

EXPLANATION OF PLATE IV.

Sphenopteris crassa, L. & H.

Fig. 1. Type specimen of the species. From Burdiehouse, near Edinburgh.

Fig. 2. Larger of the two specimens in the "Hugh-Miller Collection," Museum of Science and Art, Edinburgh; also from Burdiehouse.

XIV.—On some new Species of Curculionidæ from Ceylon.

By FRANCIS P. PASCOE.

THE Curculionidæ described in this paper were collected by Mr. George Lewis during a recent visit of five months to Ceylon. His captures amounted to over 10,000 specimens, including 1200 species *. No such collection has been made before; indeed, I believe, since Sir Emerson Tennent's time, only a few stray specimens have ever reached this country. Notwithstanding the rich vegetation, the insect-fauna of Ceylon is rather disappointing so far as large and gaily-coloured species are concerned; but some of its apparently peculiar forms are unusually interesting. The Curculionidæ number about 70 species; of these I have only here described the duplicates. They were, as will be seen further on, almost entirely collected in the mountain-district of Dikoya, at altitudes varying from 3800 to 4200 feet. Galle and Colombo, lying on the shore, are "rich in species." Mr. Lewis only spent a week in one and about three weeks in the other; but very few Curculionidæ seem to have been met with. The following is a list of the species here described:—

APIONINÆ.

Apion maculipes.
— *æneipenne.*

ATTELABINÆ.

Apoderus pulchellus.

RHINOMACERINÆ.

Rhynchites clavatus.
Eugnamptus marginatus.

ALCIDINÆ.

Alcides Lewisii.
— *ruptus.*
— *curialis.*
— *guttulatus.*
— *suspensus.*
— *argutor.*

ZYGOPINÆ.

Podalia, n. g.
— *mimica.*

* For an interesting account of the visit, see Trans. Entom. Soc. 1882, pp. 475-483.

CRYPTORHYNCHINÆ.

Amphialus, n. g.

—— turgidus.

—— agrestis.

Phrygena, n. g.

Phrygena ephippiata.

(—— affinis, note.)

Strattis, n. g.

—— biguttatus.

—— vestigialis.

Apion maculipes.

A. ovatum, convexum, nitide nigrum, pedibus testaceis, genis tarsisque, dimidio basali articuli primi excepto, infuscatis; rostro tenui, tertia basali incrassata; funiculo extrorsum infuscato; prothorace elongato, pone medium constricto, leviter sparse punctato; elytris breviusculis, obovatis, striato-punctatis, interstitiis planis, humeris callosis. Long. $1\frac{1}{3}$ lin. (rost. incl.).

Hab. Kandy.

Ovate, convex, glossy black; legs, except the tibio-femoral joint and tarsi (but basal half of the first joint testaceous), brownish; rostrum slender; eyes large, subapproximate above; antennæ testaceous, the last five joints of the funicle brownish; prothorax much longer than broad, constricted behind the middle, finely and sparsely punctured; scutellum distinct; elytra shortly ovate, the shoulders callous, finely striate-punctate; interstices flattish; body beneath and the four posterior coxæ black.

This *Apion* is about the size and shape of *A. nigrিতarse*, but is more glossy, with a differently formed prothorax, and the coloration of the antennæ and legs different. Kandy is not more than 1700 feet above the sea; the botanical garden of Peradeniya is here.

Apion æneipenne.

A. ovatum, convexum, nigrum, nitidum, elytris fusco-æneis, pedibus rufescentibus, tarsis saturatoribus; antennis fuscis; rostro modice elongato, tertia basali incrassata; capite rude punctato; oculis subapproximatis; prothorace cylindrico, tenuiter punctato; elytris ovalibus, striato-punctatis, interstitiis planis, subtilissime punctatis. Long. $1\frac{1}{3}$ lin. (rost. incl.).

Hab. Kandy.

This species has the habit of the preceding; but the coloration is different, the prothorax is not constricted, and the elytra are oval rather than obovate. The only other *Apion* in the collection is *A. ceylonicum*, Gerst.

Apoderus pulchellus.

A. glaber, nitidus, rufo-castaneus; elytris singulatim plaga oblonga flava ornatis, lateribus sterni maculis duabus stramineo-sericeis indutis. Long. $3\frac{1}{3}$ lin. (rost. incl.).

Hab. Dikoya.

Smooth, glossy, rufous or reddish chestnut, a large, oblong pure yellow patch (but slightly interrupted towards the middle) on each elytron, a short distance from and parallel with the suture; head elongate obconic, depressed between the eyes; antennæ as long as the head and prothorax together in the male, much shorter in the female; prothorax impunctate; scutellum large, very transverse; elytra striate-punctate, punctures large, approximate; body beneath dark chestnut; meso- and metasternal epimera covered with a silky straw-coloured pubescence; legs varying from rufous to brownish.

About the size and contour of *A. Dohrnii*, Jek., but at once distinguished from its congeners by the large yellow oblong patches on the elytra.

Rhynchites clavatus.

R. nigrescens, elytris fusco-æneis; rostro longitudine capitis cum prothorace; clava antennarum laxè elongata, funiculo articulis quinque basalibus testaceis, apice paulo infuscatis. Long. $1\frac{1}{4}$ lin.

Hab. Dikoya.

Minutely pubescent, blackish; elytra dark brassy brown; rostrum slender, as long as the head and prothorax together; antennæ with the five basal joints of the funicle testaceous, but a little darker at the apex, the club loosely elongate, and, with the last two joints of the funicle, blackish; prothorax longer than broad, minutely and closely punctured; elytra short, striate-punctate, punctures moderately approximate, interstices flattish; body beneath and legs dark steel-blue, coxæ fulvous.

This species is similar to our *R. æneovirens*, but is much smaller, and has the club of the antennæ differently formed.

Eugnamptus marginatus.

E. testaceus, scutello, elytrorum sutura marginibusque nigrescentibus; femoribus, apice excepto, testaceis, hoc, tibiis, tarsis, antennis rostroque nigris. Long. $2\frac{1}{2}$ lin. (rost. incl.).

Hab. Dikoya.

Thinly pubescent, testaceous; scutellum, suture, and margins of the elytra blackish; femora testaceous, except at the apex, this, with the tibiæ, tarsi, and antennæ being dull black, the latter pubescent; rostrum glossy black, except a little testaceous at the base; prothorax longer than broad, inclining to luteous, and but slightly pubescent; scutellum subquadrate; elytra somewhat depressed, the sides parallel, striate-punctate, punctures moderately approximate, interstices flattish; body beneath testaceous, the metasternum blackish.

Allied to an unpublished species from Madras in my collection, which, *inter alia*, has the elytra more closely punctured and the apex black. I have two species from Pará, neither allied to their North-American congeners.

Alcides Lewisii.

A. oblongo-ovatus, niger, nitidus, prothorace vittis quinque, elytrisque singulis vittis tribus (exteriore apice ad interiorem conjuncta, tertia intermedia abbreviata) ochraceis ornatis. Long. $4\frac{1}{2}$ –5 lin.

Hab. Dikoya.

Oblong-ovate, black, shining, closely granulate; prothorax with five, and each elytron with three, pure ochre-yellow stripes, the inner stripe on the latter abruptly diverging behind the middle, and joining the outer or marginal stripe at a sharp angle close to the apex, the third or intermediate stripe tapering from the base and extending to a little beyond the middle; body beneath with small non-approximate scales, but more dense on the propectus and sides; legs with scattered hair-like scales.

I have the pleasure of naming this handsome species after Mr. Lewis, who has done so much for Eastern entomology, and to whom I am indebted for the species described in this paper.

Alcides ruptus.

A. oblongo-ovatus, niger, prothorace vittis quinque, elytrisque vitta exteriore alteraque interiore pone medium (apice conjunctis), plagis duabus ad latera, una posteriore ad vittam exteriorem adjuncta, vitta basali intermedia abbreviata, ochraceis ornatis. Long. 4– $4\frac{1}{2}$ lin.

Hab. Dikoya.

This species is very closely allied to the last; but, without the variation in the disposition of the stripes on the elytra, it may be distinguished by the remotely placed granules on the interstices (not running together and forming an almost continuous line), and the intervals between the granules being well covered by approximate ochreous scales, so hiding the derm beneath as to give the upper surface a more opaque appearance. The principal variation in the elytral stripes is that the outer one is interrupted, the upper portion forming an oblique patch at the shoulder.

Alcides curialis.

A. ovatus, niger, nitidus, prothorace vittis quinque elytrisque singulis vitta abbreviata basali, maculis duabus ad humeros, fascia pone

medium (ad suturam haud extensa), et signo v-formi apicali ochraceis ornatis. Long. 5 lin.

Hab. Dikoya.

Ovate, glossy black; prothorax with five stripes, and on each elytron a short stripe near the scutellum, two spots on the shoulder, a postmedian band (not extending to the suture), and a V-shaped mark at the apex pure ochre-yellow; elytra striate-punctate, punctures large, approximate, interstices with the granules coarse and irregular; body beneath with small approximate ochreous scales; legs with elongate scattered scales.

This and the two preceding species form another isolated group in this large genus, whose characters are so precise, but whose members in so many instances leave such large gaps between them. The bifid, or simple claws connate at the base, however, have ceased to be characters of generic importance.

Alcides guttulatus.

A. obovatus, niger, supra granulis nitidis (interstitiis dense silaceo-squamosis) indutus; rostro sat valido, rude punctato; antennis piceis; elytris basi prothorace paulo latioribus, striatis; pedibus ferrugineis. Long. $4\frac{1}{2}$ lin.

Hab. Bogowantalawa.

Obovate, black, with glossy granules above, the intervals covered with yellowish-brown scales; rostrum rather stout, not longer than the prothorax, coarsely punctured, with short prominent longitudinal lines between; antennæ dark pitchy; prothorax irregularly granulate; elytra broadest at the base, striate-punctate, punctures nearly hidden by the scales, but apparently linear, each interstice with a row of rather remote granules, becoming gradually smaller posteriorly; body beneath pitchy, with fewer scales; legs ferruginous, sparsely scaly; tarsi pitchy.

Not unlike *Lixus bicolor* in general appearance, but a little stouter. In the two individuals before me one has three distinct small yellowish spots behind the middle of the elytra (two outer conjoined), one at the shoulder and another towards the apex; in the second there are two spots only in the middle and none at the apex. Bogowantalawa is from 4900 to 5200 feet in altitude.

Alcides suspensus.

A. ellipticus, niger, subnitidus, prothorace vittis quinque, elytris singulatim vittis quatuor (interiore prope scutellum incipiente ad apicem extensa, duabus extus basalibus in medio conjunctis, quarta postica marginali) fulvis ornatus. Long. $2\frac{3}{4}$ lin.

Hab. Kitulgalle.

Elliptic, black, somewhat glossy, five stripes on the prothorax and four on each elytron pale tawny yellow; on the latter, one starts from the side near the scutellum, then curving a little outwards is continued to the apex, two outer and basal stripes are connected by a transverse bar just before the middle, the fourth stripe is marginal, occupying the posterior half, and joins the inner one at the apex; rostrum slender, longer than the prothorax, glossy black; antennæ pitchy; prothorax conical, rather closely granulate between the stripes; elytra slightly broader than the prothorax at the base, striate-punctate, the interstices, except where the stripes intervene, closely granulate; body below covered with pale ocraceous scales; legs, except the black coxæ, reddish pitchy, sparsely scaly.

This species may be grouped with the following and two or three other elliptic forms as yet undescribed.

Kitulgalle is 1700 feet above the sea.

Alcides argutor.

A. ellipticus, piceus, squamulis piliformibus subaureis indutus; elytris maculis quatuor ante medium, quatuor pone medium, vittisque duabus apicalibus fulvis notatis. Long. $2\frac{1}{2}$ lin.

Hab. Dikoya.

Elliptic, pitchy, covered with very small, yellowish, somewhat golden scales; rostrum slender, longer than the prothorax, finely punctured; antennæ dark pitchy; prothorax conical, irregularly and rather closely granulate; scutellum punctiform; elytra scarcely broader than the prothorax at the base, striate-punctate, punctures indistinct, each interstice with a row of rather remote granules, four small spots just before and four behind the middle, and two stripes meeting at the apex of each elytron, all of a dull yellowish colour; body beneath sparingly scaly; legs ferruginous, with scattered hair-like scales; tarsi pitchy.

PODALIA.

Rostrum breviusculum, modice arcuatum; *scrobæ* medianæ, infra rostrum currentes. *Antennæ* breves; *funiculus* 7-articulatus, articulo primo majusculo, ultimis quinque transversis; *clava* ampla. *Oculi* magni, antice approximati. *Prothorax* normalis. *Scutellum* parvum. *Elytra* prothorace haud latiora. *Rima* pectoralis inter coxas anteriores postice terminata. *Abdomen* segmentis duobus basalibus ampliatis; *pygidium* obtectum. *Pedes* breves, antici majores; *femora* dentata; *tibiæ* anticæ apice mucronatæ; *tarsi* (articulis tribus basalibus simul sumptis) cuneiformes.

A genus whose nearest ally appears to be *Copturus*; but widely different in the short, stout legs, especially the anterior pair, the rostrum in repose not extending to the mesosternum, the shortness of the antennæ, the scape not extending to the eye, and other characters. The exponent of this genus has a marked resemblance to *Menemachus stigma*.

Podalia mimica.

P. ovalis, fusca, setulis pallide griseis vestita, pedibus antennisque pallidioribus vel subferrugineis. Long. $1\frac{1}{3}$ lin.

Hab. Galle.

Oval, slightly depressed above, dark brown, covered with pale greyish setulæ varied with silaceous, the elytra with a few indefinite blackish spots; rostrum much shorter than the prothorax, slightly broader at the tip, the basal half seriate-punctate, bicanaliculate beneath, the scrobe cutting into the canal on each side; antennæ subferruginous, second joint of the funicle conical, shorter than the first, the remainder very short and gradually broader, the club large, oval; prothorax narrowed anteriorly, rounded at the sides, not contracted at the base; scutellum small, embayed by the elytra; the latter striate-punctate, punctures indistinct; body beneath and legs with greyish setulæ.

AMPHIALUS.

Rostrum modice elongatum, cylindricum, paulo arcuatum; *scrobes* terminales, ad partem inferiorem oculi desinentes. *Oculi* infra subacuminati. *Antennæ* tenues; *funiculus* 7-articulatus, articulis duobus basalibus elongatis; *clava* distincta. *Prothorax* transversus, basi truncatus, utrinque rotundatus, lobis ocularibus prominulis. *Scutellum* minutum. *Elytra* subglobosa. *Pectus* breve, late excavatum, antice emarginatum. *Meso- et metasternum* brevissima. *Abdomen* segmento primo amplissimo, tribus sequentibus brevibus; *processus* interfemoralis late truncatus. *Femora* obsolete dentata; *tibiæ* flexuosæ, calcaratæ; *tarsi* breves; *unguiculi* liberi; *coxæ* anticæ contiguæ, intermediae separatæ.

An *Acalles*-like form, but with a broad shallow excavation (hardly a canal) on the short pectus. This character seems to ally it to Lacordaire's "sous-tribu Ithyporides." The unusual character of the second abdominal segment not being longer than either the third or fourth is also found in *Ithyporus* itself.

Amphialus turgidus.

A. ovatus, fuscus, supra nitide nigro-granulatus, inter granula sat

dense squamosus; elytris valde convexis, postice fascia flexuosa alba notatis; rostro antice rotundato. Long. 3 lin.

Hab. Dikoya.

Ovate, dark brown, with numerous glossy shining granules above in the midst of rather closely-set palish scales; rostrum rounded in front, scaly throughout; antennæ pitchy, first two joints of the funicle as long as the rest together; prothorax with a well-marked longitudinal groove, granules irregularly scattered, some bearing a short erect black scale; scutellum small, semi-circular; elytra very convex, strongly grooved, the grooves foveate, interstices with a line of somewhat remote granules; body beneath and legs closely scaled, with longer bifid scales intermixed, last four segments of the abdomen with a few hair-like scales only.

Amphialus agrestis.

A. ovatus, fuscus, supra nitide nigro-granulatus, inter granula dense squamosus; rostro antice bicarinato. Long. $2\frac{1}{2}$ lin.

Hab. Dikoya.

Allied to the preceding, but at once differentiated by the two carinæ or elevated lines on the rostrum, and the two shorter basal joints of the funicle; the prothorax has a shallow longitudinal groove free from granules; and the elytra, longer in proportion and less convex, have on each a white somewhat semilunar spot behind the middle. The spots, however, as well as the band of the last are liable to be effaced, and are probably not to be depended on, as is the case in many others of the same family.

PHRYGENA.

Rostrum tenue; *scrobes* antemedianæ, infra rostrum euntes. *Antennæ* funiculo primo incrassato, quam secundus longiore. *Oculi* rotundati, laterales. *Prothorax* transversus, irregularis, apice productus, lobis ocularibus prominulis. *Scutellum* punctiforme. *Elytra* ovata, convexa, prothorace latiora. *Rima* pectoralis ad metasternum extensa, postice indeterminata. *Abdomen* segmentis duobus basalibus amplis; processus interfemoralis late truncatus. *Femora* in medio incrassata, mutica; *tibiæ* basi compressæ, calcaratæ; *tarsi* articulo tertio ampliati; *unguiculi* liberi. *Corpus* squamosum et fasciculatum.

Allied to *Colobodes*, but with the pectoral canal extending to the mesosternum, and of course with the anterior and intermediate coxæ apart. The canal, however, is not so definite posteriorly as in the "*Tylodides*." I have a second species from Singapore*.

* It is closely allied to the Cingalese species here described; but the broad ridge on the prothorax is rather convex above, without the excava-

Phrygena ephippiata.

P. breviter ovata, albo-squamosa; elytris, tertia apicali excepta, fuscis; prothorace apicem versus paulo excavato; pedibus annulatis. Long. 2 lin.

Hab. Dikoya.

Shortly ovate, closely covered with white scales, the elytra brown, except the apical third; rostrum as long as the prothorax, scaly throughout, brown in the middle; antennæ testaceous; prothorax broadly ridged in the middle, and slightly excavated behind the projecting apex, edges of the ridge bounded by a fascicle of erect white scales anteriorly and behind by a few black ones, sides external to the ridge concave throughout; elytra broadest at the base, gradually rounded to the apex, the shoulders extending beyond the prothorax, striate-punctate, the punctures linear, third, fifth, and seventh interstices fasciculate towards the base, a second series of fewer scales on the middle, and a still lessening series on the apical third; body beneath with small whitish scales; legs closely covered with white scales alternating with rings of brown.

STRATTIS.

Femora infra canaliculata et *scutellum* distinctum ab *Acalles* distinguunt.

Acalles is one of those genera which do not appear to be very easy of definition; Lacordaire hesitated to consider it distinct from *Tylodes*, with which it was originally placed by Schönherr as a subgenus, with *A. camelus* as the type. Later on, in his 'Genera et Species,' he gave as the type an obscure Cuban species, *A. apicalis*. At any rate the characters here given cut off the two species described below from *Acalles*.

Strattis biguttatus.

S. breviter ovatus, fuscus; elytris in medio singulorum macula sordide alba notatis; rostro extrorsum ferrugineo; antennis testaceis. Long. $1\frac{1}{3}$ lin.

tion at the apex, and is without the black scales at the side; the elytra at the apex are abruptly declivous; and the legs are not ringed.

Phrygena affinis.

P. breviter ovata, albo-squamosa; elytris, tertia apicali excepta, fuscis, apice subito declivibus; prothorace apicem versus paulo convexo, lateribus minus excavatis. Long. 2 lin.

Hab. Singapore.

Hab. Dikoya.

Shortly or rather broadly ovate, dark brown; elytra with a small well-defined dirty white spot on the middle of each; upper surface set with numerous short, erect black scales; rostrum nearly as long as the prothorax, punctured at the base and gradually smoother and ferruginous towards the apex; antennæ testaceous; prothorax very transverse, narrow at the apex, rapidly expanding and rounded at the sides; scutellum round, elevated, smooth; elytra a little broader than the prothorax, callous at the shoulders, very indistinctly seriate-punctate; body beneath ferruginous, with pale scattered scales imbedded in punctures; legs short, dark brown.

This species in a certain degree resembles *Acalles roboris*.

Strattis vestigialis.

S. ovalis, fuscus, fere obsolete albo varius; elytris postice fascia indeterminata alba notatis; rostro antennisque piceis. Long. $2\frac{1}{4}$ lin.

Hab. Dikoya.

Oval, dark brown, with a few almost obsolete dirty white patches, assuming a band-like form towards the posterior part of the elytra, or the whole apical third more or less whitish; rostrum shorter than the prothorax, and, with the antennæ, pitchy; prothorax very transverse, rather flattish above, slightly concave at the sides, closely punctured; scutellum blackish; elytra moderately convex, striate-punctate, punctures linear, not approximate, interstices slightly raised; body beneath pitchy, with approximate whitish scales; pectoral canal not extending beyond the anterior coxæ; legs pitchy, covered with narrow and some erect scales.

In this species the canal is shorter than in the preceding or in *Acalles* generally.

XV.—*Observations on the Generic and Specific Characters of the Laganidæ.* By Professor F. JEFFREY BELL, M.A.

1. *History of the Name.*—The generic term *Laganum* has had a somewhat chequered history. Introduced into science by the very founder of our knowledge of the Echinoidea, it was left unnoticed by Leske in his "Additamenta" to the work of Klein. When first used as a strictly generic appellation its form was a little modified—Dr. Gray, in 1825, copying, as it would seem, from p. 9 of Klein's 'Dispositio' without noting that, at the top of the page, there are the words



Pascoe, Francis P. 1883. "On some species of Curculionidae from Ceylon." *The Annals and magazine of natural history; zoology, botany, and geology* 11, 121–130.

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