Hist. Nat.* vol. xxv. p. 57: “Vainement chercherions nous dans tout l'ordre des Coléoptères un genre qui nous offre des caractères aussi bizarres et aussi insolites que les *Paussus*,”) as well as from the circumstance of the records of this Society already containing a valuable paper by the learned Professor Afzelius upon the species known to him; and from the opportunity thus afforded me of exhibiting the rapid strides which Entomology has since made; and lastly, from the circumstance of the genus *Paussus* constituting the final entomological labour of that great man, whose name we have adopted as our own.

But few remarks are requisite upon the *history* of the family. The genus *Paussus* was established in the *Dissertationes Academicae* in the year 1775, and the genus *Ceraapterus* by Swederus in the Swedish Transactions for 1788. These two genera continued to be regarded as unconnected with other genera, or with each other, until Latreille inserted the former, as one of the genera composing the family *Scolitaires*, in his *Histoire Naturelle &c.* tom. xi. p. 204.—Afzelius, regarding only the genus *Paussus*, proposed for its reception in the Linnean Transactions, vol. iv. a distinct fifth section of the *Coleoptera*, characterized “Antennis clavâ integrâ, inflatâ.” The genus *Ceraapterus*, however, remained unnoticed by entomologists until Donovan pointed out its affinity with *Paussus* in his work upon the Insects of New Holland; and Latreille, profiting by his observations, formed the two genera into a distinct family in the *Genera Crustaceorum &c.* vol. iii. p. 1, and *Considerations Générales*

rales &c. p. 225, under the name of *Paussili*, and which he placed between the *Bostrichidæ* and the *Cisidæ*. This family name was altered in the Edinburgh Encyclopedia by Dr. Leach to *Paussides*. In the *Règne Animal*, the two genera considered a subgenera together form the second genus of the first section of the *Xylophages* between the *Scolytidæ* and the *Bostrichidæ*. And in the *Analecta Entomologica*, Dalman proposed to establish the species, previously named by him *Paussus Bucephalus*, into a distinct genus named *Hylotorus*.

To these three genera I have now the pleasure of adding several others; and the following may be regarded as the principal typical characters of the family.

Ordo. COLEOPTERA.

Sectio. PENTAMERA? *Latr.*

(CHILOPODOMORPHA? *MacLeay.*)

Stirps. NECROPHAGA? *MacLeay.*

Familia. PAUSSIDÆ *mihi*. PAUSSILI. *Latr.*, &c. PAUSSIDÈS.
Leach, Edin. Encycl.

Genus typicum. PAUSSUS. *Linn.*

Familiæ Character typicus.

CORPUS oblongo-quadratum, subdepressum, antice subacuminatum.

CAPUT parvum, subtriangulare-globosum, porrectum, collo instructum.

ANTENNÆ permagnæ, crassæ, articulis 2—10 plùs minùsve depressæ (pro magnitudine insectorum).

PALPI magni, coriacei, exserti, inæquales.

LABIUM magnum, coriaceum, planum.

THORAX plùs minùsve bipartitus.

ELYTRA postice quadrata.

PEDES subæquales, breves, compressi. *Tarsi* breves, articulis integris, articulo basali minuto, subtùs producto.

ABDOMEN thorace multò majus et elytris longius.

INSECTA exotica, parva, duriuscula, longitudine 2—5½ lin.

Of the *habits* of the family we possess but little information, and that only upon two species of *Paussus*, which will be found noticed under that genus: it is, however, probable that the other genera are similar in their habits, and that in their preparatory states their habitat is either under the bark of trees or in timber. They are steady and slow in their movements, and nocturnal in their habits, and in their perfect state are met with in newly-built houses. The species, however, must be of considerable rarity, since many of our richest cabinets do not even possess an individual of the family.

With respect to the *geographical distribution* of the family it may be remarked, that they appear to inhabit the Old World exclusively, and that the tropical and southern portions of Africa and the East Indies and Indian islands, are their peculiar range. *Cerapterus MacLeaii* is, however, described by Donovan as an inhabitant of New Holland.

From the singularity in the structure of these insects, it is difficult to speak of their *affinities* with precision. With respect to their relationship with *Cerocoma*, in which genus they were originally placed by Fabricius, there is, as Afzelius correctly conceived, no affinity, and indeed but little analogy beyond the singularity in the antennæ. Afzelius, indeed, supposed that they approached nearest to *Clerus*, bearing to it, as he observes, at least upon the whole, so much natural resemblance, that their most proper place in the systematic arrangement will be next after that genus. It is to be wished, however, that this author had more precisely stated the points in which he supposed

posed this natural resemblance to consist, since I can scarcely conceive that these insects are more nearly allied to *Clerus* than they are to *Cerocoma*. Swederus was equally distant from their true affinities, when he considered *Cerapterus* as intermediate between *Silpha* and *Hispa*; but the legitimate study of affinities was in the days of these authors in its infancy.

Latreille, in the *Histoire Naturelle &c.* vol. xi. p. 206. "profitant de quelques rapports naturels qu'ont ces insectes avec les *Scolites*, les *Bostriches*, les *Cis*," adds, "J'avois soupçonné qu'on devoit réunir les uns et les autres dans une même famille. De nouvelles considerations ont confirmé ce sentiment, et malgré que les organes de la manducation des *Pausses* diffèrent de ceux des *Scolites*, on voit cependant qu'il y a entre eux une grande affinité."

He accordingly places *Paussus* immediately between the *Curculionidæ* and the genus *Scolytus* (a location by no means tenable), forming the genera *Paussus*, *Scolytus* (including the modern groups *Scolytus*, *Tomicus*, *Hylesinus* and *Hylurgus*), *Platypus* and *Phloiotribus*, into the family SCOLITAIRES; the genera *Bostrichus*, *Cis* and *Cerylon*, into that of BOSTRICHINI; and the genera *Colydium*, *Nemosoma*, *Bitoma*, *Lyctus*, *Latridius*, *Silvanus*, *Trogosita*, *Meryx* and *Mycetophagus*, into the family XYLOPHAGI. In the *Genera Crustacearum &c.* the family *Paussili* was established and placed between the *Scolitaires* and the *Xylophagi*; which latter family was made to include the *Bostrichini* as well as the genera of which it was previously composed. In the *Considerations Générales* the *Paussidæ* were properly still further removed from the *Scolitaires*, being placed between the *Bostrichini* (including both the *Scolitaires* and the *Bostrichini*) and the *Xylophagi* of the *Histoire Naturelle*. In the *Règne Animal*, *Familles Naturelles*, and 2nd edition of the *Règne Animal*, all these genera and families are formed into one great family group, under the name of *Xylophagi*, by which Latreille endeavours, but as it appears

appears to me unsuccessfully, to establish the passage from the weevils to the capricorn beetles. In the first and last of these works the *Paussidæ* are placed between the *Scolitaires* and *Bostrichini*; and in the second, between the *Bostrichini* and the *Trogositarii*. When we consider the very discordant structure of the insects composing these families,—of which Mr. MacLeay has well observed in the *Annulosa Javanica*, that they at present form a most artificial assemblage,—it cannot be a matter of surprise that the situation of the *Paussidæ* should have been subject to such continued change. It cannot, however, be denied, that it is one of the most difficult, although most interesting tasks of the naturalist, and one in which (from the great number of links which remain to be discovered,) the greatest caution is requisite to trace the affinities of such anomalous animals as these, especially when they have been employed to effect the transition between extensive groups of very distinct structure.

Of the impropriety of Latreille's location of the majority of the insects composing these various families between the *Curculionidæ* and *Cerambycidæ*, and upon their decided affinities with many of the *Necrophaga* of MacLeay, especially the *Eugidæ*, I shall refer the student to the various remarks of that author upon the genera of the latter family in the *Annulosa Javanica*. To him the praise is due for pointing out these affinities, which Latreille himself appears willing to admit in the new edition of the *Règne Animal*, vol. v. p. 89. n. 4, where, speaking of the joints of the tarsi of his family *Xylophagi*, comprising all these subfamilies, he says: "Leur nombre paraît être de cinq dans quelques. Ces insectes semblent se lier avec les *Cryptophages* et autres insectes analogues de la section des *Pentamères*."

The student may also consult with advantage Curtis's British Entomology, genera *Cryptophagus*, *Mycetophagus*, *Tetratoma*, *Ciconis*, and *Bitoma*. I cannot, however, here omit to remark,

remark, with some degree of astonishment, that after the observations of Mr. MacLeay in the *Annulosa Javanica* above referred to, Mr. Curtis should have stated, that “we cannot help expressing some surprise, that out of the many systems that have been proposed, none should have released *Mycetophagus* from its present unnatural situation, viz. from the *Xylophagi* or *Trogositarii* of Latreille.” The Systematic Catalogue, and Illustrations of British Entomology, of Mr. Stephens may also be consulted, in which the first attempt has been made to arrange these various genera in accordance with Mr. MacLeay’s views, although it may perhaps be considered that this arrangement has been made upon general considerations rather than upon strict analytical examination and dissection. It should, however, be constantly borne in mind, that the characters presented by the larvæ of these various genera will tend in a great degree to establish their affinities upon a sure foundation, and it is greatly to be regretted that so little is recorded concerning them: hence arises the absolute necessity of attentively studying and minutely recording the peculiarities of these preparatory states whenever opportunity presents itself.

Taking, therefore, the preceding observations into consideration, it is evident that in these groups Nature appears to have disregarded all decided regularity in the number of the joints of the tarsi; and hence, if the majority of Latreille’s *Xylophagi* should be removed,—as it appears to me they ought to be,—to a situation in the stirps *Necrophaga*, the *Paussidæ* must also accompany them, notwithstanding the absence of the terminal clavation of the antennæ; but between the *Paussidæ* and the true *Scolytidæ* (which are certainly most intimately allied to the *Curculionidæ*), or the *Bostrichidæ** (compare Mr. Curtis’s Dissections

* I exclude from this family (as Latreille indeed has done in some of his earlier works) the genus *Cis*, which has also, in my opinion, no immediate affinity with *Mycetophagus*. The genus *Bostrichus* Geoffroy (*Apate* Fabr.) is the typical form of this family.

of *Scolytus*, *Cossonus*, and other curculionideous genera), I do not think that any natural affinity exists, either regarding structure or habits: neither do I consider that any material affinity exists between them and the *Mycetophagidæ**. On the other hand, in general appearance, in the consistency of their external structure, and probably also in their natural habits, they make the nearest approach to the *Trogositarii*†: but the trophi are very dissimilar, and the antennæ of *Pentaplatarthrus* and *Cerapterus* present no appearance of a terminal clava; which clearly shows the great hiatus existing between these insects and the *Trogositarii*, and appears to point the way to the *Cucujidæ* (the remaining family placed by Latreille between the *Curculionidæ* and the *Cerambycidæ*), and which may perhaps hence be considered as having the greatest affinity with the *Paussidæ*, particularly when we also notice the depressed bodies, the formation of the antennæ, and

* The genera composing the section *Mycetophagés*, as restricted by Latreille in the new edition of the *Règne Animal*, (with the exception of *Colyidium*, which is placed alone in a distinct subdivision,) appear to agree more nearly in natural affinity than those of which the section is composed in any of his previous works, at least so far as I am able to judge from the genera which I have dissected:—they are *Mycetophagus*, *Triphyllus*, *Meryx*, *Dasycerus*, *Latridius*, and *Silvanus*. The situation of the last appears to me, however, doubtful. Mr. Curtis has also proved the intimate affinity between *Tetratoma* and *Mycetophagus*.

† This family appears to me to be capable of demarcation, from the general appearance of the species, and from the structure of their trophi, especially the lower lip;—in my opinion, founded upon the formation of the latter organs in many of these insects which I have dissected, it naturally includes the genera *Trogosita*, *Megagnathus*, *Cerylon*, *Rhyzophagus*, *Nemosoma*, *Colyidium*, *Monotoma*, *Bitoma*, *Cicones*, *Synchita*, and probably *Lyctus*. To these groups must also be added the pentamerous genus *Ips*, which has recently been ably illustrated by Mr. Curtis, who however, taking Latreille for his guide, has placed the genus in the family *Nitidulidæ*, and merely stated the chief differences existing between it and *Nitidula*, thus evidently regarded as the genus most nearly allied to *Ips*. It is impossible, however, on examining the *Ips ferrugineus*, (which Mr. Curtis has considered the type of the genus,) not to be struck with its resemblance to some of the preceding genera, such as *Cerylon*, *Nemosoma*, &c., which

resemblance

and especially the pentamerous tarsi in many of the genera of that family; such as *Catogenus*, *Clinidium*, *Rhysodes*, &c.; upon which point I further beg leave to refer the student to my paper "On the Affinities of *Clinidium*," inserted in the 18th Number of the Zoological Journal.

The following is a *Synoptical view of the genera* belonging to the family, and subsequently described.

{ Elytra subquadrate; palpi labiales elongati.	{ Antennæ quasi biarticulatæ.	{ Caput (ocellis duabus) thorace immersum . . . 3. <i>Hylotorus</i> .	{ Caput (ocellis nullis) collo instructum.	{ Palpi labiales articulo ultimo clongato . . . 2. <i>Paussus</i> .
		{ Antennæ quasi 10-articulatæ 5. <i>Cerapterus</i> .		{ Palpi labiales articulis æqualibus 4. <i>Platyrhopatus</i> .
	{ Antennæ quasi 6-articulatæ 1. <i>Pentaplatarthrus</i> .		{ Elytra subovata; palpi labiales brevissimi 6. <i>Trochoideus</i> .	

It will at once be perceived, that the characters laid down above tend, in some respects, to give us only an artificial result;

resemblance is fully confirmed by the similarity in the structure of the trophi, although the tarsi (according to the tarsal system) would remove the genera far asunder.

Since the preceding observations were written, Mr. Curtis with his usual ability has illustrated the genus *Nemosoma*: but in his observations upon its affinities, by again implicitly following Latreille as his guide, he has remarked, "*Nemosoma* is placed by Latreille between *Cis* and *Cerylon*, and there can be no doubt that it belongs to the *Bostricidæ*; but never having had an opportunity of examining this rare insect until now, I have arranged it in my Guide between *Bitoma* and *Rhizophagus*, but its natural situation will be near *Cis* and *Apate*."—Now I do not hesitate to state, that the relationship of this genus with *Cis* or *Apate* is of the most remote and unnatural kind, whilst its affinity with *Ips*, *Cerylon*, *Rhizophagus*, &c. is perfectly evident from Mr. Curtis's own delineations of several of these and allied genera, especially in the structure of the maxillæ; and I am convinced that no one on comparing them together and with Sturm's dissections of *Trogosita*, and my own of *Tennoscheila* (Zool. Journ. no. 18.), can possibly adopt Mr. Curtis's views, or will doubt that *Trogosita* is the type of a group of genera including those above mentioned. But it is not in the perfect insect alone that we are to search for correct ideas of the affinities of the *Coleoptera*. The larvæ, as I have before stated, afford the most important clues to their discovery; and Mr. Curtis will be surprised to learn that *Nemosoma* is chilopodiform; *Cis* chilognathiform, hexapod, forked-tailed; and *Scolytus* an apod-larva.

indeed it does not appear to me (on comparing the characters of the different genera and the observations upon their respective affinities subsequently detailed,) that a natural linear or circular disposition can at present be traced in the few genera composing the family. Thus if we look to the variation in the number of joints in the antennæ, we shall find *Trochoideus* intervening between *Paussus* and *Pentaplatarthrus*, and the latter between *Platyrrhopalus* and *Cerapterus*. Again, if we regard the form of the antennæ, we shall find the resemblance between *Hylоторus* and *Paussus pilicornis* Don., sufficient to separate *Paussus* from *Pentaplatarthrus*. Again, as the genera are numerically arranged above, the genus *Hylоторus* unnaturally separates the true *Paussi* with a continuous thorax from the *Platyrrhopali*. If, also, we attempt to form a tabular arrangement of the genera from the structure of the trophi,—which, according to the Table given by Mr. MacLeay in the first part of the *Horæ Entomologicæ*, are the organs susceptible of the least variation, and which consequently are of the first importance in regulating the distribution of genera,—I fear that the result will not be more satisfactory: indeed, in some of the genera we are not acquainted with the structure of these organs.

It appears, however, sufficiently natural to commence the series with *Pentaplatarthrus*, and to proceed thence to the true *Paussi* with a bipartite thorax; thence, by means of *P. sphaerocerus*, to those with the thorax continuous, and to the *Platyrrhopali*, which evidently lead to the *Cerapteri*

Genus 1. PENTAPLATARTHURUS* *mihi*.

Type of the Genus, *P. paussoides mihi*.

Corpus subdepressum; capite parvo; thorace majori; abdomine

* Πέντε, *quinque*; πλατὺς, *platus*; ἄρθρον, *articulus*;—in allusion to the formation of the antennæ.

latiore

latiore et corporis longitudinis dimidio paullò longiore. *Caput* thorace angustius, depressum, subquadratum, facie subtransversâ, posticè *collo* brevi instructum. *Oculi* mediocres, laterales, ovales. *Antennæ* ad marginem anticum capitis, inter oculorum partem superiorem insertæ, capite cum thorace paullò longiores, quasi 6-articulatæ; articulo 1mo cylindrico, brevi, posticè submarginato, tunc articulus? parvus, subglobosus, in apicem prioris insertus, cui insidet articulus 2dus verus, brevis, transversus, subpunctatus, 1mo ferè duplò latior, planus, apice truncato; articuli 3, 4, et 5, longitudine primi at illo ferè triplò latiores, plani, transversi; articulus ultimus planus, paullò major, apice circulari, margineque externo vel postico in angulum parvum producto. *Os* inferum. *Labrum* crustaceum, parvum, subtriangulare margine antico rotundato, basi utrinque obliquè truncato. *Mandibulæ* parvæ sub labro occurrentes et eo longitudine æquantes, corneæ, elongatæ, curvatæ, basi latiores, lobo basali externo, et internè excisione minutâ, apice acutæ, externè angulum formantes. *Palpi*, *Maxillæ*, *Labium*que ex oris cavitatis margine infero et transverso parallelo prodeuntia; *palpi* longi; labiales clavati, maxillares longitudine æquantes, porrecti. *Maxillæ* parvæ subconicæ, lobo magno apicali ferè quadrato, suprâ externè subhirmo, facie internâ coriaceâ ultra mandibulas protensi. *Palpi maxillares* longi, crassi, cylindrici, articulis 4 crassitie æqualibus, articulis 1mo 3tioque brevibus, 2do 4toque longioribus, hoc apice acutiori vel cylindrico-conico. *Mentum* transversum, rigidum, angulis anticis paullò productis. *Labium* internum, mentoque longius et angustius subtriangulare apice transverso. *Palpi labiales* in scapos vel lobos duos corneos inter mentum labiumque inserti, articulis tribus, 1mo brevi, 2ndo illo du-

plò longiori apice paullò crassiori, 3tioque magno, clavato, apice obliquè subtruncato. *Thorax* subquadratus et subcylindricus, antice latior, abdomine angustior. *Scutellum* parvum, trigonum, pedunculo abdominis immersum. *Mesostethium* magnum, transversum, medio lineâ longitudinali etiam lineâ transversâ, margine postico parallelâ, impressum. *Elytra* elongato-quadrata, lævia, dorso plana, ad latera deflexa, immarginata, posticè truncata. *Alæ* duæ. *Coxæ* posticæ, transversæ, apice majores. *Abdomen* in specimine viso mutilatum. *Pedes* omnes similes, breves, valdè compressi, lati. *Tibiæ* omnes spinâ minutissimâ terminali internè instructæ. *Tarsi* breves, subcylindrici, articulis 5 integris, articulo 1mo brevissimo, tribus proximis brevibus æqualibus subtùs paullò villosis, articulo ultimo longitudine quatuor præcedentium, cylindrico, apice paullò crassiori, unguibus duobus validiusculis, acutis, simplicibus.

The characters of this genus are perhaps as interesting as any hitherto presented to the entomologist. The various parts of the mouth, especially the development of the palpi and their basal scapes, and the internal labium, are worthy of notice, as is also the insertion and structure of the antennæ. Between the upper part of the eyes there are two slightly raised tubercles, the centres of which appear excavated for the reception of a circular ball, probably capable of a rotatory motion, upon the upper or exposed surface of which the lower part of the basal joint of the antennæ is inserted. In general appearance and in the formation of the thorax, this genus resembles the first section of *Paussus*; whilst the formation of the antennæ would lead towards *Cerapterus*. There are four joints more in its antennæ than in *Paussus*; while *Cerapterus* exceeds it by four joints more. In the incrassation of the labial palpi it approaches
Cerapterus;

Cerapterus; whilst the formation of the mentum and labium, and the insertion of the labial palpi vary very materially from the structure of *Paussus*.

The only species with which I am acquainted being undescribed, I have (in consequence of its general appearance agreeing with the typical species of *Paussus*) given it the name of

PENTAPLATARTHUS PAUSSOIDES *mihi*.

(TAB. nostr. Fig. 1—14.)

P. totus rufo-piceus, thoracis angulis anticis utrinque in spinam obtusam productis, et in medio anticè subcucullato, dorso centrali profundè excavato.

Habitat in Africa?

Long. corp. (antennis exclusis) lin. $3\frac{1}{2}$.—Lat. corp. (ad basin elytrorum) lin. $1\frac{1}{3}$.

Specimen unicum in Mus. Dom. T. W. Edwards, *Soc. Linn. Sodal.* &c. conservatum, et mihi benevolè delineari describique communicatum.

Nova species. *Caput* parvum, transversum, punctatum, piceum vertice paullò excavato. *Antennæ* rufo-piceæ, articulo 1mo punctato, 2do subpunctato, articulis reliquis lævisimis. *Thorax* lævis, nitidus, rufo-piceus, angulis anticis utrinque in spinam brevem obtusam productis, anticè subcucullatus, disco centrali profundè excavato (sc. in medio elevatione magnâ, anticè rotundatâ, posticèque emarginatâ, culmen formante ad thoracis latera ductum), indè carina longitudinali ad marginem posticum, et utrinque lineâ elevata cum margine laterali parallela. *Elytra* rufo-picea, nitida, tenuissimè punctata, punctis ad suturam in lineas obscuras perpaucas dispositis.

Subtus. *Corpus* et *pedes* picea.

Unique in the cabinet of T. W. Edwards, Esq. F.L.S. &c.,
who,

who, with a liberality as disinterested as rare, permitted me not only to examine, describe and figure, but also to relax his specimen, thereby enabling me to render my paper more complete by adding figures of its various characters, especially of the trophi, which from their size I was able to effect with facility, and which, together with the other dissections figured by me, are the first representations which have been given in detail of those most valuable organs in the family. Of its locality that gentleman can give me no further information than that it came into his possession in a large box containing chiefly African insects.

Genus 2. PAUSSUS. *Linn., Fabr., Latr., &c.*

PAUSSUS. *Thunb., Afz., &c.*

Type of the Genus *P. microcephalus* Linn.

It is not my intention to detail the characters of this genus, the Transactions of this Society being already enriched with the elaborate details given by Afzelius. I however insert the cibarian characters, in consequence of the confusion existing in the writings of Afzelius and Latreille upon their nomenclature and formation. A considerable portion of the following characters is indeed derived from their researches, but those of the lower lip and its appendages are the result of my own dissections.

Corpus subdepressum. *Caput* mediocre, thorace angustius, posticè collo brevi instructum. *Antennæ* magnæ, articulo 1mo minori, crasso, cylindrico-ovato, apice obliquè emarginato, tunc articulus? parvus, subglobosus, emarginaturæ prioris immersus, cui insidet articulus ultimus maximus sæpiùs irregulariter obtrigonus, compressus vel subdepressus, angulo infero et externo interdum uncinato. *Labrum* subcoriaceum, parvum, transversum, angulis anticis rotundatis.

Mandibulæ

Mandibulæ corneæ, parvæ, elongatæ, dimidio basali stipitali latiori, compresso, subelongato quadrato ad latus internum membranaceo producto; dimidio apicali in dentem sublunato-trigonum, acutum, formato. *Maxillæ* stipite crustaceo, processu terminali corneo, compresso, plano, mandibuliformi, subquadrato in dentem arcuatum brevem acutum desinente, externè subciliato, latere interno sub eodem apice obtusè uni- vel bi-dentato. *Palpi maxillares* magni, exserti, porrecti, labialibus e tertiâ parte longiores ad originem antennarum usque producti, maxillarum stipiti basin externam versus inserti; articulis 4, basilari parvo, tuberculiformi; 2do maximo, compresso, subquadrato; 3tio valdè angustiore, triplò brevior, subcylindrico; ultimo 3tio paulò minori, cylindrico-conico (ces deux palpes se rapprochent à leur extrémité supérieure, et forment une sorte d'arcade à la lèvre inférieure. *Latr.*). *Mentum* rectangulari-triangulariforme (hypothenusâ anticè transversâ, sc. inter oculos ductâ) lateribus obliquis capite coalitis, nec basi articulatam, medio convexè subelevatum, et margine antico in medio paullulum producto; angulisque anticis lateralibus (basi exarticulatis) porrectis, compressis, in dentem subacutum productis. *Labium*, os inferum claudens, palpis labialibus brevius, subquadratum, corneum, subplanum, vel medio longitrorsum subcarinatum, margine antico integrum (ut in *P. sphaerocero*, vid. Afz. Linn. Trans. iv. 252.), vel carinæ apice in dentem parvum centralem producto (ut in *P. microcephala*, vid. Afz. loc. cit.) intùs subconcauum e marginibus ejus anticis lateralibusque intùs conniventibus. *Palpi labiales* maxillaribus breviores, ad ortum subconati inter mentum et labii basin inserti labiique faciem anticam velantes et marginem illius superum ultrà progressi, interdum reflexi, 3-articulati, articulis 2dis inferis brevissimis

mis (priori paulò majori, globoso); ultimo magno, longè ovato, aut cylindrico-subulato, apice acuto. *Thorax* subcylindricus, paulò longior quàm latior, antice plerumque dilatatus, parte elevatâ anticâ plùs minùsve articuliformi. *Elytra* posticè truncata.

The characters given above will at once separate the species of the genus from their immediate affinities, the palpi materially assisting in tracing the boundaries of the genus.

It will be observed that Afzelius (who, notwithstanding his admitted inability satisfactorily to examine the trophi of the genus, has given their characters drawn from an external comparison of *P. microcephalus* and *sphærocerus*,) has, as might have been expected, fallen into several errors, chiefly regarding the nomenclature of the different parts:—thus his *palpi interiores* are the *labial palpi*; his *palpi exteriores*, the *anterior produced lateral lobes of the mentum*; his *mandibulæ*, the *maxillary palpi*; his* *maxillæ* are the *mandibles*; and his *gula triangularis* is the *mentum*.

This author, however, most properly considered the flat plate-like part which closes the underside of the mouth, as the lower lip (*labium*); and (with the exception of the anterior lateral lobes of the mentum being incorrectly articulated, to represent palpi, as they were considered; and the maxillary palpi being represented as without joints, being regarded as the mandibles,) his figures of the underside of the heads of both species correctly exhibit the general structure of the various parts of the mouth as seen externally.

Latreille, however, both in the *Histoire Naturelle* and *Genera Crustaceorum*, &c. appears to have regarded the organs, which Afzelius described as the external palpi, and which I have de-

* It must be borne in mind that Afzelius is not blameable for this variation of nomenclature, since it was in accordance with that of Fabricius, adopted by him.—See Kirby and Spence, vol. iii. p. 429.

scribed

scribed as the produced lateral angles of the mentum, as part of the labium, expressly stating in the latter work that there is no mentum. His description of the lower lip in the former work is as follows: "Cette dernière piece" (the "lèvre inférieure") "est petite, cornée, presque carrée, un peu voutée, tridentée au bord supérieur, dont le milieu est un peu plus élevé; les dents latérales sont formées par les saillies des angles latéraux; le milieu de la face antérieure de cette lèvre est en carène et se prolonge en pointe au sommet, d'où résulte la dent intermédiaire." I shall, however, endeavour to prove that there is a mentum, and that these "dents latérales" are in fact the produced angles of that organ, and that they are perfectly distinct from the labium. For this purpose it is necessary for me to state, that these produced angles or "saillies" are not articulated at the base, but merely produced portions of the gula triangularis of Afzelius: indeed that author expressly says, that these parts seem to have neither joints nor motion, and to be of a very different structure and substance from the true palpi labiales: hence, therefore, they cannot be considered as parts of the labium, which, typically regarded, is a distinct organ arising below the insertion of the palpi; and consequently the supposition of Latreille, that these spines are "formées par les saillies des angles latéraux" of the labium, must be considered as incorrect. It may indeed perhaps be contended that these produced lateral spines are representatives of the produced undersides of the head or undercheeks particularly developed, as in *Catogenus*, *Passandra*, *Megagnathus*, &c. and consequently, that they do not form part of the mentum, which must either be sought for in the more advanced or in the internal parts of the mouth, or must be, as Latreille states, wanting. I am induced, however, from the abhorrence which Nature entertains of such anomalies,—notwithstanding the absence of any articulation at the sides or

base of the part which Afzelius terms the gula triangularis,—to consider that part, which Latreille has not noticed, as the representative of the mentum, and consequently, the “dents latérales” of Latreille, or the external palpi of Afzelius, as the produced anterior angles of the mentum; 1st, from the evident analogy between it and the mentum of *Pentaplatarthrus* and *Platyrhopalus*; 2ndly, because Latreille himself has shown that the mentum is not always articulated at the base, as in *Siagona*, which he describes in the *Genera Crustaceorum*, &c. vol. iv. p. 208. as “saturâ nullâ basilari et processu paginæ inferæ capitis eformatum;” 3rdly, because the labial palpi arise between it and the true lip, which appears to be the true typical structure of the *Coleoptera*; and 4thly, because the maxillæ arise at the outer sides of the produced spines and within the mouth; in which respect this formation also agrees with the typical structure of the *Coleoptera*, where the base of the maxillæ arises at the outer sides of the mentum; whereas in *Catogenus*, *Passandra*, *Megagnathus*, &c. the maxillæ arise within or between the produced lobes or spines.

As to the “dent intermédiaire” of the labium mentioned by Latreille, it appears from the observations of Afzelius, that it is not a constant generic character; its examination, however, in the various species is rendered more difficult in consequence of the peculiar arched formation of the maxillary palpi described by Latreille as above.

The labial palpi are generally bent backwards, although, as may be observed from Afzelius’s figures, they are occasionally stretched forward; in which latter case they fill up the space formed by the arch of the maxillary palpi, and almost entirely conceal the lip.

The paucity of joints in the antennæ, and their comparatively immense size, are circumstances well worthy the attention of
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the philosophical entomologist; and if observation were particularly paid to the peculiar uses which the living insects make of them, it is not to be doubted that some light would be thrown upon the dubious nature of the general uses and senses of those organs. Latreille indeed says in the *Nouveau Dict. d'Hist. Nat.* vol. xxv. p. 57, "l'on soupçonne que quelques espèces se tiennent suspendues au moyen des dents ou des rochets du dernier article de leurs antennes." This circumstance, however, appears to me to be extremely improbable.

In describing the antennæ of the species known to him, Fabricius, in order to state their peculiar structure, employed the term "irregulares," upon which Afzelius has commented in his paper, considering that, as it must convey the idea of the clava being of a shape either not always uniform or deviating from the ordinary rules of Nature, its employment is improper, since he states neither of these circumstances to be the case. That the antennæ of the *Paussi* materially differ from the *ordinary structure* of these organs, no one will be inclined to question; although it cannot be admitted that Nature has here deviated from her ordinary rule of introducing variations in the characters of her groups. The term has, however, another definition, which the Professor has overlooked, which will convey a perfect idea of their formation; namely, by translating the word, 'uneven', or 'with the surface irregular': this I doubt not is the sense in which it was employed by Fabricius.

With regard to the very interesting observations of Afzelius upon the luminosity of the second joint of the antennæ of *P. sphærocerus*, I am under the necessity of stating the doubts which I entertain upon the existence of so extraordinary a circumstance. Might not the light reflected from the wall, falling upon the semipellucid livid-coloured balls of the antennæ, give them the appearance described, *with expressions of doubt*, by Afzelius?

Afzelius? Without, however, venturing to question the correctness of his observations, I beg to be permitted to throw out this remark as a not unnatural cause of the appearance. Or may not the appearance be accounted for (regard being had to the globular and subpellucid structure of the clava,) precisely in the same manner as the light emitted by the shining moss mentioned in Loudon's Magazine of Natural History, No. xv. p. 463. (published since the preceding observations were written); where Mr. Bowman in explaining its cause observes: "A person acquainted with the laws of optics as exhibited in lenses, would, on examining its (the moss's) structure of innumerable perfect globules filled with a highly pellucid green fluid, have pronounced, *à priori*, that they would condense the rays of light, and appear luminous to an eye placed in the angle of incidence; and the fact, that it is always most brilliant either in the cave, or in a room with only a single window, when the face is turned from the light, illustrates the theory in a singular manner."

Of the "differentiæ sexuales" of the family I am only able to state, that according to Afzelius, the female of *P. sphaerocerus* differs chiefly from the male in having the labial palpi rather narrower, the produced lobes of the mentum glaucous, the maxillary palpi shorter, with the second joint narrower, the abdomen longer, and the posterior femora slenderer.

Of the *habits* of the species we know but little. Latreille, in the *Histoire Naturelle*, states, "Les Pausses doivent vivre dans les bois."—I need not occupy the valuable time of the Society with repeating the account given by Afzelius of the habits of *P. sphaerocerus*; and shall therefore merely add, that Dr. Horsfield has informed me that Mr. Arnold captured a species in Java under precisely similar circumstances.

M. Dupont of Paris has also informed me, (subsequent to the commencement of the reading of this paper,) that the species
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which I have subsequently introduced from his splendid collection under the name of *P. excavatus*, was observed by his correspondent at Senegal, by whom the insect was captured, to make several repeated discharges of smoke, accompanied by a slight noise similar to that produced by the Bombadier Beetle (*Brachinus*), whence M. Dupont named it *P. crepitans*. I cannot, however, help imagining that some mistake must have arisen with respect to this peculiarity. Afzelius, who captured several specimens of the genus, has recorded nothing of the kind, and it may reasonably be doubted whether the internal structure of M. Dupont's insect would so far differ from that of the other species as to enable it to produce these repeated discharges. Having consulted M. Latreille upon the subject, whose opinion corresponds with my own, I have not hesitated to propose another specific name for the insect in question in lieu of that proposed by the possessor of the specimen, which, but for the circumstances stated above, I should with pleasure have adopted.

The following observations comprise the details most worthy of notice regarding the history of this singular genus, upon which but few authors have treated. The genus was established under the name *Paussus* in the last entomological dissertation of the Academy of Upsal, under the presidency of Linnæus, the title whereof is "Bigæ Insectorum quas Præsides DD. Car. v. Linne proposuit Andreas Dahl, Westragothus, Upsaliæ 1775." The only species described and figured was *P. microcephalus*, which Linnæus had received in a collection of North American and African insects from Dr. Fothergill of London. In 1781, Thunberg described in the Swedish Transactions two new species of the genus discovered by himself in South Africa in the year 1772 (and which he had previously considered as forming a new genus), under the names *Pausus lineatus* and *P. ruber*, the former of which alone was indifferently figured. Fabricius in
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the *Entomologia Systematica* 1792, deviating from his general plan of adopting well-defined genera established by other authors, inserted the *P. microcephalus* of Linnæus and the *P. lineatus* alone of Thunberg in his genus *Cerocoma*, observing upon the former species, “ad ulteriorem examinationem hîc insero insectum singulare, proprium genus uti videtur constituens, mihi haud ritè notum.” To these two species a third was added, named *ruficollis*. Afzelius is the next author who has treated upon the genus, and whose elaborate paper in the 4th volume of the Transactions of the Linnean Society, published in 1798, deserves the study of every naturalist. Leaving no part of his available materials to be elucidated by future entomologists, his remarks (from the advantages which, as a practical collector, as one of the pupils of Linnæus, and as a profound naturalist, he possessed,) are entitled to the greatest consideration. This author deemed it proper, with Thunberg, to alter the generic name *Paussus* into *Pausus*, in consequence of Linnæus’s supposed derivation of the name from “*Pausa*,” and in which respect he has been followed by many entomologists. Latreille and Fabricius, however, preserved (with great propriety according to my views of entomological nomenclature) the name as originally spelt by Linnæus. In addition to the very extended generic characters, to numerous interesting observations upon its affinities, &c., as well as to the more detailed specific description of the Linnæan species, he added the description of a new species, which he named *sphærocerus*, referring also to the *lineatus* and *ruber* of Thunberg, and the *ruficollis* of Fabricius,—making together five species.

Donovan, in his splendid Natural History of the Insects of India, described and figured not less than four new species belonging to the family, and placed by him in this genus; namely, *Paussus denticornis* Don. (*Platyrrhopalus denticornis* mihi);

mihi); *P. thoracicus* Don.; *P. Fichtelii* Don.; and *P. pilicornis* Don.; the second and third of which he conjectures may probably be the sexes of the same species. In the *Systema Eleutheratorum* 1801, Fabricius adopted the genus *Paussus* with this remark: "Novum genus et distinctum, at mihi haud ritè examinatum, nec mihi satisfacit character genericus a D. Afzelio, in A. S. Linn. datus, sed e novo conficiendus." The species inserted in this work in the genus are the *microcephalus*, *lineatus*, and *ruficollis*, with the addition of another insect named *P. flavicornis*, of which he says, "Animalculum singulare vix hujus generis;" which, in fact, does not belong to the family, and which I have formed into the genus *Megadins*, described below. Latreille having received three species of the genus from Mr. MacLeay, (one of which he submitted to dissection for the purpose of giving a more detailed account of the formation of the trophi than had been given by Afzelius,) published the result of his observations in the *Histoire Générale, &c.* vol. xi., giving only the four species recorded in the *Systema Eleutheratorum*, with the same remark upon the *P. flavicornis*. In the *Genera Crustaceorum, &c.* vol. iii. p. 1., he again detailed the characters of the genus, giving as the type the *microcephalus*, and adding a description of Donovan's *P. thoracicus*, under the name of *trigonicornis*.

Schönherr in the *Synonymia Insectorum*, vol. i. part 3. gives the following list of ten species belonging to the genus, as at that time constituted, (including two new species, but omitting those described by Donovan, except the *P. thoracicus*, which it is evident he was only acquainted with through Latreille's synonymical reference in the *Genera Crustaceorum, &c.*); 1. *P. microcephalus* Linn.; 2. *spharocerus* Afz.; 3. *lineatus* Thunb.; 4. *trigonicornis* Latr. (*thoracicus* Don.); 5. *denticornis* (a new species described under this name by Gyllenhal in the Appendix to
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the volume, but distinct from Donovan's *denticornis*); 6. *ruber* Thunb.; 7. *Bucephalus* (a new species, also described in the Appendix by Gyllenhal); 8. *ruficollis* Fabr.; 9. *flavicornis* Fabr. (without the expression of any doubt as to its belonging to this genus); and 10. the *Hispa bihamata* of Linnæus, with the remark, "An hujus generis?" Dalman in the *Analecta Entomologica* has published some observations upon the propriety of forming the *Bucephalus* into a new genus under the name of *Hylotorus*, and upon the affinities of the *P. flavicornis* Fabr.: and the same author, in a very interesting paper in the Swedish Transactions for 1825, upon insects found in the gum copal, has described an insect under the name of *Paussus cruciatus*, which, although evidently belonging to the family, materially recedes from the genuine *Paussi*, and which I have consequently considered as the type of the genus *Trochoideus* subsequently described.

The above are, I believe, the only works in which any material original matter has been published upon these insects; and I cannot, therefore, but rejoice at being enabled to increase the lists given by Schonherr and Donovan by the addition of several other undescribed species.

The species vary most materially from each other in the formation of the terminal joint of the antennæ: these parts therefore, together with the size and colour of the insects, may be considered as affording the chief specific characters. The thorax may be employed for the purpose of dividing the species into two sections; viz. those in which it is more distinctly bipartite with the margins produced into an angular spine on each side in front, and those with the thorax almost continuous, the anterior part being only separated from the posterior by a slight impression, with the lateral margins rounded in front. The *P. sphaerocerus* appears to unite the two sections.

Section

Sectio I. *Thorax quasi bipartitus.*

Species 1. PAUSSUS MICROCEPHALUS. Linn.

TAB. XXXIII. Fig. 21.

P. obscurè niger, vel nigricanti-brunneus, elytris magis piceis, vel rufo-piceis, capite mutico, antennarum clavâ permagnâ, oblongo-sphæroidæâ, inæqualiter elevatâ, ad basin subelongatè pedunculatâ, latere externo quadri-tuberculato, infrâ in uncum obtusum unidentatum producto, thorace in medio profundè excavato, parte anticâ strangulo distincto, valdè et transversè elevatâ, illius margine supero acuto, tibiis linearibus, posticis paulò latioribus, apice subangustioribus.

Paussus microcephalus. Linn. (*Dahl. Diss. Acad. Bigæ Ins.*) p. 6. tab. ann. f. 6—10. *Thunberg. Act. Suec.* 1781. 170. 1. *Fuess. Arch. Ins. Plag.* iii. p. 1. sq.; ed. *Gall.* p. 42. t. 13. *Afzelius, Act. Soc. Linn.* vol. iv. p. 263. t. 22. f. 1—5. *Herbst. Coll.* iv. p. 100. t. 39. f. 6. a, b. *Gmel. Syst. Nat.* vol. i. p. 4. p. 1737—1. *Fab. Syst. Eleuth.* ii. p. 75. 1. *Weidem. Arch.* 1. 2. p. 297. 1. *Latr. Hist. Nat. &c.* t. 11. p. 208. *Latr. Gen. Crust. &c.* t. 3. p. 2. *Nouv. Dict. d'Hist. Nat.* vol. xxv. p. 58. *Schonherr, Syn. Ins.* vol. i. p. 3. p. 18. *Shaw, Gen. Zool.* vi. part 1. p. 42. pl. 12. *Encyclopædia Londinensis*, vol. xix. Genus & tab. *Pausus*, fig. 1, 2, 3. *Rees' Encycl.* vol. xxvi. *Pausus*, no. 1. †

Cerocoma microcephala. *Fabr. Ent. Syst.* t. i. p. 2. p. 82. *Leske, Naturg.* i. t. 12. f. 19.

“*Habitat in Insula Bananas ejusdemque vicinitate.*” *Afz.*

Magn. nat. Dermestes lardarii Linn.—Long. corp. lin. $3\frac{1}{2}$.

In *Mus. Soc. Linn. Lond.* (olim *Banks*). *Dom. MacLeay* (olim *Drury*); etiam olim in *Musæo Linnæi* (*Smith*); etiam in *Mus. Latreille* (nunc *Dejean*).

As this species has already been very fully described by Afzelius, I shall not recapitulate its specific characters. It is necessary, however, to make a few observations upon the species, in consequence of the Linnean cabinet at the present time not possessing the original Linnean specimen, a distinct species being attached to the Linnean generic label. For the purpose therefore of identifying the species, I beg to direct attention to the size of the insect, which is stated in the original description to be equal to *Dermestes lardarius*, and also to the original figures, which are sufficiently exact to convince the student that the specimen originally contained in the Banksian cabinet, and now belonging to the Linnean Society, is the *P. microcephalus*: it is true, that Afzelius states that he only casually examined the Linnean insect in the possession of our late lamented President; but it is not to be supposed that Afzelius, himself the capturer of one of the species, could have mistaken any other species which might at that time have been introduced into the Linnean cabinet when he examined it; and this is rendered more unlikely, from the circumstance of the original figures of the insect having been drawn by J. Afzelius. Whence the first above-mentioned circumstance has arisen may perhaps be learned by tracing the history of the three specimens known to Afzelius. That in the cabinet of Sir Joseph Banks now belongs to the Linnean Society (from which both Afzelius's and my own figures were drawn). The second, originally in the cabinet of Mr. Drury, I understand subsequently came into the possession of Mr. MacLeay: but of the third specimen, originally belonging to Linnæus, I can discover no trace. It appears, however, in the *Histoire Naturelle &c.* that Latreille received from "un des naturalistes de l'Angleterre le plus estimable par ses connoissances, par ses communications amicales, Alexandre MacLeay," three species of the genus, but
which

which are not named. In the *Genera Crustaceorum &c.* we learn, however, that Latreille received the *P. microcephalus* "ex dono generosissimi amici Domini Alex. MacLeay." As, however, it is not probable that Mr. MacLeay would have forwarded this species to Latreille, unless the specimen forwarded were a duplicate in his collection, it appears to follow, either that Mr. MacLeay must have obtained other specimens of the insect from abroad, or that he had procured the original Linnean specimen from its then possessor, as well as that belonging to Mr. Drury, and had forwarded one of them to Latreille. Should this latter supposition be correct, it affords an additional instance of the want of that true spirit of veneration towards the scientific relics of Linnæus which every disciple of that great master ought to entertain, and which (although it was sufficiently strong to induce our late President, in consequence of his predilection for botanical studies, to preserve the botanical treasures of Linnæus untouched and in their original and entire condition, and sacred for the interest of science,) it is greatly to be regretted did not also operate with him to prevent the incorporation of the Linnean cabinet of insects with his own private collection. Had this, however, been the only cause of regret, the mischief might easily have been remedied; but the entomologist has also to regret that the original Linnean specimens, and, as in this instance before us, even species, were in many instances allowed to be changed, probably for the purpose of renovating the collection, whereby the authenticity of the cabinet has unfortunately been diminished to so great a degree, that amongst the minute insects it is now almost unsafe, without the greatest possible caution, to rely on the collection as a standard of reference. It is not, however, too late to remedy much of the mischief which has been thus occasioned; and I state these circumstances in the hope of inducing the influential members of

the Society to institute such an inquiry into the state of the Linnean cabinet of insects as will tend in the result to diminish the confusion which has so inadvertently been produced,—whereby the value of the cabinet has been diminished, and the increase of knowledge retarded,—by endeavouring, as far as may be possible, to reinstate the collection in its original form.

Species 2. PAUSSUS LINNÆI *mihi*.

TAB. XXXIII. Fig. 22—24.

P. subcylindricus, rufo-piceus, elytris rufescentibus, antennarum clavâ suprâ latâ subquadratâ, apice valdè depresso, recurvo, subhirsuto.

Habitat — ?

Long. corp. (exclus. antennis) lin. 2.

In Mus. Soc. Linn. Lond. (olim Smith?).

Nova species. Parvus, subcylindricus, tenuissimè punctatissimus. *Caput* suprâ subconvexum, piceum, obscurum, porrectum, subtriangulare, posticè in *collum* breve productum; margine antico emarginato; vertice impressione parvâ, subrotundatâ, in quâ tuberculum minutum. *Oculi* parvi laterales. *Palpi* ut suprâ descripti. *Antennæ* magnæ, obscuræ, castaneæ vel rufo-piceæ, apice subpiloso, articulo 1mo cylindrico, brevi, apice obliquo, articulo ultimo maximo, suprâ subquadrato, inæqualiter elevato, basi paulò latiori, et obliquè truncato; latere interno tuberculis tribus minutis, apice citò valdè depresso, acuto et suprâ reflexo. *Thorax* longior, quasi bipartitus, et in medio profundè excavato, rufo-piceus, portio antica obscura capite latior strangulo distincta, valdè et transversè elevata, illius margine supero acuto et in medio subemarginata, ejusdem angulis lateralibus acutis; portio postica nitida paulò angustior, lateribus rotundatis, vertice valdè depresso, depressione

pressione posticè bituberculatâ. *Scutellum* parvum concolor. *Elytra* thoracis parte antica paulò latiora, magis rufescentia, nitida, subconvexa, linearia, apice truncata, abdomine paulò longiora. *Pedes* longi tenues, castanei, parùm compressi.

LINNÆO discipulus novissimus hanc speciem inscribit.

This species appears to agree in size, colour, and general structure with the next, if indeed it be not specifically identical. The chief *apparent* differences between its characters and the description of *P. ruber* being, 1st, the formation of the head and thorax of the two species, and which, as I have suggested below, may not perhaps *actually* exist; and, 2ndly, the formation of the terminal joint of the antennæ, which must I apprehend, on the other hand, be considered as indicative of a distinct species. The circumstance of this species being preserved in the Linnean cabinet and actually attached to the generic label in Linnæus's hand-writing,—the original Linnean species at the same time not being preserved in the cabinet,—renders it necessary to state that this is not the *P. microcephalus*. From Donovan's *P. pilicornis* it varies in colour, although when the antennæ are seen sideways, there appears to be some specific affinity.

Species 3. PAUSSUS RUBER. *Thunb.*

P. totus obscurè rufescens, elytris rufescentibus, capite in medio angustato et posticè utrinque spinoso, thorace anticè eroso, antennis clavâ latâ complanatâ basi cordatâ, apice eroso-sulcato.

Paussus ruber. *Thunb. Act. Holm.* 1781. p. 170. 1; *ed. Germ.* 21. p. 171. *Herbst. Syst. Ins. Col.* 4. p. 101. 2. *Afzelius, Linn. Trans.* vol. iv. 272. 1. *Schonherr. Syn. Ins.* 1. part 3. p. 19.
Rees'

Rees' Encycl. vol. xxvi. Genus Paussus, no. 3. Encycl. Londinensis, vol. xix. Genus Paussus, no. 3.

Habitat Caput Bonæ Spei. *Dom. Thunberg.*

In Mus. — ?

Magn. nat. Notoxi Rhinocerotis.

Corpus oblongum depressum, obscure rufescens, læve, glabrum.

Caput anticè margine elevato, in medio depressum et angustatum, posticè transversè elevatum et dilatatum, in spinam lateralem utrinque exstantem, suprà anticè in medio est ruga elevata bifida inter oculos. *Antennæ* antheriformes biarticulatæ, articulus infimus minor cylindricus, extimus latus complanatus basi cordato, apice eroso-sulcato, antheram bifidam referente. *Thorax* anticè erosus. *Scutellum* nigrum. *Elytra* magis rufescentia, margine exteriori deflexo, abdomine breviora, truncata.

I am unacquainted with this insect, except through the description of Thunberg, which I have detailed above; consequently it is with some hesitation that I venture from analogy to place it in this section of the genus, and to suggest that that author may have fallen into an error in his description of its head, inasmuch as it appears to me not improbable that he has regarded the anterior portion of the thorax as the hinder part of the head, such hinder part, according to his description, appearing to me to have precisely the same formation as the anterior part of the thorax in the preceding species, with which, if I am correct in the above opinion, it seems to possess considerable affinity. It is greatly to be regretted that Thunberg did not figure the insect.

Species

Species 4. PAUSSUS EXCAVATUS *mih*i.

TAB. XXXIII. Fig. 56, 57.

P. obscure rufescenti-fuscus, capite thoraceque paulò obscurioribus, antennarum clavâ latâ latere interno acuto, externo crasso, excavatione oblongâ.

Paussus crepitans. Dupont *Mss.*

Habitat in Africa occidentali; Senegalia.

Long. corp. lin. 2.

Specimen unicum in Mus. Dupont, Parisiis.

Nova species. Parvus, subcylindricus, tenuissimè punctatissimus. *Caput* subquadratum suprâ convexum, obscure rufescenti-fuscum, posticè in collum breve contractum, margine antico emarginato, vertice impressione parvâ rotundatâ. *Oculi* mediocres. *Antennæ* rufo-fuscæ, clavâ magnâ latâ oblongo-trigonâ apice subrotundato, margine interno acuto, impressionibus nonnullis parvis transversis infra marginem, posticè multò crassiori, margine externo in naviculam vel cavitatem oblongo-ovalem longitrorsùm excavato, serieque impressionum transversarum in paginam inferiorem, quæ in marginem ipsum in denticulationibus 4 vel 5 desinunt: angulo basali subhamato, denteque parvo in medio marginis basalis. *Thorax* obscure rufo-fuscus, longior, bipartitus, portione anticâ multò breviori et è posticâ, excavatione profundâ, separatâ, capite latiori, valdè et transversè elevatâ, illius margine supero acuto et in medio subemarginato, ejusdem angulis lateralibus acutis, portione posticâ longiori sed angustiori, anticè utrinque obliquè productâ, lateribus posticis subinflexis, disco valdè depresso, excavatione subheptangulari. *Scutellum* parvum concolor. *Elytra* thoracis parte anticâ latiora, fusco-rufescentia, sub lente forti punctatissima subconvexa, abdomine

domine paulò breviora. *Pedes* breves fusci, femoribus tibiisque valdè compressis.

I am indebted for a knowledge of this pretty and very distinct little species to the liberality of M. Dupont, who obligingly allowed me to describe and figure it from his rich Coleopterous collection at Paris. In size and the structure of the thorax it agrees with the two preceding species, especially *P. Linnæi*; whilst the antennæ resemble those of *P. thoracicus* and *Fichtelii*. It also agrees with the *P. Linnæi* in having the circular impression on the crown of the head; but it wants the small central tubercle.

I have already alluded to the alleged habits of this species, and the consequent change which I have been compelled to introduce in its specific name.

Species 5. PAUSSUS RUFITARSIS.

TAB. XXXIII. Fig. 25—27.

P. flavescenti-fulvus; antennarum articulo basali, thoracis angulis posticis, elytrorum disco, pedibusque piceis; tarsis rufis, antennarum clavâ ovatâ, apice subacuto, basique in spinam externè producto.

Habitat —?

Long. corp. lin. 3.

In Mus. Brit. Specimen unicum sub nomine Ms. "*rufitarsis*" conserv.

Nova species. Brevis, indè speciebus reliquis quasi latior et obtusior videtur, cylindricus, minutissimè punctatissimus et tenuissimè pubescens. *Caput* porrectum, ferè thoracis magnitudine, subtriangulare, anticè truncatum, emarginatumque, pallidè fulvo-flavescens, in vertice exstat excavatio parva rotundata inter quam et oculos utrinque excavatio alia minutissima.

nutissima. *Oculi* mediocres laterales. *Palpi* ut in congeneribus. *Antennæ* articulo 1mo cylindrico, piceo, articulo ultimo magno lividè flavescenti, ovali globoso, apice subacuto latere interno tenuè compresso, latere externo excavatione parvâ lineari-oblongâ vel carinâ in quâ lineæ 4 elevatæ transversæ; basi externè in spinam obtusam producto. *Thorax* subquadratus capite vix major, bipartitus, flavescenti-fulvus, lateribus vel angulis portionis posticæ piceis, portio antica angusta et elevata, in medio culmen acutum efformans, hoc in medio submarginatum, ejusdem angulis lateralibus acutis, portio postica major, lateribus subrotundatis disco irregulari. *Elytra* ferè cylindrica, abdomen tegentia, basi thorace ferè duplò latiora et illo quadruplò longiora, etiam posticè quàm antiùs paulò latiora, nitida, basi fulvo-rufescentia, marginibus lateralibus posticisque rufis, disco piceo, obsoletissimè punctata, margine externo et apicali fasciculis aliquot setarum rigidarum rufarum. *Corpus* subtùs pallidè testaceum nitidum. *Pedes* nigro-picei, mediocres; *femoribus* cylindricis, posticis crassioribus; *tibiis* vix compressis; *tarsis* rufis.

Of this pretty nondescript species, which is nearly allied to *P. thoracicus*, I have seen only a single specimen contained in the cabinet of the British Museum, and which, solely in consequence of the wish expressed by me to describe and figure the new unnamed species of *Paussus* contained in that cabinet, was immediately designated by the manuscript name which I have adopted above, although I regret to state, that the species belonging to the neighbouring, and indeed I might add, to the majority of the genera of insects contained in that national repository, still for the most part remain unnamed and in confusion.

The curious fascicles or bundles of short, rigid, red hairs which are observed on the margins of the elytra are peculiarly characteristic of the species.

Species 6. PAUSSUS THORACICUS. *Donovan*.

TAB. XXXIII. Fig. 28—30.

P. ferrugineo-testaceus, elytris disco lateribusque fuscis, antennarum clavâ oblongâ compressâ trigonâ, latere interno acuto, externo excavato, cavitate ovali, marginibus denticulatis.

Paussus thoracicus. *Donovan*, *Epitome Ins. Ind. t. 4. f. **. *Rees' Encycl. Entomology*, pl. 8. fig. 11. & 11*, sine descriptione.

Paussus trigonicornis. *Latreille*, *Genera Crustaceorum, &c. vol. iii. p. 3. pl. 11. f. 8.* *Schonh. Syn. Ins. vol. i. p. 3. p. 19.*

Habitat Indiâ Orientali; Bengal. *Dom. Fichtel*.

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

In *Mus. Brit., Soc. Linn. Lond.*, Kirby, Haworth, B. Clark, Latreille (nunc Dejean).

Subcylindricus, rufo-testaceus. *Caput* thorace antico subæquè latum, margine antico acuto, emarginato, vertice arcu duplici elevato, centroque variè impresso, et prominulo coronato. *Palpi* ut in congeneribus. *Antennæ* articulo apicali compresso, oblongo trigono, latere interno acuto, externo vel postico in naviculam vel cavitatem oblongo-ovalem longitrorsùm excavato, punctorum impressorum vel denticulationum serie ex illius utroque margine, angulo basali acuto. *Thorax* bipartitus, sulco postico; medio transversè profundèque excavato, parte anticâ et eminenti posticè in medio emarginatâ ejusdem angulis lateralibus acutis. *Elytra* nigra, basi et apice rubro-ferrugineis, margine externo setis aliquot rigidis hispido, ejusdem angulo apicali incrassato.

Pedes

Pedes elongati; *tibiis* 4 anticis tenuibus; posticis compresso-sublatis ad apicem paulò angustioribus.

This species appears to be the least rare of the genus. It varies in size, one of the three specimens in the British Museum cabinet being considerably smaller than the others. The legs are longer and slenderer than in the majority of the species. The dark colour of the disk of the elytra is more suffused than in the next species, extending to the sides.

The observation of Latreille upon this species, (the name of which he has unnecessarily altered to '*trigonicornis*,') "*P. lineato proximus et fortè varietas elytris latius nigris*," appears to me to be incorrect, that species belonging, as I imagine, to the second section, and in structure being nearly allied to *P. affinis* and *Hardwickii*.

Species 7. PAUSSUS FICHELII. *Donovan*.

TAB. XXXIII. Fig. 31—33.

P. testaceus elytris fuscis, lateribus, basi apiceque testaceis, thorace subbipartito; antennarum clavâ oblongâ, latere interno acuto, externo excavato, cavitate pyriformi, marginibus denticulatis.

Paussus Fichtelii. *Donovan*, *Epit. Ins. Ind. pl. 4. f. * * **. *Rees' Encycl. vol. xxvi. sub genere "Paussus," pl. 8. fig. 12. & 12**, sine descriptione.

Habitat Indiâ Orientali; Bengal. *Dom. Fichtel*.

Long. corp. (secundum figuram *Donovani*) lin. $2\frac{1}{2}$.

In Mus. Kirby.

Parvus subcylindricus. *Pausso thoracico* maximè affinis. Differt præcipuè magnitudine minori, antennarum articuli apicalis formâ diversâ et excavatione pyriformi nec ovali; thorace sub-bipartito, elytrorumque marginibus lateralibus basi apiceque testaceis, pubescentibus.

Not having seen this species, I have been compelled to deduce the character detailed above from Donovan's short specific description and figure; and I doubt not that they will be considered sufficient to have warranted him in regarding this as specifically distinct from *P. thoracicus*, although Donovan was inclined to think they might ultimately prove to be the sexes of the same species. Of these characters, the most material are the variation in the form of the excavation of the last joint of the antennæ, and in the thorax; and as it appears from Afzelius's description of *P. sphaerocerus* that the sexes do not vary in the formation of these organs, I am induced with Donovan to regard them as distinct, rather than run the hazard of uniting what Nature has apparently separated*.

* Since the preceding observations were written, the Rev. William Kirby has, in the most obliging manner, brought up to London for my inspection his collection of *Paussidæ*, including two specimens which he purchased at the sale of Mr. Francillon's cabinet, one of them being the *P. thoracicus*, and the other a specimen which is decidedly the *P. Fichtelii*. From a minute comparison of these specimens, I now find that I did not err in considering the species as distinct. I have accordingly introduced into the plate several outline figures drawn from Mr. Kirby's specimen of *P. Fichtelii* in lieu of the tracing from Donovan's figure, which I had originally inserted. On comparing these with the original figures which I have given of *P. thoracicus*, other material specific differences will be perceived in addition to those stated above. The general shape of the antennæ and the number of elevations on the ridge of the excavation of those organs are different; the keel-like anterior margin of the clava is acute, and extends to the base in *P. thoracicus*; but in *P. Fichtelii* its anterior margin is obtuse and irregular. The front of the head is more emarginate in *P. thoracicus*, and is more distinctly quadrate behind the eyes than in *P. Fichtelii*; whilst the excavation on the crown of the head of the latter is oval and much deeper than in *P. thoracicus*, in which it is somewhat square behind. The difference in the formation of the thorax will at once be perceived; its posterior angles in *P. thoracicus* are dark piceous. The colouring of the clytra scarcely affords a specific character, neither of the species being so strongly marked as in Donovan's figures; but in *P. thoracicus* the lateral margins of those organs are furnished with strong bristles, whilst in *P. Fichtelii* they are simply pubescent.

Species

Species 8. PAUSSUS PILICORNIS. *Donovan.*

TAB. XXXIII. Fig. 34.

P. testaceus, elytris piceis, thorace bipartito; antennarum clavâ oblongâ, apice attenuatâ, incurvâ, pilis longis sparsis.

Paussus pilicornis. *Donovan, Epit. Ins. Ind. pl. Paussus, fig. ***.*

Paussus pectinicornis. *Rees' Encycl. Entomology, pl. 8. fig. 13. & 13*. sine descriptione.*

Habitat Indiâ Orientali; Bengal. *Dom. Fichtel.*

Long. corp. (e fig. *Donovani*) lin. 2.

Parvus, tenuior, testaceus. *Caput* thoracis portione anticâ angustius. *Antennæ* articulo ultimo oblongo, apice attenuato, incurvo, pilis longis sparsis. *Thorax* bipartitus, portio antica lateribus acuta, portioque postica multò angustior lateribus rotundatis. *Elytra* thorace basi latiora, etiam posticè quàm anticè paulò latiora, picea. *Pedes* graciles.

I have never seen this species, and have therefore been compelled to draw the above description from *Donovan's* short specific character and figure; and, as that author remarks, it altogether differs in the formation of the terminal joint of the antennæ from the other species, being entire, not excavated, and slightly beset with hairs. It appears to be allied to *P. Linnæi*.

Sectio II. *Thorax subcontinuus.*

Species 9. PAUSSUS SPHÆROCERUS. *Afzelius.*

TAB. XXXIII. Fig. 35.

P. rufo-castaneus, nitidissimus, angustior, subcylindricus; capite vertice cornu parvo conico, erecto, pilis terminato, instructo;

structo; anticè submarginato; antennarum clavâ sphæricâ, magnitudine capitis, vesicæ inflatæ simili, incarnatâ semi-pellucidâ sublividâ, carinâ minutâ, vertice tuberculo unico pilifero castaneo terminatâ, instructâ; etiam basi externè in hamulum conicum apice piloso, castaneum, producto. Palpis ut in speciebus reliquis, labio apice deflexo et ferè truncato, carinâ sulco destitutâ; thorace capitis latitudine, parùm inæquali, suprâ subdepresso, et vix bipartito, parte anticâ subelevatâ, lateribus rotundatis, posticè submarginatâ, parteque posticâ lateribus rectis, margine anteriori, signo medio quadrato, depresso, nigrescenti posteriorique parùm elevatâ; elytris abdomine brevioribus punctatis rufescentibus, pedibus longioribus gracilioribus subæqualibus.

P. sphærocerus. Afzelius, *Linn. Trans.* vol. iv. p. 270. t. 22. f. 1—6. *Weidem. Archiv.* 1—2. p. 297. 2. *Schonh. Syn. Ins.* 1. pt. 3. p. 18. *Sturm, Catalog. meiner Ins. Samml.* pl. 4. fig. 31. *Rees, Encycl.* vol. xxvi. genus *Pausus*, sp. 2. *Encycl. Lond.* vol. xix. genus *Paussus*, sp. 2. pl. fig. 4, 5, 6.

P. sphæroides. Donovan, *Ins. Ind.* sub genere *Pausso*.

Habitat Sierra Leone. *Dom.* Afzelius.

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

In Mus. Smith. olim (nunc Soc. Linn.), Marsham olim, et Afzelius olim.

I have not thought it necessary to detail the specific description of this species, preferring rather to refer the entomologist to the original description of Afzelius of the six specimens stated by that author to have been brought by him from Sierra Leone: I have been able to inspect only that formerly contained in the cabinet of Sir J. E. Smith, and now belonging to the Linnean Society. To this insect is attached a label with the observations, “Novum genus S. Leone, Afzelius. Antennis apice

apice globoso lucentibus." From this specimen the accompanying sketch was taken. I may be here allowed to correct the reference to the parts of fig. 3. in the plate accompanying Afzelius's paper, in which *b.* represents the ball of the pedicle of the antennæ, and not the hook of the clava, which is represented by fig. *d.*, and not, as stated in the description of the plate, by fig. *b.*

Species 10. PAUSSUS ARMATUS. *Dejean.*

TAB. XXXIII. Fig. 62—64.

P. oblongus, angustior, obscure rufescenti-fuscus, capitis vertice spinâ erectâ acutâ lævi; antennarum clavâ subrotundatâ depressâ, basi externè in spinam producto, thorace posticè paulò angustiori et in medio valdè excavato.

Paussus armatus. Dejean Mss.

Habitat in Senegaliâ.

In Mus. Dejean (e Mus. D. Latreille), Dupont.

Long. corp. lin. 5.

Nova species. Oblongus, angustus, subdepressus, toto obscure rufescenti-fuscus, punctatissimus, subpubescens, vix nitidus. *Caput* magnum thoracis latitudine ferè hexangulare, anticè emarginatum, subdepressum, ante oculos paulò plus productum quàm in speciebus reliquis; vertice inter oculos spinâ erectâ acutâ parvâ lævi, lineâque tenui impressâ ante oculos e margine capitis ferè ad ejus verticem utrinque obliquè, ducta. *Oculi* magni. *Antennarum clava* thorace major, basi subemarginatè truncata, latè ovalis, margine externo prope basin emarginatè contracta, indè basis ipse externus in spinam acutam produci videtur; disco suprâ subtùsque convexo, margine omni acuto setigero. *Thorax* paulò longior quàm latior, parte anticâ (tertiam thoracis partem occupante) utrinque obliquè rectèque dilatâtâ indè posticè

posticè paulò latiori et elevatori planâ, in duabus partibus lineâ impressâ longitudinali centralique divisâ; parte posticâ angustiori (præsertim ad ejus basin) in medio excavatione oblonga. *Elytra* thorace latiora, lineari-oblonga, subdepressa, abdominis apicem non tegentia. *Pedes* mediocres femoribus tibiisque subcylindricis hirsutis, tarsis tibiatarum crassitudine hirtis.

This is a very remarkable species: the elongation of the body, the structure of the antennæ, thorax, tarsi, and spinous head at once distinguish it from all the other species, and are so remarkable, that I have no doubt, when the trophi are carefully examined, sufficient variation from the typical formation will be discovered to warrant the establishment of it as a distinct genus. I regret that I was unable to examine these organs in the specimen preserved in the collection of M. le Comte Dejean, from which the above description and accompanying drawing were made, and which originally formed part of that of M. Latreille. It is therefore only provisionally that I place it amongst the *Paussi* near to *P. sphaerocerus*, to which in some respects it most nearly approaches.

Species 11. *PAUSSUS AFFINIS mihi*.

TAB. XXXIII. Fig. 36, 37.

P. castaneo-rufescens, elytrorum disco nigro, thorace suprâ inæquali lateribus anticè rotundatis; antennarum clavâ subovatâ, subconvexâ, basi externè in spinam exeunte.

Habitat ——?

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

In Mus. Brit. (sub nomine Ms. "*lineatus*").

Nova species. Subcylindricus, nitidus; tenuissimè punctatissimus, et subpubescens. *Caput* thoracis latitudine, porrectum,

tum, subtriangulare, suprâ subconvexum, castaneo-rufum, posticè in collo angustiori productum, margine antico paulò emarginato. *Oculi* magni laterales. *Palpi* ut in congeneribus rufo-castanei. *Antennæ* rufo-castaneæ, articulo Imo brevi cylindrico, apice obliquo, ultimo magno subovato, subdepresso, basi truncato et externè in spinam obtusam producto, latere externo marginato. *Thorax* rufo-castaneus subcylindricus, anticè suprâ paulò elevatus subdepressus, lateribus rotundatis et posticè parte anticâ angustior. *Elytra* subdepressa ex oblongo-quadrata, thorace ferè duplò latiora et abdominis longitudine tenuissimè pubescentia et punctatissima rufo-castanea, singuli disco nigro. *Pedes* rufo-castanei, longi, tenues, tibiis subcylindricis.

It will be seen that this species (which now stands in the cabinet of the British Museum under the name of *P. lineatus*,) agrees in the majority of its characters with the description given by Thunberg of that species. The variation in the formation of the clava of the antennæ and the rounded anterior margins of the thorax are, however, characters sufficient to distinguish it as a species. I have seen but one specimen, and I regret that I have not been able to obtain any information respecting its habitat, &c.

Species 12. PAUSSUS LINEATUS. *Thunberg*.

TAB. XXXIII. Fig. 38.

P. rufescens, elytrorum disco nigro, thorace inæquali lateribus anticè unispinosis, antennarum clavâ magnâ, apice obtusâ, basi externè in spinam exeunte.

Paussus lineatus. *Thunb. Act. Holm.* 1781. p. 171. pl. 3. fig. 4.
& 5. *Fabr. Syst. Eleuth.* 2. 75. 2. *Herbst, Syst. Ins. Col.*

vol. iv. p. 102. t. 39. fig. 7 a. b. Afzelius, Linn. Trans. iv. 272. Schönh. Syn. Ins. v. 1. p. 3. pl. 19. Rees' Encycl. vol. xxvi. Genus Pausus, no. 4. Encycl. Londinensis, vol. xix. Genus Pausus, no. 4.

Cerocoma lineata. Fabr. Ent. Syst. 1. 2. 82.

Habitat ad Caput Bonæ Spei. Dom. Thunberg.

In Mus. ——?

“Magnitudo Carabi 4-pustulati.” Thunb. Long. corp. (e fig. Thunbergii) nunc $3\frac{1}{4}$.

Corpus oblongo-depressum, rufescens, glabrum. *Caput* sub-orbiculato-angulatum, punctis depressis, inæqualè marginatum, oculis nigris, collo cylindrico a thorace separatum. *Antennæ* biarticulatæ, articulus infimus sessilis subulatus, supremus duplò crassior (et e figurâ duplò longior), compressus, obtusus, basi truncatus, angulo exteriori in spinam exeunte. *Thorax* inæqualis, lateribus utrinque unispinis, anticè elevatus; posticè rotundatus, foveis in medio tribus impressus. *Pedes* unguiculati.

I have been under the necessity of deriving the preceding characters from Thunberg's original description and figure, not having met with this species in any of the cabinets which I have examined; the insect thus named in the cabinet of the British Museum (although it agrees with it in the majority of the characters given above,) materially differing in the shortness and thickness of the club of the antennæ, and in the thorax, which has the anterior sides rounded and not spinose, with one and not three central foveæ. I am not convinced that this species ought not to be inserted in the first section of the genus; although I have, from its *apparent* general resemblance with the preceding and subsequent species, introduced it here.

Species

Species 13. PAUSSUS HARDWICKII *mihî*.

TAB. XXXIII. Fig. 39, 40.

P. castaneo-rufus, elytris plagâ longitudinali nigrâ, antennarum clavâ elongatâ lineari subconvexâ ; basi externè in hamum producto, apiceque rotundato.

Habitat Nepaliâ, Ind. Orient. *Dom.* Hardwicke.

In Mus. Hardwicke, Haworth.

Long. corp. lin. $3\frac{7}{8}$.

Nova species. Castaneo-rufus, subdepressus, nitidus, tenuissimè punctatus, subpubescens. *Caput* porrectum, subtrigonum, thoracis latitudine, anticè subemarginatum, utrinque inter oculos longitudinaliter obsolete canaliculatum, etiam impressione tenui, e clypeo ad verticem ductâ, posticè collo instructum. *Oculi* magni laterales. *Palpi* ut in congenerebus. *Antennæ* capite cum thorace paulò longiores, articulo basali nitido subcylindrico, apicali opaco punctatissimo elongato-lineari, utrinque tenuè marginato, posticè vel externè subconvexo, margine antico magis depresso acuto recto ; postico subrecto, antico subparallelo, tuberculis nonnullis rotundis minutis marginalibus, apice rotundato, basi obliquè truncato et in hamum subarcuatum obtusum, sub apicem setigerum, producto. *Thorax* capite paulò longior, posticè angustior ; anticè subconvexus elevatus, lateribus rotundatis, lineâ tenuissimâ elevatâ longitudinali in medio, portio postica in medio in fossulam transversam excavata, ponè-versus convexa, lateribus posticis paulò divergentibus. *Scutellum* minutissimum. *Elytra* abdomine paulò breviora, thoraceque multò latiora et illo triplò longiora, posticè paulò latiora, basi utrinque transversè depressa, disco subdepresso, lateribus magis convexis, marginibus deflexis, castaneo-rufa, singuli disco plagâ latâ longitudinali nigrâ,

nitida punctissima subpubescentia. *Abdomen* segmento anali rotundato, marginato. *Pedes* longiores, tenuiores, subcompressi. *Subtus* testaceo-rufus.

Three individuals of this species were brought from Nepaul by Major-General Hardwicke, with whose name I have inscribed it. All the specimens agree with each other in the formation of the antennæ and other essential organs; and I have therefore considered it as distinct from *P. affinis*, (to which in its general characters it is nearly allied, and of which or of *P. lineatus* it has been suggested that it may be one of the sexes,) for the reasons which induced me to regard the *P. thoracicus* and *Fichtelii* as distinct. From the *P. lineatus* it is distinguishable not only in the formation of its antennæ and thorax, but also from its geographical situation.

The Rev. F. W. Hope, in his "Synopsis of the new Species of Nepaul Insects in the Collection of Major-General Hardwicke," inserted in "Gray's Zoological Miscellany," has adopted my specific name for this insect (p. 27).

Species 14. PAUSSUS RUFICOLLIS. *Fabr.*

P. niger, thorace lævi ferrugineo, elytris strigâ mediâ, margineque omni a strigâ ad apicem ferrugineis antennis magnis, clavatis, irregularibus, ferrugineis, clavâ elongatâ integrâ.

Cerocoma ruficollis. *Fabr. Ent. Syst.* 3. 1. part. 2. p. 83.

Paussus ruficollis. *Afzelius, Linn. Trans.* vol. iv. p. 273. *Fabr. Syst. Eleuth.* 2. 75. *Schönh. Syn. Ins.* 1. part. 3. *Rees' Encycl.* vol. xxvi. Genus *Pausus*, sp. 5. *Encycl. Lond.* vol. xix. Genus *Pausus*, no. 5.

Habitat ——?

"In Mus. Dom. Lund," *Fabr.*

Magn.?

Parvus,

Parvus, statura *P. microcephali* et *lineati*, niger. *Caput* magnum. *Antennæ* magnæ, clavatæ, irregulares, ferruginæ, biarticulatæ, clavâ elongatâ integrâ. *Thorax* lævis, ferrugineus, immaculatus. *Elytra* strigâ mediâ, margineque omni a strigâ ad apicem ferrugineis. *Pedes* nigri.

I have been compelled, in consequence of not having met with any specimen of the genus agreeing with the description given of this species by Fabricius in the *Entomologia Systematica*, (to which no additional description is given in the *Systema Eleutheratorum*,) to draw the above characters from the Fabrician specific description: I consequently place it in this section with doubt.

In addition to the preceding species, Latreille in the *Nouveau Dictionnaire d'Hist. Nat.* vol. xxv. p. 58. states, that "M. Gatoire en a trouvé une espèce à l'Île de France." The species is not, however, mentioned, but from its geographical habitat it would appear to be a distinct species: indeed, in his new work, *Cours d'Entomologie*, vol. i. p. 298, Latreille mentions this as "une espèce inédite."

Genus 3. HYLOTORUS. *Dalman, Latr.*

PAUSSUS. *Gyll., Schönh.*

Type of the Genus, *Pausus Bucephalus*, *Gyll., Schönh.*

Corpus subdepressum, breve, obtusum, capite lato, in thoracem posticè immerso; elytris vix thoracè lätioribus, apice truncatis. *Caput* magnum, convexum, rotundatum, thoracis latitudine et in illo posticè ferè ad oculos immersum; collo nullo, foveâ magnâ, ovata, impressione profundâ inter oculos et antennarum basin, pro receptione clavæ antennarum; ocellis vel tuberculis duobus, verticalibus, mamillatis.

latis. *Oculi* parvi depressi oblongi. *Trophi* nondum descripti. *Antennæ* capite vix longiores, articulo 1mo brevi, lato, in medio emarginato, 2do? parvo subgloboso, emarginaturæ prioris inserto; ultimo magno (magnitudine capitis dimidio,) ovato-lanceolato, compresso, subtùs vel posteriùs convexo, suprà vel anteriùs concavo, apice acuto antrorsùm flexo. *Thorax* brevis, transversus, anticè multò latior, capiti æqualis et illud ambiens, basi apiceque truncatus, suprà inæqualis, præsertim pone medium. *Scutellum* mediocre, triangulare. *Elytra* thoracis antico vix latiora, oblongo-quadrata, basi ipsâ transversim impressa, lateribus inflexo-sinuata, apice truncata, anum occultantia, suprà convexa. *Alæ* amplæ. *Abdomen* breve, retusum. *Pedes* breves, validi, fémoribus tibiisque valdè compressis, dilatatis, tarsis brevibus, cylindricis, ut videtur 4-articulatis, primis tribus brevissimis, coarctatis, pilosis; 4to longiore, nudo, unguibus duobus parvis arcuatis armato.

The detailed specific description of *Paussus Bucephalus* given by Gyllenhal in the Appendix to Schönherri's *Synonymia Insectorum*, and the accompanying figure, together with the observations upon the species by Dalman in the *Analecta Entomologica*, and those by Latreille in the new edition of the *Règne Animal*, vol. v. p. 93. have enabled me to draw the preceding characters of this otherwise undescribed genus. Dalman observes, "Hanc speciem a reliquis *Pausis* nimis distare et vix ejusdem esse generis, facile sibi persuasius habebit, qui, in Schœnherri Syn. iii. App. tab. 6. figuras hujus et *Pausi denticornis*" (*Platyrhopalus unicolor* mihi) "comparare voluerit. Etenim in illo et ceteris veris *Pausis*, caput thorace multò est minus, oculi verò magni, et prominentes; cum in *Pauso Bucephalo*, caput thoracis latitudine, oculi minuti, et os etiam alis modo

modo conformatum videatur, alias minoris momenti discrepantias, ut prætermittam. Accedunt characteribus suprâ recusitis, ocelli, in paragrapho præcedenti laudati; undè satis ratio apparet quare hoc insectum proprii sit habendum generis, quod *Hylotorus* nobis nominatur; intermedium fortè inter *Pausos genuinos* et *Platypodes*:" And the following is the paragraph referred to in the preceding extract; "De ocellis Coleopterorum:—ocellos quosdam me observasse in *Pauso Bucephalo*, eosque satis accuratè depinxisse in Appendice ad Schœnherri *Syn. Ins.* i. tab. 6, 2, c etsi cl. Gyllenhal speciem describens non ocellos sed tubercula verticalia mamillata dixerit."

Bearing in mind the observations upon the affinities of the family given above, I cannot consider the remark made by Dalman upon the situation of the genus as founded upon actual affinity. It is indeed to be regretted, that Gyllenhal has omitted to give any account of the structure of the trophi, which might have afforded some additional information upon the subject; and the magnified figure given by Schonherr of the head is very obscure in regard to the structure of these organs.

In addition to the distinguishing characters mentioned by Dalman may also be noticed the immersion of the head nearly to the eyes in the anterior cavity of the thorax, without the intervention of any neck,—a character not found in the two preceding or two subsequent genera, and sufficient of itself to show that the genus, if here placed, unnaturally separates *Paussus* and *Platyrhopalus*. To both these genera, however, and especially to the latter, it is evidently allied, from the sub-bipartite formation of the thorax, which is evidently traceable in the deeply impressed transverse striga.

Species 1. HYLOTORUS BUCEPHALUS. *Gyll., Schönh.*

TAB. XXXIII. Fig. 41, 42.

H. totus pallidè testaceus, glaber, oculis nigris, thorace posticè transversè sulcato.

Pausus Bucephalus. *Gyllenhal in Schönh. Syn. Ins. vol. i. p. 3.*

App. p. 15. tab. 6. f. 2. & f. 2 c. caput magn. auct.

Hylоторus Bucephalus. *Dalman, Analect. Ent. p. 103. Latreille,*

Règne Animal, 2nde edit. vol. v. p. 93.

Habitat Sierrâ Leone, Africâ. Dom. Afzelius.

In Mus. Schönherr.

Long. corp. (e figura Schœnherr) lin. $2\frac{1}{3}$.

Magnitudine *Anobii mollis* æqualis, et colore similis, pallidè testaceus, glaber, nitidus. *Caput* fronte lineâ impressâ, posticè bifidâ, ramulis in tuberculis duobus vel ocellis desinentibus. *Oculi* nigri. *Antennæ* corpore concolores, articulis ut suprâ dictum. *Thorax* suprâ inæqualis, paulò pone medium strigâ angulatâ, valdè profundâ, et anticè posticèque aliis obsoletissimis, transversim impressus. *Scutellum* concolor. *Elytra* testacea, nitida, lævia. *Alæ* fusco-hyalinæ. *Corpus* subtùs testaceum, punctulatum. *Pedes* pallidè testacei.

The specific characters given above are derived from Gyllenhal's description. I have not seen the species, which is the only one with which I am acquainted belonging to the genus.

Genus 4. PLATYRHOPALUS* *mih*.

PAUSSUS. *Donovan, Gyll., Schönh., Dalm.*

Type of the Genus, *Paussus denticornis*, Don.

Corpus depressum. *Caput* thorace minus, porrectum, subquadratum, posticè in collum breve angustatum. *Oculi* magni,

* Πλατὺς, *latus*; and ῥοπαλὸν, *clava*; in allusion to the broad flat terminal point of the antennæ.

prominuli,

prominuli, laterales. *Labrum* breve, subtriangulare, anticè rotundatum. *Mandibulæ* corneæ, tenuissimæ, valdè arcuatæ, apice in dentem acutissimum terminato, internè uni- vel bi-dentatæ. *Maxillæ* parvæ, lobo basali crustaceo, processu terminali vel interno plano, acuto, corneo, valdè compresso, mandibuliformi, latere interno uni- vel bi-dentato. *Palpi maxillares* ut in *Paussis*. *Mentum* breve, transversum, crustaceum, angulis anticis in spinam longam productis, etiam in medio, anticè, paulò, subrotundè producto. *Palpi labiales* eâdem longitudine ut in *Paussis*, in lobos vel scapos duos, articuliformes, crassiores, internè connexos, insidentes, et inter *mentum labiumque* inserti, 3-articulati, porrecti, articulis longitudine subæqualibus, articulo 1mo crassiori, 3tio tenuiori, apice acuto. *Labium* subquadratum, externè planum, anticè integrum, angulis anticis rotundatis. *Antennæ* magnæ, articulis quasi duobus, priori minori, compresso, apice obliquè emarginato, angulo interiori suprâ producto, ferè conico; tunc articulus? parvus, subglobosus, emarginaturæ prioris immersus; cui insidet articulus ultimus, maximus, planus, valdè depressus, et in priorem subtransversè impositus, margine omni compresso, acuto, basi truncatus, et externè incisus, vel dentatus, etiam juxta basin supernè transversim impressus, (articulorum divisionem referens,) nec basi uncinatus. *Thorax* planus, brevis, transversus, latior, lateribus anticis rotundatis. *Elytra* thorace multò latiora, posticè subtruncata, oblongo-quadrata, depressa. *Pedes* breviusculi, crassi, tibiis dilatatis; posticis externè in spinam parvam productis. *Tarsi* breves, articulis 4, (si articulus alius basalis ut in *Pausso* minutissimus est et vix discernendus,) articulis tribus basalibus, compressis, intùs pilosis; articulo ultimo longiori,

longiori, lævi, tenuori, cylindrico, unguibus duobus. *Abdomen* elytris paulò longius.

I have considered myself warranted in regarding the characters of the *Paussus denticornis* of Donovan and its affinities as indicative of a genus distinct from that of the true *Paussi*, not only in consequence of their dissimilar general external appearance or habit, but also of the variation exhibited in the lower parts of the mouth.

The typical species appears to have been inserted in the genus *Paussus* by Donovan with a feeling of suspicion, since he states that, according to Afzelius's characters, it should not come into that genus, the number of joints in the tarsi being only, as he incorrectly states, 3 : whereas, in the other species, the tarsi are 5-jointed, although, if not closely inspected, they appear 4-jointed. The essential generic characters of the insect were however omitted in Donovan's short specific description.

Gyllenhal, in the *Synonymia Insectorum* of Schönherr, vol. i. part 3 ; App. p. 14. tab. 6. fig. 1. (by a singular coincidence, evidently arising from similarity of structure,) described and figured a distinct species nearly allied to Donovan's *P. denticornis*, under the same name. He, however, regarded it as a true *Paussus*, and thus shortly described its trophi : "Os inflexum brunneum, palpis crassis, pilosis, conicis vel extrorsum attenuatis," evidently without noticing the peculiar structure of the latter organs.

Dalman also in his observations upon the *Paussus Bucephalus* mentioned above, regarded the *P. denticornis* of Gyllenhal as a true *Paussus*, " Etenim in illo et in ceteris veris *Pausis*, &c."

From the true *Paussi*, however, these insects appear sufficiently generically distinct ; since the flat, depressed body and thorax ;
the

the regular shape of the latter, scarcely exhibiting any appearance of the bipartite structure observable in *Paussus*; the extreme flatness and breadth of the antennæ; the broad legs; the very hairy basal joints of the tarsi; and, above all, the formation of the lower lip (*labium*) and its equal-jointed palpi, and the scapes upon which they are inserted,—cannot be regarded otherwise than as intimating a group generically distinct from the true *Paussi*.

It may also be noticed, that the transverse impression near the base of the clava of the antennæ appears to exhibit a tendency to an articulate structure, which is confirmed by the denticulations of its outer margin. This circumstance is particularly noticeable in *P. aplustrifer*, in which there are two of these impressions with their corresponding contractions or denticulations.

The situation of the genus in the family appears to be between the species composing my second section of *Paussus*, and *Cera-pterus*. In their biarticulate antennæ and the formation of their maxillary palpi they approach the former; and in the general habit of their bodies, as well as in the formation of the basal joints of their tarsi, and in the tendency to articulation exhibited in the clava of their antennæ, they approximate to *Cera-pterus*.

Species 1. PLATYRHOPALUS DENTICORNIS. *Don.*

TAB. XXXIII. Fig. 43—48.

P. brunneo-rufescens, elytris dorso fuscis, suturâ, latè ad basin, maculâque utrinque posticè, rufescentibus; antennarum clavâ magnâ, latere omni acuto, juxta basin externè incisâ; thorace anticè utrinque rotundato-dilatato.

Paussus denticornis. *Donov. Epit. Ins. Ind. Paussus, no. 1. tab. 5. fig. 1. Rees' Encycl., Entomology, pl. 8. fig. 10. & 10*. sine descriptione.*

Habitat in Indiâ Orientali. (Bengal. *Dom. Fichtel.*)

In Mus. Brit.—Mus. Soc. Linn., Haworth, Vigors, Clark, Dejean, et Kirby.

Long. corp. lin. $3\frac{7}{8}$ ad lin. 5.

Brunneo-rufescens, suprâ subdepressus, tenuiter pubescens, nitidus. *Caput* porrectum, subquadratum, transversum, anticè emarginatum, et paulò deflexum; longitudinaliter tenuè canaliculatum, posticè in collum breve contractum. *Oculi* magni, laterales, prominuli, glauci. *Palpi* rufescentes, porrecti. *Antennæ* brunneo-rufescentes, pilosæ, articulo 1mo difformi, lato; apicali maximo, thorace majori, ferè ovato, basi tamen subemarginatè truncato, suprâ in disco parùm convexo, subtùs magis gibboso, margine omni compresso acuto, supernè juxta basin (et cum eo parallelo) impressione transversâ, quæ, margine superiori vel externo in incisionem profundam at angustiolem, desinit, angulo basali vel postico (dentem formante) externè subrotundato, incisione internè ferè rectâ, indè dentis apex subobtusus apparet. *Thorax* brevis, transversus, basi apiceque truncatus, anticè multò latior et elevatior, lateribus rotundato-dilatatis, juxta vel paulò ante basin, subemarginatis, ibique depressus et utrinque foveâ transversâ brevi parvâ; totus brunneo-rufescens, obsoletè et parcè punctatus, pubescens. *Elytra* thoracis antico latiora, et illo quadruplò longiora, oblongo-quadrata, subdepressa, basi transversè impressa, abdomine breviora, fusco-rufescentia, disco nigro, suturæ dimidio basali latè, maculâque posticâ rotundâ utrinque rufescentibus, subnitida, obsoletissimè punctata. *Abdomen* elytris paulò longius, segmento anali rotundato. *Pedes* breviusculi, dilatati, tibiis latis, valdè compressis, apice exteriorè subspinosus.

This

This species (which is easily characterizable from the maculation of its elytra) varies upwards of a line in length: the smallest individual which I have seen is contained in the cabinet of the Linnean Society, and is somewhat darker-coloured than the larger specimens.

In consequence of the priority in the nomenclature of this species employed by Donovan, I have considered it proper to retain his specific name for it.

The dissections of the genus represented in the plate were made from a duplicate specimen of this species contained in the cabinet of the Linnean Society, in which the various parts figured are deposited.

The peculiar form of the external incision of the base of the antennæ is carefully represented in the plate.

Species 2. PLATYRHOPALUS UNICOLOR *mihi*.

TAB. XXXIII. Fig. 49.

P. totus brunneo-castaneus, antennarum clavâ magnâ ovatâ compressâ juxta basin externè incisâ, thorace anticè utrinque rotundato-dilatato.

Pausus denticornis. *Megerle, Illig. Mag. 3. p. 113. not. (absque descript.) Gyllenhal in Schönh. Syn. Ins. tab. 1. p. 3. App. p. 14. tab. 6. fig. 1. Schönh. id. p. 19. no. 5. Dalman, Anal. Ent. p. 103. sub Hylotero Bucephalo.*

Habitat in Indiâ Orient. Dom. Prof. Schumacher.

Long. corp. (sec. fig. Schönherr) lin. $4\frac{1}{3}$. Magn. nat. *Clero formicario* latior sed in elytris brevior.

In Mus. Schönherr, Gyllenhal, et Dejean.

Totus brunneo-castaneus, suprâ subdepressus, tenuè pubescens, nitidus, obsoletè punctatus, *P. denticorni* Don. structurâ valdè affinis. *Caput* subquadratum, brunneum, nitidum, suprâ

suprà subdepressum, obsoletè canaliculatum, et, e figurâ Schönherri, vix anticè emarginatum. *Oculi* glauci. *Antennæ* articulo apicali maximo, ferè plano, vel multùm compresso, ovali, in margine superiori vel externo profundè incisus. *Thorax* brevis, transversus, anticè multò latior, lateribus rotundato-dilatatis, pone medium citò coarctatus, anteriùs convexus, posteriùs depressus, et strigâ mediâ transversâ, abbreviatâ, impressus. *Elytra* humeris antorsùm prominentibus, castanea, subnitida. *Corpus* subtùs brunneo-castaneum, nitidum. *Pedes* breviusculi, pallidiùs castanei, valdè compressi, tibiis dilatatis.

The chief differences observable between this species (the material characters of which, in consequence of not having met with a specimen, I have abridged from Gyllenhal's detailed specific description,) and Donovan's *P. denticornis* are, the uniformity of colour in the former, the apparently rounded front of its head, the sudden coarctation of the base of its thorax, and its "striga media transversa, abbreviata."

In consequence of the priority of Donovan's specific name *denticornis*, applied to the preceding species, I have considered it expedient to give this a name referring to the uniformity of its colour.

Amongst the insects brought from Nepaul by Major-General Hardwicke, is a mutilated specimen of an insect intimately allied to the two preceding species, but apparently distinct from either of them. As the elytra, legs, and abdomen of the specimen are wanting, I am unable satisfactorily to ascertain its specific identity. The head and thorax, however, are smaller and darker-coloured than in *P. denticornis* Don.; the thorax is proportionably rather longer; the eyes are black; the head is rounded and subdepressed in front and not emarginate; the
internal

internal margin of the clava of the antennæ exhibits a stronger contraction at the base than in that species, and the incision on its outer edge is much wider, and the basal tooth very acute. (TAB. nostr. Fig. 50.) If ultimately found distinct, the species may receive the name of *acutidens*.

I provisionally place in this genus the two following insects, not having had an opportunity of minutely examining their trophi: their general flattened appearance and the apparent indication of a rudimental notch at the base of the clava of their antennæ approach the true *Platyrhopali*; whilst in some respects they agree with some of the *Paussi*, such as *P. affinis*, &c. I obtained a knowledge of them, as well as of the *Paussus excavatus* and *P. armatus*, during my visit to Paris in September 1830, subsequent to the reading of the commencement of this paper.

Species 3. PLATYRHOPALUS? LÆVIFRONS. *Dejean*.

TAB. XXXIII. Fig. 65—67.

P. latus subdepressus toto obscure rufo-castaneus, antennarum clavâ ferè ovatâ depressâ basi truncatâ, externè in unguem parvum producto, margineque externo quadri-subdentato, thorace utrinque anticè rotundato-dilatato.

Paussus lævifrons. *Dejean, Mss.*

Habitat in Africâ occidentali, Senegaliâ. *Dom. Dumolin.*

In Mus. *Dejean*, et *Dupont*.

Long. corp. lin. 5.

Species nova magnaue. Latus, subdepressus, punctatus, obscure rufo-castaneus, subhirsutus, lævis, nitidus. *Caput* porrectum, subquadratum, vertice convexo, lævi, anticè rotundatum, posticè in collum breve productum. *Oculi* mediocres. *Antennarum clava* magna ferè ovata depressa sc. suprâ disco parùm convexo, subtùs etiam parùm convexo
sed

sed in medio disci subacutiùs producta, basi subemarginatè truncata, angulo postico basali in dentem parvum producto latereque postico impressionibus 4 brevibus transversis, quæ in dentibus minutissimis in marginem desinunt, margineque omni subacuto. *Thorax* ferè quadratus, subdepressus, bipartitus, portio antica e posticâ lineâ impressâ separata, elevatior et latior, lateribus rotundato-dilatatis, portio postica in medio elevationi transversâ, lateribus rectis, at in medio utrinque paululùm subacutè productis. *Elytra* thoracis antico latiora, oblongo-quadrata, subdepressa, abdomine paulò breviora, lævia, nitida, evidenter punctata. *Pedes* breves femoribus tibiisque dilatato-compressis.

This fine species is unique in the magnificent collection of M. le Comte Dejean, who informs me that he now possesses between 20,000 and 21,000 species of *Coleoptera*. It is therefore with the greatest pleasure that I take the present opportunity of acknowledging my thanks to that distinguished entomologist for the kindness with which he allowed me to make use not only of this, but of various other valuable portions of his collections.

Species 4. PLATYRHOPALUS? DENTIFRONS. *Dejean*.

TAB. XXXIII. Fig. 68—70.

P. subcylindricus, ferrugineo-testaceus, antennarum clavâ, brevi, latâ, basi truncatâ et in spinam obtusam externè productâ, apiceque rotundato; vertice spinâ erectâ setigerâ; thorace lateribus anticis rotundatis et dilatatis.

Paussus dentifrons. *Dejean, Mss.*

Habitat in Senegaliâ. *Dom. Dumolin.*

In Mus. *Dejean*, et *Dupont*.

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

Nova

Nova species. Subcylindricus, toto ferrugineo testaceus, punctatissimus, nitidus, subpubescens. *Caput* latum, thorace paulò minus, suprâ convexum, spinâ erectâ verticali, acutâ, setigerâ; margine antico vix emarginato; post oculos in col- lum contractum. *Oculi* magni laterales. *Antennæ* articulo basali crasso, dilatato, clavâque brevi latâ thorace paulò majori, subovatâ, basi latiori, truncatâ et externè in spinam productâ, suprâ parùm convexâ irregulari, eminentiis dua- bus (sc. basi et post medium,) subtùs multò convexiori præsertim in regionem basalem, margine omni acuto. *Tho- rax* capite paulò latior, subconvexus et quasi bipartitus, portio antica major elevatior, latior, lateribus rotundatis et e portione posticâ impressione transversâ tenui (at in medio profundiori, anticè posticèque paulò productâ) separata, portio postica brevis depressa, lateribus ferè rectis vel pos- ticè paululùm obliquè protensis. *Elytra* thorace latiora, subcylindrica, abdominis apicem non tegentia, oblongo- quadrata, nitida, evidenter punctatissima. *Pedes* breves, femoribus tibiisque compressis.

I am indebted to M. le Comte Dejean for permission to describe and figure this species from his cabinet. It is with considerable doubt that I place it in the genus *Platyrhopalus*, (although the structure of the thorax and the flatness of the antennæ approach the typical species of that genus,) the cornuted head appearing to give it an affinity with the *Paussi*, such as *P. sphaerocerus*, &c.: but from a note made in Paris, I have a slight idea that the labial palpi have the joints of equal length.

Species 5. PLATYRHOPALUS? APLUSTRIFER *mihî*.

TAB. XXXIII. Fig. 51.

P. depressus, totus rufo-fulvus, antennarum clavâ latâ, planâ, externè spinis duabus acutis, thorace brevi plano, marginibus anticis rotundatis, posticis dilatato-acutis, lobo transverso basali.

Habitat — ?

In Mus. Brit. (sub nomine Mss. "*Paussus tridenticornis*").

Long. corp. lin. $3\frac{2}{3}$.

Species nova insignisque. Depressus, lævis, testaceo-fulvus, subpubescens. *Caput* subtriangulare, anticè vix emarginatum, convexum, basi in collum citò contractum. *Oculi* laterales, mediocres, prominuli. *Mandibulæ* tenues, arcuatæ, acutæ. *Palpi labiales* breviores, triarticulati? articulis subæqualibus? *Antennæ* pubescentes, articulo basali subcompresso, angulo superiori producto; apicali magno, valdè compresso, subovato, in articulum priorem subtransversè inserto, margine interno paulò rotundato-dilatato, apice rotundo, margineque externo ad basin impressionibus vel excisionibus duabus minutis subcontracto, (ad articulorum duorum basaliū divisiones referentibus,) etiam ad medium marginis postici, spinis vel dentibus duobus longis acutissimis, basi latioribus, validis, instructo; inter quos spatium valdè emarginatum. *Thorax* planus, capite latior, brevis, lateribus dilatatis, marginibus anticis rotundatis posticisque acutè productis et quasi truncatis, angulis paulò elevatis, foveâ utrinque basi minimè profundâ, lobo basali transverso brevi e thoracis basi, foveâ transversâ tenuissimâ, separato (ut in genere *Lebiâ*). *Elytra* subdepressa, oblongo-quadrata, basi thorace paulò latiora et illo ferè quadruplò longiora lævia, basi transversim impressa, capite

capite thoraceque colore fulviori. *Pedes* longiores, subtenués, tibiis apice compressis, et utrinque spinâ minutâ armatis. *Tarsi* ut videtur 4-articulati.

This remarkable species exhibits in its antennæ and thorax a structure totally unlike that of any other individual in the family. At the base of the terminal joint of the former organs we perceive two transverse depressions with small corresponding contractions on its outer edge, evidently indicative of two basal rudimental joints. The singular acute horns which arm the clava of the antennæ, as well as the rounded anterior margins and acutely dilated posterior angles of the thorax with its short transverse basal lobe,—similar to that found in the genus *Lebia*,—will not fail to attract the attention. I regret that the only specimen with which I am acquainted, and which is contained in the cabinet of the British Museum, has unfortunately been pierced through the centre of the head, so that I cannot state so accurately as I could have wished the formation of the trophi; one of the mandibles, however, which is visible, is slender, acute, and bent at the tip. The maxillary palpi appear to resemble those of this genus, and the labial palpi seem (at least as well as I could examine them,) shorter than in the typical species, and composed of three subequal joints. In this uncertainty, therefore, I place the species in the present genus with doubt, although from its general appearance, depressed form, and the flatness and size of its antennæ and thorax, it seems to be referable to this rather than to the genus *Paussus*. The specimen stands in the British Museum cabinet under the manuscript name of "*Paussus tridenticornis*," a name so inappropriate, that I have not hesitated to alter it to that employed above, in allusion to the resemblance which the antennæ bear to a small military double-tongued banneret. From the manner in which

the antennæ are situated upon the head, it appears to me that when alive the insect carries them with the spines pointing upwards, so that, probably, their flat inner surfaces may be applied to each other. I regret not having been able to obtain any information respecting its habitat.

Genus 5. CERAPTERUS. *Swed., Don., Latr., &c.*

Corpus depressum, capite minori, thorace majori, abdomine latiori. *Caput* thorace angustius, depressum, subtriangulare, posticè collo brevi, cylindrico, instructum. *Oculi* mediocres, globosi, laterales, valdè prominuli. *Antennæ* capitis fronte insertæ, pubescentes, perfoliatæ, 10-articulatæ, capite cum thorace paulò longiores, articulo 1mo compresso, apice concavo clypeato, transverso; articulis reliquis depressis, latis, articuli 2—9 equalibus depressis, brevibus, latissimis, parallelis, et transversaliter impositis, ultimo in eodem cum reliquis plano, ferè quartam partem antennæ constituyente, apice rotundato. *Labrum, mandibulæ, maxillæque* minutæ. *Palpi* elongati, inæquales; *maxillares* (*maxilla*, Swed. fig. 4. *a, b.*) longi, cornei, 4?-articulati, articulo penultimo apice crassiori, ultimo tenui acuto; *labiales* crassiores, articulo ultimo longiori, latiori, depresso, truncato. *Thorax* planus, immarginatus, lateribus dilatatis. *Scutellum* mediocre, triangulare. *Elytra* lata, planiuscula, elongato-quadrata, marginibus lateralibus, inflexo-convolutis, apice subtruncata. *Abdomen* elytris paulò longius. *Pedes* breves, valdè compressi, lati. *Tarsi* angusti, filiformes, breves, articulis basalibus ciliatis, articulo ultimo longo, simplici.

This genus was established by Swederus in the Transactions of the Swedish Academy, vol. ix. 1788, p. 203, for the reception of an insect which he had received from General Davies of Blackheath.

Blackheath. The genus, however, remained unnoticed until Donovan described a second species in his Natural History of the Insects of New Holland, and also recorded the existence of a third, which had been consigned by Fichtel to the Imperial Cabinet at Vienna. The generic characters were not detailed by Donovan, with the exception of those drawn from the antennæ. Latreille in his *Genera Crustaceorum, &c.*, evidently guided by Donovan's work, and unacquainted with the original description of Swederus, gave the genus with characters drawn merely from the antennæ, and with Donovan's species as the type: and it is through this slight description alone that the French entomologists appear to be acquainted with the genus, since in the *Encyclopédie Méthodique* the genus *Cerapterus* was entirely omitted in the Letter C.; and the only notice of it in the later volume of that work, under the article *Paussus*, omits all mention of the original species. It is with pleasure that I now give the characters of the genus in detail, which I have drawn from the generic and specific description of *Cer. latipes* given by Swederus, from the characters exhibited by Donovan's figure of *Cer. MacLeaii*, and from an examination of the insect contained in the cabinet of the East India House subsequently mentioned. This examination, although merely external, has enabled me to state the formation of the terminal joints of the palpi, and thus to exhibit their resemblance in general formation with the *Paussi*, thereby also proving that the disagreement appearing in the figures of these organs given by Swederus (tab. 6. f. 2, 3 & 4.) is produced by the incorrectness of the delineation of the maxillary palpi in the two former figures. In the latter figure (to which the detailed generic description of these organs alone refers) they are, however, correctly represented, although we find that description, which is as follows, to be incorrect: "Os maxillis palpisque. Palpi *quatuor* inæquales, ultimo

ultimo articulo longiori, latiori, depresso, truncato, tab. 6. f. 4. c, d, e." (In the figure referred to, which is generally correct, there are, however, only *two* organs thus formed.) "Maxilla (Mandibula *Fabr.*) brevis, apice cornea, arcuata, subulata, fig. 4. a, b." (although the figure exhibits a pair of organs thus formed, which are, in fact, the maxillary palpi). The large size of the labial palpi compared with the maxillary, and their general structure, are singular characters. In respect to the former character they approach *Pentaplatarthrus*. The *Cerapterus MacLeaii* might indeed be considered as the connecting species between *Paussus* and *Cerapterus*; but, at the same time, the flattened thorax and antennæ of *Platyrhopalus* evidently exhibits great affinity between that genus and *Cerapterus*, although the joints of the palpi are comparatively much larger. Swederus and Donovan were silent as to the number of joints in the tarsi; and I regret not being able to supply the deficiency, from the circumstance of the only individual which I have been enabled to examine being the single specimen in the Javanese collection, which I consequently was unable to investigate so minutely as I could have wished, as also from the basal joints being retracted within the hollowed tip of the tibia; the terminal joint is, however, longer and flattened, and apparently broader at the base than at the tip. The basal joint of the antennæ is broad and compressed, with the tip emarginate, and the second joint is inserted in the centre of this emargination at right angles. The second and following joints are flat, broad, and depressed, and exhibit as singular an appearance as any antenna with which I am acquainted, and which together with the other characters will instantly distinguish this genus not only from the rest of the family, but from every other known genus.

In the formation of the underside of the body this genus does
not

not materially disagree from *Pentaplatarthrus* and *Paussus*; and as both Swederus and Donovan have given figures of the undersides of their respective species, I have not thought it material to add a similar representation of the Javanese specimen. Of the habits of the species nothing is recorded.

Species 1. CERAPTERUS LATIPES. *Swederus*.

C. latus, depressus, "piceus, elytris macula flavescente," apicali majuscula, "pedibus latissimis, tarsis intra tibias, retractilibus."

C. latipes. *Swed. Kongl. Vetensk. Acad. &c. T. 9. 1788. p. 203. pl. 6. fig. 1. Don. Ins. New Holland (sub Cerapt. Mac-Leaii). Schönh. Syn. Ins. vol. i. p. 3. part. 19. no. 1.*

Habitat, vid. infrà.

Long. corp. e figura Swederi, lin. 6. Magn. nat. *Silphæ 4-maculatae. Swed.*

Corpus latum, depressum. "Caput nigrum subpunctatum. Oculi albescentes. Antennæ ferrugineo-piceæ, hirtæ; palpi ferruginei, parùm hirti. Thorax planiusculus, anticè et posticè truncatus, lateribus dilatatis, rotundatis, ferrugineo-piceus, hirtus, posticèque utrinque foveolatus. Scutellum majusculum, triangulare, glabrum, nigro-piceum. Elytra glabra, punctis minutissimis excavatis, inordinatis, apice truncata," singula "macula versus apicem majuscula, sutura, margineque postico, flavescentibus. Pectus et Abdomen ferrugineo-picea, parùm hirta. Pedes piceo-ferruginei, femoribus tibiisque brevissimis, latissimis, compressis, elevato-punctatis, parùm hirtis, tibiis intra femora retractilibus. Tarsi angusti, filiformes, breves, ciliati, intra tibias retrahi et celari possunt."

Obs. 1. Primum pedum par abfuit.

Obs. 2. In delineatione insecti Swederi (fig. 1 & 2.) maculæ elytrorum

trorum apicales quasi (at indistinctè) quadratæ, apparent. Fig. 1. Insectum magnitudine naturali suprà visum. Fig. 2. Idem, magnitudine auctum, laterè visum. Fig. 3. Caput et thorax magn. plùs auct., laterè visa, antennarum formationem exhibens. Fig. 4. Idem, palpos exhibens. Fig. 5. Insectum magn. auct., subtùs visum. *f.* Antenna aucta, laterè visa. *g, h.* Pedes aucti.

Obs. 3. In figura 5, pedes 4 postici, multùm contracti, delineantur, indè perbreves videntur.

Obs. 4. In figuris 1 & 5. apex elytrorum subrotundatus nec truncatus apparet.

This species was described by Swederus as an inhabitant of Honduras in central America, from the Collection of General Davies of Blackheath in Kent. Mr. Donovan however states, upon the authority of that gentleman, that it came from Bengal. The specific characters introduced above in inverted commas, I have copied from the original description of the species, adding thereto such observations as appear necessary from a comparative consideration of the characters of the other species.

Amongst the Javanese insects collected by Dr. Horsfield, and now deposited in the cabinet of the Museum of the East India Company, there is an individual belonging to this genus, of which, through the kindness of that gentleman, I am enabled to give the following description and accompanying figure.

TAB. XXXIII. Fig. 52—56.

C. latus, depressus, piceus, thorace brevi transverso, elytris maculâ apicali, majusculâ, irregulari, fulvâ, pedibus latissimis, antennisque piceo-rufis.

Habitat in Javâ. *Dom.* *Horsfield.*

Long.

Long. corp. lin. $5\frac{1}{3}$. Lat. corp. $2\frac{1}{2}$.

In Mus. Soc. Merc. Ind. Orient.

Corpus latum, depressum, nitidum, hirtum. *Caput* porrectum, suprâ transversum, piceum, subnitidum, pilosum, subpunctatum. *Oculi* mediocres, prominuli, laterales. *Os* inflexum; *palpis* porrectis, crassis; *maxillaribus* piceo-rufis; *labialibus* pallidioribus. *Antennæ* magnæ, hirtæ, piceo-rufæ, articulorum 2—9 lateribus subparallelis. *Thorax* brevis, transversus, planus, capite latior, basi apiceque truncatus, anticè latior, lateribus dilatatis, rotundatis, obscurè rufo-piceus, obsoletè punctatus, hirtus, posticè utrinque subfoveolatus. *Scutellum* mediocre, triangulare, piceum. *Elytra* thorace latiora, et illo quadruplò longiora, oblongo-quadrata, basi e thorace paulò remota, lateribus inflexis, apice subtruncata, abdominis longitudine, suprâ subdepressa, picea, nitida, singula maculâ versus apicem majusculâ irregulari (sc. anticè obtusè tridentata) fulva, sutura rufescenti, basi hirta, nec nisi obsoletissimè punctata. *Corpus* subtùs rufo-piceum, nitidum, hirtum. *Abdomen* piceum. *Pedes* similes, breves, piceo-rufi, valdè compressi, femoribus tibiisque dilatatis, brevibus, latissimis, subpunctatis, parùm hirtis, tibiis intra femora retractilibus. *Tarsi* rufo-piceï, breves, ciliati, intra tibiæ apices excavatos retractilibus.

The chief characters in which the insect last described appears to disagree with the original description and figure of *C. latipes*, are the irregular form of the spot at the apex of the elytra, the apparently slight increase in the length of the legs, and in the suture being rufescent, and the apex of the elytra piceous.

These differences may, however, be considered merely as apparent, since Swederus, as above observed, is not explicit

as to the form of the apical spot in his species; and the legs appear very short in his figure in consequence of their being very much retracted. Should, however, these differences actually exist, I can scarcely consider them otherwise than as indicative of a variety, and not of a distinct species; since in form, colour, and indeed in all other essential specific characters, Dr. Horsfield's insect certainly appears to agree with that of Swederus. If, on the contrary, it should ultimately be ascertained that this insect is specifically distinct from the *C. latipes*, I propose that a specific name should be given to it commemorative of its learned capturer, by whose researches so many interesting novelties have been added to our zoological treasures, designating it consequently *Cerapt. Horsfieldii*, Westw.

Species 2. CERAPTERUS MACLEAII. *Donovan*.

TAB. XXXIII. Fig. 57.

C. angustior, subdepressus, integrè brunneus, thorace subquadrato, pedibus simplicibus.

C. MacLeaii. *Donovan*, *Insects of New Holland*, Genus *Cerapterus*, tab. 3. *Latr. Genera Crustaceorum, &c. vol. iii. p. 4.* *Schönherr, Syn. Ins. vol. i. part. 3. p. 19.* *Encycl. Méthod.* sub art. "*Paussili*".

Habitat in Novâ Hollandiâ.

Long. corp. (e figura *Donovani*) lin. $5\frac{1}{4}$.

In Mus. D. Francillon olim.

Corpus angustius, subdepressum, nitidum, integrè brunneum.

Caput latum, porrectum, rotundatum; *oculi* magni prominenti. *Antennæ* majores, articulo ultimo permagno, punctato, apice rotundato. *Thorax* subquadratus, capite vix latior, angulis anticis rotundatis, posticis acutis. *Elytra* oblongo-quadrata, thorace paulò latiora, apice subtruncata, abdomine

abdomine paulò breviora. *Pedes* longiores, femoribus tibiisque simplicibus.

This species was received by the late Mr. Francillon from New Holland, and was figured by Donovan in his work upon the insects of that country.

I am not aware in whose possession the original specimen is at present. It differs materially from the *C. latipes* not only in its uniform brunneous colour, but also in its narrow form and more slender legs. The preceding specific characters are chiefly derived from Donovan's figure of the species, his description being very short.

Mr. Donovan also speaks of another species of this genus brought from Bengal by M. Fichtel, who consigned it to the Imperial Cabinet at Vienna, of which, however, he has unfortunately omitted to give the characters, and, as far as I have been enabled to ascertain, the entomologists of that city have not yet supplied the deficiency.

Genus 6. *TROCHOIDEUS** *mihî*. PAUSUS, *Dalman*.

Corpus subovatum, subconvexum. *Caput* subtriangulare, apice tamen truncato, collo postico nullo. *Os* aliquantùm productum. *Labrum* integrum. *Mandibulæ* breves, labro ferè tectæ. *Palpi maxillares* filiformes, crassiusculi, 3-articulati, articulis æqualibus, 1mo 2doque breviter obovatis, apicali conoideo. *Palpi labiales* brevissimi. *Antennæ* spadiceæ, clavâ magnâ obovatâ, in capitis apice insertæ, supra os, ab oculis aliquantùm remotæ, longitudine circiter capitis cum thorace, articulus 1mus sat longus obovatus vel pyriformis, 2dus parvus breviter obconicus (ad articuli 2di basin, certo situ, articulus alius minutissimus apparere

* *Τροχοειδής*, *rotundus*; in allusion to the rounded apex of the elytra.

videtur, qui vero, vix nisi præcedentis radícula,) tota quæ restat antennæ pars, clavam format permagnam, crassam, parùm compressam, obovatam, summo apice tamen tumescenti. Hæc clava, sub oculo armato, articulata attamen videtur, scilicet articulo basali brevi, semilunari, 2do maximo clavam veram constituyente, apicali brevi submamillari tumido, his omnibus tamen sic intimè connatis, ut difficilè distinguuntur. *Clava* subtùs visa, ferè instar cochleæ duplicatæ. *Oculi* laterales, parvi, rotundati, integri, parùm prominuli. *Ocelli* nulli. *Thorax* quàm longus latior, marginatus, subcordatus, basi apiceque tamen truncatus, angulis anticis rotundatis posticis subrectis, suprà convexus, (canalicula dorsali?). *Scutellum* parvum triangulare. *Elytra* ferè obovata, scilicet, jam ad basin thorace manifestè latiora, versus medium aliquantùm dilatata, posteriùs angustata, apici rotundata dorso convexa. *Pedes* breviusculi, mutici, antici basi approximati, postici verò insertione a se invicem valdè distantes, femoribus subclavatis, elytrorum apicem haud attingentibus. *Tibiæ* muticæ, compressæ, posticæ paulò curvatæ. *Tarsi* graciles, longitudine dimidiæ tibiæ, 4-articulati, articuli 1, 2, 3 minuti, brevissimi, apicalis longitudine præcedentium conjunctim, biunguiculatus. *Abdomen* planiusculum, segmentis 6, 1mo reliquis multò majore, anali minuto.

The preceding are the generic characters of an extremely interesting insect described by Dalman in his paper "Om Insekter unneslutne i Copal, &c." published in the Transactions of the Swedish Royal Academy for 1825; but regarding which (notwithstanding Dalman has observed that the antennæ are of the "forma singularis *Pauso* propria," adding, "De genere *haud dubito*, attamen characteres insecti genus propriè designantes, adjungere licet"), I feel convinced that no one, considering

ing its form and characters with reference to any of the preceding genera, will be disinclined to admit that we should be sacrificing the principles adopted by all modern entomologists, were we to regard it as congeneric with the true *Paussi*. Indeed I cannot but think that its peculiar form, together with the structure of its palpi, clearly prove not only the correctness of such a step, but also show that, if we even consider it as belonging to the family, a very aberrant situation must be assigned to it, since it appears to me clearly to point the way to some other group. And I likewise feel convinced that every friend of entomological science will rejoice that Dalman's "specimen unicum," although "copalo inclusum," was "optimè conservatum et examinatu sat facile, nisi quod attinet ad pedes anteriores sub corpore retractos."

The generic characters given above are selected from Dalman's detailed specific description, and exhibit several peculiar variations in structure. The general habit or facies of colouring of the insect, the form of the head, thorax and elytra, the length and slenderness of the legs, the formation of the maxillary, and the extreme minuteness of the labial palpi, are characters which evidently intimate a connexion with other families; while at the same time the antennæ (although the increased size of the second joint, and the rudimental articulations in the clava are worthy of notice,) evidently, as Dalman has remarked, exhibit the general "forma singularis *Pauso* propria."

Species 1. *TROCHOIDEUS CRUCIATUS*. *Dalman*.

TAB. XXXIII. Fig. 58, 59.

T. ferrugineus, elytrorum basi apiceque fuscis, suturâ fasciâque mediâ brunneis.

Pausus cruciatus. *Dalman*, *Kongl. Vetensk. Acad. Handl.* 1825. p. 400. *sp.* 3. *tab.* 5. *fig.* 9—11.

Habitat

Habitat —.

Long. corp. vix lin. $1\frac{1}{2}$ Paris.

Caput fusco-brunneum, læve. *Os* cum palpis lutescens, mandibulæ pallidæ. *Antennæ* geniculis apiceque rufescentibus, oculo armato subtilissimè pubescentes. *Oculi* albi cum macula rufa. *Thorax* fusco-brunneus, margine laterali dorsoque dilutioribus, rufo-ferrugineis, subtilissimè pubescens. *Scutellum* ferrugineum. *Elytra* flavo-ferruginea, margine obscuriori et regione scutelli infuscata, per elytrorum medium fascia transversa, dorso brunnea, ad latera nigricans; et versus apicem iterùm fascia nigro-fusca, relicto tamen ipso apice rufo-piceo, suturâ rufo-piceâ cum fasciâ mediâ crucem formante. In singulo elytro stria obsoleta juxta suturam, de cetero elytra omninò lævia, nec punctata videntur, sed pube brevissima obducta. *Corpus* subtùs rufo-ferrugineum, immaculatum, læve, pectoris postici canaliculâ tenui. *Pedes* ferruginei femoribus obscurioribus; *tarsi* pallidè testacei.

In addition to the foregoing insects belonging to the family, Schönherr has included amongst his species of *Paussus*, but placed at the end of the genus with an expression of doubt, the *Hispa bihamata* of Linnæus (*Syst. Nat. ed. 12. 1. p. 604. no. 3.*). This insect, from the Linnean description of its 3-jointed antennæ (the third joint of which is longer than the thorax), and the truncation of its elytra, appears to belong to the family; but as I am not aware that anything further is known respecting its characters, except the original description, it is impossible to speak with precision upon the subject*. It is an inhabitant of India, and is stated to be of the size of *Chrysomela cuprea*.

* The singular hooks which arm the exterior angles of the posterior part of the elytra ("singula elytra posticè truncata sed angulo exteriore terminato spina magna incurva") are characters not to be met with in any of the *Paussidæ*.

It

It only remains for me to add a few observations upon the only remaining insect which has been introduced into the family, but which does not appear referable thereto.

Fabricius, in his *Systema Eleutheratorum*, comprised in the genus *Paussus* an insect under the name of *P. flavicornis*, with the remark, "Animalculum singulare vix hujus generis." Latreille is the next author who mentions this insect, in his *Histoire Naturelle &c. tab. 11. 209. no. 4.* with the following "Nota: Cet insecte, que nous n'avons pas été à même d'examiner, doit sans doute former un autre genre, c'est aussi le sentiment de Fabricius." Schönherr, however, in his *Syn. Ins. vol. i. p. 3. no. 9*, notwithstanding these observations of Fabricius and Latreille, and evidently overlooking the specific description of the terminal joints of the antennæ, has placed it amongst the species of *Paussus* without any expression of doubt. Dalman, in the notes inserted at the end of his *Analecta Entomologica*, agrees with Fabricius and Latreille, observing "De *Pauso flavicorni* Fabr.: Hoc insectum minime *Pausi* est generis, tarsi enim omnes evidenter 5-articulati, elytris molliusculis, toto habitu atque colore ad *Malachios* nimis accedere videtur, et ipsa antennarum singularis forma sat bene congruit cum earundem structura in masculis *Malachii ænei* et specierum affinum. *Pausi flavicornis* fœmina nobis haud est visa, quare de ejus antennarum structura sumus inscii, sed insectum ad ulteriorem indagacionem in musæo nostro, sub nomine *Malachii flavicornis*, militat."—pp. 103, 104.

Latreille, profiting by these observations, adds the following note at the foot of his family *Melyrides* in the *Familles Naturelles*: "Le *Pausus flavicornis* de Fabricius paraît devoir en former un nouveau genre près des précédens."—p. 353.

The preceding remarks, added to an examination of a congenerous insect in Mr. Haworth's cabinet, under the manuscript name of *Cerocoma marginata*, subsequently mentioned, have sufficiently

sufficiently convinced me that the *Paussus flavicornis* does not belong to the *Paussidæ*, but that it is referable to the *Telephoridæ*; since Dalman's observations upon the tarsi clearly prove that it is not allied to the *Cerocomæ*. I therefore propose for the insects in question, the generic name of

MEGADEUTERUS*.

Corpus parvum, villosum. *Antennæ* articulo 1mo incurvo, elongato; 2do magno rotundato compresso; articulis reliquis brevibus, filiformibus. *Elytra* molliuscula. *Tarsi* 5-articulati.

Species 1. MEGADEUTERUS FLAVICORNIS. *Fabr.*

M. corpore nigro, elytris cyaneis, antennarum articulis duobus basalibus flavis.

Habitat in Java.

Mus. Dom. de Sehestedt.

Paussus flavicornis. *Fabr. Syst. Eleuth.* 2. 75. 4. *Dalman loc. cit. Sch. Syn. Ins. vol. 1. part. 3. p. 19.*

Corpus nigrum. *Caput et thorax* cinereo-villosa. *Antennæ* articulis duobus basalibus flavis, reliquis nigris. *Elytra* cyanea, nitida.

Species 2.

My friend A. H. Haworth, Esq., F.L.S., &c. possesses in his cabinet an undescribed insect, evidently congenerous with the above, under the manuscript name of *Cerocoma marginata*. A casual examination of this insect enables me merely to state that it appears to agree with the Fabrician description of *M. flavicornis* in all respects, except that the suture and margins of the elytra are rufous.

* μέγας, *magnus*; and δεύτερος, *secundus*;—in allusion to the large second joint of the antennæ.

EXPLA-

EXPLANATION OF TAB. XXXIII.

Note.—The Figures are all more or less magnified. The lines near the Insects figured represent their natural size. The same *small* letters refer to the corresponding or analogous parts throughout the dissections, as follows:

- a. The labrum.
- b. The mandibles.
- p. The basal part of the maxilla.
- c. The apical lobe of ditto.
- d. The maxillary palpi.
- e. The mentum.
- e e. The produced lateral angles of ditto.
- f. The labium.
- g. The triarticulate labial palpi.
- h. The basal scapes.
- i. The place of insertion of the antenna; with the exposed part of the circular moveable ball above mentioned, upon the upper surface of which,
- k. The basal joint of the antennæ is inserted.
- l. The small articulation? between the basal and terminal joints of the antennæ.
- m. The apical portion or clava of the antennæ.
- n. The eyes.
- o. The neck.

Fig. 1. to 14. *Pentaplatarthrus pausoides* and details.

Fig. 1. The insect magnified.

2. The head, seen above; exhibiting the formation and insertion of the antennæ.

3. The same, seen from the front, showing the elongation of the palpi and the flatness of the antennæ.

- Fig. 4. The same, seen from below, exhibiting the structure of the lower parts of the mouth.
5. The labrum, mandibles, and lower part of the face, more highly magnified.
 6. The mandible, ditto.
 7. The maxilla and its palpus.
 8. The mentum, labium, palpi, and their scapes, seen from below.
 9. The same, seen from within the mouth.
 10. The same, seen sideways.
 11. The under-side of the trunk (*thorax* Linn.)
 12. The head and prothorax, seen sideways.
 13. The coxa (*r*), the biarticulate trochanter (*s* & *s*), and the femur of the hind leg.
 14. The tarsus.
 15. to 20. Details of a species of the genus *Paussus* of the 2nd section.
 15. Under-side of the head.
 16. The labrum.
 17. The mandible.
 18. The maxilla, showing its insertion on the outside of the produced lobe of the mentum.
 19. The instrumenta labialia *mihi*, or lower organs of the mouth, seen from beneath: half of the mentum and neck is removed, to show the insertion of the labial palpi.
 20. The lower organs of the mouth, seen from within, with one of the lobes of the mentum.
 21. Head, thorax and base of the elytra of *Paussus microcephalus*.
 22. *Paussus Linnæi*.
 23. Antenna of ditto, seen from the front.

Fig. 24.

- Fig. 24. Antenna of *Paussus Linnæi*, seen from behind.
 60. *Paussus excavatus*.
 61. Antenna of ditto, seen rather obliquely from above.
 25. *Paussus rufitarsis*.
 26. Antenna of ditto, seen from behind.
 27. Ditto, seen from above.
 28. Head and thorax of *Paussus thoracicus*.
 29. Clava of antenna of ditto, seen from behind.
 30. Ditto, seen from the front.
 31. Head and thorax of *P. Fichtelii*.
 32. Antenna of ditto, seen from behind.
 33. Ditto, seen obliquely in front.
 34. Head, thorax, and base of elytra of *P. pilicornis*. (From
 Donovan).
 35. Ditto of *Paussus sphærocerus*.
 62. *Paussus armatus*.
 63. Portion of the head of ditto, seen sideways.
 64. Antenna, seen sideways.
 36. *Paussus affinis*.
 37. Antenna of ditto, seen from behind.
 38. *Paussus lineatus*. (From Thunberg.)
 39. *Paussus Hardwickii*.
 40. Antenna of ditto, seen from the front.
 41. *Hylоторus Bucephalus*. } (From Schön-
 42. Head of ditto, more highly magnified. } herr.)
 43. Head, thorax, and base of elytra of *Platyrhopalus den-*
ticornis.
 44. to 48. Details of ditto.
 44. The labrum.
 45. The mandible.
 46. The maxilla and its palpus.
 47. The instrumenta labialia.

Fig. 48. The tarsus.

49. Head, thorax, and base of elytra of *Platyrhopalus unicolor*. (From Schönherr.)
50. Head and thorax of the specimen of *Platyrhopalus* brought from Nepaul by Major-General Hardwicke, previously mentioned.
65. *Platyrhopalus? levifrons*.
66. Antenna of ditto, seen sideways.
67. The outer margin of ditto, showing the slight impressions and teeth.
68. *Platyrhopalus? dentifrons*.
69. Portion of the head, and one of the antennæ, seen sideways.
70. The antenna of the same, seen obliquely.
51. *Platyrhopalus? aplustrifer*.
52. *Cerapterus latipes*, drawn from the specimen in the East India Company's Collection previously mentioned.
53. to 56. Details of ditto.
53. Head of ditto, seen from the front.
54. Ditto, exhibiting the flattened terminal joints of the antennæ, the two maxillary, and one of the labial palpi.
55. The parts of the mouth, seen from the front.
56. The anterior leg of ditto.
57. *Cerapterus MacLeaii*. (From Donovan.)
58. *Trochoideus cruciatus*.
59. Head, thorax, base of the elytra, and fore-leg of ditto. } (From Dalman.)

POSTSCRIPT.





POSTSCRIPT.

SINCE the preceding sheets were printed, Mr. Melley of Manchester, the possessor of a very fine collection of exotic *Coleoptera*, has liberally submitted to my examination a remarkable new species of this family; and I am happy in being enabled to add the following description of it, although I regret that, in consequence of the Plate having been completed, I cannot add a figure of it, and the more especially, since the insect in question is one of the most extraordinary in the family. From the formation of the antennæ and palpi it is clearly referrible to my new genus *Platyrhopalus*, and in the former of those organs most nearly resembles *Pl. lævifrons*; but in the extraordinary breadth of its elytra (which considerably exceed, in proportion to its size, even those of the *Cerapterus Horsfieldii*), and in its very broad and flat retractile legs, it evidently approaches *Cerapterus*. Mr. Melley informs me that a description and figure of it will shortly appear in M. Guerin's *Magazin de Zoologie*. I am not, however, aware of the specific name which he is about to propose for it, and am consequently restricted from introducing it in the ordinary manner with a *nomen triviale*, unless indeed its liberal possessor will allow me the honour of applying to it the name of

PLATYRHOPALUS MELLEII, *Westw.*

Pl. piceus, elytris castaneis, latissimis, ferè quadratis, antennarum clavâ latâ compressâ margine ferè circulari basi externè angulum efformante, pedibus latissimis.

Habitat in Malabariâ.

In Mus. Melley.

Long. corp. (antennis exclusis) lin. $4\frac{1}{2}$, lat. elytr. lin. $2\frac{1}{2}$.

Species nova et valdè insignis. Latissimus, subconvexus, rufopiceus, tenuissimè punctatus, nitidus, subhirsutus, thorace capiteque declivibus. *Caput* parvum, parùm nitidum, anticè

ticè emarginatum, posticè in collum breve contractum. *Oculi* magni, prominuli, laterales. *Antennæ* articulo basali sat magno, depresso, apice externè obliquè emarginato, clavâ in emarginationis medium insidente, hæc clava permagna est, ferè circularis et compressa scil. facie anticâ vel superâ parùm concavâ; posticâque vel externâ parùm convexâ præsertim in medio, margine omni acuto; tres tuberculæ minutissimæ ciliatæ in marginem circuli externum, paulò ante apicem exstant, et clavæ basis interna subquadratè producitur. *Palpi maxillares* maximi, articulo antepenultimo permagno, lato, et ad apicem internè valdè producto. *Palpi labiales* cylindrici, hirsuti, articulo penultimo quàm terminali paulò majori. *Thorax* brevis, declivis, transversus, capite ferè duplò latior subopacus, marginibus lateralibus, rotundatis, portio postica brevissimâ, sed distincta et multò angustior est, et e portione anticâ, lineâ transversâ ferè rectâ, minimè elevatâ, separata. *Elytra* castanea, tenuissimè punctata, nitidissima, parùm hirsuta, subconvexa, et thorace e tertiâ parte conjunctim latiora; ferè quadrata, longitudine latitudinem conjunctam paulisper superante; in angulo postico externo, tuberculum parvum mamillatum utrinque adest, et apex ipse elytrorum subobliquè utrinque producitur. *Abdomen* elytris vix longius. *Pedes* breves, latissimi, depressi, *femoribus* excisione elongatâ internâ pro tibiâ receptione efformatâ. *Tibiæ* latissimæ, apice interno bicalcaratæ. *Tarsi* tibiis breviores, subcylindrici, subtùs ciliati, articulis 5 distinctis, articulo 1mo crassiori, 4to breviori, 5toque longiori et tenuiori, unguibus 2 acutis instructo; sed in pedibus 2 anticis articulus basalis brevior est quàm in 4 posticis.

June 9, 1832.

XXXV. On







JUL -- 1987

