

V.—Descriptions of new Genera and Species of Phytophaga.

By J. S. BALY.

Fam. Chrysomelidæ.

GENUS CARYSTEA.

Corpus subelongatum aut elongatum, parallelum, convexum, sæpe subcylindricum. *Caput* breve; *facie* lata, deplanata; *epistomate* brevi, transverso; *antennis* subfiliformibus; *mandibulis* parvis; *palpis* maxillaribus articulo ultimo truncato. *Thorax* transversus, *elytra* latitudine æquans, lateribus non incrassato-marginatis. *Elytra* parallela, apice rotundata, plus minusve regulariter punctato-striata. *Pedes* mediocres; *unguiculis* muticis.

Type, *Carystea* (*Australica*) *Waterhousei*, Baly.

The simple claws separate this genus from *Australica*; the short head, narrow parallel form, together with the broad thorax without a thickened lateral margin, divide it from *Chrysomela* proper.

Australica fulvilabris, Germ., also belongs to this genus.

Carystea inornata.

C. elongata, minus angustata, parallela, convexa, cuprea, nitida; thorace antice et ad latera capiteque crebre punctatis, illo disco lævi, fere impunctato; *elytris* punctato-striatis, interspatiis subcostatis.

Long. 4 lin.

Hab. Swan River. Collected by Mr. Du Bourlay.

Head closely and coarsely punctured; face broad, impressed with a longitudinal groove, which runs upwards from the epistome; antennæ black, obscure fulvous at their base. Thorax twice as broad as long, sides rounded, converging at base and apex; upper surface closely and coarsely punctured on the sides and along the anterior margin; disk smooth, only impressed with a few very remote punctures. *Elytra* parallel, each impressed with eleven rows of distinct punctures, which are placed irregularly in a double series on each row, the first stria short, the eleventh formed only of a single row of punctures; interspaces thickened, subcostate.

Carystea Jansoni.

C. elongata, parallela, convexa, viridi-ænea, nitida; capite antice, antennarum basi, thorace, pectore, abdominis apice pedibusque rufo-fulvis; *mandibulis* antennisque extrorsum nigro-fuscis; *elytris* confuse punctato-striatis, punctis fortiter impressis.

Long. $2\frac{1}{2}$ –3 lin.

Hab. Swan River.

Head coarsely punctured; face with a short longitudinal

groove; vertex bright metallic green; antennæ short, subfiliform. Thorax nearly three times as broad as long, sides rounded, nearly straight and parallel at their base, converging towards the apex, anterior margin nearly truncate; upper surface smooth and very remotely punctured on the disk, more deeply and closely punctured on the sides. Elytra irregularly punctate-striate, the punctures deeply impressed and arranged in irregular double longitudinal rows; beyond the middle these rows become more confused, and the punctures less deeply impressed; general surface of elytra subremotely covered with irregular transverse grooved lines. The green colour of the under surface varies greatly in extent in different individuals.

GENUS AUSTRALICA, Chevr.

Australica Digglesii.

A. subelongata, convexa, nigra, nitida; capite, thorace elytrisque rufo-fulvis, ore, antennis (basi excepta) verticis plagis tribus, thoracis plaga magna discoidali a basi fere ad apicem extensa, scutello elytrorumque singulatim plagis duabus (prima infra basin posita, transversa, utrinque abbreviata, secunda infra medium, subrotundata) nigris.

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

Hab. Moreton Bay. Collected by Mr. Diggles.

Head short, irregularly punctured; front impressed with a longitudinal groove, which extends upwards from the epistome; on either side, extending backwards from the upper border of the eye, is a large black patch, a third (smaller and subtrigonal) being placed on the middle of the vertex: antennæ slender, slightly thickened towards their apex; four basal joints fulvous, stained with piceous above, the others black. Thorax twice as broad as long, sides parallel, slightly converging in front; surface irregularly, but not closely, punctured. Elytra each with eleven regular rows of distinctly impressed punctures, the first being short.

GENUS LAMPROLINA, Baly.

Lamprolina discoidalis.

L. elongata, convexa, violaceo-ænea, nitida; antennis nigris, basi cyaneis; femoribus, abdominis limbo, capite thoraceque fulvis, illo fronte, hoc disco, fusco-æneo maculatis; elytris cupreis, violaceo micantibus.

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

Hab. Moreton Bay. Collected by Mr. Diggles.

Face with a large triangular depression, which occupies nearly the whole space between the insertion of the antennæ, and ex-

tends upwards to the vertex. Thorax nearly twice as broad as long; sides nearly parallel, rounded and slightly converging in front; upper surface smooth, nearly impunctate, either side just within the lateral margin impressed with two large deep irregular foveæ, the surface of each of which is occupied by four or five deep punctures; covering nearly the whole of the disk is a large irregular fusco-æneous patch, which (broad in front, and attached to the anterior margin) narrows behind and extends nearly to the basal border. Elytra slightly depressed transversely below the shoulders; each impressed with eleven rows of fine but distinct punctures, the first short; apex of tibiæ sometimes obscure fulvous.

GENUS CHALCOLAMPRA, Blanch.

Chalcolampira marmorata.

C. elongata, convexa, pallide viridi-flava, nitida; antennis fulvo-fuscis; elytris punctato-striatis, infra basin foveolatis, piceo marmoratis. Long. 3 lin.

Hab. Moreton Bay.

Face deeply impressed between the insertion of the antennæ; eyes black; antennæ filiform, fulvo-fuscous, joints stained with piceous above. Thorax nearly twice as broad as long; sides nearly straight and parallel, slightly dilated and rounded just before their middle, slightly converging at the apex; anterior margin concave; upper surface smooth, impunctate. Elytra narrowly ovate, smooth and nitidous, regularly punctate-striate, impressed below the basilar space and also on the outer disk with five or six deep irregular foveæ; the piceous patches cover a large portion of the surface of the disk.

GENUS COLAPHUS, Redtenb.

Colaphus Bowringii.

C. anguste oblongus, valde convexus, aut obscure metallico-cæruleus aut cupreus, nitidus; capite rude punctato; thorace sparsim, ad latera crebrius punctato; elytris profunde punctatis, apice sub-acuminatis.

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

Hab. Northern China.

Head coarsely punctured; epistome separated from the face by a deep, slightly curved, transverse groove; antennæ shorter than half the length of the body; basal joints obscure piceous, the rest black. Thorax rather more than one half broader than long, sides rounded and slightly converging from base to apex; disk deeply, but very sparingly, punctured, the punctures being

irregularly crowded here and there over the surface; sides more closely punctured. Scutellum large, subtriangular, its surface smooth, impunctate. Elytra scarcely broader than the base of the thorax, rather more than three times its length, sides subparallel, apex subacuminate; surface somewhat closely covered with large deep punctures; slightly depressed below the humeral callus, obsoletely crenulate; on the inner disk, a short distance from the suture, is a narrow, smooth, impunctate vitta; this is more distinct in some individuals than in others. Body beneath strongly but distantly punctured.

Most similar in form to *C. Nacierii*, but easily distinguished from that insect by the subacuminate apex of its elytra.

Genus PLAGIODERA, Redtenb.

Plagiodera cognata.

P. ovata, postice attenuata, valde convexa, rufo-testacea, nitida; oculis antennisque extrorsum nigris; scutello elytrisque cupreis, his tenuiter punctatis, margine laterali incrassato.

Long. 5 lin.

Hab. Old Calabar.

Very closely allied to *P. thoracica*, Fabr.; more attenuated posteriorly; sides of the thorax very slightly rounded, and more quickly narrowed from base to apex, the anterior angles less obtuse; scutellum narrower, cupreous, with the exception of an obscure rufous patch at its base; elytra punctured as in *P. thoracica*; humeral angles less broadly rounded, rather more prominent, sides tapering from a short distance below the shoulders to the apex.

Plagiodera Walleri.

P. rotundata, valde convexa, rufo-testacea, nitida; oculis nigris; antennis extrorsum fuscis; scutello elytrisque cupreis, his tenuiter punctatis, margine laterali incrassato.

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

Hab. Zambesi River. Collected by Mr. Waller.

Distinguished from the preceding species, as also from *P. thoracica*, by its much shorter semirotundate form; thorax resembling in shape *P. thoracica*, its sides being less obliquely converging, more regularly rounded, and the anterior angles more obtuse than in *P. cognata*; scutellum intermediate in breadth between *P. thoracica* and *P. cognata*, entirely cupreous; elytra punctured as in *P. cognata*, regularly rounded on the sides, not attenuated behind; apex broadly rounded.

Genus NICEA.

Corpus elongatum, valde convexum. *Caput* exsertum; *facie* per-

pendiculari; *vertice* lato, convexo; *antennis* modice robustis, corpore paullo brevioribus, filiformibus, articulo 1^{mo} incrassato, curvato, 2^{do} brevi, 3^{tio} quarto paullo brevioribus, 4^{to} primo longitudine æquali, 5^{to} ad 7^{mum} singulatim quarto fere æqualibus aut perparum longitudine decrescentibus, 8^{vo} ad 11^{mum} paullo brevioribus, inter se fere æqualibus; *palpis* maxillaribus articulo ultimo ovato, apice acuto; *oculis* rotundatis, modice prominulis. *Thorax* transversus, dorso transversim excavatus. *Elytra* thorace latiora, lateribus subparallelis aut apicem versus paullo ampliatis, convexa, confuse punctata. *Pedes* modice robusti; *coxis* anticis subtrigonatis, erectis, fere contiguis; *tibiis* posticis muticis; *unguiculis* bifidis. *Prosternum* angustissimum; *metasternum* antrorsum non productum.

Type, *Nicea imperialis*. New Guinea.

This genus is nearly allied to *Doryxena*, but is separated from it by the metasternum not being produced in front.

Nicea imperialis.

N. elongata, subparallela, metallico-cærulea, nitida; *antennis* obscurioribus; *elytris* ad latera infra humeros valde excavatis, ad suturam infra basin longitudinaliter sulcatis, fascia lata prope medium læte fulva.

Long. 6 lin.

Hab. Dory, New Guinea.

Nicea bella.

N. elongata, subparallela, nitida, subtus cum *antennis* nigra, supra rufo-fulva; *elytris* postice vix ampliatis, fascia lata vix pone medium posita nigro-cærulea.

Long. 5 lin.

Hab. New Guinea.

Nicea dimidiatipennis.

N. elongata, nigra, nitida; *elytris* postice paullo ampliatis, læte fulvis, dimidio postico nigro-cæruleo; *antennarum* articulo ultimo apice albo.

Long. 5 lin.

Hab. New Guinea.

Genus EUMÆA.

Corpus oblongum aut subelongatum, postice paullo ampliatus, convexum. *Caput* exsertum; *facie* perpendiculari; *vertice* lato, declivi; *antennis* gracilibus, filiformibus, ad apicem leviter attenuatis, articulo 1^{mo} curvato, a basi ad apicem incrassato, 2^{do} brevi, 3^{tio} quarto paullo brevioribus, 4^{to} ad 7^{mum} singulatim primum fere æquantibus, 8^{vo} ad 11^{mum} vix brevioribus, inter se fere æqualibus; *palpis* maxillaribus articulo ultimo penultimo longiore, ovato, obtuso; *oculis* prominulis, rotundatis. *Thorax* transversus, disci medio late transversim excavatus. *Elytra* thorace latiora, postice paullo ampliata, convexa, confuse punctata, disco costata. *Pedes* sat graciles; *coxis*

anticis fere contiguis, subtrigonatis, erectis; *tibiis* posticis apice mucicis; *unguiculis* bifidis. *Prosternum* angustissimum.

Type, *Eumæa pulchra*, Baly.

Distinguished from the preceding genus by the slender antennæ, the costate elytra, and the different form of the sulcation of the thorax. In *Eumæa* the depression extends nearly across the surface of the disk, not quite reaching its lateral border, either side being impressed by a large deep fovea. In *Nicea* the sulcation is broader, extending entirely across the disk to the lateral border, and has its front and hinder edges much less distinctly marked.

Eumæa pulchra.

E. elongata, postice paullo ampliata, convexa, læte fulva, nitida; oculis, pedibus elytrisque nigris, his fascia lata fulva ornatis, singulatim infra basin transversim sulcatis, 5-costatis, costis duabus exterioribus valde elevatis, cæteris indistinctis; antennis fulvofuscis, articulis apice piceis.

Long. $4\frac{1}{2}$ lin.

Hab. New Guinea.

VI.—*Observations on Raphides and other Crystals in Plants.*

By GEORGE GULLIVER, F.R.S.

[Continued from vol. xiv. p. 252.]

Ternstræmiaceæ.—Many sphæraphides, but no raphides, in the leaves and bark of young twigs of *Camellia euryoides* and of a garden variety of *Camellia*.

Vitaceæ.—Leaves, and their modifications or appendages, of *Vitis odoratissima*, *V. apiifolia*, two species of *Ampelopsis*, and *Cissus discolor*: all abounding more or less in raphides and sphæraphides, as is the case in every plant which I have examined of this order.

Zygophyllaceæ.—The crystals in the bark of *Guaiacum officinale* are large prisms, like those of *Quillaja*, *Iris*, &c. The prisms have commonly four equal faces, and two of them are occasionally broader than the other two, as in *Fourcroya*. We have already noticed that some of the prisms are triangular; and this and the flattened square are such forms as might result from a longitudinal cleavage of the equally four-sided shafts, in one case diagonally from angle to angle, and in the other from the centre of each of the two opposite faces. But I have at present seen only imperfect evidence of such cleavage.

Melastomaceæ.—Leaves and twigs of *Melastoma*, sp.: sphæraphides plentiful, especially in the liber and mesophlœum; but no raphides.