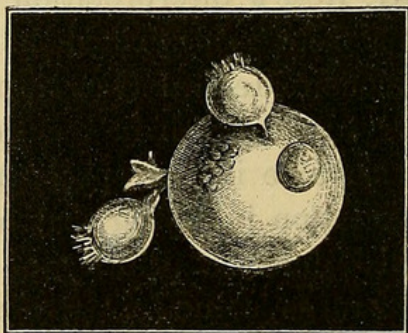


Cœnurus in the liver of a cat. Numan says *the Cœnurus* ("De Vee-arts wil *den Veelkop* gevonden hebben"), by which expression, as also by others elsewhere given, I conclude that the existence of a second, specifically distinct form of Cœnurus never once entered his mind. Be that as it may, he has done full justice to Mr. Rose and other English writers who have investigated the structure and economy of the hydatids and their allies.

From a microscopic examination of the specimens of the Cœnuri from the Squirrel, it would seem that these last undescribed polycephalous bladder-worms represent a kind of intermediate type between the ordinary brain-Cœnurus and Echinococcus properly so called. At all events, in place of separate heads (scolecæ) in groups irregularly massed together as in *Cœnurus*, I find bundles of heads, so to speak, forming small nodules, which are often arranged in a linear manner. There is, on the other hand, no evidence of a true brood-capsule, such as we find in *Echinococcus*; but the formation of daughter vesicles, by the exogenous method of budding, reminds one of the ordinary mode of development seen in the hydatids derived from *Tænia echinococcus*. There are some other minute points, on which I am not at present prepared to dwell; these may reasonably stand over for future investigation. The little drawing, of which the woodcut is a copy, lent by Mr. Rose, and representing his Cœnurus (called *C. cuniculi* in his MS., but not so named in his published papers), is not unlike some of the Cœnuri from the American Squirrel, and it is not improbable that it may represent the larval condition of one and the same *Tænia*.

What species of *Tænia* this may happen to be I do not care to conjecture, but I think it may be safely affirmed that it is not the *Tænia cœnurus* of authors.



A moderate-sized *Cœnurus cuniculi*, with daughter vesicles proliferating externally.—ROSE.

CORYNODINORUM RECENSIO. By the Rev. T. A. MARSHALL.

Communicated by the Rev. HAMLET CLARK, F.L.S.

[Read April 21, 1864.]

THE following pages are the result of much investigation as to the published works of authors, and several weeks of careful examination as regards the material at my disposal. I propose in

them to deal with a small subfamily of the Eumolpidæ, at once singularly beautiful in form, and singularly difficult from the similarity of their structure. The former consideration will explain why they were willingly selected as the subject of study, the latter why the results of that study have been so long delayed. The pleasure of the hours that I have spent in the work I owe to the kindness of my friend the Rev. Hamlet Clark, who not only placed at my entire disposal the whole of his rich collection, but has incessantly laboured, and not without success, to inspire me with a portion of his own ardour for the study of the Phytophaga.

Mr. Clark's collection comprises nearly every described form (so far as I have been enabled to discover them) of the present limited subfamily, and, besides these, a great number of novelties which it is the object of the following pages to describe. I ought to add that, in selecting this section of the Eumolpidæ (the genera *Corynodes*, *Chrysochus*, and their affinities) as the first subject for publication, I was much influenced by the kind suggestion of J. S. Baly, Esq., of Kentish Town, that I should turn my attention to these special forms. I willingly concurred in his views, and began at once to devote some leisure time to the subject which he had been good enough to mark out for me. I did so the more readily as that gentleman has himself published excellent papers on the Eumolpidæ, and common courtesy (which debars every student from intruding willingly upon the labours of others) demanded the selection of a group far removed from the present sphere of his occupation. Fortunately, or unfortunately (according to taste), the unoccupied ground is so extensive, that a dozen or more entomologists might well enter upon separate allotments, without much fear of committing a trespass upon their neighbours'.

On the CORYNODINA, a Subfamily of the EUMOLPIDÆ.

The two genera *Corynodes* and *Chrysochus*, as they now stand in collections, comprise one of the most strongly marked, as well as one of the most beautiful subfamilies of the Eumolpidæ. The characters presented by the large flattened club of the antennæ, the cylindrical thorax, and the vertical head, invisible from above, are such as immediately strike the eye; while the splendid hues which adorn the species, as well as the interesting considerations arising from their geographical distribution, cannot fail in a lively manner to impress the imagination.

The number of species is now considerable; and as they present

several modifications of the typical form, which render their further subdivision necessary, it is intended in the following paper to propose a few sections, in which their mutual relations may be more adequately expressed. We shall also be enabled, through the kindness of the Rev. Hamlet Clark, to register for the first time many species hitherto unnamed, or only provisionally placed in collections under the MS. names of Dejean and others, as well as some of the nondescript rarities brought from the islands of the far East by Mr. Wallace.

A few words upon the literature of the group, comprising their history up to the present time, will not be considered out of place. One species only appears to have been known to Linné, *Chrysochares* (*Chrysochus*) *Asiaticus*, which was placed by him in the great genus *Chrysomela*. Fabricius first described some forms of the genus *Corynodes* or *Platycorynus*, arranging them in his earlier works under *Cryptocephalus*, and in the 'Systema Eleutheratorum' under *Eumolpus*. The seven Fabrician species are as follows:—

<i>Eumolpus nitidus</i> (<i>Corynodes</i> , Hope)	. . . . .	Siam ; Malabar.
— <i>Asiaticus</i> , Linn. (<i>Chrysochares</i> , Moravitz)	. . . . .	S. Russia.
— <i>cyaneus</i> (<i>Corynodes</i>)	. . . . .	W. Africa.
— <i>pretiosus</i> (<i>Chrysochus</i> , Redt.)	. . . . .	Europe.
— <i>auratus</i> (<i>Chrysochus</i>)	. . . . .	United States.
— <i>compressicornis</i> (<i>Corynodes</i>)	. . . . .	S. Africa.
— <i>antennatus</i> (<i>Corynodes</i>)	. . . . .	Java.

Olivier, in his 'Entomology,' redescribed the Fabrician species, mistaking however *cyaneus*, Fab., for a different insect, and added four others: *bifasciatus* (China), *cyanicollis* (Java), *Senegalensis* (W. Africa), and *Chrysis* (Bengal); but of these *Senegalensis* is doubtless only a variety of *compressicornis*, Fab. Chevrolat, in Dejean's Catalogue and in d'Orbigny's Dictionary, first separated from *Eumolpus* the two genera *Platycorynus* and *Chrysochus*, but left them both undescribed. The former has since been briefly characterized by Hope, *Coleopt. Man.* pt. 3. p. 162, and more completely by Gerstäcker in Peters's *Reise nach Mossambique*, p. 335, under the name *Corynodes*. *Chrysochus**, so far as it refers to the European species, has been pretty fully described by Moravitz, *Horæ Soc. Ent. Rossicæ*, t. i. 1861, p. 159, with the addition of *Chrysochares*, to contain *C. Asiaticus*, Linn., and also by Redtenbacher in the 'Fauna Austriaca.' Nine species

* *Chrysochus*, not *Chrysuchus*, as wrongly spelt in Schaum's Catalogue. The derivation (given by Chevrolat) is from χρυσόχοος or χρυσοχοῦς, 'a goldsmith,' and not χρυσοῦχος, 'having gold,' 'golden.'

of *Platycorynus* are mentioned in the 3rd edition of the Catalogue Dejean, of which four were at the date of its publication only MS. names. One of these, *P. Dejeanii*, has since found a describer in Gerstäcker, *l. c.* The same edition of the Catalogue contains three Fabrician species of *Chrysochus*—viz. *Asiaticus*, *pretiosus*, and *auratus*. A single additional description is to be gathered from Schönherr's *Synon. Ins.* i. 2. p. 235 note, *Corynodes Gröndalii*, Swartz, which is obviously a synonym of *bifasciatus*, Oliv. The above sketch comprises everything to be found in the older writers which conveys any certain information. More lately we have *Corynodes pyrophorus*, Parry (*Eumolpus*), described in the *Ann. of Nat. Hist.* 1844, vol. xiv. p. 454, and *Trans. Ent. Soc.* vol. iv. p. 86, which is identical with *C. gloriosus*, Baly, *Ann. of Nat. Hist.* 1859, vol. iv. p. 124. In Guérin-Ménéville's *Rev. Zool.* 1841, p. 228, Chevrolat characterizes *C. indigaceus*, from Manilla. Mr. Baly has also described four other species of *Corynodes* (*decemnotatus*, *pulchellus*, *igneofasciatus*, and *pyrospilotus*) in the first vol. of the *Journal of Entomology*. In the *Trans. Ent. Soc.* vol. iv. p. 17, Mr. Hope gives a diagnosis of *Eumolpus ignicollis*, from China, afterwards described as *Chrysochus thoracicus*, together with *Chr. Chinensis*, by Mr. Baly, *Ann. and Mag. N.H.* 1859. We have also *Chr. cobaltinus*, Leconte, in vol. ix. of *Reports of Surveys for a Railroad from the Mississippi to the Atlantic*. T. W. Harris, in *Massachusetts Reports, Insects*, p. 108, has again characterized and figured *Chr. auratus*, Fab. Gebler, in the *Bull. d. Moscou* for 1860, No. 3. p. 36, gives us *Chr. punctatus*, from the vicinity of the Balkash Lake; and Motschulsky, *Etudes Entom.* ix. p. 23, has described a beautiful insect from Japan and China as *Chr. Gaschkevitchii*. Lastly, we are compelled to omit in this *résumé* four insects indicated by Hope, in *Gray's Zool. Misc.* i. p. 30, but too briefly to be identified. The genus *Callisina* of Baly is designedly passed over, as belonging, according to that gentleman's present views, to a different group.

With respect to the geographical distribution of the first group, *Corynodes*, it will be remarked that the great majority are Asiatic. The district within which they are found may be described as bounded by a line drawn from the Chinese Wall to the Indian Ocean, passing through the great Gobi, or desert of Tartary, and waving more or less till it emerges at some indefinite point on the western coast of Hindostan, at or near Bombay. In a S.E. direction the species may be traced to the Philippines and the larger islands of the Malay archipelago, Java, &c. as far as Borneo and

Celebes, beyond which the present state of our knowledge does not permit us to follow them. The few African species which have been brought to Europe inhabit the southern half of the African continent, from Senegambia on the west, to the territories of the Imam of Maskat on the east, opposite to Madagascar. *C. Dejeanii*, Gerst., has been brought by Peters from Mozambique. *Dejeanii*, Drège, in Dej. Cat. (another variety of *compressicornis*, Fab.), is common at the Cape and in Caffraria. A closely allied, but distinct, species of great beauty is from the inland lake Ngami. From the Gaboon River comes the largest and most splendid of the genus; and in the same part of the African continent occurs in profusion *compressicornis*, Fab., as well as one or two blue forms, which resemble somewhat those of India.

The African species present a constant variation in form from that which obtains among those of Asia; they have a much longer thorax, narrowed in front, and their elytra are more narrowly oblong.

It is to be regretted that the island of Madagascar has not been searched for these insects. The occurrence of the Asiatic forms there, with or without the African, may be regarded as possible, and their presence would throw some light upon the supposed early connexion of that island with Asia, in a physical as well as an ethnographical point of view,—a question of the highest interest, but at present involved in the most inscrutable mystery. It is at least certain that the botany and other natural productions of Madagascar present strong analogies to those of India and Malaysia, and recede in a proportionate degree from the African type, while the facies of the natives, and, above all, irrefragable linguistic proofs drawn from the Malagassees, point to a prehistoric connexion of the island with the eastern continent. The hypothesis of a voyage of Malay proas sufficiently explains one portion of the difficulty, but leaves the natural-history question still untouched.

The second group, consisting of *Chrysochus* and its affinities, is represented in Europe, Asia, and North America, but not, so far as we are aware, in Africa, nor in the southern regions of the New World. The Asiatic forms are by far the most numerous, occurring in almost every part of the continent, from the central plateau of Mongolia to the Malay peninsula, and from the Caucasus to Japan. The American species have hitherto been brought only from the northern temperate zone; they are represented (in the collections we have seen) by two or three forms from the Far West, Oregon, and California, and by an insect common in the

United States, *Eumolpus auratus* of Fabricius. It is singular that no species of the group has hitherto occurred in South America, where the luxuriance of vegetable growth is so favourable to the peculiar habits of the Phytophaga. *Eumolpus*, properly so called, appears in those regions as the analogue of *Chrysochus* and *Corynodes*.

Although it is easy to collect the scattered statistics of natural history, and to note the prevalence of certain forms of animal life in particular regions, we cannot but feel humiliated at the reflection how feeble is the grasp of our faculties, and how imperfect the inductions we can draw from the facts observed. Of the real laws which govern the dispersion of different creatures upon the face of the globe, and of the reasons (for there must be reasons) which have suggested the infinite variation of their organs, we are, and must probably for ever remain, in complete ignorance. We are forced, in order to satisfy our conceptions of the fitness of things, to the assumption that the bewildering maze of phenomena which we see is the result of the mere luxuriance of Power, and is infinitely varied only because the Power which creates is infinite.

We now proceed to deal with the first section of the subfamily before us, regretting that the materials at hand, although considerable, must inevitably fall short of representing every variety of form. The following is an attempt to draw up a synopsis of genera, in which the chief difficulty has been to obtain characters of sufficient prominence, in a family of acknowledged difficulty from the great similarity of their organs.

Tabula Generum Synoptica.

Fam. EUMOLPIDÆ.

Subfam. CORYNODINA.

Antennæ extrorsum plus minus incrassatæ s. dilatatæ, corpore breviores: thorax cylindricus lateribus marginatus, verticem supra occultans, plerumque post oculos utrinque sinuatus: corpus oblongum, convexum; pedes robusti, tibiis canaliculatis, extus apice angulatim productis; unguiculis bifidis s. appendiculatis.

† Antennæ distincte clavatæ; clavæ articulis, numero 5-7, compresso-dilatatis.

* Articulo ultimo apice late obtuso, rotundato CORYNODES, *Hope*.

** Artic. ultimo apice acuminato ACROTHINIUM.

†† Antennæ haud clavatæ, interdum leviter extus incrassatæ, articulis nec valde compressis, nec dilatatis.

* Mandibulæ simplices . . . CHRYSOCHARES, *Moravitz*.

** Mandibulæ bidentatæ . . . CHRYSOCHUS, *Redt*.

Genus CORYNODES.

Hope, Col. Man. iii. 162. *Gerstäcker, Reise nach Mossambique*, p. 335.
—*Cryptocephalus et Eumolpus, Fab. and others.*—*Platycorynus, Chev.*, *Baly*.

Caput verticale, thoraci profunde insertum, supra oculos profundius arcuatim impressum, desuper haud conspicuum. *Oculi* oblongi, intus leviter sinuati. *Antennæ* ad angulum oculorum infero-interiorem sitæ, corpore dimidio breviores, 12-articulatæ; articulus 1^{us} subglobosus, 2^{us} quintuplo minor, brevissimus; 3^{us} oblongus, compressus, duobus præcedentibus longitudine æqualis; 4–6^{tum} longitudine decrescentes, latitudine increscentes, compressi; 6^{tus} subtriangularis; 7–10^{num} latissimi, valde compressi, cum 11^{mo} et 12^{mo} clavam 5–7-articulatam spatuliformem constituentes; 7–9^{num} subtriangulares, latere externo emarginato, angulo interiore rotundato; 12^{mus} 11^{mo} fere absconditus §, arcte cum eo conjunctus, extus late rotundatus. *Labrum* oblongum, apice obtuse rotundatum, subito deflexum, utrinque hirtum. *Palpi maxillares* articulis ultimis duobus crassioribus, ultimo apice truncato. *Mandibulæ* obtuse bidentatæ. *Thorax* cylindricus, antice subito fornicatus, plus minus angustatus, genas arcte complectens, post oculos utrinque sinuatus, longior quam latior, lateribus subrectis. *Prosternum* antice subrectum, lateribus oblique deflexis; postice utrinque late sinuatum, lobo posteriore angusto. *Metasternum* angustum, antice 3-sinuatum angulis truncatis; lateribus subrectis, angulis posterioribus subacute productis. *Antepectoris processus antero-lateralis* scaleno-triangularis, apice ab humero suam ipsius longitudinem remoto. *Scutellum* parvum, semi-ellipticum. *Elytra* thorace latiora, oblonga, convexa, lateribus parallelis, lentius ad apicem conjunctim clausa, angulis anticis obtusis aut nullis. *Pedes* robusti, tibiis extus apice dilatatis, canaliculatis; tarsorum articulis subæqualibus; unguium appendiculis variis.

Type of the genus, *Corynodes compressicornis*, *Fab*.

I have some diffidence in proposing this genus in its present

§ For the sake of convenience we shall for the future regard the antennæ as 11-jointed, reckoning the two last joints as one.

extent. I had originally intended to erect several of its sections into new genera, as well as to adopt Mr. Baly's *Platycorynus*. The only distinctions available for this method of division consist in the degree of dilatation of certain joints of the antennæ, and in the form of the appendiculæ of the claws, viz. whether they are free, and more or less acute (*bifidæ* of Lacordaire), or simply lobiform (*appendiculatæ* of Lacordaire). After mature consideration I am convinced that the attempt to establish genera upon these grounds alone would be highly artificial, and tend only to confusion by separating species otherwise closely allied. The characters are so vaguely expressed in some of the forms, that it might often be a question to which genus any given insect should be referred. The reader will therefore be spared the difficulty arising from this source. I have, however, characterized as subgenera some groups previously intended to form genera; such sections may be useful for the more ready determination of species, though they must be regarded as rather technical than natural.

Subg. i. (*Platycorynus*, Chevr., nec Baly). Unguiculæ bifidæ; antennarum clava 5-articulata; thorax longior quam latior, utrinque post oculos plane sinuatus; corpus elongato-oblongum, angustum. Species Africanæ.

1. C. COMPRESSICORNIS, *Fab.*

Fab. El. i. 419. 7. *Oliv.* 901, pl. 1. fig. 7.—*Senegalensis*, *Oliv.* 902, pl. 1. fig. 10.—*Dejeanii*, *Gerstæcker*, *Reise nach Mossambique*, p. 335. Cf. *Monatsber. der Berlin. Akad. d. Wissensch.* 1855.

The commonest of the African species, one or other of its varieties being found in every part of the continent, except the north. These varieties stand in collections under different names, according to their colours, but present no structural differences whatever.

Var. A. *Dejeanii*, Gerst. Major, læte purpureus, prothorace supra et capite igneo-cupreis, s. viridibus. Mozambique.

Var. B. *Senegalensis*, Oliv. Nigro-cyaneus, elytris æneis. Senegal.

Var. C. Totus igneo-purpureus, thorace et elytris concoloribus. Natal.

Var. D. Totus supra viridis, plus minus aureo micans. Natal.

Individuals are found of every intermediate shade of colour.

Note.—When the present descriptions were in an advanced state, a paper was unexpectedly sent to the author by J. S. Baly, Esq., issued, as he states, with the object of securing the priority to his nomenclature. It became necessary therefore either to suppress altogether the descriptions of the species handled by that gentleman, or else to retain them with the substitution of Mr. Baly's names for those originally proposed. The latter course has been adopted, after some deliberation. Mr. Baly's descriptions being limited to a Latin diagnosis, it is probable that the existence of a second and detailed description in a few cases will not be thought superfluous.

2. *C. CYANEUS*, *Fab.*

Fab. El. i. 429. 4. *Guér. Icon. R. Anim.* vol. iii. p. 295. *Fab. Ent. Syst.* i. 324. 84, nec *Oliv.*—*Platyc. laticornis*, *Dej. Cat.*

C. elongato-ovatus, totus splendide nigro-cyaneus; thorace minutissime remote punctulato; elytris subtiliter irregulariter, humeros versus sub-bistriatim punctatis; segmentorum abdominalium marginibus cum metasterno interdum violaceo tinctis; tibiis, tarsis breviter fulvo hirsutis.

Long. $5\frac{1}{2}$ – $6\frac{1}{2}$ lin.; lat. hum. 2 – $2\frac{1}{2}$ lin.

Vertex gibbous, shining, more coarsely punctured than the thorax; vertical impressed line nearly, sometimes entirely, obsolete. Labrum and palpi with fulvous hairs. Eyes dark rufo-fuscous. Thorax very delicately punctulate (the punctules invisible to the naked eye), distinctly sinuated behind the eyes, antero-lateral angles subacute. Elytra irregularly punctulate, with traces of two punctured striæ descending from the humerus and obliterated posteriorly. Ungues rufo-piceous.

Hab. Senegambia.

The Fabrician diagnosis of this insect is as follows:—"Cyaneus, nitidus, pedibus nigris. *Hab.* in America meridionali. Mus. D. Banks."

The type specimens in the cabinet referred to are two in number; the first or left-hand-side one being *Chrysochus Chinensis*, Baly, the other *C. cyaneus*, *Fab.*, distinctly labelled "in Africa æquin." The *Chrysochus* was probably the hasty addition of a later hand. The habitat given by Fabricius in his writings, and which differs from the ticket attached to the type, can only be an oversight, as no species of the present genus has ever been discovered in the New World. Olivier rectified, as he thought, the habitat, but mistook the insect altogether for an Indian species, which has done duty ever since in collections for the true *cyaneus*, *Fab.*

3. *C. SIMILLIMUS*.

C. cyaneo affinis, subelongato-ovatus, violaceo-niger, nitidus; thorace subtilissime remote punctulato; elytris confertim irregulariter punctatis; subtus cum pedibus niger, minus nitidus.

Long. 5 lin.; lat. hum. $2\frac{1}{4}$ lin.

Closely allied to the preceding; differs in being more broadly ovate; thorax shorter in proportion, wider at the base, and less deeply sinuated behind the eyes; antero-lateral angles more obtuse. Elytra much more coarsely punctured, without traces of the faint humeral punctured striæ. The colour of the superior surface, especially the thorax, is violaceous black; the underside and legs black, much less shining.

Hab. Gold Coast.

A single specimen in the Rev. H. Clark's collection. It may prove to be only a variety of the preceding.

4. *C. LAUTISSIMUS*.

C. elongato-ovatus, thorace subtilissime punctulato, punctis paulo majoribus interspersis, metallico-cæruleus, splendidus, abdomine plus minus violaceo; elytris striato-punctatis, nitidissimis, aureo-viridibus; scutello cæruleo.

Long. $5\frac{1}{2}$ – $6\frac{3}{4}$ lin.; lat. hum. 2–3 lin.

Elongate-ovate; front gibbous, with a faint vertical impression; eyes rufo-fuscous; head and thorax finely and irregularly punctured, with still finer and more numerous punctules between the punctures, dark shining blue, sometimes with a violaceous tinge; scutellum, and sometimes the suture, blue, the former punctulate. Elytra bright metallic green, with more or less of a golden tinge, densely punctate-striate, the punctures much coarser than those of the thorax; abdomen punctured, especially towards the apex; legs shining blue, thickly punctulate, apex of the tibiae and the tarsi with fulvous hairs.

Brought by Deyrolle from the Gaboon River. Thomson's collection. Also in the British Museum.

One of the largest of the genus; very distinct from green examples of *C. compressicornis* by its superior size and brilliant polish.

5. *C. PUSIO*.

C. parvulus, elongatus, cupreo-purpureus, thorace supra, capite antice, scutello viridibus, nitidis; antennis nigris; thorace elongato, antice valde angustato, confertim punctato; elytris punctis majoribus densissime consitis; capite subexserto, vertice desuper conspicuo.

Long. $3\frac{3}{4}$ lin.; lat. hum. $1\frac{1}{4}$ lin.

Thorax at the base more than twice as broad as in front; the sides subparallel from the base to rather more than one-half their length, then obliquely rounded to the front; head subexserted, eyes projecting at each side beyond the thorax; vertex gibbous, visible from above. Antennæ dull black. Labrum, palpi, and mandibles piceous. Front, vertex, and disk of the thorax metallic green, very thickly punctured, almost rugose; scutellum golden green, brilliant, nearly impunctate. The rest of the insect cupreous, with a purple or violaceous tinge, except the tibiae and tarsi, which are blackish.

Hab. Shores of Lake Ngami.

The smallest of the African species, and distinguished from all others by its prominent head and by the shape of the thorax. It is probably the type of a subsection peculiar to the interior of Africa.

A single specimen in the Rev. H. Clark's collection.

Subg. ii. (*Corynodes*, Hope, Baly). Unguiculæ bifidæ; antenarum clava 6-articulata. Thorax brevior, plerumque transversus, antice minus angustatus, post oculos vix aut ne vix quidem sinuatus. Corpus crassius, magis convexum; elytris sæpe versicoloribus, maculis, fasciis, præclare distinctis, quum eadem in subgenere primo semper unicolora reperiuntur. Species ab Africa exsulant.

6. C. BIFASCIATUS, *Oliv.*

Oliv. 900, pl. 1. fig. 5.—undatus, *Oliv. Encycl. Méth.* vi. 614. 31.—

Gröndalii, *Swartz, Schönh. Syn. Ins.* i. 2. p. 235, note.

Hab. China.

Common in collections.

7. C. ANTENNATUS, *Fab.*

Fab. El. i. 419. 8.—*Oliv.* 900, pl. 1. fig. 6.

Hab. Java.

Easily recognized by its black colour. Common in collections.

8. C. PEREGRINUS, *Füessly.*

Füessly, Archiv Ins. iv. p. 63. no. 16, tab. 23. fig. 25 (*Cryptocephalus*).—*cyaneus*, *Oliv.* 899, pl. 1. fig. 4 *a, b*, nec *Fab.*

Hab. India.

A very abundant species, varying much in size, but easily recognized by the coarse irregular punctuation of the thorax. It stands in collections as *cyaneus*, *Fab.*, *Oliv.*, which however are two different insects (see Sp. 2, remarks). In any case, *Füessly's* name *peregrinus* must be restored, in obedience to the law of priority.

9. C. CYANICOLLIS, *Oliv.*

Oliv. 902, pl. 1. fig. 9.

Hab. Java.

A single specimen in the Rev. H. Clark's collection.

10. C. PYROPHORUS, *Parry.*

Parry, Ann. N. H. vol. xiv. 1844, p. 454, and *Trans. Ent. Soc.* vol. iv. p. 86.—*gloriosus*, *Baly, Ann. N. H.* vol. iv. 1859, p. 125.

Hab. Assam.

In the collections of the Rev. H. Clark and Mr. Baly; also in the British Museum.

11. C. INDIGACEUS, *Chevr.*

Chevr., Guér.-Mén. Rev. Zool. 1841, p. 228.—Hopei, *Baly, Descriptions of new gen. and sp. of Phytophaga*, April 19, 1864, p. 7.

Hab. Philippine Islands.

In the collections of the Rev. H. Clark and Mr. Baly.

12. C. IANTHINUS.

C. oblongus, ovatus, depressus, elytris latis; totus cyaneus, fronte, thorace, humeris, corpore subtus purpureo tinctis; thorace irregulariter, elytris subtilius substriatim punctatis.

Long. $4\frac{1}{2}$ lin.; lat. hum. 2 lin.

Front transversely rugose, with irregular punctures, the longitudinal furrow wanting. Thorax much narrower than the elytra, subglobose above, irregularly punctured, the punctures larger and more remote at the base and on the middle of the disk. Fifth and sixth joints of the antennæ dilated; the remaining joints very broadly dilated. Elytra wide, not very convex, depressed, parallel to about $\frac{5}{6}$ ths of their length, then obtusely rounded; cyaneous, with purple reflexions, especially on the shoulders and sides; very finely punctulate, the punctures not forming distinct striæ. Underside and legs concolorous.

Hab. —?

A single specimen in the Rev. H. Clark's collection, derived from that of Chevrolat.

Subg. iii. (*Theumorus*, nobis). *Caput* declive, cum oculis exsertum; his breviter ovatis, prominulis, intus vix sinuatis; *antennæ* prælongæ, articulis 7 ultimis compresso-dilatatis: articulo 1^{mo} subgloboso; 2^{do} minore, extus prominulo; 3^{tio} elongato, cylindrico; 4^{to} ad ultimum latitudine incrementibus, compresso-dilatatis; 5^{to} ad 9^{num} extus basi subito rotundatis, et cum articulorum sequentium angulis speciem serriformem præbentibus; articulo ultimo ovato. *Thorax* longior quam latior, supra globosus, medio gibbosus, basi et antice angustior, lateribus rotundatis; angulis anticis intro convergentibus, collum arcte stringentibus. *Antepectoris processus anterolateralis* elongato-triquetrus, thoracis angulum fere attingens. *Scutellum* orbiculare. *Elytra* thorace latiora, modice convexa, disco antice subdepressa, parallela, thorace triplo longiora. *Pedes* validi, tibiis anticis elongatis, incurvatis: ungues appendiculis acutis, unguiformibus, a basi usque liberis.

13. C. AMETHYSTINUS.

C. supra saturate violaceus, splendidus; subtus cum antennis pedi-

busque niger; thorace fortissime irregulariter, elytris modice vix striatim punctatis; vertice impresso, fronte rugosa.

Long. 4 lin.; lat. hum. $1\frac{2}{3}$ lin.

Head coarsely and thickly punctured, irregularly impressed between the eyes, below which impression the surface becomes transversely rugose. Vertex with an ovate impression. Thorax and elytra very shining, the former coarsely punctured, the punctures less distinct towards the antero-lateral margins: the elytra less coarsely punctured, the punctures equidistant, and therefore forming only obscure striæ, except near the suture, where a single stria is isolated. Anterior tibiæ elongate, curved downwards and inwards. Antennæ and tarsi very robust.

Hab. not indicated.

In the Rev. H. Clark's collection.

Subg. iv. (*Eurycorynus*, nobis: *Platycorynus*, Baly). Antennarum clava 5-articulata. Tibiæ intermediæ in ♂ plerumque extus ante apicem sinuatæ. Unguiculæ appendiculatæ s. dentatæ. "Very closely allied to *Corynodes*, Hope" (Subg. ii.), "but separated by the appendiculated claws and 5-jointed club of the antennæ." Baly.

14. C. CHRYSIS, Oliv.

Oliv. 901, pl. 1. fig. 8.

Hab. India, Bengal.

The typical colour is bright metallic green. For the following description of a fine variety (at first supposed by me to be distinct) I am indebted to the kindness of the Rev. H. Clark.

C. subelongatus, metallico-aureus, ad latera sensim purpureus, juxta suturam et ad humeros viridi-aureus; capite punctato, ad medium longitudinaliter depresso, nigro-cyaneo; thorace sparsim irregulariter punctato; elytris crebre fortiter punctato-striatis; corpore subtus pedibusque fusco-æneis.

Long. $4\frac{1}{2}$ lin.; lat. hum. 2 lin.

Of a brilliant metallic gold colour, the sides tinged with purple, and the upper part with greenish gold; in form parallel and sufficiently elongate. Head thickly punctate, purplish copper-coloured, with a medial longitudinal dark-blue depression. Thorax subcylindrical, short, sparingly and very irregularly punctate. Scutellum deep purple, impunctate. Elytra subparallel, with prominent shoulders; their surface thickly punctate-striate (the punctures coarse and irregular, so that the striations are somewhat indefinite). Legs and underside dark greenish, metallic. The antennæ in the specimen described are unfortunately absent.

In the Rev. H. Clark's collection.

15. *C. NITIDUS*, *Fab.*

Fab. Ent. Syst. i. 325. 86; *El.* i. 418. 2. *Oliv.* 903, pl. 1. fig. 11.

Erichs. Schomb. Reise, Th. iii. p. 577.—*Platyc. Sheppardi*, *Baly*,

Descriptions of new gen. and sp. of Phytophaga, April 19, 1864, p. 7.

Hab. Southern India.

I have verified this insect from the original type in the Banksian collection. It has much of the facies of the genus *Trichochrysea* of Baly, or of the larger undescribed forms of *Bromius*. In Dejean's Catalogue it is placed doubtfully as a true *Eumolpus*. Frequent in collections.

16. *C. 10-NOTATUS*, *Baly.*

Baly, Journ. Ent. vol. i. 1860, p. 31.

Hab. India, Vizapore.

In the collections of the Rev. H. Clark, Mr. Baly, and the British Museum.

17. *C. PULCHELLUS*, *Baly.*

Baly, Journ. Ent. vol. i. 1860, p. 31.

Hab. Siam.

In the collections of Messrs. Clark and Baly.

18. *C. IGNEOFASCIATUS*, *Baly.*

Baly, Journ. Ent. vol. i. 1860, p. 32.

Hab. Siam.

19. *C. PYROPILOTUS*, *Baly.*

Baly, Journ. Ent. vol. i. 1860, p. 32.

Hab. Siam.

Var. A. Thorax maculis aureis obsoletis.

In the Rev. H. Clark's collection.

20. *C. FLOSCULUS*.

C. oblongo-elongatus, valde convexus, purpureo-cæruleus, metallicus; thorace sparsim punctato; elytris punctato-striatis, singulis macula parva laterali sub humero aurea, fasciis duabus latis, linea suturali connexis, splendide viridi-aureis.

Long. $4\frac{3}{4}$ lin.; lat. hum. 2 lin.

Facies and punctuation of *C. pulchellus*, Baly, but the thorax is less transverse and the colours different. Of a rich metallic purple or violaceous blue. Elytra with two small aureous spots placed one on each side below the humeral callus. Two large rounded patches occupy the base, filling up the sutural angle and extending nearly to the exterior margin, connected along the suture with a broad trans-

verse fascia just behind the middle, which touches the suture and all but reaches the exterior margin, its anterior edge nearly straight, the hinder obliquely sloping, so that the lateral edge of the fascia is twice as broad as the sutural. These spots and fasciæ bright golden, metallic; green when viewed obliquely. Punctate striæ obsolete behind.

Brought from Camboja by M. Mouhot.

A single specimen in the Rev. H. Clark's collection.

21. *C. COSTATUS*, *Baly*.

Baly, *Descriptions &c.* p. 2.—*Hab.* Manilla.

22. *C. MARSHALLI*, *Baly*.

Baly, *ibid.*—*Hab.* Gilolo.

23. *C. LONGICORNIS*, *Baly*.

Baly, *ibid.*—*Hab.* Manilla.

24. *C. CUMINGII*, *Baly*.

Baly, *ibid.* p. 3.—*Hab.* Manilla.

25. *C. ROBUSTUS*, *Baly*.

Baly, *ibid.*—*Hab.* Sumatra.

26. *C. CONGENER*, *Baly*.

Baly, *ibid.*

C. oblongo-ovatus, *crassiusculus*, *valde convexus*, *nitidus*, *totus saturate violaceo-cæruleus*; *elytris subseriatim*, *capite et thorace irregulariter punctatis s. punctulatis*; *subtus tenuiter fulvo-villosus*; *antennis (modice tantum dilatatis) et tarsis nigris*.

Long. 5 lin.; lat. hum. $2\frac{1}{2}$ lin.

Head, thorax, and elytra very finely punctured; impressed line of the vertex nearly obsolete; eyes reddish. Punctures of the elytra more distinct at the lateral margins, less visible at the apex, arranged in somewhat irregular lines upon the disk. Thorax longer than broad, one-half wider at the base than in front: anterior angles distinctly produced; moderately sinuated behind the eyes. Elytra about one-fourth wider than the thorax, twice as long as their width, not attenuated posteriorly until just before the apex, very convex, suddenly deflexed behind. The humeral callus impunctate, within which is the usual linear impression; and on the disk of the elytra, much before the middle, a slightly curved transverse impression extending from the suture nearly to the deflexed margin. Abdomen and lateral edges of the elytra violaceous; legs with violet and green reflexions.

Hab. Manilla; Java.

From Reiche's collection.

I have before me a specimen with the thorax much more coarsely punctured and somewhat less elongate; but as it differs in no other respect from the individuals described, I cannot but regard them as belonging to the same species. Similar and even greater discrepancies are to be observed in the common *C. peregrinus*, Füssly.

27. *C. MUTABILIS*, Baly.

Baly, *ibid.*—Hab. Menado, Sumatra, Ceram.

28. *C. FABRICII*, Baly.

Baly, *ibid.* p. 4.—Hab. Sumatra.

29. *C. BISERIATUS*, Baly.

Baly, *ibid.*—Hab. Macassar.

30. *C. WATERHOUSII*, Baly.

Baly, *ibid.*—Hab. Manilla.

31. *C. DOHRNI*, Baly.

Baly, *ibid.*

C. elongato-oblongus, modice convexus, humeris latis, subrectangulis, supra splendide cyaneus, fronte viridi, thorace, humeris, elytrorum lateribus violaceo tinctis; subtus cum pedibus cæruleo-viridis; antennis fulvis, clava nigra.

Long. $6\frac{1}{4}$ lin.; lat. hum. 3 lin.

Vertex gibbous, thickly punctured, violaceous blue, with a fine central impressed green line. Labrum, palpi, and antennæ fulvous, except the five dilated joints of the last, which are black. Front dull green, rugosely punctate, with a small lamina on each side, next the eyes, bright green, impunctate. The face and ocular orbits beset with testaceous hairs. Thorax very shining, finely and remotely punctured, sinuated on each side behind the eyes, cyaneous, with a purple gloss. Elytra long, the shoulders broad and rectangular, finely punctate-striate, the striæ invisible before the apex; bright cyaneous, with a purple reflexion on the shoulders and sides. Beneath dull bluish green; hairs of the tibiæ and the pulvilli fulvous.

Hab. Ceylon.

The finer punctuation of the thorax and elytra, the rectangular humeri, and the characters of the face above mentioned, render this species abundantly distinct from *peregrinus*, Füss., the only described species with which it can be confounded. Mr. Baly's type is described as being "viridi-æneus." The above is evidently a blue variety of the same insect.

32. *C. ÆNEUS*, Baly.

Baly, *ibid.* p. 5.—Hab. Sarawak, Borneo.

33. *C. STEVENSI*, *Baly*.*Baly, ibid.*—*Hab.* Tondano; Menado.34. *C. ELEGANTULUS*, *Baly*.*Baly, ibid.*—*Hab.* Celebes.35. *C. FRATERNUS*, *Baly*.*Baly, ibid.*

C. ovatus, valde convexus, totus læte viridis, metallicus; thorace transverso, subtiliter punctato, basi lata, lateribus subdilatatis, rotundatis, post oculos utrinque leviter sinuato; elytris striato-punctatis, lateribus et apice costatis.

Long. 3 lin.; lat. hum. $1\frac{1}{2}$ lin.

Vertex distinctly punctured, with a longitudinal furrow; face beset with fulvous hairs; orbital spaces blue. Thorax depressed at the base, nearly as broad as the elytra, compressed and very convex in front, remotely punctate, the punctures more distant and somewhat larger towards the base; sinuated behind the eyes. Elytra very convex, punctate-striate, the punctures larger and somewhat confused towards the shoulders and in the antemedial transverse impressions. The exterior half of each elytron costate, the costæ increasing in elevation towards the lateral margin and apex. Body and legs entirely metallic green, with a bluish reflexion when viewed obliquely.

Hab. Sumatra.

The specimens received from Reiche by the Rev. H. Clark are ticketed as Javan.

36. *C. FULGURANS*.

C. viridi-æneus; capite longitudinaliter impresso; thorace leviter punctato; elytris post humeros transverse depressis, leviter punctatis; corpore subtus pedibusque nigro-æneis; antennis rufo-fuscis.

Long. 4– $4\frac{1}{2}$ lin.; lat. hum. $1\frac{3}{4}$ –2 lin.

Entirely of a bright metallic green colour; head finely punctate, with a faint medial longitudinal depression, which is obsolete near the base. Thorax constricted in front, sparingly punctate. Scutellum impunctate. Elytra with an intermediate transverse depression on either side behind the shoulders; the surface finely punctate-striate (the punctures coarser near the margins). Underside and legs dark bluish green; apical segment of the abdomen and the pulvilli flavo-pubescent. Antennæ rufo-fuscous, the five apical joints largely dilated.

Hab. Ceram; taken by Mr. Wallace.

37. *C. PERPLEXUS*, *Baly*.*Baly, ibid.*—*Hab.* Singapore.38. *C. CUPREUS*, *Baly*.*Baly, ibid.* p. 6.—*Hab.* Malay peninsula.

39. *C. CÆLESTINUS*, *Baly*.*Baly, ibid.*—*Hab.* Malay peninsula.40. *C. FUSCO-ÆNEUS*, *Baly*.*Baly, ibid.*—*Hab.* Singapore.41. *C. APPROXIMANS*, *Baly*.*Baly, ibid.*—*Hab.* Sumatra.42. *C. IGNITUS*, *Baly*.*Baly, ibid.*—*Hab.* Pulo Penang.43. *C. MOUHOTI*, *Baly*.*Baly, ibid.* p. 7.—*Hab.* Camboja.44. *C. PARVULUS*, *Baly*.*Baly, ibid.*—*Hab.* Singapore.45. *C. GRATIOSUS*, *Baly*.*Baly, ibid.**C. cyaneo-viridis*, punctatus, nitidus; capite thorace cyaneis, hoc sparsim, illo crebre punctato; scutello antice medio depresso; elytris viridi- vel nigro-cyaneis, ad latera cyaneis.

Long. 5-6 lin.; lat. hum. 2-2½ lin.

Bluish green, brilliant, impubescent, punctate. Head bright blue, thickly and minutely punctate. Thorax sufficiently angustate in front, the sides narrowly margined (the margination being invisible when the insect is viewed from above); surface finely and sparingly punctate, of a bright blue colour. Scutellum subcordiform, medially depressed in front, impunctate, greenish blue. Elytra robust, coarsely punctate, dark bluish green; the sides more distinctly blue. Under-side and legs dark greenish blue. Antennæ robust, fuscous, the five terminal joints broadly dilated.

Hab. Rangoon.

Received from Rangoon by Mr. Stevens; and in the collections of the Rev. H. Clark, Mr. Baly, and the British Museum.

46. *C. AMPULLATUS*.*C. cyaneus*, nitidus; capite punctato, inter oculos transverse depresso; thorace inæqualiter punctato; elytris subtiliter punctato-striatis; corpore subtus pedibusque nigro-cyaneis.

Long. 5 lin.; lat. hum. 2½ lin.

Entirely violaceous blue; head coarsely and thickly punctate, with an irregular transverse depression between the eyes. Thorax somewhat shorter than in *gratiosus*, sparingly and irregularly punctate. Scutellum fuscous, impunctate. Elytra large and broad, finely punctate-striate (the punctures smaller and more regular than in *gratiosus*).

Abdomen towards the apex slightly fusco-pubescent. Legs darkly azure-blue, the femora punctate, the tarsi on the under side thickly clothed with pale fulvous pubescence. Antennæ short, the apical joints considerably widened.

Hab. Java.

This species must be carefully distinguished from the preceding, and also from *cyaneus*, Fab. From the latter it may be known by the form of the thorax, which is much shorter, broader at the base, and more angustate in front, and by the much finer punctuation of the superior surface, which gives it a more glabrous appearance.

47. C. MALACHITICUS.

C. nigro-viridis, punctatus; capite impunctato, longitudinaliter foveolato; thorace sparsim punctato; elytris post humeros transverse depressis, tenuiter punctatis; pedibus nigro-viridibus, tarsis flavo-pubescentibus; antennis rufo-fuscis, in ♂ prælongis.

Long. 5 lin.; lat. hum. 2 lin.

Entirely of a dark bluish green colour. The antennæ very long. Head of a dark-blue colour, impunctate, with a faint medial longitudinal impression. Thorax angustate in front, very finely and sparingly punctate. Scutellum impunctate. Elytra robust, with a transverse depression on either side behind the shoulders; the surface is finely punctate-striate. Abdomen and underside dark bluish green; the apical segments, and also (more fully) the tarsi, clothed with fusco-flavous pubescence. Antennæ rufo-fuscous; the five apical joints broadly dilated.

Hab. India.

48. C. HYACINTHINUS.

C. congeneri proxime affinis, minor; saturate cæruleus; thorace nitidissimo, subtilissime punctulato, lateribus rotundato; subtus cum facie cæruleo-viridis, antennis (articulo primo excepto) tarsisque nigris.

Long. 4 lin.; lat. hum. $1\frac{3}{4}$ lin.

Very similar to *C. congener*, but smaller, without any violaceous reflexion, deep shining blue. Thorax very finely punctulate, the punctures invisible to the naked eye. Labrum, first joint of the antennæ, pectus, and abdomen bluish green, the last finely villose with pale hairs. Sides of the thorax distinctly rounded.

From Java; Reiche's collection.

49. C. SUAVEOLUS.

C. congeneri affinis, quintuplo minor; supra saturate violaceo-cæruleus, nitidus; thorace elytrisque sat fortiter, his striatim punctatis; subtus cum elytrorum limbo violaceus, antennis tarsisque nigris.

Long. 3 lin.; lat. hum. $1\frac{1}{2}$ lin.

Front violaceous, with a green shining spot on the inner side of each eye; vertex with an impressed line and coarse scattered punctures; labrum violaceous, rugose; mandibles black. Thorax, viewed from above, semielliptical, the sides rounded; coarsely punctured. Elytra punctate-striate, with purple reflexions. Body beneath entirely purple or violaceous. Joints of the antennæ broadly dilated.

From Manilla; Reiche's collection.

50. C. ASPHODELUS.

C. suaveolo affinis; supra saturate cæruleus, violaceo et viridi variatus, scutello viridi, humeris elytrorum limbo indeterminate purpureis; subtus cæruleo-viridis, capite thorace subtiliter punctulatis; elytris striato-punctulatis, post humeros profunde transversim impressis, impressionibus fortiter punctatis.

Long. 3 lin.; lat. hum. $1\frac{1}{2}$ lin.

Size and form of the preceding; differs in the much finer punctuation of the head and thorax and in the colour. Front violaceous blue, with a large triangular elongate impression; the depressed space between the eyes and the vertex on each side green. Elytra moderately punctate-striate; the punctures much larger and deeper in the transverse discal impressions. The superior surface is dark blue, stained with ill-defined patches of green and purple; the margins of the elytra indeterminately purple. Beneath dull bluish green, the sterna and legs violaceous.

From Nepal; Reiche's collection.

51. C. SPECULUM.

C. ovatus, valde convexus, crassior, metallico-viridis, splendidus; elytris disco aureis; abdomine subtus, parapleuris femoribusque purpureis; scutello cæruleo-viridi; thorace antice fortiter crebre punctato, basin versus impunctato; elytris striato-punctulatis.

Long. 5 lin.; lat. hum. 3 lin.

Front thickly punctured, the punctures smaller than those of the thorax. Thorax short, only slightly narrowed in front, hardly sinuated behind the eyes, its breadth at the base about equal to its length; very coarsely punctured anteriorly and on the disk (like the thorax of *C. peregrinus*, Füssly), smooth and impunctate towards the base. Elytra short, very convex, much deflexed behind, with a wide, shallow circular impression on each side within the humeral callus, and a slight lateral transverse depression before the middle. Punctured striæ fine and regular, continued to the apex. Upper surface very brilliant, green if viewed obliquely, otherwise golden; the thorax is of a more bluish green.

Hab. Java.

A single specimen from Chevrolat's collection.

52. C. CHALYBEUS.

C. oblongo-ovatus, parum convexus; thorace basi lato, medio latiore, lateribus rotundatis, antice angustato; cæruleo-viridis, supra saturate chalybeus s. cyaneus; thorace parce omnium subtilissime punctulato, elytris substriatim punctatis.

Long. $4\frac{1}{2}$ – $2\frac{2}{3}$ lin.; lat. hum. $1\frac{3}{4}$ –1 lin.

Front finely punctulate, subcanaliculate; clypeus ovate, distinctly margined, separated from the epistoma by a curved line: ocular fovea shallow. Thorax smooth, shining, bright steel-blue, very finely and sparsely punctulate, wide at the base, still wider and rounded at the sides, subdepressed above, narrowed and compressed anteriorly, not sinuated behind the eyes. Elytra concolorous with the thorax, irregularly and finely punctate-striate, the punctures coarser at the sides and towards the shoulders; these last prominent, obtusely angular. Within the humeral callus is a deep, longitudinal, punctured fovea, and between this and the suture a large, round, smooth, elevated space. Underside and legs bluish green, metallic, with pale pubescence. Antennæ with the basal joints more or less fulvous, the club cyaneous.

Brought from Camboja, and the Shan country, in the Birman Peninsula, by M. Mouhot. It varies considerably in size.

Subg. v. (*Omodon*, nobis: *Platycorynus*, Baly.) *Antennæ* articulo 1^o globoso, magno; 2^{do} globoso, triplo minore; 3^{tio} et 4^{to} æqualibus, elongatis; 5^{to} et 6^{to} vix leviter compressis, paulum dilatatis, elongatis; 7^{mo} ad ultimum fortius compresso-dilatatis, ultimo ovato. *Palpi maxillares* articulo penultimo subgloboso, ultimo obtuse conico. *Thorax* transversus, basi latus, antice parum angustatus, utrinque post oculos vix sinuatus, lateribus rotundatis. *Antepectoris processus* brevis, isoscelitriangularis, apice a thoracis angulo longe remoto. *Scutellum* semiellipticum. *Elytra* thorace paulo latiora, inter humeros minus convexa, postice sensim attenuata, valde convexa; post humeros profunde transversim impressa, rugosa, tuberculis 4 vel 5 plus minus acutis munita. *Pedes* breves, robusti, tibiis extus latius canaliculatis; ungues appendiculis vix apice liberis. ♀. *Antennæ* ♂ prælongæ, corporis ultra secundum quadrantem extensæ.

53. C. TUBERCULATUS, Baly.

Baly, Descriptions &c. p. 3.

C. oblongo-ovatus, subtus cum capite thorace et pedibus cæruleo-viridis, metallicus; elytris cæruleis, prope humeros et scutellum subviridibus; subtiliter punctatus; antennis nigris, articulis 7 basalibus subcæruleis. ♀.

Long. 4– $4\frac{1}{2}$ lin.; lat. hum. $1\frac{3}{4}$ –2 lin.

Vertex with a linear impression, thickly punctulate; face between the eyes bright metallic green. Thorax finely punctulate, the punctures much smaller than those of the elytra. Elytra moderately punctured, more coarsely towards the shoulders and sides; the punctures only partially arranged in striæ. Lateral tubercles of the elytra arranged in three interrupted costate lines commencing at the humerus; the inner series double at the base, obsolete before the middle of the elytron; the second series extending in a costa beyond the middle; both these series are interrupted by a broad transverse impression, abbreviated on both sides: third series not interrupted by the transverse impression, prolonged in a smooth costa to the apex. Underside and legs with fulvous pubescence.

Var. With the thorax dark blue, underside and legs dull purple; the lateral costæ and tubercles much less developed.

The elongate antennæ of the ♂ and (in the specimen examined) the different colour of the upper surface, with the absence of tubercles, caused me at first to regard it as a different species. I am ignorant whether examples of the female occur of a bright copper colour. The following is a description of the male in the Rev. H. Clark's collection:—

C. oblongo-ovatus, convexus, confertim subtiliter punctulatus, vertice sulcato; supra læte purpureo-cupreus; oculorum orbitis, scutello, thoracis elytrorum marginibus, sutura tenuiter, viridi-cæruleis; corpore subtus et pedibus cyaneis, fulvo-hirtis; antennis tarsis nigris. ♂. Long. $3\frac{1}{4}$ lin.; lat. hum. $1\frac{3}{4}$ lin.

Regularly oblong-ovate, moderately convex, finely and densely punctured—the vertex especially, where the punctures are oblong and confused. Labrum and vertex of a bright purplish copper-colour, the latter furrowed longitudinally; the orbital region blue; mandibles and antennæ black. Thorax seen from above semielliptical, truncate at the base, and rounded in front, where it is only one-third as broad as at the base; its anterior angles less than right angles, not produced; faintly sinuated on each side behind the eyes; purplish copper, very brilliant, finely and densely punctured, margined with bluish green at the sides and base. Scutellum semiorbicular, polished, bluish green, with a few punctules. Elytra concolorous with the thorax, more coarsely punctured, the punctures arranged in indistinct striæ continued to the apex; the suture narrowly bluish green. Beneath, with the legs, cyaneous; hairs of the tibiæ and pulvilli pale fulvous.

Hab. Sarawak, Borneo; discovered by Mr. Wallace.

In the collections of the Rev. H. Clark, Mr. Baly, and the British Museum.

Subg. vi. (*Erigenes*, nobis: *Platycorynus*, Baly). *Antennæ arti-*

culis 5 ultimis leviter compresso-dilatatis, ultimo oblongo, apice triangulo s. acuminato: *palpi maxillares* articulo ultimo ovato, penultimo globoso. *Thorax* supra hemisphæricus, latus, antice gibbosus, post oculos haud sinuatus, lateribus rotundatis, margine basali leviter bisinuato. *Antepectoris processus anterolateralis* perbrevis, triquetrus, ab angulo thoracis plus quam suam ipsius longitudinem distans. *Scutellum* semiellipticum. *Elytra* thorace vix latiora, postice levissime ampliata, oblonga, convexa, apice subito rotundata. *Pedes* tibiis anticis elongatis, incurvatis; unguium appendiculis brevibus, apice tantum liberis, vix acutis. *Corpus* breviter oblongum, valde convexum.

54. C. CIRCUMDUCTUS.

C. breviter oblongus, parallelus, thorace gibboso; violaceus, elytris aureis, margine laterali anguste suturaque violaceis; thorace crebre fortiter punctato, elytris punctato-striatis; scutello violaceo.

Long. $4\frac{1}{2}$ lin.; lat. hum. 2 lin.

Thorax very convex, in front gibbous, not sinuated behind the eyes, coarsely and thickly punctured. Front rugose between the eyes. Elytra bright golden or purplish copper-coloured, with the suture, and the lateral margins very narrowly, violaceous. The rest of the insect is entirely violaceous. The anterior tibiæ of the ♂ are elongate and strongly curved, of the ♀ shorter, and slightly curved.

Hab. India.

In the collections of the Rev. H. Clark and the British Museum.

55. C. PRETIOSUS, Baly.

Platycorynus pretiosus, Baly, *Descriptions &c.* p. 4.

Hab. India.

In the collections of the Rev. H. Clark and Mr. Baly.

Subg. vii. (*Bathycolpus*, nobis: *Platycorynus*, Baly). *Caput* verticale, thoraci profunde insertum; oculis levissime emarginatis. *Antennæ* articulis post 4^{tum} plus minus incrassatis, subcompressis; articulus ultimus apice obtusus: articulus 1^{mus} oblongus, crassus, extus convexus; 2^{dus} quadruplo minor, extus apice convexus; 3^{tius} 2^{do} duplo longior, tenuis, cylindricus; 4^{tus} 3^{tio} brevior, cylindricus. *Thorax* plerumque transversus, antice globosus, non angustatus, gibbosus, caput ad oculos usque complectens. *Antepectoris processus anterolateralis* triquetrus, ab angulo thoracis suam ipsius longitudinem distans. *Scutellum* rotundatum, interdum utrinque subsinuatum. *Elytra* convexa, parallela, breviuscula,

humeris valde obtusis. *Pedes* breves, validi, ungues appendiculis parvis, vix apice liberis.

56. *C. IGNICOLLIS*, *Hope*.

Hope, Trans. Ent. Soc. vol. iv. p. 17.—*Chrysochus thoracicus*, *Baly, Ann. & Mag. N. H.* August 1859.

C. oblongus, convexus, cylindricus, cæruleo-niger, capite æneo-viridi; thorace aureo, splendido, subtiliter punctulato; antennis nigris, articulis 4 basalibus apice fulvescentibus; elytris fortiter striato-punctatis, striis apicem versus levioribus.

Long. $3\frac{3}{4}$ lin.; lat. hum. $1\frac{2}{3}$ lin.

Face metallic green, tinged with gold between the eyes, longitudinally furrowed, distinctly and rather closely punctate. Eyes golden. Antennæ of the ♂ twice as long as the thorax, of the ♀ shorter, the apical joints much dilated, almost as in *Corynodes*; the minute 12th joint triangular, exerted. Thorax globose and scarcely angustate in front, rounded at the sides, rather narrower than the elytra, punctulate when seen under a lens, bright coppery or gold-coloured. Elytra parallel, cylindrical, of the ♂ elongate and rather narrow, of the ♀ broader and more convex; very obtuse at the shoulders, punctate-striate, the punctures more profound towards the humeral angles. Underside and legs black, with or without a bluish tinge; pubescence of the tibiæ and tarsi fulvous.

Hab. China.

Var. Thorax concolorous with the elytra.

Frequent in collections.

Genus ACROTHINIUM, *nobis*.

Caput verticale, ad oculos thoraci insertum, oculis prominulis, ovatis, supra ampliatis, integris. *Antennæ* articulis 5 ultimis leviter dilatatis, compressis; articulo 1^{mo} magno, ovato; 2^{do} cylindrico, curvato, brevi; 3^{tio} ad 6^{tum} elongatis, filiformibus; 6^{to} brevior quam præcedens; 7^{mo} conico, cæteris longiore; ultimo apice triangulo, s. acuminato. *Thorax* transversus, elytris parum angustior (♀), s. oblongus, attenuatus, elytris multo angustior (♂); antice et lateribus rotundatus, basi truncatus, post oculos vix bisinuatus. *Antepectoris processus anterolateralis* trigonus, ab angulo thoracis suam ipsius longitudinem distans. *Scutellum* semiellipticum. *Elytra* (maris) lata, brevia, dorso subdepressa, lateribus parallelis, apice subito clausa; (feminæ) magis oblonga et convexa; in utroque sexu antice transversim subimpressa. *Pedes* longi, validi, tibiis extus apice fortius angulatis: unguum appendiculis vix apice liberis.

Type of the genus, *Chrysochus Gaschkevitchii*, Motsch. Etud. Ent. ix. p. 23. The more strongly dilated antennæ appear to separate this insect from *Chrysochus* and to approximate it to *Corynodes*, while in habit it more resembles the former genus. It is a common insect in Japan and Northern China, and has been named after Madame Gaschkevitch, wife of the Russian envoy at Khakodody.

Genus CHRYSOCHARES, *Moravitz*.

Moravitz, Horæ Soc. Ent. Rossicæ, t. i. p. 159.—*Chrysomela*, Linn., *Pallas*.—*Eumolpus*, *Fab.*—*Chrysochus* of modern writers.

C. ASIATICUS, *Linn.*

Linn., *Gmelin*, i. 4. p. 1670. no. 91. *Pallas, Icon.* t. G. fig. 1. *Fab. El.* i. 419. 3. *Schönh. Syn. Ins.* i. 2. p. 234. no. 5. *Küst. Käf. Eur.* i. 97.

Hab. S. Russia, Caucasus.

Common in collections.

Genus CHRYSOCHUS, *Redt. Fn. Austr.* 894.

Moravitz, Horæ Soc. Ent. Ross. t. i. p. 159.—*Chrysomela* et *Eumolpus*, *Fab.*, &c.—*Cryptocephalus*, *Schneider, Mag.* p. 218.

1. C. PRETIOSUS, *Fab.*

Fab. Ent. Syst. i. 324. 85; *El.* i. 419. 5. *Panz. Fn.* 44. 13. *Schneider, l.c.* no. 20. *Schönh. Syn. Ins.* i. 2. p. 235. no. 8. *Küst. Käf. Eur.* i. 96.

Hab. Central and Southern Europe; Central Asia.

Common in collections. This species appears to have a wide range; four individuals in Mr. Clark's collection, ticketed "China," are indistinguishable from those of Europe.

2. C. PUNCTATUS, *Gebler*.

Gebler, Bull. Mosc. 1860, no. 3. p. 36.—*Hab.* Kirghiz Steppes.

I have not seen this species.

3. C. CHINENSIS, *Baly*.

Baly, Ann. & Mag. N. H. August 1859.—*Hab.* N. China.

In the collections of the Rev. H. Clark and Mr. Baly. It is perhaps the same as *C. exquisitus*, Eschscholtz, from Dauria. Some insects of Chevrolat's collection, bearing this name, are rather smaller than the Chinese examples, but present no other difference whatever. Having been unable to find any description of *C. exquisitus*, Esch., I conclude that the name is only MS.

4. C. PULCHER, *Baly*.

Baly, Descriptions &c. p. 1.—*Hab.* Malay peninsula.

Discovered by M. Mouhot, and in the collections of the Rev. H. Clark and Mr. Baly.

The following species are from North America; they are somewhat more elongate in form, but possess no characters sufficiently salient to justify the establishment of a new genus.

5. *C. AURATUS*, *Fab.*

Fab. Ent. Syst. i. 325. 87; *El.* i. 419. 6. *Oliv.* 903, pl. 1. fig. 12.

T. W. Harris, Massachusetts Reports, Insects, p. 108.

Hab. United States. Common in collections.

6. *C. COBALTINUS*, *Lec.*

Leconte, Reports of Surveys &c. no. 1. p. 67.

Hab. Oregon and California.

In the collections of the Rev. H. Clark and the British Museum.

7. *C. CALIFORNICUS*.

C. elongatus, cylindricus, cæruleo-viridis, metallicus; oculis rufis, antennis piceis; thorace subtiliter punctulato, punctis majoribus interjectis, antice gibboso, lateribus rotundato-ampliatis, basin versus subrectis, angulis posticis rectis; elytris confertim punctulatis; scutello lævi, purpureo; pedibus cæruleo-viridibus.

Long. 5 lin.; lat. hum. $2\frac{1}{4}$ lin.

This and the two next are allied to *C. cobaltinus*, Leconte. The present species differs from that insect in being somewhat larger, and of a shining bluish-green colour, instead of dark blue. The thorax is broader in proportion, much more gibbous at the sides and in front, and more profoundly punctured. The underside and legs are concolorous, thinly scattered with short pale ferruginous hairs; the claws are pitchy.—*Hab.* California.

8. *C. TENEBRICOSUS*.

C. præcedenti affinis, totus ater, minus nitidus; thorace antice parum gibboso, lateribus reetis, basin versus vage et fortiter punctato, præsertim apud angulos posticos.

Long. 5 lin.; lat. hum. $2\frac{1}{2}$ lin.

Distinguished from the preceding, and from *cobaltinus*, Leconte, by the thorax, which is neither gibbous in front nor laterally dilated. The scutellum is brown, shining, and impunctate. The elytra are broader in proportion to their length than those of *Californicus*, but similarly punctured. The entire insect is of a black colour, slightly tinged with dull blue, and on the elytra, in certain lights, with purple.

Hab. California.

9. *C. CASTANEUS*.

C. elongato-ovatus, subdepressus, supra saturate castaneus, nitidus, punctulatus; subtus testaceus; antennis pedibusque castaneis.

Long. 4 lin.; lat. hum. $1\frac{3}{4}$ lin.

Vertex finely punctured, with a deep oblong vulviform impression. Thorax transverse, very slightly dilated at the sides, not distinctly gibbous in front, densely covered with irregular punctures of two different sizes, which are especially numerous towards the posterior angles. Elytra more finely punctulate, the punctules forming indistinct striæ. Beneath pale testaceous, the sternal plates and legs darker, inclining to castaneous.—*Hab.* California.

The coloration of this species, so different from its congeners, might induce the suspicion of its being immature. If so, it is still distinct from any other species that I have met with.

Notice of a nearly Complete Skeleton of a *Dinornis*, presented by Dr. GIBSON to the Museum of the Yorkshire Philosophical Society. By THOMAS ALLIS, Esq., F.L.S., Hon. Sec. Yorksh. Phil. Soc.

[Read June 16, 1864.]

(Abstract.)

IN the course of last summer, Mr. Allis had an opportunity, on the occasion of Dr. Gibson and his brother, who is a resident in New Zealand, visiting the Museum of the Yorkshire Philosophical Society, to suggest to those gentlemen how desirable it would be if the Museum could obtain some bones of the *Moa*, of which it possessed only a single small fragment. Mr. Allis was, at the same time, anxious to procure a specimen of the *Apteryx*, with a view of his tracing out the rudimentary wing-bones in that bird.

A few weeks since, Mr. Allis was informed by Dr. Gibson that his brother had succeeded in obtaining a perfect skeleton of the *Moa*, as well as an *Apteryx* and some of its eggs, all of which had been forwarded to England. This collection reached the York Museum at the end of May, and, when examined, was found to contain a very nearly complete skeleton of a gigantic species of *Dinornis*, together with numerous bones belonging to four distinct young birds of the same species. The best-marked of these bones were an ischium, an os pubis, a few ribs, and a small cruciform bone (the immature sternum). Before the skeleton was mounted, some photographic views of the bones were taken, copies of which were exhibited to the Society. One of the photographs shows the inner aspect of the sacrum; the three anchylosed vertebræ adjoining the sacrum, with their ribs still attached by cartilage to them;



Marshall, T. A. 1864. "Corynodinorum Recensio." *The Journal of the Linnean Society of London. Zoology* 8(29), 24–50.

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