

GRIDELLIOPUS n. gen.

Monotypical.

Type species : —

Gridelliopus subsquamosus n. sp.

(Figs. 217, 218, 219.)

Of the appearance of a posteriorly attenuate *Gonocephalum*. Body almost oval, with continuous lateral contours (as usually shown in the *Crypticini*), slightly convex, rather densely covered with yellowish, elongate scales, moderately shiny, of a brownish black tint. Head porrect, much narrower than prothorax. Upper surface very densely rugose, covered with scales and a tuft of short erect bristles on supra-orbital edge. Epistome deeply emarginate, laterally not separated from genæ, without perceptible clypeal sutures. Genæ strongly and triangularly projecting outwards beyond eyes. Dorsal portion of eyes large and transverse, but only slightly broader than the ventral portion; the anterior half constricted by genal canthus. Labrum transverse, smooth, the apical margin shallowly emarginate, edged; epipharynx setiferous on both sides. Mentum almost square, shallowly concave, with straight median carinula on basal half. Postgenæ, prelabium and maxillæ as in the preceding Southern African *Litoborini*. Neck subparallel, in normal state of rest amplexed in prothorax (together with gula). The latter badly defined, densely and irregularly sculptured. Antennæ with eleven segments, slender, about one and a half times as long as width of head, with testaceous bristles, gradually dilated towards apex; third segment elongate, about two and a half times as long as the short and slightly transverse second segment; only the two penultimate segments transverse; apical segment large, much longer and only a trifle narrower than the preceding segment, slightly narrowed towards apical margin, the latter rounded and poriferous. Pronotum large, very closely fitted to elytra, twice as broad as head, about twice as broad as long, broadest in front of middle, distinctly broader than elytra, with only slightly convex disc; uniformly covered with extremely dense, shiny, subgranular rugosities and sessile, elongate scales. Anterior margin strongly emarginate, carinate laterally, with produced, but moderately sharp anterior angles. Sides strongly rounded and narrowed anteriorly, much less strongly narrowed in an almost straight line towards base. Submarginal depression broad, but only gradually demarcated from discal convexity. Base very strongly bi-sinuate, immarginate but provided with a fine row

of short, scaly cilia; posterior angles rectangular. Prosternum about one and a half times as long as coxal cavities, rather densely granulate; episternum posteriorly separated from prosternum by a strong suture, densely and sharply granulate on sloping inner portion, with smoothed sculpture on the broad and flat, submarginal portion of sides; intercoxal apophysis long, exactly horizontal, strongly projecting beyond coxal cavities, with rather sharply pointed apex. Elytra weakly convex, subparallel anteriorly, strongly narrowed in a straight line on posterior half, their lateral contours not demarcated from those of pronotum. Base immarginate, following exactly the bi-sinuate course of pronotal base; the prebasilar articulation surface, on which the transverse scutellum is situated, concealed in normal state of rest. Integument densely covered with sessile, elongate scales of a yellowish tint; with nine primary rows of regular punctures, becoming less clear on sides; the eighth and ninth primary rows lateral in position, but not ventral; secondary intervals with rather dense punctures, changing to dense and sharp granules on sloping lateral and apical portions; all intervals broad, flat to slightly convex, becoming more strongly convex towards sides and apex, there the third and seventh intervals obtusely subcostate and arranged in a similar way as in many Southern African *Litoborini*, viz. the third interval prolonged, subangularly bent towards suture, coalescent with the seventh interval and practically reaching the apex. Pseudopleura complete, reaching the extreme apex of elytra, occupying the entire reflected portion of elytra, only slightly dilated towards the rectangular humeral angles, densely granular; pseudopleural carina complete, consisting of a fine, minutely serrate and densely ciliate crest which is not visible from above. Mesosternum with strongly raised, sharp median carina basally; intercoxal apophysis excavate for receiving the prosternal apophysis. Metasternum densely rugose, large, about the length of basal sternite of abdomen, between meso and metacoxal cavities about as long as the latter; episternum elongate, very slightly narrowed towards epimeron, about four times as long as broad, with sharp sutures. Abdomen densely covered with elongate scales, very densely rugose on proximal three sternites, with finer and less strongly confluent punctures on penultimate and anal sternites. Legs slender, nondimorphic. Underside of femora with sharply edged sides, more or less concave proximally. Tibiæ sparsely spinose; the anterior tibiæ with sharp, minutely serrate and briefly spinose outer edge, more strongly dilated towards apex than the intermediate and posterior tibiæ, with the apex about as broad as length of unguis segment of anterior tarsi. Tarsi slender, with strongly prolonged unguis segment, but that of posterior tarsi not longer than the basal segment.

Ædeagus (figs. 218, 219). — Small, almost subparallel. The apical portion with dorsally and ventrally strongly separated parameres; the latter stout, long, very faintly narrowing in a straight line towards apex, with broadly rounded and almost straight apices. Ventral groove broad, leaving exposed penis and lacinia. Penis baculiform, but with minutely dilated, roundish apex; lacinia straight, shorter than the penis, compressed.

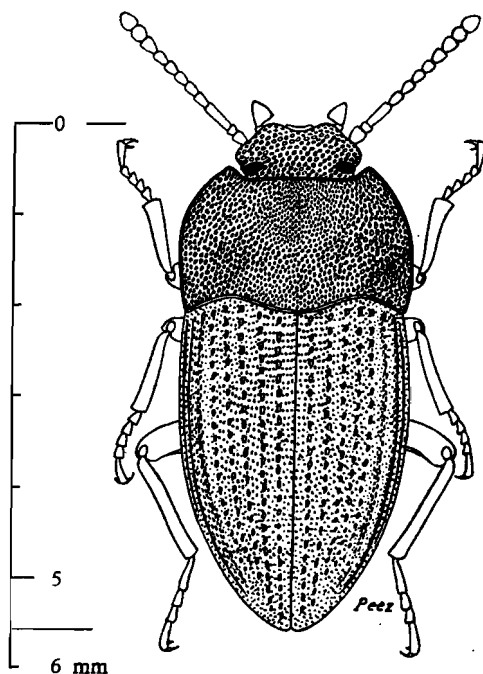


FIG. 217. — *Gridelliopus subsquamosus* n. sp.

Remarks. — *Gridelliopus* is a highly specialized genus which resembles an Opatrin of *Gonocephalum*- or *Cædius*-like appearance rather than a Litoborin. However, the formation of the head, underside of body, and in particular the slightly indicated but well perceptible costal arrangement on apical declivity of elytra, as well as the typically *Litoborin*-like structure of *ædeagus*, define *Gridelliopus* clearly as a *Litoborin*.

Dimensions. — Length $5 \frac{1}{4}$ to $5 \frac{1}{2}$ mm, width 3 to $3 \frac{1}{4}$ mm.

Distribution (map 2). — Italian Somaliland. — Chisimaio, 1936, A. BIDOLI (7 spec., types Museo Civico di Storia Naturale, Trieste).

Dedication. — I have much pleasure in naming this peculiar genus in honour of Prof. Dr. E. GRIDELLI, director of the Museum Trieste and eminent bio-geographer.

- Body alate, with fully developed, long wings, or at least with rudimentary wing strips; setiferous, the elytra with additional erect bristles;

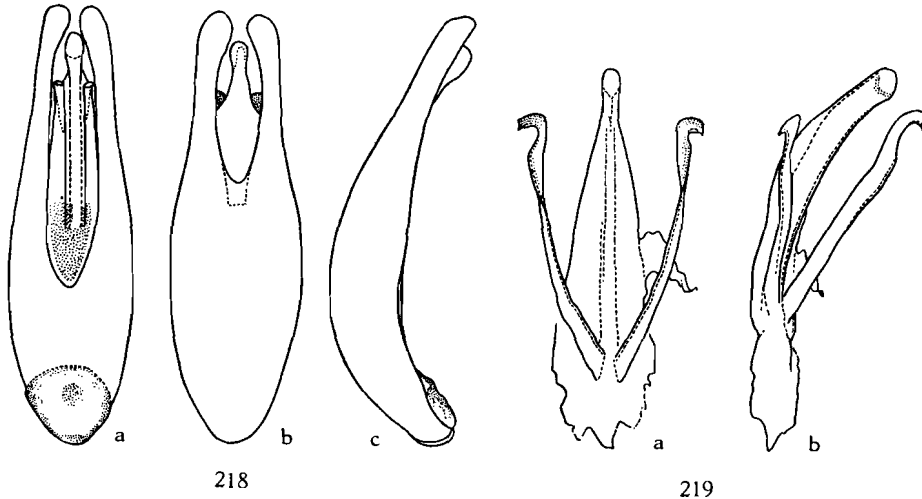


FIG. 218. — Aedeagus of *Gridelliopus subsquamosus* n. sp. (a : ventral surface; b : dorsal surface; c : lateral view, with the ventral surface at right). — FIG. 219. — The extracted sclerotized portion of penis plus lacinia of the aedeagus of *Gridelliopus subsquamosus* n. sp. (a : outer surface; b : diagonal view).

of larger size, 7 to 8 $\frac{3}{4}$ mm long. Pronotum broadest at about middle, there about as broad as elytra; not closely fitting to elytral base, with the lateral contours well demarcated from those of elytra. Elytra elongate, about three times as long as pronotum, subparallel on basal two-thirds and broadly rounded and narrowed posteriorly, irregularly covered with rather scattered granules or dense granular punctures, without clearly defined primary rows, but with subcostate odd inner intervals and lateral ones. Anal sternite with broadly sulcate and sharply carinate margin.

SILVESTRIELLUM n. gen. 58

(Fig. 220.)

Of *Scleron*-like appearance. Body elongate, subparallel, dull, setiferous, black, with dark reddish brown appendages. Head (fig. 220) porrect, transverse, narrower than pronotum. Upper surface very densely and coarsely rugose, covered with adherent bristles, concentrated and semi-erect on supra-orbital ridges. The latter well developed. Epistome emarginate, not separated from genæ. No clypeal or epistomal sutures indicated. Genæ strongly and triangularly projecting beyond eyes, constricting the latter on anterior half or two-thirds. Labrum carinate apically. Mentum with more or less developed median carina basally. Basal segment of maxillary palpi rather large, slightly longer than the first segment; apical segment dilated, but small. Antennæ large, extending to pronotal base, densely sculptured and setiferous; third segment elongate, a little more than twice as long as second segment; fourth segment only slightly longer than broad, all the following segments broader than long, becoming strongly transverse towards apex; the two penultimate segments larger than preceding segments; apical segment slightly narrower than pre-apical segment, but not shorter, with broadly rounded apical margin and sensorial, poriferous apical half. Pronotum flat, two-thirds to three-quarters broader than long, uniformly covered with an extremely dense sculpture, composed of subgranular rugosities, with scattered, adherent yellowish bristles, and often with a more or less developed, fine, median carinula. Anterior margin strongly carinate laterally, deeply emarginate and with rather sharp, produced anterior angles. Sides weakly, but almost equally rounded and narrowed towards anterior margin as well as towards base, sometimes very faintly sinuate in front of posterior angles, with strong, briefly ciliate lateral carina and broad but shallow submarginal depression. Base immarginate, deeply bi-sinuate, with sharply rectangular posterior angles. Prosternum, together with episternum, very densely and coarsely rugose, setiferous; the flattened submarginal area of episternal sides rather narrow and finely sculptured; intercoxal apophysis moderately produced backwards beyond coxal cavities, but distinctly depressed, with rounded apex. Elytra slender, elongate and subparallel, with nine secondary intervals, but irregularly sculptured primary ones. The latter more or less densely covered with granules or granular punctures, bearing adherent to semi-erect yellowish to reddish brown bristles. Secondary intervals with longer erect bristles of the same colour; the third, fifth, seventh and usually also the eighth and ninth intervals subcostate, with the crest of costæ from granular to smoothed; the sutural interval obtusely costate to convex on posterior half;

the sixth and fourth intervals sometimes with just indicated, fine, longitudinal row of granules; on apical declivity all costæ abbreviated, ending at rather wide distance from apex, with the third and seventh costæ coalescent. Base a little broader than pronotal base, with shallowly emarginated middle portion, sharply rectangular to minutely prominent humeral angles. Scutellum transversely triangular, exposed also in normal state of rest and situated on dorsal portion of elytral base. Pseudopleura complete, occupying the entire reflected portion of elytra, rather broad also apically, dilated basally, concave, sparsely granulated and setiferous. Pseudopleural carina complete,

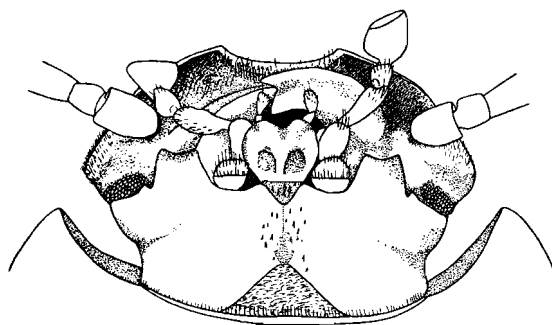


FIG. 220. — Under surface of head of *Silvestriellum scleronoides* n. sp.

ciliate, from serrate to smooth, visible from above and forming the lateral outlines of elytra. Wings from fully developed to rudimentary. Mesosternum similar to *Gridelliopus*. Metasternum densely rugose and setiferous, about as long as basal sternite of abdomen, or shorter. Abdomen with coarse, rather dense to longitudinally confluent punctures; the two basal sternites shallowly impressed discally; anal sternite very coarsely punctured, with deep sulcus along the carinate margin. Legs slender, slightly dimorphic. Femora scabrously punctured, slightly clavate. Tibiæ slender, the anterior ones with edged upper surface, gradually dilated towards apex and there a little narrower than length of unguis of anterior tarsi; tarsi slender, with elongate unguis, but that of posterior tarsi about the length of basal segment or a trifle shorter. In the ♂ the underside of tibiae sulcate, often densely denticulate and sometimes briefly curved inwards apically.

Remarks. — *Silvestriellum* disagrees with all the other *Lito-*
borini, the palæarctic ones included, by the alate body. With regard to the degree of development of wings it is specifically variable. On account of the strongly marginate anal sternite of abdomen it

shows somewhat related to the palæarctic *Litoborini*, but is placed best near to *Hanstræmium*, with which it agrees in the general structure of ædeagus, and often in the peculiar denticulation of inner contours of tibiæ in the ♂.

Type species. — *Silvestriellum alatum* n. sp.

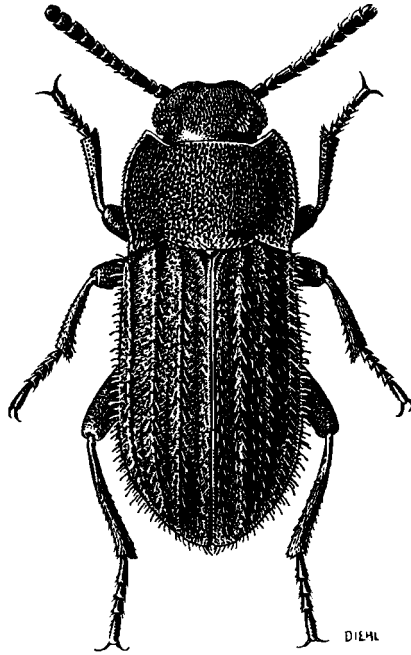


FIG. 221. — *Silvestriellum scleronoide* n. sp.

Distribution (map 2). — Central East African.

Dedication. — Named in memoriam of the Italian Maestro of Entomology, the late Prof. FILIPPO SILVESTRI.

58. Wings fully developed, at least as long as elytra. Metasternum the length of basal sternite of abdomen, between meso and metacoxal cavities distinctly longer than the longitudinal diameter of the latter. Pseudo-pleural carina densely and minutely serrate, the lateral outlines of elytra therefore finely serrate. Elytra very densely sculptured. Punctuation on abdomen extremely dense and in part longitudinally confluent. In the ♂ the inner contours of tibiæ straight and smooth.

[*Silvestriellum alatum* n. sp.]

(Fig. 222.)

For the remainder agreeing with the generic description.

Ædeagus (fig. 222). — Of quite peculiar shape. The distal half of tegmen divided into two narrow, spiniform, widely separated parameres, which dorsally are united by a membraneous process of basal portion of tegmen on proximal portion. Parameres spiniform,

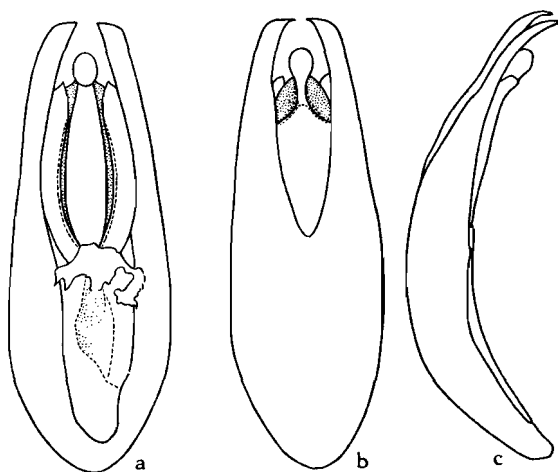


FIG. 222. — *Ædeagus* of *Silvestriellum alatum* n. sp.

a: ventral surface; b: dorsal surface, c: lateral surface, with the ventral surface at right.

form, continuously converging, with weakly bent and sharply pointed apices. Ventral groove only basally developed, the penis and lacinia freely inserted between parameres, entirely exposed ventrally, their apical portions visible also in dorsal aspect; penis strongly dilated towards base, with preapical constriction and abruptly demarcated, dilated and roundish apical orifice; lacinia strongly sclerotized, subparallel, moderately shorter than penis, thin, curved inwards, and with rounded apices.

Dimensions. — Length 7 to 7 $\frac{3}{4}$ mm, width 2 $\frac{3}{4}$ to 3 $\frac{1}{4}$ mm.

Distribution. — British East Africa. — North Baringo, 2,700 ft., I.1938, D. G. MACINNES (1♂ ♀, types Coryndon Museum, Nairobi).

- Wings rudimentary, reduced to narrow strips which extend to about middle of elytra. Metasternum distinctly shorter than basal sternite of abdomen, between meso and metacoxal cavities about the length

of the latter. Pseudopleural carina smooth or obsoletely crenulate, the lateral contours of elytra therefore practically smooth. Elytra with less dense to rather scattered and finer sculpture. Punctuation on abdomen finer, round and separated. In the ♂ the inner contours of anterior and intermediate tibiæ briefly curved inwards apically, the underside of all tibiæ sharply sulcate, that of anterior and intermediate tibiæ with conspicuous denticulation on both sides of sulcus.

[*Silvestriellum scleronoide* n. sp.]

(Fig. 221.)

Very closely related to *S. alatum* and agreeing with the latter in all the remaining characters, the ædeagus included.

Dimensions. — Length 7 to 8 $\frac{3}{4}$ mm, width 2 $\frac{3}{4}$ to 3 $\frac{1}{2}$ mm.

Distribution. — Belgian Congo. — St. Louis, VI.1912, STAPPERS (1 ♂ ♀, types MCB.); Kigoma, V.1930, P. GÉRARD (1 ♀, BCM.). — Tanganyika Territory. — North Rukwa, 3,300 ft., VII.1938, D. G. MACINNES (2 ♂ ♂, 1 ♀, Coryndon Museum); L. Rukwa Area, 3,700 ft., IV.1938, D. G. MACINNES (1 ♀, Coryndon Museum); Mwamgongo, XI.1943, MENEGHETTI (1 ♀, Coryndon Museum); Urungu, near Bismarckburg (1 ♀, Museum Budapest).

59. Body small and elongate, 4 to 7 $\frac{3}{4}$ mm long, at the best 3 mm broad. Upper surface of body either bare or with scattered, erect bristles, but the antennæ with eleven segments, the pronotum loosely attached to elytra and the elytral costæ not abruptly ending in a prominent, tuberculiform dilation in front of apical declivity 60
- Body large and broad, 5 $\frac{3}{4}$ to 9 $\frac{1}{2}$ mm long and 3 $\frac{1}{2}$ to 5 $\frac{1}{4}$ mm broad. Upper surface covered with a dense vestiture of short, erect bristles. Pronotum closely jointed to elytra. The antennæ either with only ten segments or with eleven segments, but then the sides of pronotum with large prebasilar incision and the elytral costæ ending abruptly with a strong, prominent, tuberculiform dilation in front of initiation of apical declivity 70
60. Genal canthus long, completely dividing the eyes, with its lateral contours obliquely narrowed towards eyes and strongly, triangularly projecting beyond lateral contours of eyes. Supra-orbital crest very strongly raised, often overlapping partially the dorsal portion of eyes. Antennæ *Adelostoma*-like; the apical segment small, shorter than the preapical segment, with truncate apical margin; the poriferous, sensorial portion of this segment confined to the sectional, apical disc and therefore not visible in lateral aspect. Maxillary palpi with strikingly large basal segment, the first segment considerably shorter than the latter, the apical segment triangular and small. Pronotum with strong, sulciform submarginal depression of sides. Apical

declivity of elytra with usually all the costæ united and forming together a transverse ridge at considerable distance from apex; the smooth portion between this ridge and apex of elytra perpendicular to concave, sharply demarcated from the more or less continuously sloping anterior portion of apical declivity (lateral view).

HANSTRÆMIUM KOCH 61

(Figs. 177 *e*, 223.)

*1953 *e*, *Hanstræmium* KOCH, p. 19. — 1953 *f*, KOCH, p. 91. — 1953 *a*, KOCH, pp. 271, 272.

To an extraordinary extent resembling certain genera of the *Adelostomina* of *Eurychorini* (*Tentyriinæ*). Body elongate, subparallel, very opaque to shiny, bare or with scattered, more or less conspicuous, erect bristles above. Head (fig. 223) prognathous, transverse, with sharp, strongly raised supra-orbital carinæ, and longitudinally impressed each side of the latter. Epistomal emargination broad, rather shallow, often angularly demarcated from lateral lobes of epistome. Genæ large, triangularly and strongly projecting outwards beyond lateral contours of eyes. Eyes completely divided by genal canthus into a dorsal and a ventral section. Mentum (fig. 177 *e*) subpedunculate, scarcely broader than long, faintly concave, with strongly rounded sides, deeply and angularly emarginate apical margin and weakly indicated median carinula on basal half. Maxillary palpi short, with strikingly enlarged basal segment. Mandibular portion of postgenal margin obliquely truncate, angularly demarcated from the lateral margin of postgenæ; the latter straight, overlapping and concealing a portion of the ventral section of eyes. Antennæ with eleven segments, stout, dilated and compressed towards apex, with the apically truncate apical segment shaped as in many of the genera of *Eurychorini*. Pronotum slender, almost square, with strong discal convexity, well delimited submarginal depression and very fine lateral carina. Prosternal apophysis lanceolate and horizontally produced beyond coxal cavities. Elytra elongate, subparallel, often with minutely dentiform and prominent humeral angle; with ten usually badly defined primary rows, of which two are situated at the ventrally reflected portion; the alternating odd intervals with very strongly raised, sharply carinate to denticulate costæ which are usually all united in front of the initiation of apical declivity and there forming a transverse ridge. Apical declivity perpendicular to concave or slightly re-entrant. Pseudopleura developed only on apical third, of equal width and reaching the apex, there remaining widely separated from the sharply carinate epipleural crest. Metasternum moderately short,

one half to two-thirds the length of basal segment of abdomen, between meso and metacoxal cavities about as long as the latter. Basal sternite of abdomen with very broad and anteriorly truncate intercoxal process; anal sternite immarginate. Legs short, the tarsi non-dimorphic, but the inner contours of intermediate and posterior tibiae densely serrate-denticulate in the ♂ (as is the case in *Silvestriellum* and some of the palæarctic *Litoborini*). Aedeagus similar to that of *Silvestriellum*, with widely separated, thin and spiniform parameres, and entirely exposed, also dorsally visible penis and lacinia.

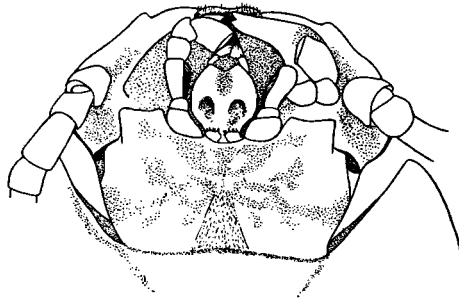


FIG. 223. -- Under surface of head of *Hanstræmium lævifrons* KOCH.

The most specialized genus of *Litoborini*, in a striking way exhibiting several features of the adelostomoid *Eurychorini*, due probably to similar and particularly myrmecophilous life habits.

Dimensions. — 4 $\frac{1}{4}$ to 9 mm long.

Type species. — *Hanstræmium adelostomoide* KOCH, 1953 *e*.

Distribution (map 5). — From North-western Damaraland and the Kaokoveld to South- and Central-western Angola, but also in the central part of the Southern Belgian Congo.

- Genal canthus constricting the eyes only anteriorly, with straight, sub-parallel outer contours, and not projecting beyond lateral contours of eyes. Supra-orbital crest absent or only briefly indicated. Antennæ *Zadenos*-like; the apical segment large, longer than the preapical segment, with large, poriferous sensorial portion on apical half, well visible also in lateral aspect. Maxillary palpi with small basal segment, the first segment three to four times as long as the latter, the apical segment large and securiform. Pronotum with weakly marked sub-marginal depression of sides. Apical declivity of elytra simple, in lateral aspect with continuously sloping and arcuate contours.

TRAGARDHUS n. gen. 67

Directly related to *Zadenos* and *Minorus*, but sharply separated by the proximally absent pseudopleura which are well developed only on apical third, extending to the extreme apex of elytra and there remaining broadly separated from the sharply carinate epipleural crest. The eyes emarginate by the genal canthus only anteriorly, the elytra with ten primary rows, of which two are situated on the ventrally reflected portion of elytra but sometimes badly defined; the secondary intervals with more or less elongate tubercles. The remaining characters, as well as the simple, ventrally only narrowly grooved ædeagus, as in *Zadenos*. The new genus is divided into two sharply separated subgenera, of which *Tragardhus* s. str. is particularly distinguished by the presence of an alveolate gland on the preapically dilated pseudopleura and two median carinulæ on pronotal disc, whereas *Mitragardhus* by the peculiar structure of anal sternite of abdomen. All these particulars are quite unique in the *Litoborini*.

Dimensions. — 3 ½ to 6 mm long.

Type species. — *Tragardhus glandipleurum* n. sp.

Distribution (map 5). — Southern African, endemic to the coastal part of Natal. Probably myrmecophilous or termitophilous.

Dedication. — Named in honour of the discoverer, the late Swedish Entomologist, Prof. IVAR TRÅGÅRDH.

61. Body larger, 6 ¾ to 9 mm long. The ninth and seventh costæ of elytra coalescent apically 62
 — Body small, 4 ¾ to 5 ½ mm long. The ninth costa of elytra abbreviate posteriorly and ending at considerable distance from seventh costa ... 63
62. Epistome with very dense, strong, more or less rugose punctures; the sides distinctly demarcated from genal outlines by a more or less indicated, subangular sinuosity. Lateral impressions on head deep. Anterior angles of pronotum not or only faintly produced. Antennæ and legs with very dense, scabrous punctation.

[**Hanstræmium adelostomoide** KOCH.]

(Figs. 224, 225, 226.)

*1953 e, *Hanstræmium adelostomoide* KOCH, p. 22. — 1953 a, KOCH, p. 91.

Original description. — « Schwarz, seidig matt. Kopf quer, fast um die Hälfte breiter als lang, oben vorne äusserst dicht und feiner, rückwärts ebenfalls äusserst dicht, aber gröber und runzelig punktiert. Die Seitenlappen des Clypeus seicht eingedrückt,

von den Wangen mehr oder weniger deutlich getrennt. Die Wangen sehr lang, nach vorne stark verengt, mit leicht doppelbuchtigen Konturen und vor den Augen weit, eckig bis zähnchenartig über die Augen und den genalen Canthus nach aussen vorspringend. Der Scheitel entlang der supraorbitalen Kante breit furchig eingedrückt. Fühler zurückgelegt die Mitte des Halsschildes erreichend oder diese

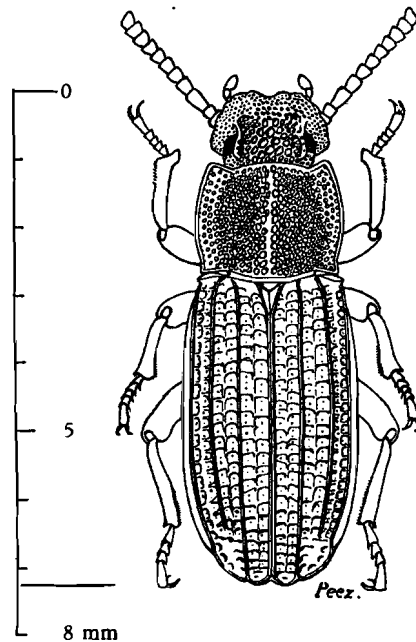


FIG. 224. — *Hanstræmium adelostomoide* KOCH.

überragend. Halsschild nur wenig breiter als lang, auf der gewölbten Scheibe ausserordentlich dicht und grob punktiert, daselbst mit scharf gratartigen, unregelmässig, fast netzartig gerunzelten Zwischenräumen und einer aus Runzeln gebildeten, mehr oder weniger zusammenhängenden Mittellinie; in der breiten Seitenkehle nur fein und wenig dicht punktiert. Seiten nur schwach gerundet, die grösste Halsschildbreite vor oder knapp in der Mitte einschliessend, nach vorne schwach gerundet eingezogen, nach hinten nur sehr schwach, fast gerade oder leicht ausgeschweift verengt; Randungsleiste scharf und punktiert. Unterseite des Prothorax dicht und grob punktiert, ausgenommen die geglättete und abgeflachte Seitenrandzone des Episternums des Prosternums. Flügeldecken zwei einhalbmal so lang wie breit, mit subparallelen, nur sehr schwach nach vorne eingezogenen Seiten und quer und scharf zähnchenartig über

die Konturen der Halsschildseiten nach aussen vorspringenden, scharf rechteckigen Schultern. Die drei dorsalen primären Rippen ungefähr gleichweit voneinander entfernt; bei Ansicht von oben der laterale Zwischenraum und die Lateralrippe vollkommen und frei sichtbar. Die verschwommenen Punkte der dorsalen Zwischenräume durch feine Querfältchen voneinander getrennt. Meso- und Meta-

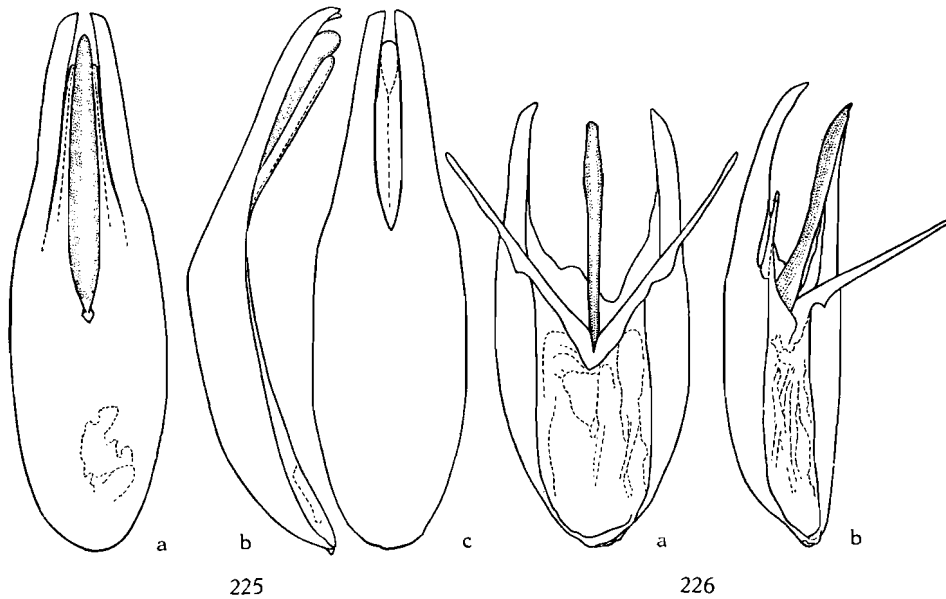


FIG. 225. — Aedeagus of *Hanstræmium adelostomoide* KOCH (a: ventral surface; b: lateral aspect, with the ventral surface at right; c: dorsal surface). — FIG. 226. — The dissected aedeagal tegmen with the penis and lacinia in *Hanstræmium adelostomoide* KOCH (a: ventral view; b: diagonal view).

sternum, sowie die drei proximalen Sternite des Abdomens sehr dicht und grob punktiert und fast matt, die beiden apikalen Sternite glänzend, fein und zerstreut punktiert, matt. Die Punkte der Unterseite, der Beine und der Fühler kurz beborstet. Die Unterseite der Tarsen mit spärlicheren längeren Borsten. »

Remarks. — The foveate und rugosely confluent punctures of pronotum with microscopically short bristles. The odd intervals on elytra, the sutural one included, with strongly raised, sharp costæ, the alternating even intervals with extremely fine, sometimes interrupted longitudinal carinulæ or a fine row of granules, often obsolescent. On top of apical declivity all odd costæ, with the exception of the abbreviate fifth costa, coalescent and forming there

a zigzagged, transverse crest. The reflected lateral portion of elytra plane, with two more or less regular, often obsolescent primary rows of shallow punctures, and with the pseudopleural carina sharply developed on apical quarter, becoming gradually evanescent towards the middle of elytra. Anterior tibiæ with obtusely edged upper surface, slightly curved, rather strongly dilated towards apex, the latter a little broader than the unguis segment of anterior tarsi; the intermediate and posterior tibiæ straight, rather stout and subcylindrical. Tarsi short and subcylindrical, the unguis segment of all tarsi considerably longer than the basal segment. In the ♂ the inner contours of intermediate and posterior tibiæ densely serrate-denticulate.

Ædeagus (figs. 225, 226). — In general agreeing with the ædeagus of *Silvestriellum* but the parameres less widely separated. Parameres spiniform, very long, practically subparallel on distal half, with the apices obtusely attenuate and minutely bent ventrad. Ventral groove developed only basally, the penis and lacinia freely inserted between parameres and entirely exposed; penis thin, narrower than parameres, subparallel from base to the narrow and obtuse apex; lacinia only slightly shorter than penis, extremely thin, straight, constricted on distal half, with obtuse apices.

Dimensions. — Length $6\frac{1}{4}$ to $8\frac{1}{2}$ mm, width 2 to 3 mm.

Subspecies: —

a) *adelostomoide*. — The double interval between ninth costa and pseudopleural carina open apically and extending to extreme apex of elytra, there meeting the costate sutural angle. Epistomal emargination plane to feebly convex.

Type locality. — Kaokoveld: Zesfontein. Types in Transvaal Museum.

Distribution. — Kaokoveld. — Zesfontein (T.M.); Orupembe (T.M., U.L.); Ehombe Mount. (T.M.); Franzfontein (T.M., M.C.A.); Swartboois Drift (T.M.); Kaoko Otavi (T.M.). — Southern part of South-western Angola. — Ruacana (T.M., M.C.A.).

b) *mocamedinum* n. ssp. (= subsp. *adelostomoide* s. str. sensu KOCH, 1953e, p. p.). — In the apical construction of elytral costæ similar to subsp. *adelostomoide* s. str., but the costate transverse ridge on top of apical declivity with a short, perpendicular costula, entering for a short distance into the double interval between ninth costa and pseudopleural carina on both sides of transverse ridge. Epistomal emargination bunched up on both sides, appearing as if bi-tuberculate.

Distribution. — South-western Angola. — Moçamedes, X.1949, A. BARROS MACHADO (11 spec., types Museu Dundo).

c) *bicornutum* n. ssp. (1953f, *Hanstræmium adelostomoide* subsp. *bicornutum* KOCH, p. 91, sensu latiore). — The double interval between ninth costa and pseudopleural carina closed apically, abbreviate and not extending to suture; the perpendicular apical declivity with two roundish, large cavities, encircled by the transverse ridge on top of apical declivity plus a perpendicular costula, running downwards from the united apex of seventh and ninth costæ and coalescent with the pseudopleural margin; both cavities divided by the sutural costæ. Epistomal emargination bi-tuberculate and often also the lateral angles of epistome bunched up and more or less tuberculiform.

Type locality. — Vila Arriaga. Types in Transvaal Museum.

Distribution. — South-western Angola. — Vila Arriaga (T.M., M.C.); Karakul (T.M., M.C.); btwn. Karakul and Rio Giraul (T.M., M.C.); btwn. Moçamedes and Rio Coroca (T.M., M.C.).

- Epistome smooth and shiny, with extremely fine and sparse punctures; the lateral outlines of epistome not demarcated from those of genæ. Inner lateral impressions on head very shallow to obsolescent. Anterior angles of pronotum very strongly produced and lobiform. Antennæ and legs strongly shiny, bare, with fine and scattered punctures.

[***Hanstræmium lævifrons* KOCH.**]

*1953 f, *Hanstræmium lævifrons* KOCH, p. 92, figs. 24-26.

Original description. — «Closely related to the widely spread *H. adelostomoide* KOCH, but readily distinguished by the following particulars. The anterior half of the upper surface of head, consisting of epistome and frons, is abruptly smoothed and shiny, with the integument showing a fine and rather scattered punctation (dull and rugosely punctured in *adelostomoide*): the lateral impressions are not deep as in *adelostomoide*, but shallow; the epistomal emargination is much deeper and the sides of epistome are not angularly separated from the genal contours. The antennæ are a little more slender, shiny, with the scattered and fine punctures bearing only a very fine and sparse microscopical pilosity (they are dull, rugosely punctured and distinctly pilose in *adelostomoide*). The pronotum is about one and a half times as broad as long, with well-rounded sides and strongly produced anterior and posterior angles. As to the sculpture it is very similar to that of *adelostomoide*, but the discal rugosities between the subfoveate punctation are broader and more shiny. The punctures on episternum of

prosternum are less concentrated and not rugosely confluent. The elytra agree almost completely with those of *adelostomoide*; they are a little less dull and the sculpture on lateral interval is more scattered, with the outer row of punctures more distinctly delimiting the pseudopleural space. The punctures on metasternum and the three proximal sternites of abdomen are well-separated, only slightly tending to become longitudinally confluent on the disc of the two basal sternites; underside of afterbody therefore shiny (in *adelostomoide* the latter is almost dull owing to the very dense and rugosely confluent punctation on metasternum and the three proximal sternites). Legs shaped as in *adelostomoide*, but the femora and tibiæ almost bare, shiny, smoothed and with only fine and scattered punctures (dull, microscopically pilose and covered with a scabrous and very dense punctation in *adelostomoide*). Black to dark reddish brown, with the underside and appendages often paler.»

Remarks. — The apical construction of elytral costæ agrees with *H. adelostomoide adelostomoide*. In the ♂ the underside of intermediate and posterior tibiæ serrate denticulate as in *adelostomoide*.

The resemblance of *H. lævifrons* with the adelostomoid *Eurychorini* is very striking, in particular if compared with the Moroccan *Adelostoma granulithorax* ESCALERA. This similarity is not confined to the habitus, but extended even to the analogy of differing characters, relationship and distribution. *Adelostoma granulithorax* (cf. KOCH, 1945, p. 399) differs from its next allied species, *Ad. sulcatum* DUPONCHEL, by the same particulars, viz. the smooth epistome and frons, the smoothed cuticle of appendages; occurs locally within the wide area of distribution of *Ad. sulcatum*, the same as *H. lævifrons* does within that of *H. adelostomoide*.

Ædeagus. — As in *H. adelostomoide*.

Dimensions. — Length 7 to 9 mm, width 2 ¼ to 3 ¼ mm.

Type locality. — South-western Angola, Province of Huila and same district : btwn. Jau and Ongueria. Types in Museum Dundo.

63. The odd elytral intervals with continuous costæ, the crest of which is densely, finely crenulate to granulate, bare or provided with scattered, very short erect bristles; in lateral view the granules of these costæ not projecting beyond the surface of elytra; lateral outlines of the latter from smooth to obtusely and sparsely denticulate. Base of pronotum subtruncate to very shallowly bi-sinuate; the posterior angles situated at, or a little in front of, level of middle portion of base 64
- The odd elytral intervals with a longitudinal series of well separated, erect, dentiform and pointed tubercles or granules, from which arise

rather long erect bristles; in lateral view the dentiform tubercles of these rows strongly projecting beyond surface of elytra; lateral outlines of the latter sharply and rather densely denticulate. Base of pronotum with strongly produced middle portion and obliquely cut lateral portions; the posterior angles therefore situated considerably in front of level of middle portion.

[**Hanstrœmium spiniferum** n. sp.]

(Pl. XXXII, fig. 1.)

Black, the tarsi and buccal organs reddish brown; shiny, but the upper surface usually covered with earthy particles. Head very similar to *H. adelostomoide*, but the sculpture consisting of an extremely dense, strongly raised, subdenticulate granulation, rugosely confluent on vertex. Epistome with plane acies of emargination; the lateral lobes subtruncate apically and demarcated from genæ by a broad sinuosity laterally. Supra-orbital ridges setiferous. Antennæ more slender than in *adelostomoide*, with longer and denser bristles. Pronotum only moderately broader than head, about one and a half times as broad as long, densely covered with strongly raised, subdenticulate, setiferous and confluent rugosities on the convex disc. Anterior margin straight, with rather strongly produced, sharp anterior angles. Sides constricted and slightly sinuate in front of anterior angles, almost subparallel on the posterior two thirds, with irregularly crenulate and ciliate margin and very broad, smooth and shiny submarginal sulcus. Posterior angles sharply rectangular, situated considerably in front of middle portion of base. The latter with dense fringe of yellowish, short silken bristles. Elytra elongate, slightly broader than pronotum, with subparallel sides which are weakly narrowed towards the broadly rounded shoulders. Primary rows formed by very coarse, dense, somewhat irregular punctures which are separated from each other by narrow, transverse wrinkles or rugosities. The odd dorsal intervals, the sutural interval included, denticulate, provided with erect bristles; the even intervals scarcely indicated discally, distinctly granulated laterally. The sutural, third and seventh costæ coalescent and forming a transverse ridge on middle of apical declivity; the space between this ridge and the apex of elytra, in lateral view, smoothed and perpendicular, formed by the open, lateral, double interval between ninth costa and pseudopleural carina. The fifth and ninth costæ strongly abbreviate posteriorly. Legs stout. Tibiæ spinose, the inner contours of anterior tibiæ shallowly emarginated between middle and the inwardly curved apical portion.

Dimensions. — Length $4\frac{1}{4}$ mm, width 2 mm.

Distribution. — Western part of Central Angola. — Lobito, IV.1948, C. KOCH (1 spec., sex not determined, holotype T.M.).

64. Shoulders obtuse or rounded, without prominent humeral angle. Lateral lobes of epistome subtruncate apically. Elytra with obtusely and sparsely denticulate lateral contours and very short, scattered erect bristles 65
- Shoulders with prominent, minutely dentiform, acute humeral angle. Lateral lobes of epistome large and subtriangular. Elytra with smooth lateral contours, bare.

[*Hanstrœmium brevipenne* n. sp.]

Black, clothed with a layer of earthy substance. Head transversely triangular, above covered sparsely with rather coarse, roundish granules, bearing each a punctiform, sessile, somewhat scaly, yellowish bristle. Epistome with deep emargination; the lateral lobes large, strongly produced, of subtriangular shape, with the inner angle slightly bent upwards, separated from supra-antennal portion of genæ by a minute, rather deep sinuosity. Supra-antennal contours of genæ separated from the preocular ones by a strong emargination in front of genal angles. Antennæ stout, with black bristles, strongly accrescent towards apex; the two penultimate segments twice as broad as long. Pronotum moderately broader than head, broadest in front of middle, about one and a half times as broad as long, uniformly covered with well separated, shiny, roundish granules, on which originate the same punctiform, scaly, yellowish bristles as on head. Anterior margin moderately emarginated, with produced rectangular anterior angles. Sides sparsely crenulate, rounded and narrowed towards anterior angles, as well as towards base, with strong, smoothed, rather broad submarginal depression. Posterior angles rectangularly demarcated from sides. Elytra short, slightly broader than pronotum, about one and a half times as long as broad, with the subparallel sides distinctly constricted in front of humeral angles. All the odd intervals with strongly raised costæ, the crest of which is very densely, almost microscopically crenulate, owing to extremely fine, transverse ridges or punctures on lateral declivities of costæ; the sutural, third and seventh costæ coalescent and forming a transverse ridge below middle of apical declivity; the space between this ridge and the apex of elytra perpendicular; the fifth and ninth costæ abbreviate. Primary rows with coarse, but shallow punctures, more sharply defined and deeper on lateral rows; between punctures with obtuse, transverse wrinkles or weak rugosities; the even intervals not indicated. Legs very similar to *H. spiniferum*; in the ♂ the inner contours of intermediate and posterior tibiæ serrate denticulate.

Dimensions. — Length $4 \frac{3}{4}$ mm, width a little more than 2 mm.

Distribution. — Belgian Congo. — Central Elisabethville Province: Mulongo (Mafinge), VII. 1930, P. GÉRARD (1♂, holotype BCM.).

- 65.** The apex of the seventh elytral costa coalescent with that of the sutural and third costæ. Epistomal emargination simple **66**
 — The apex of the seventh elytral costa free and separated from the posteriorly coalescent sutural and third costæ. Epistomal emargination with a porrect, obtuse tooth on both sides, sharply separated from lateral lobes of epistome.

[**Hanstroëmium armatum** n. sp.]

Closely related to *H. brevipenne*, but more slender, the head with similar lateral contours and almost identical sculpture, the antennæ with still more strongly enlarged, almost claviform, two penultimate segments, the pronotum with similar sculpture, but more slender, only a little more than one-third broader than long, with scarcely produced anterior angles, deep sinuosity in front of posterior angles and narrow submarginal depression. The elytra more elongate, without dentiform humeral angle, with denticulate lateral contours, granular and setiferous costæ and irregularly, transversely rugose intervening spaces between the latter. The fifth costa much more strongly abbreviate and becoming evanescent in front of apical declivity; the ninth costa strongly raised, but abruptly ending at about level with the apex of fifth costa; in dorsal aspect the apex of ninth costa forming a minute right angle, projecting from lateral contours of apical declivity. The reflected lateral portion of elytra with two subfoveate rows of primary punctures. Abdomen with subfoveate punctures on proximal three sternites, bearing the same scaly, punctiform bristles as on head and pronotum; the two distal sternites with only a few, very fine punctures. Legs stout, with subgranular sculpture and scaly bristles; the inner contours of anterior tibiæ curved inwards apically.

Dimensions. — Length $4 \frac{1}{2}$ mm, width not quite 2 mm.

Distribution. — Belgian Congo. — South-western Elisabethville Province: Sandoa, IV.1931, F. G. OVERLAET (1 spec., sex not determined, BCM.).

- 66.** Discal portion of pronotum uniformly convex. Lateral contours of supra-antennal portion of genæ separated from the preocular one by a distinct sinuosity or shallow emargination in front of genal canthus.

Hanstrœmium tropicale n. sp.

Very closely related to *H. armatum* and agreeing with the latter in shape of body, sculpture of upper surface and the granular, setiferous elytral costæ. Differing from this species by the simple epistomal emargination, the distinctly produced anterior angles of pronotum, the subdenticulate lateral margin and broad submarginal depression of the latter, as well as by the different apical arrangement of elytral costæ. The sutural, third and seventh costæ are coalescent posteriorly and the ninth costa does not terminate abruptly, nor project beyond lateral contours of apical declivity, if viewed from above. Legs as in the two preceding species.

Dimensions. — Length $4 \frac{3}{4}$ to $5 \frac{3}{4}$ mm, width 2 to $2 \frac{1}{4}$ mm.

Distribution. — Belgian Congo. — Western and Central Elisabethville Province: Upemba National Park, Mabwe, IX.1947, Mission G. F. DE WITTE (1 spec., holotype, sex not determined, I.P.N.); Kapanga, X.1931, F. G. OVERLAET (1 spec., sex not determined, B.C.M.).

- Discal portion of pronotum with a broad impression on middle of basal half, flanked on both sides by an obtuse, badly defined longitudinal convexity. Lateral contours of supra-antennal portion of genæ in line with that of preocular portion.

[Hanstrœmium bequaerti n. sp.]

Almost identical with *H. tropicale*, but constantly disagreeing with this species by the peculiar longitudinal convexities on basal half of pronotum. On account of this structure resembling *Psaryphis* of the adelostomoid *Eurychorini*.

Dimensions. — Length $4 \frac{3}{4}$ to $5 \frac{1}{2}$ mm, width $1 \frac{3}{4}$ to 2 mm.

Distribution. — Belgian Congo. — Central Elisabethville Province: Bukama, V.1911, BEQUAERT (2 spec., sex not determined, holotype BCM.).

Dedication. — Named in honour of Dr. J. BEQUAERT, Cambridge, Massachusetts.

- 67. Pseudopleura dilated at about level of preapical sternite of abdomen and there with a deep, roundish alveola (fig. 230). Pronotum with two more or less distinctly indicated median carinulæ. Reflected lateral portion of elytra with two regular primary rows of coarse punctures, the intervals smooth as is the pseudopleural space. Abdomen with fine punctation, the anal sternite dimorphic in sculpture, plane and uniformly punctured. Body larger, $4 \frac{1}{2}$ to 6 mm long.

TRAGARDHUS subg. **TRAGARDHUS** sensu stricto 68

- Pseudopleura simple, gradually narrowed towards apex, without alveola. Pronotum uniformly convex on disc, without any indication of median structures. Reflected lateral portion of elytra with less regular primary rows and with punctured intervals; the pseudopleural space with a longitudinal row of very coarse, round punctures. Abdomen very coarsely punctured, the anal sternite non-dimorphic, with broadly bunched up apical third, there finely and sparsely punctured, the basal two thirds flat and provided with extremely large, foveate punctures. Body small, only $3 \frac{1}{2}$ to $4 \frac{3}{4}$ mm long.

TRAGARDHUS subg. **MITRAGARDHUS** nov.

Monotypical.

[Tragardhus (Mitragardhus) nodosus n. sp.]

(Fig. 228.)

Dark to pale reddish brown, the appendages testaceous to brown, shiny, setiferous. Head above coarsely granulated. Epistomal impression obsolescent. Lateral contours of epistome continuous with genæ. The latter subparallel in front of eyes, broadly rounded towards epistome and there very slightly convex. Eyes transverse, convex, weakly projecting beyond lateral contours of head. Antennæ thin basally, but strongly accrescent towards apex; third segment narrower than the second segment and about one and a half times as long as the latter; eighth segment small, square to slightly broader than long; the two penultimate segments large, transverse; apical segment large, oval, considerably longer but scarcely narrower than the preapical segment. Pronotum broadest at about middle, almost two-thirds broader than long, setiferous, uniformly covered with an extremely dense, sharply raised, rugosely confluent sculpture, changing to coarse punctures on submarginal depression. Sides minutely crenulate, strongly rounded and narrowed towards anterior margin, only slightly less so towards base; submarginal depression rather broad. Anterior margin strongly emarginate, with sharp and considerably produced anterior angles. Base shallowly bisinuate, immarginate, with faintly obtuse posterior angles. Discal convexity weak. Prosternum, together with episternum, with coarse and rather scattered punctures; intercoxal apophysis bent towards foramen behind coxal cavities, but the apex prominent and tuberculiform. Elytra oval, moderately broader than pronotum, convex, with distinctly rounded sides. Humeral angle dentiform, prominent.

Primary rows subsulcate, regular and composed of coarse, very dense punctures, with almost adherent, short bristles. Intervals with a row of more or less regular, fine punctures, intermixed with scattered, large, raised and roundish granules, becoming finer but dense, and forming a kind of granulate costa on the lateral intervals, particularly on ninth interval; on apical declivity all intervals straight, the third interval coalescent with the seventh interval, but not prolonged, the eighth interval running parallel with pseudo-

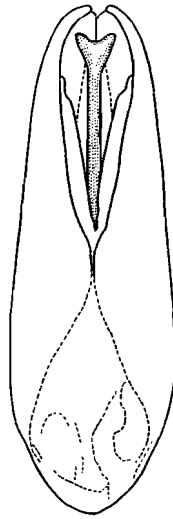


FIG. 228. — Ventral surface of the aedeagus of *Tragardhus (Mitrardhus) nodosus* n. sp.

pleural carina apically and almost in contact with the sutural angle; ninth costa abbreviate. Lateral contours of elytra more or less strongly and irregularly denticulate to crenulate. Legs slender, piliferous; tibiae subcylindrical, tarsi with elongate unguis segment. In the ♀ all tibiae straight and of similar shape, the anterior tibiae inconspicuously more strongly dilated towards apex than the remaining tibiae. In the ♂ the anterior tibiae more strongly dilated, their inner contours with very slight, arcuate median dilation, between the latter and the apical portion very shallowly emarginate and with fine squarrose bristles; the underside of intermediate and posterior tibiae with very fine distal stripe of yellowish, depressed hairs.

Ædeagus (fig. 228). — Stout and of simple shape. The apical portion of tegmen moderately narrowing in a straight line towards

apex. Parameres briefly divided only on apical third, with very broad inflexed alae and weakly curved, rather obtuse apices. Ventral groove broad, leaving exposed penis and lacinia.

Dimensions. — Length $3\frac{1}{2}$ to $4\frac{3}{4}$ mm, width $1\frac{1}{2}$ to $2\frac{1}{4}$ mm.

Distribution. — Zululand. — Junction of Mfolozi and Onkudu Rivers, VII.1905, I. TRÄGÄRDH (4 ♂, 1 ♀, types M.St.).

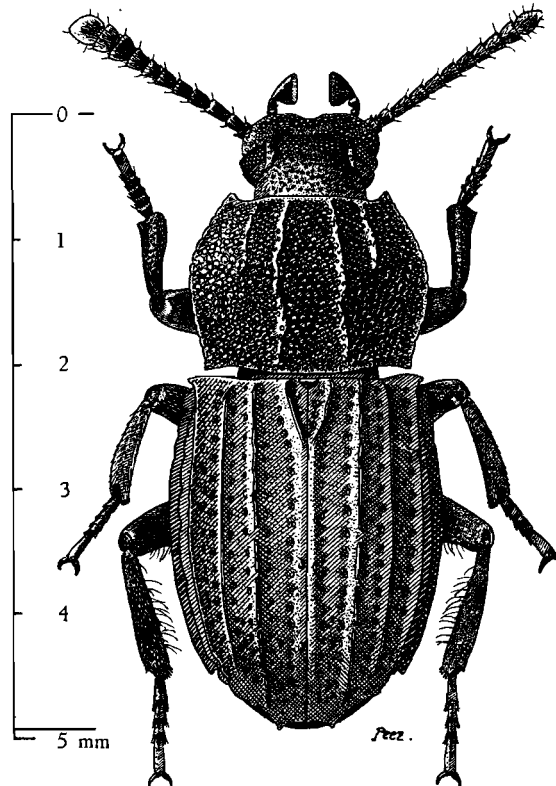


FIG. 229. — *Tragardhus* (s. str.) *glandipleurum* n. sp.
(The left antenna in lateral view, the right antenna from above.)

68. On elytra the sutural, third, fifth, seventh, eighth and ninth intervals with a longitudinal row of more or less concentrated, but always well separated, elongate tubercles; the outlines of elytra appearing as if denticulate. In the ♂ the inner contours of anterior tibiae with a prominent, obtusely dentiform, arcuate median dilation 69
- On elytra only the sutural and third intervals with small and scattered tubercles, but the fifth, seventh, eighth and ninth intervals with a

sharply raised and continuous costa; the outlines of elytra smooth or obtusely denticulate only basally and apically. In the ♂ the inner contours of anterior tibiæ without prominent, dentiform median dilation.

[**Tragardhus** (s. str.) **glandipleurum** n. sp.]

(Figs. 229 to 232.)

Black, the appendages reddish brown; almost dull, the elytra sericeous. Head above uniformly covered with a dense, reticulate, rugose sculpture. Clypeal sutures oblique and finely impressed; epistomal impression shallow; epistomal outlines scarcely demarcated from genal ones. Genæ long, straight, almost subparallel or very slightly narrowed towards eyes. The latter weakly projecting outwards beyond lateral contours of head. Supra-orbital crest very short and fine. Antennæ setiferous, only a trifle longer than width of head; proportions of segments very similar to *T. nodosus*. Pronotum broadest in front of middle, strongly transverse, about two-thirds broader than long, uniformly covered with a dense, rugose reticulation and some punctiform microscopical bristles. Anterior margin emarginated and with moderately produced anterior angles. Sides sparsely crenulate, strongly rounded and narrowed towards anterior margin, narrowed in an almost straight line towards base and sometimes very slightly sinuate in front of posterior angles. Submarginal depression broad, but weak and badly demarcated from discal convexity. Middle of disc with two fine, arcuate, more or less distinct carinulæ which are converging anteriorly and posteriorly, running across the entire length of pronotum; the lateral portions of disc with an often indistinct, shiny and elongate convexity each side of median carinulæ in front of middle. Base immarginate, faintly bi-sinuate, with sharply rectangular posterior angles. Underside of prothorax as in *T. nodosus*. Elytra only slightly broader than pronotum, short, with distinctly rounded sides and prominent, dentiform humeral angle. Primary rows with regular, strong, moderately dense punctures. Intervals smooth, tuberculate and costate as described above, but sometimes also the sutural and third intervals faintly subcostate. Eighth costa prolonged apically, ninth costa strongly abbreviate and ending at level of pseudopleural alveola. All costæ with microscopically short, yellowish bristles which are barely perceptible. Abdomen with rather fine, distinctly setiferous punctures; in the ♀ the anal sternite with extremely dense, somewhat asperous, often transversely confluent and densely setiferous punctation. Legs rather slender, piliferous. Femora shiny, the outer lateral surface with fine and scattered punctures on proximal two-thirds, densely and coarsely punctured on distal

third. Tibiæ densely sculptured, the intermediate and posterior tibiæ subcylindrical, the anterior ones with spinose and distally edged upper surface. In the ♂ the anterior tibiæ slightly more dilated towards apex than in the ♀, the underside weakly excavate at middle portion, and the inner contours weakly dilated behind middle and thence subparallel; the underside of posterior tibiæ with

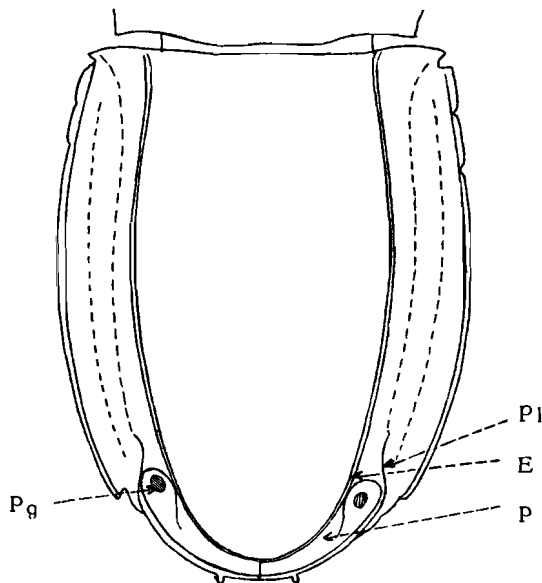


FIG. 230. — Scheme of the ventrally reflected portion of elytra in *Tragardhus* s. str.
E : epipleura; P : pseudopleura; Pg : pseudopleural gland; Pl : pseudopleural crest.

extremely fine, almost inconspicuous, subtomentose stripe of yellowish hairs; the underside of posterior femora with a very fine brush of squarrose, fine, rather long hairs on proximal half.

Ædeagus (figs. 231, 232). — Slender. The apical portion continuously converging towards the demarcated and subtriangular apex. Parameres deeply, elongately divided, almost straight, with the apices obliquely directed inwards, well demarcated from sides and enclosing a preapical, fenestrate gap. Ventral groove constricted, but with the penis narrowly exposed.

Dimensions. — Length $4\frac{1}{2}$ to $5\frac{1}{2}$ mm, width 2 to $2\frac{1}{2}$ mm.

Distribution. — Zululand. — Junction of Mfolozi and Onkudu Rivers, VII.1905, I. TRÄGÅRDH (21 spec., types M.St.); Hluhluwe, IV.1950, C. KOCH & T. LILIER (1 spec., T.M.); Entenadweni (1 spec., M.B.).

69. Pronotum strongly cordiform and deeply sinuate in front of posterior angles; lateral carina sparsely subdenticulate. Elytra strongly tuberculate on odd and lateral intervals, with a few tubercles also on second or fourth intervals; apical declivity simple, with the pseudopleural carina visible from above and delimiting the apical outlines of elytra.

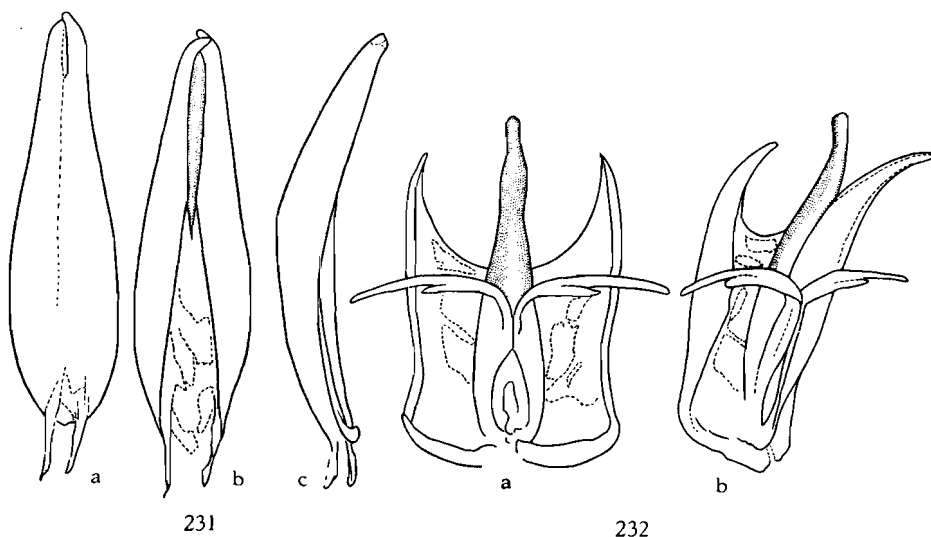


FIG. 231. — Aedeagus of *Tragardhus* (s. str.) *glandipleurum* n. sp. (a: dorsal surface; b: ventral surface; c: lateral aspect, with the ventral surface at right). — FIG. 232. — The dissected aedeagal tegmen with the penis and lacinia in *Tragardhus* (s. str.) *glandipleurum* n. sp. (a: ventral view; b: diagonal view).

[*Tragardhus* (s. str.) *stigmaticus* n. sp.]

Closely related to *T. glandipleurum*, but of larger size, the antennæ much longer than the head is broad and with non-transverse, eighth segment, all intervals on elytra tuberculate (the alternating even intervals only sparsely so on disc), both the ninth, as well as the eighth costæ strongly abbreviate posteriorly, the lateral outlines of elytra denticulate, the scabrous upper surface of intermediate and posterior tibiæ flattened, and in the ♂ the inner contours of anterior tibiæ with prominent, dentiform median dilation, the underside of posterior femora without hairy brush and that of posterior femora with scattered, short, squarrose hairs.

Dimensions. — Length $5 \frac{1}{2}$ to 6 mm, width about 3 mm.

Distribution. — Natal. — Malvern, II.1897 (1♂ ♀, types M.D.).

- Pronotum strongly narrowed in a straight line towards base; lateral carina obsolete crenulate. Elytra sparsely tuberculate on odd and lateral intervals, the second and fourth intervals plane, not tuberculate; apical declivity with a transverse ridge in front of apex, by which the pseudopleural carina is concealed, if viewed from above; the space between transverse ridge and pseudopleural carina of apex concave.

[**Tragardhus** (s. str.) **biapicalis** n. sp.]

Apart from the smaller size almost identical with *T. stigmaticus*. In the ♂ the anterior tibiae shaped as in this species, but the underside of posterior tibiae with a brush of rather long and dense hairs on distal half.

Dimensions. — Length 4 ½ mm, width 2 ¼ mm.

Distribution. — Zululand. — Without specified locality, VII.1938, F. R. LAWRENCE (1♂, holotype S.A.M.).

70. Antennae with eleven segments, much longer than the head is broad. Pronotum broadest in front of, or at, middle, with the sides narrowed in a straight line towards base; the latter practically truncate; the sides with a peculiar, large incision in front of posterior angles. Elytral base broader than pronotal base; the four subcostate odd intervals abruptly abbreviate in front or on top of apical declivity, with more or less dilated, tuberculiform apices; the middle of apical declivity with a large, roundish and prominent callosity on each side.

HÆMODUS (PÉRINGUEY).

1904, *Hæmus* PÉRINGUEY, p. 228.

1938-1942, *Hæmodus* nom. nov. GEBIEN, p. 819.

Monotypical.

Type species : —

Hæmodus carinatipennis (PÉRINGUEY).

(Pl. XXXII, fig. 2; Fig. 235.)

PÉRINGUEY, 1904, p. 229, t. 3, fig. 13 a. — 1910 b, GEBIEN, p. 123. — 1942-1944, GEBIEN, p. 820, n° 12584.

Original description. — « Black, but covered all over with an earthy coating and short, densely set, thick, bristle-like hairs, springing from each of the somewhat deep punctures. Head broader than long. Mentum long, one-third longer than broad, slightly rounded laterally at apex, emarginate, deeply impressed on

each side, labial palpi inserted on the inner face, but the two apical joints project beyond the edge of mentum, the last joint is sub-fusiform, broadly truncate; the two lobes of maxillæ are stiffly bristly, last joint of the long maxillary palpi cup-shaped, broadly truncate; left mandible trifid; antennæ reaching the base of prothorax, bristly except the four last apical joints which are briefly pubescent, joints third to seventh elongated, fourth as long as fifth and sixth taken together, seventh a little shorter than the preceding, eighth sub-conical, ninth and tenth transverse, eleventh sub-turbinate, closely fitting against the tenth; labrum transverse, emarginate, epistoma incised in front, genæ strongly projecting beyond the very narrow transverse eyes. Prothorax deeply incised laterally beyond the median part which is therefore strongly angular, straight along the base, with the angles sharp; diagonally amplified laterally from the apex to the median part, straight thence for a short distance, deeply incised there, thus forming a sharp angle, and with the posterior part straight; discoidal part very little convex; outer sides slightly deplanated. No scutellum. Elytra oblong-ovate, not much convex, somewhat plane in the anterior part, dehiscent behind, epipleural fold broad; very rugose, but the background is hidden by the earthy coating, except along the epipleural fold; the suture is broad, raised, and on each side are three costæ, the first and third of which reach the posterior dehiscence, but the first one is slightly longer, at some distance from the outer costa there is a small tubercle nearly equidistant from the apex and from the apex and from the terminal part of the costa, the second costa is a little shorter than the other two. The under side and legs are clothed with very dense, short depressed hairs, finer than those covering the upper side. Legs somewhat short, not very strong, anterior tibiæ obliquely truncate outwardly, neither angular, dentate or dilated outwardly at apex, slightly emarginate inwardly towards the apex in the ♂, not in the ♀; all the apical spurs very small, especially the posterior; tarsi bristly above and beneath, basal one longer in the ♂ than in the ♀. »

Remarks. — PÉRINGUEY placed this genus erroneously in the *Asidini* of tentyrioid *Tenebrionidæ*, while GEBIEN transferred it, likewise erroneously, to the *Helopinini* near to the genus *Aptila* FÄHRAEUS. In actual fact *Hæmodus* is clearly defined as a *Litoborini* on the basis of the ædeagus, the epistomal emargination, the shape of eyes, the buccal organs, the underside, legs and costal arrangement on elytra. It is quite peculiar among all the other genera of *Litoborini* by the angular incision of pronotal sides.

The upper surface of head is finely granulated and densely covered with short yellowish bristles. Clypeal structures are scarcely

indicated. The sides of epistome are in line with those of genæ. The latter project strongly and triangularly beyond ocular outlines; the genal canthus emarginates strongly the eyes on anterior two-thirds. The basal segment of maxillary palpi is widely separated from cardo and stipes, rather large, roundish and about as long as the second segment. All segments of antennæ are elongate, with the exception of the four last segments; eighth segment triangular, ninth and tenth segments strongly transverse and large, the apical segment obtusely triangular, longer but narrower than the preapical segment. Pronotum almost twice as broad as long, uniformly covered with a sharply raised, subgranular and rugosely confluent reticulation, and semi-erect yellowish bristles. Anterior margin strongly emarginate, with produced anterior angles. Submarginal depression of sides rather narrow and badly defined; sides minutely serrate-denticulate and ciliate. Prosternal apophysis horizontally produced, broadly rounded apically. Elytra considerably broader than pronotum, with rather strongly rounded sides, densely covered with short, semi-erect yellowish bristles. Humeral angles right, demarcated from the basally constricted sides. Scutellum transversely triangular, in normal state of rest almost concealed by the base of pronotum. Integument densely covered with fine granules on the broad sutural interval, with extremely dense, granular to punctured, but irregular sculpture on all the remaining intervals, without discernible primary rows. The third, fifth, seventh and ninth intervals subcostate, the crest of costæ with fine, subdentate granules, aggregated on the apical dilations of costæ and the roundish callosity on middle of apical declivity. Reflected lateral portion large, densely punctate-granulate. Pseudopleura only apically developed, but extending to extreme apex of elytra. Lateral outlines of elytra appearing as if densely and minutely serrate-dentate, ciliate, and with prominent contours of the apex of seventh costa and of the callosity on apical declivity. Abdomen densely covered with granular, setiferous, rather strong punctures; intercoxal process of basal sternite very broad and truncate. In the ♂ the inner contours of anterior tibiæ with weak, shallowly arcuate median dilation and between the latter and apical portion rather strongly emarginate and bearing a fringe of long, rather dense hairs.

Ædeagus (fig. 235).

Dimensions. — Length 9 to 10 mm, width 5 to 5 ½ mm.

Distribution. — Southern Rhodesia. — So far known only in the typical series from Umtali. Types in S.A.M.

- Antennæ with ten segments, barely longer than the head broad. Pronotum broadest basally, with the sides rounded and gradually dilated

towards posterior angles; base bi-sinuate, with strongly produced and arcuate middle portion. Elytral base a little narrower than pronotal base; the four subcostate odd intervals extending far beyond top of apical declivity, with the apices of third, seventh and ninth costæ coalescent in front of apex of elytra; no callosity on apical declivity.

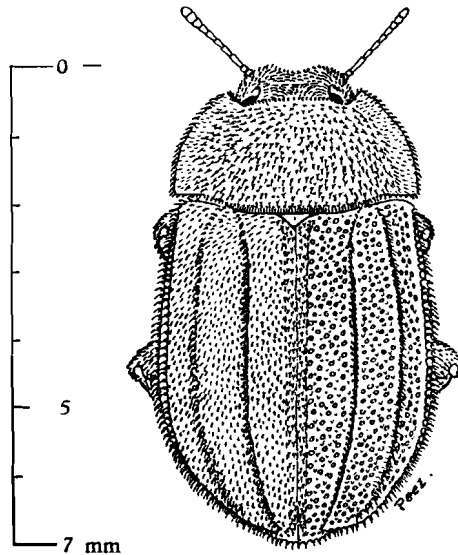


FIG. 233. — *Zoutpansbergia serricostata* n. sp.
Right half : elytral sculpture, dorsal surface of antenna; left half : elytral vestiture, compressed lateral surface of antenna.

ZOUTPANSBERGIA n. gen.

Monotypical.

Type species : —

[*Zoutpansbergia serricostata* n. sp.]

(Figs. 233, 234.)

Black to dark reddish brown, dull, usually covered with earthy particles, densely setiferous. Head hypognathous, amplexed in the prothorax up to genal angles, transverse. Upper surface plane, densely covered with fine, sharply raised granules and short, erect, yellowish bristles. Epistome broadly emarginate; epistomal impression transverse and shallow; lateral lobes short, broadly rounded, their contours in line with those of genæ. The latter triangularly prominent, as in *Hæmodus*; genal canthus emarginating the anterior two-thirds of eyes. Buccal organs, the maxillary palpi and mentum

included, as in *Hæmodus*. Mentum subpedunculate, moderately transverse, plane and without any trace of a median convexity, with deeply and triangularly emarginate apical margin. Antennæ with only ten segments, of which the three apical ones form a kind of club; the proximal segments slender, filiform, with elongate third segment; the eighth segment triangular and slightly transverse, the penultimate segment transverse and closely attached to the apical segment; the latter elongate, pointed, one and a half times as long as the preceding segment, without traces of any dividing sutures. Pronotum very strongly transverse, broadest basally, there about two and one third times as broad as long, with strongly produced and arcuate base, uniformly covered with dense, sharp and rather fine granules and semi-erect yellowish bristles. Anterior margin rather deeply emarginate, with strongly produced, rectangular anterior angles. Sides broadly rounded and dilated towards base, in front of posterior angles briefly subparallel or slightly narrowing; lateral margin minutely but sharply denticulate and ciliate; submarginal depression rather broad and strong. Posterior angles rectangular, situated distinctly in front of the backwardly produced middle portion of base. Discal convexity moderately strong. Prosternum together with episternum granular and setiferous, with anterior carina; intercoxal apophysis broad, as in *Hæmodus*, but the apical margin subtruncate. Elytra short, rather strongly convex, only slightly broader than pronotum, with very weakly rounded, anteriorly almost subparallel sides. Base strongly emarginate, a trifle narrower than pronotal base, with obtuse and not demarcated humeral angles. Without indication of primary rows. The odd intervals, the sutural one included, provided with a fine, distinctly raised, very densely and sharply denticulate costa; the intervening spaces between suture, third, fifth, seventh and ninth costæ densely and irregularly covered with fine, sharply raised granules, bearing stiff, erect yellowish bristles, as do the denticulate granules of costæ. Lateral outlines of elytra densely and sharply denticulate and ciliate. Reflected lateral portion broad, densely covered with setiferous, fine granules. Pseudopleura as in *Hæmodus*, developed only apically. Abdomen with broad, subtruncate intercoxal process of basal sternite, very densely covered with fine, sharp and setiferous granules. Legs similar to *Hæmodus*, but shorter, the tibiæ with strongly spinose outer contours, in the ♂ the anterior tibiæ almost simple, with smoothed and laterally carinate underside. Tarsi short, the unguis segment of all tarsi elongate and considerably longer than basal segment.

Remarks. — This genus is strikingly characterized by the reduced number of antennal segments, thereby distinguished from all *Opatrinæ* in general. Although sharply separated from *Hæmodus*

by several important particulars, *Zoutpansbergia* agrees with the latter in the convexity of body, the dense vestiture on upper surface, the formation of head and buccal organs, the presence of four costæ on each elytron, and the construction of sterna and abdominal segments.

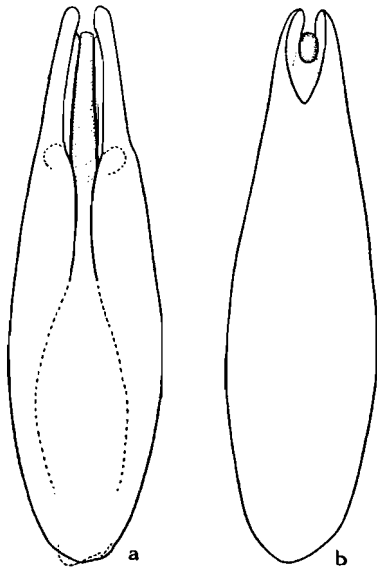


FIG. 234. — Aedeagus of *Zoutpansbergia serricostata* n. sp.
a : ventral surface;
b : dorsal surface.

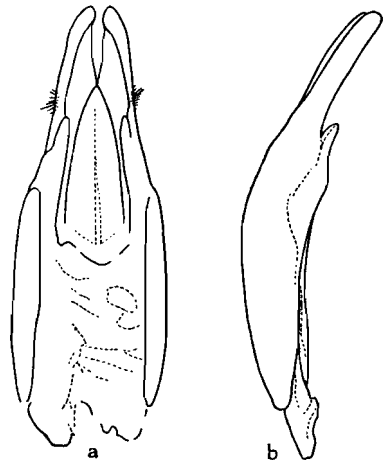


FIG. 235. — Aedeagus of *Hæmodus carinatipennis* (PÉRINGUEY).
a : ventral surface; b : lateral view
with the ventral surface at right.

Aedeagus (fig. 234). — Slender, of rather simple but elongate shape. The apical portion of tegmen strongly narrowed towards apex in a straight line. Parameres almost straight, divided only on apical third, but gaping, with sharply pointed apices (dorsal aspect). Ventral groove broad, leaving exposed penis and lacinia; penis considerably dilated towards base, with simple and rounded apex; lacinia almost as long as penis, but thinner, strongly sclerotized, curved outwards and very sharply pointed apically.

Dimensions. — Length $5 \frac{1}{2}$ to 7 mm, width $3 \frac{1}{4}$ to $4 \frac{1}{4}$ mm.

Distribution. — Northern Transvaal. — Zoutpansberg District : Salt Pan and Futie, VII.1949, C. KOCH & G. VAN SON (35 spec., types T.M.).

(PALÆARCTIC *LITOBORINI*, cf. KOCH, 1948.)

71. Anterior tibiæ slender, only slightly dilated towards apex, there at the best twice as broad as basally, with the upper surface edged only apically; sectional surface of apical disc oval, not flattened towards outer margin. Pseudopleura abbreviated posteriorly; the pseudopleural carina coalescent with the epipleural margin at about level with anal sternite. In the ♂ the inner contours of posterior tibiæ serrate-denticulate.

Litoborina 72

In this subtribe the ædeagal tegmen is truncate and fused apically, without a median division. Shape of body elongate and subparallel. With a single exception [*Melasma* (*Heliomelasma*) *appenhageni* KOCH], the elytra exhibit the following arrangement of lateral costæ: — The lateral outlines are formed by the ninth costa which, in dorsal aspect, conceals the pseudopleural carina; the intervening space between the ninth costa and the pseudopleural carina is situated at level with the pseudopleura and much broader than the latter; the ninth costa is united with the seventh costa at the humeral angle; the eighth costa always developed but abbreviate anteriorly. Humeral angle more or less distinctly dentiform and prominent. Base of pronotum deeply bi-sinuate and marginate.

- Anterior tibiæ more strongly, often very strongly dilated towards apex, there at least two and a half times as broad as apically, with the upper surface sharply edged at least on distal half; sectional surface of apical disc distinct only at inner portion, but strongly complanate and therefore reduced to a sharp edge at outer portion. Pseudopleura complete, extending to extreme apex of elytra; the pseudopleural carina either separated from the epipleural margin also apically, or there obsolescent, but then the epipleura together with pseudopleura forming a rather broad and obtuse edge. The inner contours of posterior tibiæ smooth in both sexes.

Melambiina 76

ANTOINE, 1941, has studied the ædeagus of the Moroccan representatives of this group. According to his indications the apical portion of the ædeagal tegmen is constricted, more or less strongly rounded and exhibits a short median division. ESPAÑOL, 1945, reports a similar structure for a few extra-Moroccan, palæarctic *Litoborini*. — Shape of body elongate or short and broad. The lateral construction of costal elements on elytra very variable. The lateral outlines of elytra are formed either by the pseudopleural carina or, as in the *Litoborina*, by the ninth costa which, in dorsal aspect, conceals the pseudopleural carina. In the latter case, however,

either the seventh and eighth costæ are developed (as in the *Litoborina*), but then the pseudopleura are much broader than the intervening space between ninth costa and pseudopleural carina and situated at a lower level than this interval, — or the lateral arrangement of costæ disagrees with that in the *Litoborina* in that the lateral costæ are not developed or if so, then the ninth or eighth costæ are united with the humeral angle but not the seventh costa, and the pseudopleura are often narrower than the intervening space between ninth costa and pseudopleural carina. In the latter case the base of pronotum often immarginate.

72. In the ♂ the anterior tarsi strongly dilated, at least as broad as the widest point of anterior tibiæ; the three proximal segments below with tomentose soleæ, covering the entire under surface of these segments. Anal sternite of abdomen with a large, roundish fovea, running across whole length of sternite. Pronotum almost square, only a little broader than long.

MELASMANA (WOLLASTON) 73

- In the ♂ the anterior tarsi not or only slightly dilated, in the latter case much narrower than the widest point of anterior tibiæ; the three proximal segments without or with only small tomentose patches which cover only a portion of under surface. Anal sternite without median fovea. Pronotum distinctly transverse 74

73. Lateral outlines of elytra formed by the ninth costa; the pseudopleural carina visible only at the minutely prominent humeral angles; the intervening space between ninth costa and pseudopleural carina situated at same level with pseudopleura. Anal sternite of abdomen completely marginate in both sexes. In the ♂ the intermediate tarsi feebly dilated and soleate below; the inner contours of anterior tibiæ with moderate dilation in front of middle.

MELASMANA subg. **MELASMANA** sensu stricto.

1948, KOCH, p. 407.

Monotypical. — *Melasma* (s. str.) *lineata* (BRULLÉ).

Canary Islands of Fuerteventura, Lanzarote and Teneriffa.

- Lateral outlines of elytra formed by the pseudopleural carina; ninth interval not costate, situated above pseudopleura and dorsal in position. Anal sternite of abdomen marginate only in the ♂; in the ♀ immarginate or with a rudimentary impression only apically. In the ♂ the intermediate tarsi elongate and not dilated, without tomentose patches on underside; the inner contours of anterior tibiæ with a strong and dentiform dilation in front of middle.

MELASMANA subg. **HELIOMELASMA** KOCH.

*1948, KOCH, p. 408.

Monotypical. — *Melasma (Heliomelasma) appenhageni* KOCH.
Canary Island of Teneriffa.

74. In the ♂ the anterior tibiæ simple, straight, with truncate apex and plane underside. Apical segment of maxillary palpi strongly securiform. Margination of anal sternite very strong.

LITOBORUS MULSANT & REY 75

- In the ♂ the anterior tibiæ curved inwards apically, with oblique outer contours of apex; the underside with sharp edge, bearing a strong tooth close to apex. Apical segment of maxillary palpi weakly securiform. Margination of anal sternite fine.

MELANSIS WOLLASTON.

With the two species *M. costata* (BRULLÉ) and *angulata* WOLLASTON on the Canary Islands of Gran-Canaria and Palma respectively.

75. The under surface of the three proximal segments of anterior tarsi in the ♂ with setiferous patches apically, in the ♀ with dense spinulæ each side of midline.

LITOBORUS subg. **LITOBORUS** sensu stricto.

Type species. — *Litoborus moreleti* LUCAS.

Three species (*L. moreleti*, *clermonti* ANTOINE and *maroccanus* ESCALERA) in Algeria and Morocco.

- The under surface of anterior tarsi simple in both sexes.

LITOBORUS subg. **PARALITOBORUS** ANTOINE.

Type species. — *Litoborus sternalis* (FAIRMAIRE).

Morocco (*L. sternalis*, *olcese* FAIRMAIRE with the subspecies *atlantis* ANTOINE, *chobauti* ANTOINE, *escalera* ANTOINE, *planicollis* (WALTL) [with the subspecies *bolivari* ANTOINE and the aberrations *defrictus* ANTOINE and *rugosus* ANTOINE], and *forticostis* ESCALERA).

76. Posterior angles of pronotum rectangularly demarcated by a small sinuosity of sides in front of base. Humeral angle callose, projecting outwards beyond the slightly sinuate basal portion of sides of elytra. (Body smaller, 7 ½ to 12 mm long, mentum and postgenæ plane, the

latter without pre-gular sulcus, base of elytra simple, anal sternite immarginate or marginate, in the latter case the outer margin as broad as, or narrower than, the marginal sulcus.)

ALLOPHYLAX BEDEL 77

- Posterior angles either obtuse (as the sides are dilated, rounded or narrowed in a straight line towards base), or rectangular and with the sides in front of them briefly sinuate, but in the latter case the body larger, 11 to 14 $\frac{1}{2}$ mm long, the anal sternite marginate, with the marginal sulcus being narrower than the apical margin of sternite, and either postgenæ with a transverse, pre-gular cavity, or the apical half of mentum transversely depressed, or the base of elytra with prominent and callose fifth intervals and impressed between the latter. Humeral angle never projecting outwards beyond lateral contours of elytra, nor callose; the basal portion of elytral sides not sinuate in front of humeral angles 79

77. Elytral intervals plane or only the alternating intervals costate; in the latter case the seventh costa not united with the humeral angle. Anal sternite marginate, except for *A. picipes* and subspecies 78

- All elytral intervals costate; the seventh costa coalescent with the humeral angle. Anal sternite at the best with rudimentary marginal sulcus.

ALLOPHYLAX subg. **LITOBOROMIMUS** KOCH.

Type species. — *Allophylax parallelus* SCHUSTER.

Endemic to the north-western part of Tripoli. The Tunisian *A. rotundicollis* CHOBOUT belongs probably to the same subgenus.

78. Anal sternite without or with rudimentary or only very fine margination. Lateral punctures on underside of body very coarse.

ALLOPHYLAX subg. **ALLOPHYLAX** sensu stricto.

Type species. — *Allophylax picipes* (OLIVIER).

A. picipes (with the two subspecies *dalmatinus* REITTER and *melitensis* REITTER) and *A. brevicollis* BAUDI, widely distributed over Southern France, Sardinia, the tyrrhenic Italy, Sicily, Malta and the Dalmatian Island of Lessina.

- Anal sternite with strong and complete margination. Lateral punctures on underside of body finer, often very fine.

ALLOPHYLAX subg. **PHYLAXIMON** KOCH.

Type species. — *Allophylax variolosus* (OLIVIER).

Seven species (*variolosus*, *ingratus* MULSANT & REY, *costatipennis* LUCAS [with the forma *sicardi* REITTER], *undulatus* MULSANT & REY, *seguis* MULSANT & REY, *ovipennis* FAIRMAIRE and *ignavus* MULSANT & REY), occurring in Tunisia, Algeria and Eastern Morocco.

- 79. Pronotum dilated towards base, with lateral carina and narrow submarginal depression. Antennæ short and stout, extending to the posterior quarter of pronotum but not reaching the base. Elytra broadly rounded apically **80**
- Pronotum rounded and narrowed towards base, without lateral carina and with broad submarginal depression. Antennæ fine and long, extending to pronotal base. Elytra acuminate apically.

BERMEJOINA ESPAÑOL.

Monotypical. — *Bermejoina aiunica* ESPAÑOL, 1944.

Sahara of Rio de Oro. A specialized genus, differing strongly from all the tropical and Southern African genera, as well as from the palæarctic ones.

- 80. At least the basal portion of the lateral outlines of elytra is formed by the pseudopleural carina (dorsal aspect). Pseudopleura broader than, or at the best as broad as, the marginal interval of elytra, gradually dilated towards base. Anal sternite with broad marginal sulcus; the apical margin distinctly broader than the marginal sulcus, exceptionally narrow, when the lateral margin of elytra is ciliate **81**
- The lateral outlines of elytra are formed by the ninth costa; the pseudopleural carina also basally concealed (dorsal aspect). Pseudopleura much narrower than the marginal interval of elytra, subparallel and suddenly dilated towards humeral angle basally. Anal sternite with fine marginal sulcus; the apical margin very narrow, at the best as broad as marginal sulcus. Lateral margin of elytra bare and not ciliate **91**
- 81. Ninth interval of elytra with sharp and complete costa; the latter almost reaching the base **82**
- Ninth interval of elytra either plane or subcostate, but in the latter case the fine costa or granular row abbreviate anteriorly and becoming evanescent at considerable distance from base **84**
- 82. Anterior tarsi in both sexes short and of identical shape.

OROPHYLAXUS KOCH **83**

- Anterior tarsi in the ♂ very slender, as long as the anterior tibiæ are long at the outer margin; in the ♀ short.

OTINIA ANTOINE.

Type species. — *Otinia iblanensis* ANTOINE. With two species (*O. iblanensis* and *embergeri* KOCH), endemic to the Middle Atlas.

- 83.** Inner contours of intermediate tibiæ with very fine denticulation on distal half; outer apical angle of anterior tibiæ forming at least a sharp angle, but usually produced into a briefly prominent tooth. Pronotum with very fine and sparse punctures; the canaliculate submarginal depression dilated towards base. Elytral micro-sculpture distinctly granular.

OROPHYLAXUS subg. **OROPHYLAXUS** sensu stricto.

Monotypical. — *Phylax incertus* MULSANT & REY.

Algeria, with the subsp. *disparis* ESCALERA also in the Middle Atlas. Specimens of the latter with indistinct or practically absent outer apical tooth of anterior tibiæ are to refer to the ab. *inermis* ESCALERA (nec *inermis* ANTOINE).

- Inner contours of intermediate tibiæ smooth; outer apical angle of anterior tibiæ obtuse or rounded. Pronotum with denser and stronger punctures; the canaliculate submarginal depression not or only obsoletely dilated posteriorly. Elytral micro-sculpture superficially and obsoletely granular.

OROPHYLAXUS subg. **ANTOINEIUS** KOCH.

Monotypical. — *Micrositus (Hoplarion) jeanneli* KOCH.

Endemic to the Middle Atlas.

- 84.** Sides of pronotum and elytra, as well as the episternum of prosternum bare. Pseudopleural carina smooth. Anterior tibiæ often with more or less developed, large, lobiform tooth at outer apical angle, but without pointed median tooth **85**
- Sides of pronotum and elytra, as well as the episternum of prosternum with long cilia, except for *Hoplarion torre-tassoæ*, when the anterior tibiæ exhibit a large and pointed median tooth besides the lobiform outer apical tooth. Pseudopleural carina finely serrate-denticulate, except for *Hoplarion torre-tassoæ*.

HOPLARION MULSANT & REY **90**

- 85.** Postgenæ on underside of head plane and simple, without pre-gular sulcus. Prosternum uniformly convex. Apex of the horizontal portion of prosternal apophysis not prominent. Sides of pronotum without sinuosity in front of posterior angles **86**
- Postgenæ on underside of head with broad, deep, transverse pre-gular cavity. Prosternum tectiform, with obtuse median edge. Apex of the horizontal portion of prosternal apophysis projecting beyond the perpendicular apical declivity. Sides of pronotum with slight sinuosity in front of posterior angles.

PEYERIMHOFFIUS KOCH.

Monotypical. — *Peyerimhoffius plicatus* (LUCAS).

The only Litoborin with a pre-gular cavity. Algeria.

- 86.** Outer apical angle of anterior tibiæ produced into a large, lobiform, strongly projecting tooth. Episternum of prosternum shiny, with smooth and flattened marginal area, coarsely and densely punctured, often longitudinally rugose. Submarginal depression of pronotum rather broad, usually dilated towards base. (Elytra often with costate or edged ninth interval, the primary rows without discernible punctures, only lineate, often reduced in number, and sometimes the intervals apically very finely costate, but not tuberculate).

ATLASION KOCH **87**

- Outer apical angle of anterior tibiæ inermous or with only a short, pointed and not lobiform tooth. Episternum of prosternum dull, without demarcated marginal area of sides, either very sparsely sculptured and often smooth, or with more or less dense granules or granular rugosities. Submarginal depression of pronotum practically absent or reduced to a narrow, fine canaliculation. Elytra with plane ninth interval, the primary rows distinctly punctured or lineate, but in the latter case with flattened tubercles.

HOPLARIOBIUS REITTER **88**

- 87.** In the ♂ the underside of proximal segments of anterior and intermediate tarsi with small, subtomentose, setiferous, yellowish patches, well visible also in lateral aspect; the intermediate and posterior tibiæ curved.

ATLASION subg. **ATLASION** sensu stricto.

Type species. — *Atlasion* (s. str.) *bedeli* (ESCALERA).

The type species and *A. escalerae* KOCH in the Middle Atlas. A subspecies of *bedeli* (ssp. *septentrionalis*) was described by ANTOINE from the northern part of the Middle Atlas. I do not know the two *Melambius* (*Hoplariobius*) *major* ANTOINE and *latissimus* ANTOINE, both from the Great Atlas; according to their descriptions they may belong to *Atlasion* sensu lato.

- In the ♂ the underside of anterior and intermediate tarsi simple, with the usual spiniform bristles; the intermediate and posterior tibiae straight.

ATLASION subg. **MEGATLASION** KOCH.

Type species. — *Atlasion* (*Megatlasion*) *atlantis* (ESCALERA).

With several species confined to the Great Atlas and the northern slopes of the Anti-Atlas. All have been described as *Micrositus* by ANTOINE and ESCALERA (*angulatus* ESCALERA with the subspecies *gundaficus* ANTOINE, *atlantis* ESCALERA with the subspecies *gattefossei* ANTOINE, and *theryi* ANTOINE).

- 88. Body large, 11 to 14 ½ mm long. Pronotum with fine, scattered, often evanescent punctures. Episternum of prosternum smooth, without or with only fine, very sparse punctures; prosternal apophysis horizontally produced, sulcate or foveate. Mentum either depressed on apical half or evenly flat, but then the base of the fifth interval on elytra callose and produced, and the intervals densely tuberculate 89
- Body smaller, 8 ½ to 10 ½ mm long. Pronotum densely punctured. Episternum of prosternum densely covered with granules or granular rugosities; prosternal apophysis bent towards foramen or depressed, short and plane. Mentum evenly flat. On elytra the fifth interval neither callose nor produced basally, and the intervals never tuberculate.

HOPLARIOBIUS subg. **HOPLARIOBIUS** sensu stricto.

Type species. — *Hoplariobius* (s. str.) *decurtatus* (FAIRMAIRE).

The type species with the subspecies *tenuepunctatus* ESCALERA, and *punctistriatus* ESCALERA, both widely distributed in Morocco.

- 89. Elytra with impressed middle portion of base, the fifth interval callose and obtusely produced basally, the primary rows lineate, without discernible punctation, and the intervals densely tuberculate. Pseudopleura strongly dilated basally. Sides of pronotum straight in front of posterior angles.

HOPLARIOBIUS subg. **GLYPTARIOBIUS** KOCH.

Monotypical. — *Hoplariobius (Glyptariobius) excavatus* KOCH.
Algeria.

- Elytra with simple base, the fifth interval not produced and not callose basally, the primary rows usually with distinct punctures, and the intervals rarely with transverse rugosities. Pseudopleura moderately dilated basally. Sides of pronotum in front of posterior angles rounded or straight.

HOPLARIOBIUS subg. **MENTARIOBIUS** KOCH.

Type species. — *Hoplariobius (Mentariobius) distinguendus* (MULSANT & REY).

The type species and *H. (M.) pueli* KOCH in Algeria.

90. The marginal carina of pronotal base complete or at most briefly interrupted on middle; disc of pronotum with round punctures. Anterior tibiæ with pointed middle tooth; the apical tooth is situated at the extreme apex of tibiæ; the outer contours of intermediate and posterior tibiæ briefly sinuate in front of apex, the latter therefore somewhat dentiform and prominent; the ungual segment of posterior tarsi elongate, considerably longer than the two preceding segments taken together.

HOPLARION subg. **HOPLARION** sensu stricto.

Type species. — *Hoplarion tumidum* MULSANT & REY.

Western Algeria and Eastern Morocco (*tumidum*, *kocheri* ANTOINE, *attritum* BEDEL, *humile* ANTOINE and *torre-tassoæ* KOCH).

- The marginal carina of pronotal base absent or confined to posterior angles; disc of pronotum with elongate, partially and longitudinally confluent punctures. Anterior tibiæ with denticulate median dilation; the apical tooth situated in front of the extreme apex of tibia; the outer contours of intermediate and posterior tibiæ straight, without dentiform apex; the ungual segment of posterior tarsi only slightly longer than the two preceding segments taken together.

HOPLARION subg. **SAHAROPLARION** KOCH.

Monotypical. — *Hoplarion (Saharoplarion) compactum* FAIRMAIRE).

Widely distributed in the northern parts of the Tripolitanian, Tunesian and Algerian Sahara.

91. Base of pronotum immarginate, straight, sometimes with a minute, semi-circular incision close to posterior angles. All elytral intervals costate, also discally. Outer contours of anterior tibiæ straight, but sinuate or emarginate in front of apex, the latter sharply angular to dentiform prominent, sometimes in front of apex with strongly projecting tooth.

MELAMBIUS MULSANT & REY 92

- Base of pronotum marginate, bi-sinuate, the marginal carina more or less widely interrupted on middle portion. Elytral intervals plane discally, sometimes very finely costate on sloping lateral and apical portions. Outer contours of anterior tibiæ slightly curved, the apex obtuse to broadly rounded.

MELAMBATLASUS KOCH.

Type species. — *Melambatlasus hebes* (ANTOINE).

Endemic to Morocco and in particular to the Middle and Great Atlas. To this genus belong *hebes*, *cacuminum* ANTOINE with the aberrations *subsiniatus* ANTOINE and *humeralis* ANTOINE, *pauliani* KOCH, and *antoinei* KOCH. I do not know the following species which probably have to be placed to the same genus: *hassani* ANTOINE, *vidali* ANTOINE, *asniensis* ANTOINE, *androgynus* ANTOINE, *venustus* ANTOINE, *anemophilus* ANTOINE and *cultriger* ANTOINE, all originally described as *Melambius* (*Hoplariobius*).

92. Outer contours of anterior tibiæ with a shallow, irregularly denticulate dilation in front of middle, and with large apical tooth. Pronotum with dentiform demarcated anterior angles and simple base. Body larger, 11 ½ to 12 ½ mm long.

MELAMBIUS subg. **HOPLAMBIUS** REITTER.

Monotypical. — *Melambius* (*Hoplambius*) *melamboides* (FAIRMAIRE).

Algeria and Tunesia.

- Outer contours of anterior tibiæ without median dilation. Pronotum with simple and not demarcated anterior angles; base either with a short incision close to posterior angles, or simple, but then the outer apical angle of anterior tibiæ not produced into a large tooth. Body smaller, 8 ½ to 11 mm long 93
93. Base of pronotum simple, without lateral incisions. Pronotum with strongly raised, longitudinally strigose sculpture.

MELAMBIUS subg. **HADROMELAMBIUS** KOCH.

Monotypical. — *Melambius* (*Hadromelambius*) *telueticus* ESCALERA).

Great Atlas.

- Base of pronotum with a short, irregular incision very close to posterior angles. Pronotum without longitudinally strigose sculpture.

MELAMBIUS subg. **MELAMBIUS** sensu stricto.

Type species. — *Melambius* (s. str.) *barbarus* (ERICHSON).

Widely distributed in Western Tunisia, Algeria and Morocco (*barbarus*, *teinturierii* MULSANT & REY, *tuniseus* LEVR., *breviusculus* FAIRMAIRE, *asperocostatus* FAIRMAIRE, *denticollis* ESCALERA, *bidens* ANTOINE, *mideltensis* ANTOINE with the aberration *simulator* ANTOINE, and *otini* ANTOINE).