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Guy A.K. Marshall D.Sc. C.M.G.

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XLII.—On new Species of Curculionidæ from Africa.

By GUY A. K. MARSHALL, D.Sc., C.M.G.

[Plate XIII.]

THE types of all the species described below will be deposited in the British Museum.

The terminology used in describing the male genitalia is that proposed by Dr. David Sharp, F.R.S. (Trans. Ent. Soc. Lond. 1918, pp. 209–222).

Subfamily *BRACHYDERINÆ*.

Iphisomus swynnertoni, sp. n.

♂. Black, with the following markings formed of cream-coloured scales: a narrow median stripe on the prothorax; a broad stripe on each elytron approximately between striae 2 and 5 from the base to beyond the middle, and a lateral one from behind the shoulder to the middle of the side-margin. Legs red-brown, with all the tarsi and the apices of the front femora and tibiae black.

♀. Black, fairly densely and uniformly clothed with grey or sandy scaling, having a greenish or coppery reflection; the male pattern often faintly indicated, owing to the scaling being thinner from the base to the middle along the suture and between striae 5 and 6; sometimes coloured like the ♂.

♂ ♀. *Head* closely and coarsely punctate, the scaling much more sparse in the ♂ than in the ♀; the forehead flat, with the punctures longitudinally confluent and with a central stria which is continuous with, but much narrower and shallower than, the furrow on the rostrum; the eyes rather strongly convex, the space between them much greater than the length of an eye (5:3). *Rostrum* much longer than the head, parallel-sided from the base to beyond the middle, gently dilated at the apex, with a broad deep median furrow and two carinae on each side of it; the impressed spaces adjoining the carinae longitudinally striolate, and a shallow lateral impression in front of the eye. *Antennae* with the scape only slightly exceeding the anterior margin of the eye; the funicle with joint 1 half as long again as 2, joints 3–7 subequal and slightly transverse. *Prothorax* a little broader than long, the sides moderately

and regularly rounded (rather more strongly in the ♂), not constricted near the base; the basal margin distinctly carinate and broader than the apex; the upper surface closely set with low shiny granules, without any median furrow, rather flattened on the disk, the dorsal outline being almost level; the scaling much denser in the ♀ than in the ♂. *Elytra* elliptical in ♂, broader in ♀ and more sharply acuminate behind, the basal margin truncate and strongly carinate, the basal angles not projecting forwards, the apices separately pointed; the shallow striæ with very shallow separated punctures, which are almost concealed on the apical half when the scaling is dense; the intervals almost flat, finely rugulose, with a low humeral prominence at the basal junction of intervals 7-9 in the ♀, evanescent in the ♂; the short subrecumbent scale-like setæ irregularly placed, very dense where scaling is present and much more sparse on the bare areas. *Legs* with the front femora only slightly thicker than the others in both sexes; all the tibiæ denticulate on the inner edge, the front pair with the outer edge not curved at the apex in the ♂.

Length 9-12 mm., *breadth* 3.5-5.5 mm.

S. RHODESIA: outskirts of Chirinda Forest, 4000 ft., Melssetter district, 1906 (C. F. M. Swynnerton).

Described from twenty-eight specimens.

Differs from all the previously described species in having no median thoracic furrow, and in the numerous irregular setæ on the elytra.

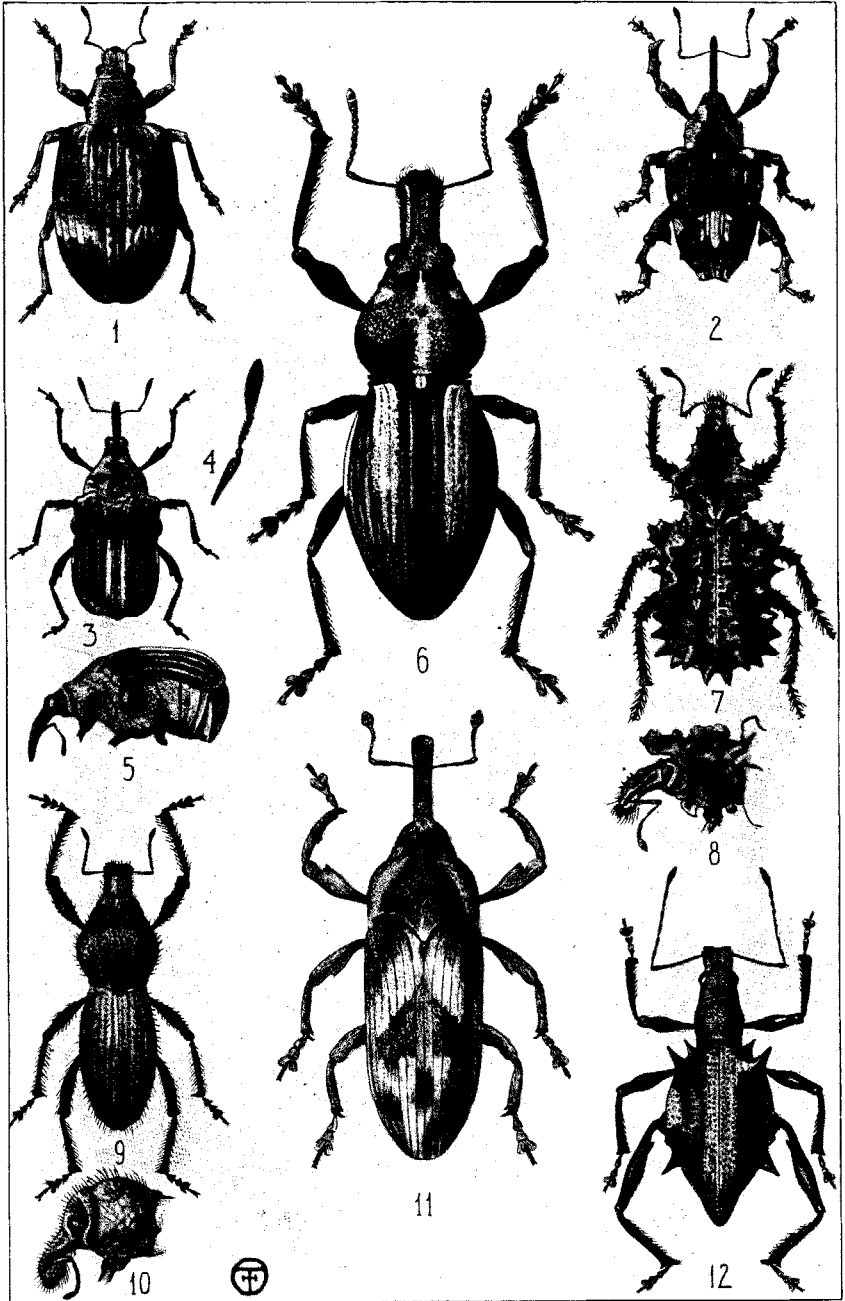
Iphisomus manicanus, sp. n. (Pl. XIII. fig. 6.)

♂ ♀. Very closely allied to *I. swynnertoni*, sp. n., and differing from it only in the following points:—

The prothorax with a rounded spot of pale scales on each side near the apical margin; the legs much darker in colour, the front tibiæ being entirely black. *Head* with the eyes more convex, the forehead less striolate and without any median stria. *Rostrum* much longer in proportion, especially in the ♂, the median furrow narrower and shallower. *Antennæ* with the scape appreciably longer, but joint 2 of the funicle shorter (about half as long as joint 1, instead of two-thirds), and the club more sharply acuminate. *Prothorax* with the sides much more strongly rounded, especially in the ♂, the dorsal outline sloping forwards.

Length 11 mm., *breadth* 4 mm.

PORTUGUESE E. AFRICA: 1 ♂, 1 ♀, Amatonga's, Manika,



New Curculionidæ from Africa.

ii. 1906 (type); 2 ♂♂, 1 ♀, Valley of Kola R., 1500–2000 ft., E. of Mt. Chipirone, iv. 1913 (*Dr. S. A. Neave*).

In all Dr. Neave's specimens there is an additional large pale patch on the apical declivity of each elytron (var. *exclamationis*, nov.).

Protostrophus mucronatus, sp. n.

♂ ♀. Colour piceous, with dense sandy and ash-grey scaling, more or less mottled with dark brown; sometimes the paler scales and occasionally all of them are coppery brown; the prothorax with a sharply defined, broad, dark brown lateral stripe which is invisible from above and is continued on to the inflexed margins of the elytra as a more or less indefinite stripe.

Head separated from the rostrum by a short, slightly curved, transverse stria; the forehead gently convex transversely, with a very short median stria uniting with the transverse one and hardly extending to the centre of the forehead, and set with obliquely raised spatulate setæ, the shallow confluent punctation being entirely hidden by dense circular scaling; the scales on the gular region sparse and narrow; the eyes moderately prominent, deepest slightly behind the middle, the orbit narrow and not projecting on the posterior edge. *Rostrum* a little shorter than its basal width, the sides slightly sinuate; the dorsum plane, with a shallow median impression containing a mere trace of a carina; the scales on the mandibles elongate; the genæ broadly impressed. *Antennæ* setose and not squamose; the scape slender and abruptly clavate; the funicle with joint 1 nearly twice as long as 2, the remainder bead-like and transverse, 7 the broadest. *Prothorax* moderately transverse (4:3), broadest in the middle, the sides strongly and evenly rounded, not emarginate behind the eyes; the apical margin gently convex dorsally, oblique at the sides; the base as broad as the apex, slightly rounded and scarcely marginate; the very shallow confluent punctation entirely hidden by the scaling, with a very narrow bare median line; the upper surface strongly convex transversely and set with short suberect spatulate setæ. *Elytra* comparatively narrow, subelliptical, broadest about the middle, the base deeply sinuate; the striae shallow, the punctures in them only faintly indicated through the scaling and each containing a minute white seta, the intervals slightly convex and each bearing a row of erect spatulate setæ; the scales very

closely contiguous, subcircular and larger than those on the pronotum. *Legs* rather stout; all the tibiae finely denticulate internally and with a well-marked apical mucro, that on the middle pair being longer than the others; the hind corbels bare, narrowly enclosed, the upper edge distinctly angulate at its base. *Sternum* with the front coxæ very close to the gular margin.

The ♂ narrower than the ♀, the prothorax slightly less transverse, the legs (especially the femora) distinctly stouter, and the last ventral segment more broadly rounded behind, and with a small median impression at the apex.

Length 3-4 mm., *breadth* 1.25-2 mm.

S. RHODESIA: Salisbury (G. A. K. M.).

Described from 15 ♂♂ and 8 ♀♀.

Closely allied to *P. (Strophosomus) setifer*, Fhs., in which the prothorax is much less strongly rounded at the sides, the base and apex are truncate, and the lateral stripe is grey and not dark brown, while the legs are more slender.

Protostrophus terrenus, sp. n.

♂ ♀. Colour black, densely clothed with contiguous subcircular scales, which are usually sandy-brown, with indistinct mottling of darker brown, especially towards the sides and apex of the elytra; the pronotum with two very faint darker stripes and a more distinct one on the side of the prosternum. Sometimes the upper surface is almost uniformly grey.

Head separated from the rostrum by a very deep bisinuate furrow; the forehead almost flat, with a broad and deep median furrow extending to behind the eyes, and set with subrecumbent flattened setæ; the eyes very prominent and strongly produced backwards, deepest distinctly behind the middle, the orbits fairly broad and very slightly projecting on the posterior edge; the gular area densely clothed with broad scales. *Rostrum* evidently shorter than its basal width, the sides straight and quite vertical, the upper surface entirely flat, except for an indistinct scale-covered median costæ; the mandibles sparsely covered with small round scales; the genæ only shallowly impressed. *Antennæ* setose; the scape slender and abruptly clavate; the funicle with joint 1 half as long again as 2, the remainder about as long as broad. *Prothorax* much broader than long (5:3), broadest a little behind the middle; the sides strongly rounded, emarginate behind the eyes and constricted at the

base ; the apical margin gently arcuate dorsally and very oblique at the sides ; the basal margin not broader than the apical, very slightly arcuate, almost truncate, with a deeply impressed transverse line close to the edge ; the dorsum strongly convex transversely and slightly so longitudinally, the apex being lower than the base ; the coriaceous sculpturing hidden by the scaling, except along a slightly raised median line, which extends from the basal stria to a little distance behind the apex ; the flattened setæ recumbent. *Elytra* broadly ovate, widest about the middle, rather broadly rounded behind, the dorsal outline almost flat, the basal margin sinuate ; the striæ very shallow, but the punctures deep and distinctly visible through the scaling ; each interval with a row of numerous curved, or slightly raised, flattened setæ ; the scales not larger than those on the pronotum. *Legs* with the tibiæ not denticulate internally, the apical mucro inconspicuous, the front pair with the apical teeth stout and extending a short distance up the external edge, the hind pair with the corbels distinctly enclosed, bare, the upper edge angulate at its base. *Sternum* with the front coxæ in the middle of the prosternum, the centro-sternal piece forming a small tubercle.

The ♂ smaller than the ♀ and a little narrower, and the last ventral segment slightly shorter.

Length 3·5–5 mm., *breadth* 1·6–2·25 mm.

S. RHODESIA : Buluwayo, xii. 1903 (*G. A. K. M.*).

Very similar in appearance to *P. (Strophosomus) convexicollis*, Fhs., but in that species there is a median furrow on the pronotum and at the apex of the rostrum.

So far as is known at present, Southern Rhodesia appears to be the northern limit of the genus *Protostrophus*. The present species was the only one met with at Buluwayo, and *P. mucronatus* was the only species found at Salisbury during many years' collecting. Further south the species are numerous, but I have seen none from the western districts of the Cape Province.

Protostrophus carinirostris, sp. n.

♀. Colour black, densely clothed with small, almost round scales, slightly overlapping in parts, those on the pronotum being distinctly larger than those on the elytra. Scaling on head and rostrum grey, with the costæ brownish ; pronotum grey, with a broad median brown stripe ; elytra mottled with fawn, grey, and brown, interval 1 entirely fawn,

interval 3 with a more conspicuous grey spot behind the middle, and a similar one a little in front of it on interval 5; lower surface grey.

Head separated from the rostrum by a gently curved furrow, almost plane between the eyes, with a very broad and deep median furrow ascending to the vertex, flanked by a low costa and two more on each side of it (sometimes traces of a third); eyes very prominent and strongly produced backwards, deepest well behind the middle, the orbit narrow and not projecting behind. *Rostrum* a little shorter than its basal width, the lateral dorsal edges distinctly sinuate behind the antennæ and rather overhanging the sides; the dorsum strongly tricarinate, the outer carinæ nearer at the base to the median one than to the sides, and gradually curving outwards to join the lateral margins above the antennæ; the genæ rather broadly and deeply impressed. *Antennæ* piceous, rather densely squamose; the funicle with joint 1 about one-fourth longer than 2, the remainder bead-like, 3 a little longer than broad, 4 to 6 about as long as broad, 7 broader and transverse. *Prothorax* twice as broad as long, widest about the middle, the sides strongly rounded and deeply constricted close to the apex; the base arcuate, scarcely marginate, and much broader than the apex, which is shallowly sinuate dorsally and vertical at the sides; the rather rugose sculpture of the upper surface is hardly noticeable through the scaling, and a fine bare median carina runs from the base almost to the apex; the narrow flattened setæ entirely recumbent. *Elytra* broadly ovate, the sides slightly rounded, widest rather behind the middle, broadly rounded behind, and jointly sinuate at the base, the dorsal outline gently convex and continuous with that of the pronotum; the broad shallow sulci containing pupillate punctures that are perceptible through the scaling; the intervals convex, and each with two irregular rows of short recumbent setæ. *Legs* stout, densely squamose; the tibiæ not denticulate internally, and the mucro inconspicuous; the corbels of the hind pair narrowly enclosed, squamose, with the upper edge strongly angulate at the base.

Length 5.5-5.4 mm., *breadth* 2.75-3 mm.

NATAL: Frere, 1892 (*G. A. K. M.*).

Described from four specimens.

Most nearly allied to *P. (Strophosomus) sulcatifrons*, Mshl. (*Proc. Zool. Soc. Lond.* 1906, p. 914, pl. lxvi. fig. 2), which has the head and rostrum very similarly sculptured; but, apart from being nearly twice as large, that species has

the pronotum deeply wrinkled longitudinally, with a broad median carina and the sides angulated; joint 2 of the funicle is nearly as long as 1, and 7 is as long as broad, etc.

Leurops sublineata, sp. n.

Colour variable; black with dense pale fawn or fawn-grey scaling; the prothorax usually with two broad dorsal paler stripes; the elytra sometimes almost unicolorous, but usually variegated with indefinite darker and paler markings, occasionally taking the form of macular stripes.

Head quite smooth, the close shallow punctation almost entirely hidden by the scaling, the forehead flattened, the setæ slightly raised; the eyes moderately convex, the posterior margin not raised above the level of the neck. *Rostrum* nearly as long as its basal width, strongly narrowed in front, with the sides gently sinuate and less perpendicular than usual, so that the genæ are more broadly visible from above; the upper surface with a rather deep median impression in the anterior half, containing a low scale-covered carina; the upper edge of the scape running well below the eye. *Prothorax* quite smooth, without any central furrow or carina, the scaling and setæ as on the head; the sides very gently rounded, the apex truncate dorsally and very shallowly sinuate behind the eyes. *Elytra* ovate, broadest about the middle, rather sharply acuminate behind, the basal margin jointly sinuate; the surface quite even, not striate, but with rows of separated punctures, each containing a minute seta and almost concealed by the scaling; the intervals flat, with irregular rows of appressed scale-like setæ, which are so short that usually the space between the apex of one and the base of the next is about as long as a seta.

Length 4.25 mm., *breadth* 2.25 mm.

ORANGE FREE STATE: Lindekwe Drift, xii. 1905 (*Harold Fry*); Modderpoort, 30. x. 1914 (type).

Described from eight specimens.

Very closely related to the rather larger *L. substriata*, Mshl. (Ann. & Mag. Nat. Hist. (9) i. 1919, p. 20), but in that species the rostrum is distinctly shorter, less strongly narrowed in front, with its sides straight and more nearly perpendicular, and the dorsal impression is much shallower; the posterior portion of the orbit of the eye is raised above the level of the neck; and the setæ on the elytra are much

more conspicuous and longer, the apex of one frequently reaching the base of the next behind it.

In *L. cana*, Mshl. (*l. c.* p. 19), the rostrum is much less narrowed in front and thus appears longer, being almost oblong in shape, with steeply perpendicular sides; the eyes are much less convex; the prothorax more strongly narrowed in front; and the elytra broader and flatter, and much less acuminate behind.

Leurops planoculis, sp. n.

♂ ♀. Colour black, with dense fawn-coloured scaling having a more or less distinct coppery reflection, and sometimes with a very ill-defined broad paler stripe on the disk of each elytron.

Head as in *L. sublineata*, but the central furrow more distinct, the setæ less conspicuous, and the eyes larger and almost flat, so that the hind edge can pass beneath the prothorax. *Rostrum* a little longer than its basal width, rather strongly narrowed in front, the sides faintly sinuate; the upper surface with a rather large and deep median impression, containing the usual low scale-covered carina; the line of the upper edge of the scrobe running only slightly below the lower margin of the eye. *Prothorax* quite smooth, with a trace of a bare median line in the basal half, rather strongly narrowed in front and with the sides gently rounded; the basal margin rather strongly arcuate, the apex very shallowly sinuate in the middle, but not behind the eyes. *Elytra* in the ♂ very broad in proportion to their length, widest at the middle, markedly flattened transversely and broadly rounded behind; in the ♀ ovate, narrower, widest before the middle, strongly convex transversely, and markedly acuminate behind; there is only a trace of very shallow striæ, the punctures in them being distinct only near the base and becoming obliterated by the scaling behind; the intervals with small, shortly ovate, and slightly overlapping scales, smaller than those on the prothorax, and irregularly set with very short recumbent scale-like setæ.

Length, ♂ 5·25–5·6 mm., ♀ 5·6–6 mm.; breadth, ♂ ♀, 3·25–3·6 mm.

TRANSVAAL: Johannesburg, 30. xi. 1918.

Described from three specimens submitted by the Division of Entomology, Department of Agriculture, Pretoria.

The largest of the five species at present known, and remarkable for the extreme flatness of the eyes and the marked sexual difference in the shape of the elytra.

Subfamily LEPTOPINÆ.

Genus ENICODERUS, Pér.*

This genus was placed by Dr. L. Péringuey in the subfamily *Tanymecinae*, near *Siderodactylus*; but, despite a certain superficial resemblance, it has no real affinity with that genus, its nearest ally being *Leptostethus*, Waterh., in the *Leptopinae*.

To the original description the following generic characters may be added:—*Head* with the eyes entirely lateral, the forehead very broad. *Rostrum* in a different plane from the head, but not separated from it by a furrow; scrobes curved downwards and ending far in front of the eyes; mandibles squamose at the sides and multi-setose, with a strong median tooth; mentum transverse, trapeziform, with two erect setæ. *Prothorax* with well-developed postocular lobes bearing a fringe of setæ. *Scutellum* small, but distinct, circular. *Elytra* with ten complete striae, the basal margin carinate, the lateral margin not excised near the base. *Wings* entirely absent. *Legs*: front coxæ contiguous or very narrowly separated, hind coxæ meeting the elytra; tibiae mucronate at the apex, the corbels of the hind pair terminal, squamose, and enclosed; the third tarsal joint broadly lobate, the claws free and squamose at the base. *Sternum* with the gular margin deeply sinuate, the coxæ nearer the front margin of the prosternum; the mesepisterna meeting the elytra, the mesepimera very much reduced; the metepisterna comparatively narrow and scarcely dilated at the base, the bounding suture distinct throughout; the metasternum between the coxæ as long as or longer than the mid-coxæ. *Venter* with the intercoxal process nearly as broad as the coxæ; ventrite 2 separated from 1 by a sinuate incision, and as long as 3 + 4.

The genus *Timus*, Pér. (Trans. S. Afr. Phil. Soc. 1892, p. 128), which is unknown to me, must be extremely closely related to *Enicoderus*; the only distinction given that may be significant is that the eyes are slightly prominent and have a small orbital ridge.

Enicoderus latifrons, sp. n. (Pl. XIII. figs. 9, 10.)

♂ ♀. Colour black, densely clothed with indefinitely variegated greyish-white, pale fawn, and brown scaling.

* Trans. S. Afr. Phil. Soc. 1892, p. 127.

Head fawn-coloured, with an ill-defined median stripe and a narrow ring round the eyes whitish ; rostrum mainly grey ; prothorax greyish white with dark mottling on the posterior dorsal area and mainly fawn in front ; elytra with the sutural and lateral margins fawn-coloured, the disk greyish white, with darker mottling.

Head with the forehead gently convex longitudinally and almost plane transversely, the sculpturing entirely hidden by the densely packed, deeply cup-like scales ; when these are removed, the forehead is shiny and closely punctate throughout, the punctures on the vertex being confluent and rugose ; the whole head set with sparse stiff erect bristles ; eyes very broadly ovate, obtusely acuminate below, and only slightly convex. *Rostrum* longer than broad (7 : 5), the dorsal area gradually narrowed from base to apex, but the width across the genæ equal to the basal width ; the dorsum gently convex transversely in the basal half only, the clothing and punctation similar to that of the forehead ; the apical margin trisinate and asymmetrical, the right lobe being longer than the left. *Antennæ* rather short and densely squamose ; the funicle with joint 2 about as long as broad, scarcely longer than each of the four succeeding joints and shorter than 7. *Prothorax* broader than long, widest at the middle, the sides very strongly rounded in the ♂, less so in the ♀, markedly constricted near the apex, the constriction continued as a shallow furrow across the dorsum, and a similar furrow at the base ; the basal margin arcuate in the middle and broader than the apical, which is also arcuate dorsally ; the dorsum closely and coarsely granulate, with a shallow median furrow on the basal half ; the scales irregular in shape, concave, and in parts cup-like ; the setæ long, coarse, and erect. *Scutellum* densely squamose, elevated. *Elytra* subcylindrical in the ♂ and much narrower than the prothorax at its widest ; broader in the ♀, with the sides more rounded, broadest about the middle and there as wide as or a little wider than the prothorax ; the basal margin jointly sinuate, the external angles not projecting ; the shallow striæ with very large round punctures, which are completely covered by the scaling but distinctly perceptible through it ; the intervals when bare not broader than the punctures, each with a row of long erect setæ, the alternate ones slightly broader and higher ; the scales broadly overlapping, with their margins turned up. *Legs* densely squamose and with long setæ ; the front tibiæ with five teeth on the inner edge, the mid pair with three, and

the hind pair with four; the tarsi with joint 2 transverse and not longer than 3.

Length 7-9 mm., breadth 2.5-3.5 mm.

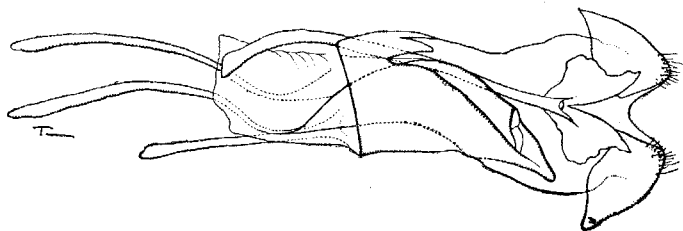
CAPE PROVINCE: Willowmore (*Dr. H. Brauns*).

Described from ten specimens.

The genotype, *E. thoracicus*, Pér., is readily distinguished by the two remarkable tufted prominences on the pronotum (especially developed in the ♂), the angular lateral dilatation near the apex of the rostrum in the ♂, and by the elongate 2nd tarsal joint, which is longer than the 3rd*.

The very brief description of *Timus simplex*, Pér. (*loc. cit.*), would almost apply to *E. latifrons*, but the former species is stated to have a small orbital ridge above the eye and a lateral stripe of dense white scales on the elytra.

Fig. 1.



Enicoderus latifrons, sp. n.

The male genitalia of *E. latifrons* are shown in text-fig. 1, with the accessory parts, in the position of rest. On the extreme right is the divided 6th ventrite, corresponding to the 8th tergite; behind and above this is the irregular bifid plate from which arises the spiculum, a stout chitinised invagination of the membrane which lies beneath the genital tube, but with its free end curved round on to the dorsal surface, thus forming an effective support for the tube. The strongly chitinised median lobe, with its bluntly pointed apical spatula and two long curved posterior struts, is quite of the normal Brachyderine type, forming a closed tube; the sac projects a short distance behind the tube and is lined almost throughout with minute, closely set asperities; the tegmen forms a very narrow circular ring, the dorsal portion of which is produced forwards into a very slightly chitinised bifid process.

* It may be noted that in this species the rostrum was described as bearing five carinæ, but the supposed median carina is really a furrow.

Subfamily OTIORRHYNCHINÆ.

Systates sexspinosus, sp. n. (Pl. XIII. fig. 12.)

♂ ♀. Colour shiny black, with markings composed of pale metallic-green scales; head and rostrum with sparse setiform green scales; pronotum with a few green scales scattered along the median line; elytra with a broad common sutural stripe of small separated scales, narrowing from the top of the declivity to a point near the apex, and a very irregular similar lateral stripe; underside with sparse green scales only on the prosternum and mesosternum.

Head with coarse, shallow, and usually confluent punctation, and a shallow median stria on the forehead, the vertex transversely striolate. *Rostrum* a little shorter than the head and separated from it by a rather shallow impression, about as long as broad, the apex and base of equal width, and the sides gently sinuate; the dorsum with very shallow confluent punctures, and with a faint central costa and an oblique one on each side in the ♂, these costæ almost obliterated in the ♀. *Antennæ* with the scape slender and gradually clavate; the funicle densely pubescent, with joint 1 rather longer than 2, the following being the order of diminishing length: 1, 2, 3, (5, 7), 4, 6; the club elongate, but little thicker than the funicle, and as long as $2\frac{1}{2}$ of the preceding joints. *Prothorax* a little broader than long (5 : 4), subcylindrical, the sides gently rounded, broadest at the middle, the apex only slightly narrower than the base, both being truncate; the upper surface closely covered throughout with low granules, set with minute recumbent pale setæ. *Elytra* ovate, broadest before the middle, acuminate and jointly rounded at the apex; the base on a higher plane than the pronotum, sloping steeply forwards and without a defined margin; each elytron with two stout sharp forwardly-directed spines above the shoulder near the base, the anterior one being much the smaller, and a third, usually larger and sharper, backwardly-directed spine in the same line behind the middle; the rows of punctures very shallow and also irregular, except the three lying between the suture and the row of spines; the setæ extremely minute, except along the sutural area, where they are short and recumbent, becoming longer and erect towards the apex along the suture and lateral margins. *Legs* long and slender; owing to the flattening of the lower surface the hind coxæ are very widely separated and, as it were, pushed out laterally so that they are partly visible from above, especially in ♂;

the femora simple in ♀, the hind pair of ♂ very deeply sinuate internally at the base (to accommodate the projecting coxa), the sinuation terminating in a prominent tubercle, and the lower surface set with scattered irregular granules; in both sexes the anterior pairs of tibiæ armed below on the apical half with a row of closely set spines, the hind pair denticulate; in the ♂ only, the inner apical edge of the hind tibiæ is produced at right angles into a broad laminate process; the tarsi narrow and elongate, with the 4th joint paler and strongly compressed in the basal half. *Venter*: in the ♂, the 1st ventrite with an angular laminate perpendicular process behind the coxa, the 5th broadly rounded at the apex; in the ♀, the 1st ventrite with only a slight fold in the place of the process, and the 5th elongate and very sharply pointed at the apex.

Length 8·5–10·5 mm., *breadth* 3·6–4·8 mm.

NYASALAND: 4 ♂ ♂, 3 ♀ ♀, vii.–viii. 1895 (*A. Whyte*); Zomba, 1 ♂, iv. 1900 (*Cameron*), 6 ♂ ♂, 4 ♀ ♀, vii. 1913 (*E. Ballard*), 4 ♂ ♂, 3 ♀ ♀, vii. 1913 (*Dr. H. S. Stannus*).

Subfamily HYPERINÆ.

Genus FRONTODES, nov.

Head well exserted, so that the rounded convex laterally-placed eyes are remote from the prothorax, the forehead being broad, but rather narrower than the width of an eye or than the base of the rostrum. *Rostrum* much shorter than the head and not longer than broad, the dorsal outline sloping steeply downwards about the middle; the ill-defined epistome with two discal setæ, and the apical margin asymmetrical, there being a distinct projection on the right half; the scrobes lateral, short, deep, subtriangular, and sloping sharply downwards in front of the eye; the mandibles stout, smooth, shiny and rather prominent, each with a single lateral seta, and with a sharp apical tooth and a smaller one below it; the peduncle of the submentum short, broader than long; the mentum comparatively large, trapezoidal, broadest at the apex, the apical margin as long as the lateral edge and with a group of setæ on each side. *Antennæ* very short; the scape exceeding the middle of the eye, but not reaching the hind margin; the funicle with only six joints, the first longer and much thicker than the others; the club elliptical, 4-jointed, and longer than the four preceding joints. *Scutellum* small, triangular. *Elytra* much broader at the shoulders than the comparatively small thorax,

bearing ten complete striæ, with the lateral margin excised for the reception of the base of the metepisternum, and the apices separately rounded, leaving the pygidium slightly exposed. *Wings* functional. *Legs* rather short; the front coxæ contiguous and in the middle of the prosternum, the hind pair not reaching the elytra; the trochanters without any bristle; the femora moderately clavate, unarmed; the tibiæ cylindrical, without any apical mucro, the corbels of the posterior pairs almost transversely truncate; the tarsal claws rather small, free, and simple. *Sternum* with the centro-sternal piece of the prosternum forming a small separate tubercle; the outer and posterior sides of the mesepimeron forming a very wide obtuse angle; the metasternum at its shortest as long as a mid-coxa, with a deep antecoxal impression, the base of the episternum only two-fifths the length of its side. *Venter* with the intercoxal process ogival and much narrower than the coxa; ventrite 1 separated from 2 by a deep sinuate incision; 2 as long as 3+4; 5 about as long as 3, gently sinuate at the apex in the ♂ only; 6 (withdrawn) entirely chitinated in the ♀, the unusually short forked strut being fused with its basal margin (text-fig. 3, *b*); in the ♂ 6 is also chitinous except along a median membranous strip (text-fig. 2, *b*); in the ♂ all the exposed ventrites bear a continuous longitudinal median impression.

Genotype, *Frontodes brevicornis*, sp. n.

The only known species looks like a small *Cepurus*, Schh., but in the latter genus the prothorax is much larger in proportion to the elytra; the eyes are elongate, transverse, not prominent, and approximated above; the apex of the epistome is not asymmetrical; the scape barely reaches the eye, and the funicle has seven joints, etc.

The only other genus in the subfamily that has only six joints in the funicle is the European *Limobius*, Schh., but it differs, *inter alia*, in its long rostrum, elongate depressed eyes, narrow forehead, etc.

It may be noted that the asymmetry of the margin of the epistome occurs also in *Hypera*.

Frontodes brevicornis, sp. n. (Pl. XIII. fig. 1.)

Colour piceous, with moderately dense grey-brown scaling (not entirely concealing the integument), each elytron with a very ill-defined grey transverse patch behind the middle.

Head with the forehead and the disk of the vertex

flattened, coarsely punctate throughout, and clothed with pale scales and recumbent buff or brownish setæ; the strongly convex eyes deepest much behind the middle. *Rostrum* parallel-sided, the dorsal edges rounded, the basal half of the dorsum clothed with scales and setæ, the apical half (comprising the epistome) bare, shiny, and coarsely punctate. *Antennæ* setose and without scaling; joint 2 of the funicle a little shorter than 1, 3 and 4 each shorter still, 4 to 6 of about equal lengths but widening outwardly, 6 being distinctly transverse. *Prothorax* very slightly broader than long, the sides gently rounded, almost parallel in the basal half, the truncate apex much narrower than the gently arcuate base, the apical margin sloping obliquely backwards at the sides and without postocular lobes; the upper surface convex, with the apex a little lower than the base, shallowly and reticulately punctate, the intervals very finely shagreened, and without any median furrow or carina. *Elytra* broad, oblong-ovate, the shoulders rounded subrectangular, thence parallel-sided to beyond the middle; the striae rather shallow, with deep separated punctures, the intervals slightly convex and evenly raised, with irregular rows of recumbent setæ, and with a low pre-apical callus; the scales subtriangular, not overlapping, and a little smaller than those on the prothorax. *Legs* with separated pale scales and recumbent setæ, the tibiae usually with a dark band above the middle.

Length 5·6·5 mm., *breadth* 2·5–3·5 mm.

NATAL: Malvern (*C. N. Barker*—type); Umkomaas Mouth, ix. 1897 (*G. A. K. M.*). PORTUGUESE E. AFRICA: Caia, Zambesi R., ix. 1910 (*Dr. H. Swale*). UGANDA: Daro Forest, Toro, 4000–4500 ft., x. 1911 (*Dr. S. A. Neave*).

The male genitalia (text-fig. 2) are of a normal Hyperine type. The median lobe (*a*) is in the form of a very strongly arched, broad, open trough, which is abruptly narrowed at the functional orifice; on the lower surface near the orifice there is a median sharp longitudinal carina; the apex of the lobe is shortly pointed and the lateral margin on each side of it is broadly lobate; the struts are almost hinged at their junction and are a little longer than the lobe. The sac, when unverted, extends backwards a little beyond the ends of the struts; the distal half is densely set internally with minute spicules, in front of which lie four symmetrically placed, elongate, longitudinal chitinous plates, the rest of the sac being simple. The tegmen is nearly membranous on the dorsal half of the ring, and its strut is about as broad

as those of the median lobe, but only two-thirds the length. Its form is closely similar to that of *Ancylocnemis fasciculata*, sp. n. (text-fig. 4). The spiculum is shown (text-

Fig. 2.

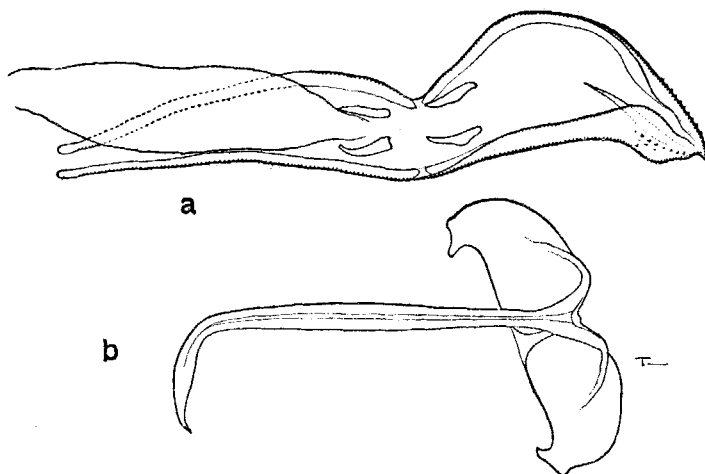


Fig. 3.

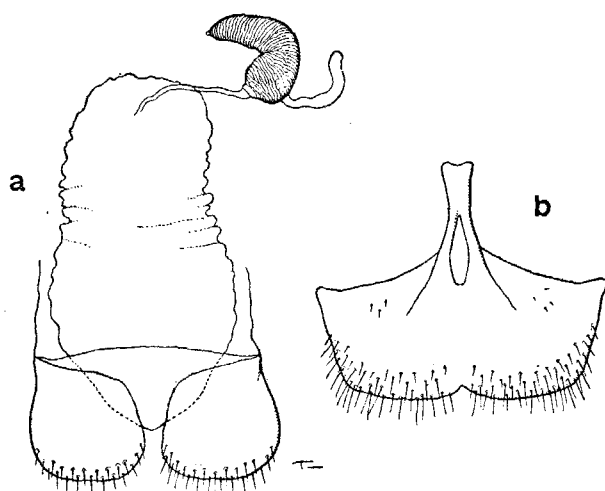
*Frontodes brevicornis*, sp. n.

fig. 2, *b*) with the last (6th) ventrite folded beneath its base, in the normal position.

The female genitalia (text-fig. 3, *a*) are remarkable for the great development and flattening of the apical palp-like organs (*cf.* text-figs. 5 and 7), which is no doubt correlated with the absence of any elongate extensile ovipositor, the vagina not being differentiated from the bursa copulatrix.

Subfamily *RHYTIRRHININÆ*.

Rhytirrhinus lobaticollis, sp. n. (Pl. XIII. figs. 7, 8.)

♂ ♀. Black, uniformly clothed with earth-brown scaling. *Head* completely concealed from above by the anterior thoracic lobe; the forehead excavated, with a high squamose fringe above the eyes, the vertex with two short longitudinal ridges formed of densely packed stout setæ, and a row of numerous similar setæ between them and the lateral margin; eyes rather coarsely faceted, semi-ovate, the posterior margin almost straight; the gular area very finely aciculate, and not transversely carinulate. *Rostrum* with a very broad and deep median furrow, occupying almost the whole dorsal width and bounded laterally by a ridge bearing a dense mass of erect scales; an almost equally broad and deep lateral furrow above the scrobe, the latter densely squamose throughout; the epistome convex and without any defined boundary. *Antennæ* comparatively long and slender; the scape just reaching the eye, slender in the basal two-thirds, gradually clavate at the apex, and bearing the usual erect setæ; the two basal joints of the funicle longer than the rest together, joint 1 as long as the club, 2 as long as 3-5 together, 3 elongate, 4-6 bead-like and a little longer than broad, 7 transverse. *Prothorax* a little longer than broad (9:8); the dorsum concave, with all the margins except the base strongly raised; the anterior portion produced into a long broad lobe considerably exceeding the head, its apex deeply sinuate, and its edges bearing clumps of matted erected scales; the lateral margins similarly produced, but the lobes shorter and broadly truncate, or with the posterior clump of scales higher than the anterior one; in the middle of the base two short high longitudinal ridges of matted scales, and on each side of the disk a similar transverse, slightly oblique ridge; the centre of the anterior lobe, which is the deepest part, set with numerous erect broadly spatulate scales; the shallow reticulate punctation hidden by earthy indumentum, and more readily visible on the pleuræ, on which there are two small prominent tubercles bearing tufts of matted scales. *Elytra* with four tubercular

projections at the base and jointly rounded at the apex, with rows of prominent tubercles on the disk; along the suture a row of five or six very small ones, a large conical one at the top of the declivity (uniting at its base with its fellow on the other elytron), and two small ones on the declivity; the next row with six or seven tubercles, ceasing before the declivity, the basal three small, the others large and conical; the third row with nine or ten tubercles, all large and conical, especially the basal one; the fourth with a very large composite humeral tubercle, a medium-sized one just behind, followed by three or four very small ones; finally, a prominence between the humeral tubercle and the lateral margin; all these tubercles clothed with erect matted scales; between the rows there are very shallow irregular paired rows of large quadrate reticulate foveæ; the inflexed sides with three complete rows of similar foveæ and an incomplete external row. *Legs* densely squamose; the femora with scattered larger fluted scales, and with sparse long setæ on the lower surface only; the tibiæ with long suberect setæ above and below.

Length 6-8 mm., *breadth* 3-4 mm.

CAPE PROVINCE: Cape Flats (type); Stellenbosch (*Dr. L. Péringuey*).

Described from four specimens.

This aberrant species may be readily distinguished from all the previously described South African forms by the very remarkable structure of the prothorax and the numerous conical tubercles on the elytra.

The surface of the body appears to be capable of exuding a glutinous substance which causes small pebbles to adhere to it.

Subfamily *ERRHININÆ*.

Bagous fragosus, sp. n.

Colour black, with dense earth-brown scaling, sometimes with indefinite darker patches.

Head regularly convex, the forehead scarcely flattened, and with a shallow central impression that is more or less filled in with the scaly indumentum. *Rostrum* shorter than the prothorax, moderately curved, shallowly and reticulately punctate, and without any longitudinal furrows or impressions, the lower margin of the side forming a sharp edge. *Antennæ* inserted at the middle of the rostrum. *Prothorax* as long as broad, very deeply constricted and

transversely impressed near the apex, the posterior portion subquadrate, with a slight lateral projection just behind the constriction; the upper surface uneven, granulate, with a very shallow broad median longitudinal impression, and a transverse impression behind the lateral prominence on each side; the apical margin truncate dorsally, the base gently arcuate. *Elytra* short oblong, the basal margin jointly sinuate, the shoulders roundly prominent, the sides subparallel from there to beyond the middle and strongly compressed inferiorly at the apex; the upper surface with fine shallow striæ, the punctures in which are not visible through the scaling; the alternate intervals slightly more raised than the others, and in the basal third a very shallow oblique impression running from the shoulder to stria 1, the suture being evenly raised throughout; on interval 3 there is a low elevation behind the middle and another just behind it at the top of the declivity, and also a prominence on interval 5 on the declivity. *Legs* densely clothed with brown scaling; the anterior pairs of tibiæ with a stout spine-like tooth in the middle and a much smaller tooth midway between this and the apex, each tooth bearing a stout seta; the hind tibiæ merely angulate in the middle; the tarsi short and not specially slender, joint 3 not emarginate and about as long and broad as 1, joint 2 much shorter but scarcely narrower.

Length 2.2 mm., *breadth* 1 mm.

IVORY COAST: Dimbokro (type). FRENCH CONGO: Fort Crampel.

Described from two specimens kindly submitted to me by M. A. Hustache.

Differing from all the previously described African species of the genus in the spine-like tooth on the tibiæ. In my notes on the African *Bagous* (Proc. Zool. Soc. Lond. 1906, pp. 939-940), I inadvertently omitted any reference to *B. niloticus*, Auriv. (Swedish Zool. Exp. Egypt, no. 10 a, p. 16, 1905), with which I am not acquainted.

Subfamily ANTHONOMINÆ.

Genus ANCYLOCNEMIS, nov.

Head globular, well sunk in the thorax; eyes gently convex, not raised above the outline of the head, entirely frontal in position, very narrowly separated and rather coarsely faceted. *Rostrum* elongate, subcylindrical, deflected, and gently curved; the apical margin truncate, with

a fovea on each side containing a single minute seta; scrobes linear, deep, passing rapidly beneath the rostrum, but broadly separated at the base, and not continued beyond the antennæ; mandibles tridentate; the buccal cavity widening from base to apex; the peduncle of the submentum much longer than broad, about twice as long as the small subcircular mentum. *Antennæ* inserted well beyond the middle of the rostrum in both sexes; scape long, slender, cylindrical, gradually clavate at the apex, as long as the funicle, but not reaching the eye; funicle 7-jointed; club elliptical, 3-jointed, with the incisions transverse. *Prothorax* broader than long, the apex much narrower than the shallowly bisinuate base; the apical margin truncate and without postocular lobes. *Scutellum* small, elevated. *Elytra* subtriangular, much broader at the shoulders than the base of the prothorax, thence rapidly narrowing behind; the apices separately rounded, the lateral margins not sinuate; ten complete striæ. *Wings* functional. *Legs* stout, moderately long; the front coxæ contiguous, the mid pair narrowly separated, the hind pair very widely so and meeting the elytra; the femora very thick, pedunculate at the base, the anterior pairs with a short stout tooth, the hind pair with a very large triangular one; the tibiæ much compressed, both upper and lower margins angulate, the apex strongly uncinat; the corbels of the hind tibiæ situated on the inner face, large, bare, narrowly enclosed, being bounded externally by a sharp carina; the tarsi squamose, the 3rd joint very broadly bilobate, the 2nd longer than broad, the 4th as long as the 2nd; the claws rather small, strongly divaricate and appendiculate at the base. *Sternum* with the gular margin deeply sinuate, the coxæ situated in the middle of the prosternum, and no centro-sternal tubercle; the mesosternum sloping very steeply, almost perpendicular, the central process forming a low vertical tubercle with a bifid tuft of scales, the episternum almost an equilateral triangle, the epimeron about one-third smaller; the metasternum at its shortest rather longer than the mid-coxæ, the episternum rather broad and angulate internally at the base. *Abdomen* with the ventrite 1 nearly as long as 2-5 together, the intercoxal process very broadly truncate, broader than the coxæ; ventrite 2 separated from 1 by a deep bisinuate incision, but immobile and shorter than 3+4; 5 as long as the three (♂) or two (♀) preceding ventrites, and broadly rounded at the apex in both sexes; ventrite 6 (withdrawn) membranous, with two thinly chitinized transverse patches (text-fig. 4, a).

Genitalia : in the ♂ (text-fig. 4, *b*) the median lobe is arched, strongly chitinized above, but almost membranous beneath, broadly spatulate beyond the orifice, the spatula with a long backwardly-directed tooth on each side; the struts long, slender, and rather sinuous, somewhat longer than the median lobe; the sac projecting far beyond the base of

Fig. 4.

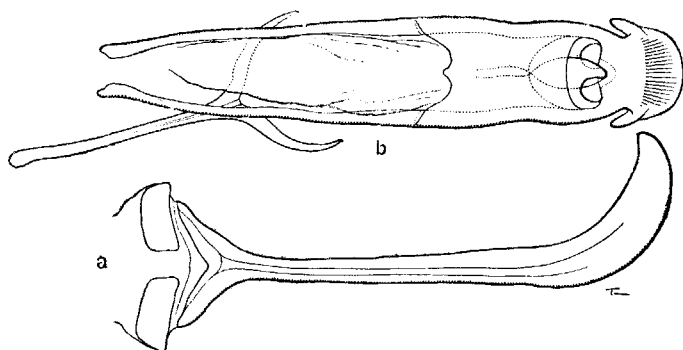
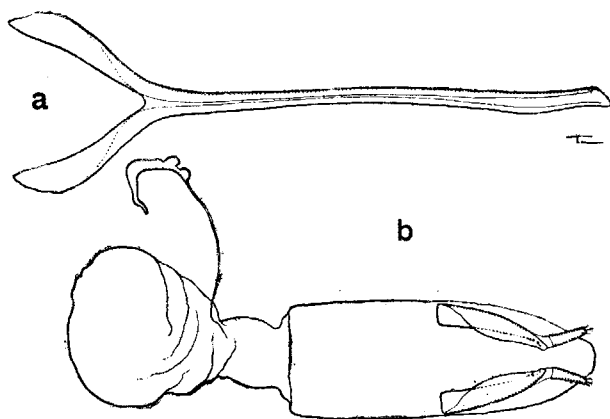


Fig. 5.

*Ancylocnemis fasciculata*, sp. n.

the median lobe, without any armature, but with a large transfer-apparatus; the tegmen slender, the ring membranous on its dorsal third, the strut similar to, but a little shorter than, the struts of the median lobe; the spiculum strong and broad, widely forked at the base and curved like

a hockey-stick at the apex (text-fig. 4, *a*). In the ♀ the vagina and bursa copulatrix are entirely membranous, only the two palps being feebly chitinized (text-fig. 5, *b*); but the supporting strut is stout, straight, and broadly forked at the base (text-fig. 5, *a*); the receptaculum is very small, slender, and irregular in shape (text-fig. 5, *b*).

Genotype, *Ancylocnemis fasciculata*, sp. n.

In the systems of both Lacordaire and Leconte, this genus is referable to the *Anthonominae*, but it presents no special affinity with any of the other genera in the subfamily, being distinguished among other things by its closely approximated eyes, the striking armature of the legs, and the very broad intercoxal process of the venter.

In its general features it more resembles some of the broader species of the Oriental genus *Acicnemis*, Fairm., which also exhibit the large tooth on the hind femora and the broad ventral intercoxal process; but they differ in having the eyes distinctly separated, a well-marked post-ocular thoracic lobe, an abbreviated 10th stria on the elytra, simple and non-divaricate claws, etc.

Ancylocnemis fasciculata, sp. n. (Pl. XIII. fig. 2.)

♂ ♀. Ground-colour piceous, covered with dense greyish-brown scaling, variegated with paler markings and with numerous tufts of scales. Head and prothorax with buff scaling, the latter with a broad median conical brown patch, which is narrow on the front margin and rapidly widens to the base, and with a few white scales in the middle of the base; scutellum with white scaling; the elytra with grey-brown scaling, mottled with buff and whitish scales towards the sides and apex, with a quadrate dark brown sutural patch just before the middle and a similar buff or whitish patch immediately behind it, which is shortly extended along the suture, the shoulders with a patch of overlapping buff scales; the lower surface with buff or light brown scaling; the legs either grey or buff, mottled with brown.

Head with two small scale-tufts on the vertex; the space between the eyes about as broad as the scape at its middle. *Rostrum* of ♂ coarsely and confluent punctate throughout, with a well-marked smooth median carina almost reaching the apex, and a sharp lateral carina from the base to the antennæ; in the ♀ rather longer and more slender, finely and sparsely punctate in the apical half, the carinæ much less distinct, the median one disappearing beyond the antennæ. *Prothorax* a little broader than long, parallel-

sided from the base to beyond the middle, thence abruptly narrowed and constricted; the base shallowly bisinuate, the apex truncate dorsally, the longitudinal outline gently convex; the whole surface with coarsely reticulate punctures (almost entirely hidden by the scaling), without any median furrow or carina, and with eight scale-tufts: two on the front margin, one on each edge of the brown stripe; one on each of the lateral angles formed by the narrowing of the sides; two dorsal ones in the same transverse line with the latter pair, and placed on the lateral edges of the brown patch; and a smaller dorsal pair mid-way between these and the base. *Scutellum* narrow, densely scaled, with the base raised into a small bare prominence. *Elytra* with the base jointly trisinuate, the shoulders roundly prominent, the sides gently rounded, and the apices divergent; the striae shallow, containing very deep separated punctures, visible through the scaling, and each bearing a small black granule on each side when the scaling is removed; the intervals almost flat, rugosely punctate beneath the scaling, becoming granulate towards the base, with the following scale-tufts: interval 2 with two small ones before the middle, a large one at the middle, and another not far behind it; 4 with a row of five; 6 with one behind the shoulder and another at the middle; and 8 with one behind the shoulder, another before the middle, and a third towards the apex. *Legs* reticulately punctate and densely squamose; all the tibiae with a stout squamose tooth on the dorsal edge not far from the base, both the anterior pairs angulate at the middle on the lower edge and with a short external apical projection, and the hind pair with a very long sharp tooth beyond the middle on the lower edge.

Length 3·5–4·5 mm., *breadth* 2–2·4 mm.

CAPE PROVINCE: Willowmore, iv. 1901 (*Dr. H. Brauns*); Uitenhage, xii. 1903 and ii. 1904 (*Father J. A. O'Neil*). S. RHODESIA: Salisbury, ix. 1900 (*G. A. K. M.*). PORTUGUESE E. AFRICA: Beira, vi. 1900 (*P. A. Sheppard*—type), xi. 1900 (*G. A. K. M.*). TANGANYIKA TERRITORY: Meru, xi. 1905 (*Dr. Y. Sjöstedt*).

Described from fifteen specimens.

Subfamily ALCIDINÆ.

Alcides liviformis, sp. n. (Pl. XIII. fig. 11.)

♂ ♀. Ground-colour black, with the elytra, anterior margin of prothorax, apex of femora, and the tarsal claws

red-brown ; the whole clothed with cream-coloured scales of varying density and dusted with yellow powder, and with the following ill-defined darker markings due to the scales being narrower or more sparse, so that the ground-colour shows through: a broad discal stripe on the prothorax, extending outwardly as far as stria 4 of the elytra at the base and narrowing to the apex ; on the elytra a large basal patch extending from stria 3 to 8, and an oblique one extending from the suture before the middle to stria 7 behind the middle.

Head with close shallow confluent punctation, the forehead flattened and with a central fovea. *Rostrum* about as long as the prothorax in the ♀, a little shorter in the ♂, moderately stout, almost straight, coarsely and confluent punctate throughout in both sexes, the basal third with fairly dense scaling. *Antennæ* with joint 1 of the funicle nearly as long as the next three together, joints 3-6 transverse and subequal, 7 closely annexed to the club and as long as its two basal joints. *Prothorax* a little broader than long (5:4), parallel-sided from the base to beyond the middle, thence narrowing with a curve and constricted at some distance from the apex, the apical margin gently arcuate dorsally ; the upper surface beneath the scaling dull and shagreened, and uniformly set with small separated rounded granules, except the apical area which is punctate ; all the scales fringed at their tips. *Scutellum* slightly elevated, trapezoidal, broadest at the apex, bare. *Elytra* cylindrical, nowhere wider than the thorax, and the sides forming practically a continuous line with those of the latter ; the shallow striae with deep oblong separated punctures, the intervals rugulose and only a little broader than the septa between the punctures, but the sculpture mostly hidden beneath the scaling ; a broad shallow circumscutellar impression, and a deeper one at the base of striae 4 and 5 ; the scales ovate, narrowed and shortly fringed at the tip. *Legs* rugose, fairly densely clothed with elongate scales ; the femoral tooth well developed, that of the front pair the largest and with an additional small tooth at its base ; the front tibiae sharply angulate at the middle on the inner edge, the posterior pairs straight internally.

Length 8.25-11 mm., *breadth* 3.2-4 mm.

S. RHODESIA : Salisbury, 1893 (*G. A. K. M.*).

Belongs to the group of cylindrical species represented by *A. sparsus*, Boh., and *A. exilis*, Boh., but distinguished by its much larger size, very different and *Lixus*-like colouring, and its simple mid and hind tibiae.

Described from twelve specimens.

Subfamily XIPHASPIDINÆ, nov.

Genus XIPHASPIDIS, nov.

Head exserted, strongly constricted behind the eyes, which are large, transverse, and with their upper edge raised above the level of the vertex. *Rostrum* normally deflected at a right angle to the long axis of the body, nearly as long as the pronotum; the scrobes extending narrowly a short distance in front of the antennæ, but behind them broad and passing almost immediately beneath the rostrum; mandibles somewhat exserted, bidentate, bare; peduncle of the submentum forming an almost equilateral triangle, the mentum small and extremely narrow, bare and smooth. *Antennæ* inserted at the middle of the rostrum in both sexes; the scape as long as the funicle and not nearly reaching the eye; the club very large, longer than the funicle, solid and subcylindrical. *Prothorax* transverse, strongly narrowed in front and sloping steeply forwards, bisinuate at the base and fitting closely to the elytra, without postocular lobes. *Scutellum* very long and dagger-like, extending for more than one-third the length of the elytra, and gradually tapering to a sharp point; the base broadly raised and produced narrowly on each side along the base of the elytra as far as interval 2. *Elytra* subquadrate, broader at the shoulders than the base of the prothorax, very deeply and jointly trisinuate at the base, separately rounded at the apex, deeply sinuate on the lateral margins, and with only nine striæ, the 2nd and 9th alone uniting at the apex. *Wings* functional. *Legs* with the front coxæ contiguous, the mid pair very widely separated, slightly more so than the hind pair, which are separated from the elytral margin by a distance much greater than their own width; the femora gradually clavate, each with a sharp tooth, the hind pair not reaching the apex of the elytra; the tibiæ rather compressed and mucronate; the tarsi normal, moderately slender, joint 2 as long as or longer than broad, 3 rather wider, 4 nearly as long as the rest together, the claws strongly appendiculate. *Sternum*: the front coxæ very close to the hind margin of the prosternum, with no centro-sternal tubercle; central mesosternal piece almost vertical and very broadly truncate behind, the side-pieces fused together, the mesepimeron slightly ascending; the metasternum between the coxæ nearly twice as long as the mid-coxæ, very deep dorso-ventrally, the episternum consequently very broad and

completely fused with the unusually large epimeron (shaped like an elongate isosceles triangle), which is broader transversely than the hind coxa and widely separated from it. *Abdomen* likewise very deep, and the venter very short proportionately in the median line, being there only as long as (♂) or slightly longer than (♀) the metasternum; on the same line, ventrite 2 as long as (♂) or shorter than (♀) 3 + 4, and ventrite 5 shorter than 2 in ♂ and as long as 2 + 3 + 4 in ♀; ventrites 2-4 gradually increasing in length up to the elytral margin, but 5 narrowing outwardly to a point in the ♀ (Pl. XIII. fig. 5), whereas in the ♂ it widens rapidly till on a line with the base of tergite 8 and thence narrows to a point at its junction with the base of tergite 7; the pygidium very broadly exposed, 2 mm. long, formed in the ♀ of the 7th tergite, which is quite perpendicular and narrows to a point at its apex; in the ♂ the 7th tergite is perpendicular, but the 8th slopes sharply inwards beneath the abdomen, being about as long as its basal width and broadly rounded at the apex; the dorsum in both sexes strongly chitinized and the tergites closely interlocked, so that the abdomen forms a rigid box, like in *Apoderus*.

Genotype, *Xiphaspis longiclavis*, sp. n.

The species upon which this genus is founded is so aberrant and presents so little real affinity with any other genus known to me that it seems necessary to place it in a distinct subfamily. The broadly exposed pygidium, the strongly appendiculate claws, the broadly truncate and vertical mesosternal process, the mucronate tibiæ, and the form of the rostral scrobes, all approximate it to *Trigonocolus*, Lac., next to which it may provisionally be placed; but the quite unusual development of the scutellum, the very remarkable *Apoderus*-like form of the body (Pl. XIII. fig. 5), the presence of only 9 striæ on the elytra, the entirely different structure of the antennæ and tarsi, etc., abundantly distinguish it from the *Trigonocolinæ*.

Xiphaspis longiclavis, sp. n. (Pl. XIII. figs. 3-5.)

♂ ♀. Ground-colour rather shiny black, the elytra and abdomen red-brown; the prothorax clothed with large overlapping oval yellowish scales, except the dorsal anterior margin, a large median patch, and three small ill-defined lateral spots, on which the scales are replaced by recumbent

yellowish setæ; the scutellum with similar dense scales concealing its base; the elytra with a broad stripe of large yellowish scales on interval 2 from the end of the scutellum to the apex, and with narrow stripes of about the same length, but of small scales on intervals 1, 4, 6, and 8; the basal margin also unevenly clothed with yellow scales; the lower surface and pygidium densely covered with similar large overlapping scales, except on a raised area on the metepisterna.

Head with coarsely reticulate punctures; forehead at its narrowest narrower than the antennal club, strongly convex longitudinally, a little higher than the eyes in front, but broadly impressed on its posterior slope; eyes oval, nearly twice as broad as long, strongly convex. *Rostrum* gently curved, parallel-sided from the base to the antennæ, markedly tapering beyond this in ♀, but not or only slightly so in ♂; in lateral view, the depth distinctly greater than the basal width, slightly diminishing from the base to the middle, and thence rapidly flattening to a point; the sides and upper surface with very coarse reticulate punctation, which is slightly reduced at the apex in the ♂, and gradually converted into very fine scattered punctures in the apical third in the ♀. *Antennæ* piceous, the scape slightly compressed, gradually clavate; the funicle with the two basal joints short, of equal length (seen from below), but the 1st thicker; the remaining joints all transverse and approximately equal; the club three times as long as broad, with velvet-brown pubescence. *Prothorax* almost parallel-sided for a short distance from the base, thence rapidly narrowed and constricted close to the apex; the apical margin truncate dorsally and sloping obliquely backwards at the sides; the whole surface with coarse reticulate punctation. *Scutellum* with the raised basal area separated from the rest by a deep transverse incision, which is completely hidden by the basal patch of scaling; the bare portion very deeply reticulate. *Elytra* somewhat longer than broad, widest at the roundly rectangular shoulders and shallowly sinuate behind them, so that the sides of the abdomen are narrowly visible directly from above; the basal margin very deeply trisinate, being produced into a prominent angle at the base of interval 4; the deep striæ indistinctly punctate, the intervals convex and very rugosely punctate, 3, 5, 7, and 9 being more raised and broader than the others, except 2, which is as broad but flattened; a very shallow impression near the base on interval 4. *Sternum*

with strong honeycomb reticulation throughout, each fovea covered by a large scale; the metasternum with a median furrow, the episterna so strongly convex in the middle that

Fig. 6.

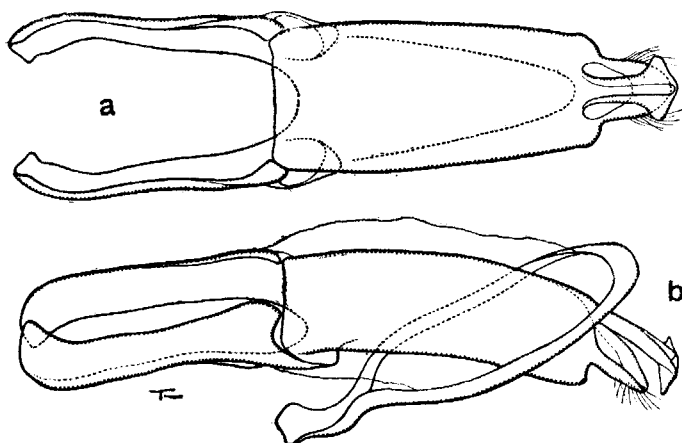
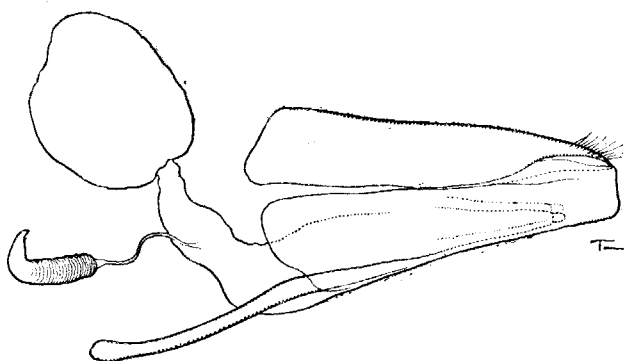


Fig. 7.

*Xiphaspis longiclavis*, sp. n.

the resulting bosses are visible on both sides at the same time when viewed from above.

Length 5 mm., *breadth* 3 mm.

S. RHODESIA : 4 ♂♂, 4 ♀♀, Salisbury, 5000 ft., xi. 1897

(*G. A. K. M.*—type). N.W. RHODESIA: 1 ♂, Chilanga, 1913 (*R. C. Wood*). TANGANYIKA TERRITORY: 1 ♂, Usangu District, 3500–4500 ft., xii. 1910 (*Dr. S. A. Neave*).

The single male from Tanganyika Territory has the rostrum slightly longer and more slender than in the southern specimens.

As might be anticipated in such an isolated form, the genitalia present various peculiar features. In the male (text-fig. 6) the median lobe is a stout gouge-like structure, convex above and concave below; at the orifice it is strongly and abruptly constricted to form a setose lower lip, which is covered by a movable spatulate process arising from the dorsal edge of the orifice; the struts are unusually broad dorso-ventrally, plate-like, and slightly concave on the internal face. The sac is contained entirely within the body of the median lobe, and appears to be quite simple and without asperities. The tegmen is also very remarkable; instead of the usual vertical circular ring with a strut at right angles to it, the ring is exceptionally large and oval, lying almost horizontally in a position of rest, and the short broad gouge-like strut is in the same plane with it. Another striking feature is the complete absence of the spiculum. The 6th ventrite is only lightly chitinized on its apical half, which is deeply sinuate in the middle and entirely devoid of setæ.

The female (text-fig. 7) has the bursa copulatrix abruptly dilated into a balloon-like sac, the duct to the receptaculum seminis emerging before the dilatation; the minute and scarcely chitinized apical palps are enclosed within the closely appressed sides of the unusually long and compressed 6th ventrite which has a long strut. The 8th tergite, which is also unusually long and narrow, is much more firmly attached than usual to the 6th ventrite, and this structure suggests that these two sclerites function together as an organ of oviposition.

The absence of the spiculum in the male is such an exceptional character that I sent a male to Dr. David Sharp for dissection, and he has kindly confirmed the point, adding that in his numerous dissections of male *Curculionidæ* he has noted the absence of the spiculum only in certain genera of *Calandrinæ*, which accords with my own much more limited observations. Dr. Sharp also remarks that the structure of the median lobe in this species is quite unlike anything else that he has seen.

EXPLANATION OF PLATE XIII.

- Fig. 1. *Frontodes* (g. n.) *brevicornis*, sp. n.
 Fig. 2. *Ancylocnemis* (g. n.) *fasciculata*, sp. n.
 Fig. 3. *Xiphaspis* (g. n.) *longiclavis*, sp. n.
 Fig. 4. Ditto. Antenna.
 Fig. 5. Ditto. Side view.
 Fig. 6. *Iphisomus manicatus*, sp. n.
 Fig. 7. *Rhytirrhinus lobaticollis*, sp. n.
 Fig. 8. Ditto. Side view of head and thorax.
 Fig. 9. *Enicoderus latifrons*, sp. n., ♂.
 Fig. 10. Ditto. Side view of head and thorax.
 Fig. 11. *Alcides lixiformis*, sp. n.
 Fig. 12. *Systates sexspinosus*, sp. n., ♂.

XLIII.—*New Rhopalocera from Central Ceram.*

By GEORGE TALBOT, F.E.S.

[Plates XIV.—XIX.]

EARLY in 1919 Mr. J. J. Joicey sent three collectors to the East, in the persons of Messrs. Felix, Charles, and James Pratt. The two first-named had already had considerable experience of tropical collecting. It was decided that they should attempt to reach the higher slopes of the mountains in the interior of Ceram, and, if successful, to spend a few months making collections of Lepidoptera for the Hill Museum.

After much difficulty the three brothers established a camp on the Manusela Range at 6000 feet, and were able to start collecting in October. The first collection made during October and November contained a few striking novelties, and these we describe in the present paper. A much larger collection of about 15,000 specimens is on its way to us, and consists largely of moths.

Messrs. Pratt have recently left Ceram for Dutch New Guinea, where the search for Lepidoptera is to be carried on in an almost unknown territory.

The types of the forms here described are in the Hill Museum, Witley.

Troides procus, Roths., ♂. (Pl. XIV. fig. 1, ♂;
Pl. XV. fig. 2, ♀.)

Troides procus, Rothschild, Nov. Zool. xxi. p. 262 (1914) (interior of Ceram), ♀.

The male of this magnificent species is the most interesting discovery made by Messrs. Pratt on Ceram. Although the colour and pattern exhibits a relationship to the *goliath* group