

Dimensions. — 11 $\frac{1}{2}$ to 12 $\frac{1}{2}$ mm long, 6 $\frac{1}{2}$ to 7 $\frac{1}{2}$ mm broad.

Distribution. — Endemic to the Port Elizabeth District of the Central-southern Cape Province (map 6).

OPATRINOID PLATYNOTINA.

OPATRINUS LATREILLE.

*1829, LATREILLE, p. 19. — 1853 *a*, MULSANT & REY, p. 295. — 1853 *b*, MULSANT & REY, p. 70. — 1859, LACORDAIRE, p. 240. — 1870, GEMMINGER & DE HAROLD, p. 1914 (scr. *Hopatrinus*). — 1904, REITTER, pp. 51, 76. — 1910 *b*, GEBIEN, p. 276. — 1922, GEBIEN, p. 272. — 1938-1942, GEBIEN, p. 415. — 1947, GRIDELLI, p. 37. — 1953 *a*, KOCH, p. 269. — 1955 *a*, KOCH, p. 428.

Diagnosis (for African species). — Body alate, sometimes with reduced wings, exceptionally apterous (*O. exalatus*); elongate; bare or with very fine, short bristles which are scarcely discernible. Eyes strongly constricted by genal canthus. Mentum with largely exposed lateral wings; median section of variable shape, often with median carina. Apical segment of maxillary palpi non-dimorphic, triangular, not broader than long. Pronotum evenly convex, without submarginal depression or canaliculation, transverse; the posterior portion of sides subparallel, very weakly dilated or narrowed. Marginal carinae of sides and base very fine and complete, that of anterior margin confined to lateral portions. Anterior margin emarginate, base strongly bi-sinuate. Integument with very dense punctation. Prosternal apophysis horizontally produced; episternum of prosternum with coarse, dense sculpture, shallow only in *Opatrinus insularis*. Elytra broader than pronotum, elongate, more or less distinctly subparallel, weakly convex, with rectangular to faintly obtuse, non-prominent humeral angles. Primary rows sharply impressed, narrow, composed of very fine, dense punctures; secondary intervals densely and finely punctured, flat to convex, sometimes slightly tectiform on sides. Pseudopleura complete, gradually narrowed apically, with sharply carinate and distinctly separated epipleural and pseudopleural crests apically; strongly dilated on apical third and occupying the entire ventrally reflected portion of elytra. Pseudopleural crest entirely exposed dorsally, complete, distinctly sinuate at about level of base of anal sternite. Metasternum long, about as long as basal sternite of abdomen to only a quarter shorter than the latter, between meso and metacoxal cavities several times longer than pre-metacoxal sclerite, or from one and two-thirds times as long as metacoxal cavities to about one-third shorter than the latter. Anal sternite immarginate, with shallow sulcus on middle section of apical margin only in *Opatrinus corvinus*. Legs slender. Tibiæ thin, weakly dilated, with non-prominent outer apical angle and evenly convex upper surface; in the ♂ the inner contours often with distinctive characters, the

underside of anterior tibiæ smoothed, depressed or excavate, the intermediate tibiæ with variously developed, often inconspicuous pre-apical to apical inner tooth, the posterior tibiæ often curved. Femora slender, inermous, except for *Opatrinus mirabilis*. Tarsi dilated in both sexes, with soleæ below, the penultimate segment more or less strongly bi-lobate, particularly that of anterior tarsi. In the ♂ the anterior and intermediate tarsi more strongly dilated than in the ♀ and the anterior tarsi much more strongly dilated than the intermediate ones; in the ♀ the anterior tarsi not or only slightly broader than the intermediate tarsi.

Ædeagus. — Simple and rather homogeneous. The apicale much shorter than the basale, with divided, usually converging parameres the apices of which are obtusely pointed to subtruncate, sometimes complanate. Ventral groove with more or less broadly exposed penis and lacinia. Basale about three to more than four times as long as apicale, and sometimes much broader than the latter.

Dimensions. — 8 to 15 mm long.

Relationship. — Very well characterized by the long metasternum, the usual presence of wings and the dilated and soleate tarsi in both sexes. The apical construction of pseudopleura agreeing only with *Anchophthalmus*, *Phallocentrion*, *Cosmogaster* and *Oncotiphallops*; the pseudopleura reaching the extreme apex of elytra and the pseudopleural crest sharply separated from the epipleural carina apically. With the exception of *O. exalatus*, the *Opatrinus* possess fully developed to reduced wings; they are the only alate group within the *Platynotini* and may therefore be regarded the most primitive and ascendent of all the other *Platynotini*. Their next allies are *Anchophthalmus*, *Phallocentrion*, *Cosmogaster* and *Oncotiphallops*, which all display a similar construction of the complete pseudopleura, although being constantly apterous and having a strongly abbreviate metasternum.

Type species. — *Opatrum clathratum* OLIVIER, 1784. The type species belongs to an American group of *Opatrinus* (*Opatrinus* s. str. sensu MULSANT & REY). Only a careful study may prove the generic identity of the American and African *Opatrinus*. The few species of American *Opatrinus*, preserved in the collections of the Transvaal Museum, differ strongly from the African *Opatrinus* by the convexity and lateral margination of pronotum, and the coarsely punctured primary rows on elytra. They agree, however, in all the main particulars, as are the stridulatory gula, the complete pseudopleura, dilated tarsi etc.

Distribution (maps 2, 4, 6). — Tropical in the African Continent, also in Madagascar and neighbouring islands. In the North with a single species (*O. corvinus*) entering into the Palæarctic Region along the Nile valley to Alexandria, in the South occurring in the northern outskirts of the Southern African Region, but expanding as far southwards as Natal in the East. The hitherto insufficiently studied extra-African *Opatrinus* have been recorded from America (Northern, Central and Southern America), as well as from tropical Asia.

KEY.

1. Lateral contours of eyes continuous and in line with those of tempora.

OPATRINUS (ZIDALUS Mulsant & Rey) 2

*1953 a, *Zidalus* Mulsant & Rey, p. 296. — 1853 b, Mulsant & Rey, p. 71. — (sensu novo).

I am referring Mulsant & Rey's *Zidalus*, suppressed by Lacordaire and the subsequent authors, to a group of species which are sharply separated from the remaining African *Opatrinus* by the posteriorly non-prominent eyes. Originally erected for a single species, viz. *O. corvinus*, this group in its new combination comprises also species of Mulsant & Rey's *Opatrinus* s. str. (*O. niloticus*), as well as *O. latipes* (= *O. ovalis*) which was placed to the *Zodinus*. The *Opatrinus* s. str., which seem to agree with the *Zidalus* sensu novo in the posteriorly non-prominent eyes, occur only in the American Continent, but differ from the African *Zidalus* by the strong lateral margination of pronotum, the presence of a submarginal depression on the sides of the latter, the coarsely punctured primary rows on elytra and many other particulars.

Type species. — *Opatrinus corvinus* Mulsant & Rey, 1853.

- Lateral contours of eyes distinctly projecting outwards beyond those of tempora.

OPATRINUS (ZODINUS Mulsant & Rey) 8

*1853 a, *Zodinus* Mulsant & Rey, p. 315. — 1853 b, Mulsant & Rey, p. 90. — (sensu novo).

This subgenus, likewise suppressed by Lacordaire and the subsequent authors, is only slightly changed in its original composition by transferring *O. latipes* (= *O. ovalis*) to *Zidalus*. The criterion on which I am basing both the re-established subgenera, has been overlooked by Mulsant & Rey and the subsequent authors.

Type species. — *Opatrinus servus* Mulsant & Rey, 1853.

2. Body of smaller and more slender shape. Pronotum with round, separated, rarely very dense, subrugose and finer punctation on disc; the sides posteriorly subparallel to narrowed, in the latter case more or less strongly sinuate in front of posterior angles. Elytra less convex, often flattened discally; the punctures of primary rows less dense, stronger to rather coarse, impinging the secondary intervals, distinctly

coarser than the discal punctures on pronotum, with about 25 to 30 punctures in the fourth row. Middle section of mentum with distinctly demarcated, subparallel, more or less elongate, somewhat lobiform apical portion. In the ♂ the posterior tibiæ straight and simple. Body with fully developed to reduced wings.

corvinus group 3

- Body of larger and broader shape. Pronotum with extremely dense, subconfluent to rugose, coarser punctation on disc; the sides posteriorly practically subparallel or only inconspicuously rounded and narrowed towards posterior angles, never distinctly sinuate. Elytra more strongly convex; the punctures of primary rows very dense and fine, not impinging the secondary intervals, about as strong as the discal punctures on pronotum, with 45 to 60 punctures in the fourth row. Middle section of mentum broadly rounded and truncate anteriorly, without distinctly demarcated, lobiform apical process. In the ♂ the posterior tibiæ either strongly curved, or with postmedian dilation and preapical emargination of inner contours, exceptionally straight and simple, when the body is apterous.

latipes group 6

- 3. Pronotum cordiform, with the sides strongly narrowed and sinuate in front of the elongate, subparallel posterior angles. Proximal sternites of abdomen very densely, almost rugosely sculptured; anal sternite with extremely dense to transversely confluent punctures 4
- Pronotum not cordiform; the sides posteriorly subparallel or weakly narrowed in a straight to inconspicuously sinuate line towards posterior angles. Proximal sternites of abdomen with densely rugose to very scattered sculpture; anal sternite with separated and round punctures 5
- 4. Anal sternite of abdomen with shallow marginal sulcus around middle section of apical margin; dull, very densely rugose. In the ♂ the inner contours of anterior tibiæ with strongly prominent, obtuse, arcuate, median dilation.

[*Opatrinus (Zidalus) corvinus* MULSANT & REY] ⁽¹⁾.

(Pl. III, fig. 1; Fig. 86.)

*1853 a, *Opatrinus (Zidalus) corvinus* MULSANT & REY, p. 296. — 1853 b, MULSANT & REY, p. 71. — 1870, GEMMINGER & DE HAROLD, p. 1915. — 1887, FAIRMAIRE, p. 283. — 1904, REITTER, p. 77. — 1910 b, GEBIEN, p. 276. — 1935, KOCH, p. 106. — 1938-1942, GEBIEN, p. 415, n° 5556. — 1939, GRIDELLI, p. 238. — 1943, ESPAÑOL, p. 138, fig. 3 b. — 1947, GRIDELLI, pp. 39, 40, figs. 1 and 2.

⁽¹⁾ The species between brackets have not been captured within the Upemba National Park.

Original description. — « Corps oblong ou suballongé; assez faiblement convexe; d'un noir mat. Tête ponctuée, un peu plus finement et plus densément sur l'épistome que sur le front, beaucoup plus finement sur le vertex. Antennes noires, avec l'extrémité un peu moins obscure. Prothorax arqué sur les côtés, sinué vers les cinq sixièmes, parallèle ou presque parallèle ensuite; à angles postérieurs prolongés en arrière en forme de dent aiguë; muni latéralement d'un rebord saillant, presque uniforme ou plus graduellement et faiblement plus épais, saillant, convexe, pointillé; bisinué à la base, avec les trois cinquièmes médiaires de celle-ci médiocrement et obtusément arqués et moins prolongés que les angles; muni d'un rebord basilaire très-étroit, parfois plus apparent, non interrompu; très-médiocrement convexe; couvert de points à peu près égaux à ceux du front, mais plus serrés, et de chacun desquels sort, moins indistinctement que de ceux de la tête, un poil très-court, livide, parfois usé. Écusson en triangle à côtés anguleux; près d'une fois plus large qu'il est long dans son milieu; ponctué. Élytres sub-arrondies aux épaules, faiblement élargies ou presque parallèles ensuite jusqu'aux trois cinquièmes; assez faiblement convexes; à stries très marquées, étroites, crénelées par des points ou petites raies transverses, séparés les uns des autres par un espace double au moins de leur diamètre longitudinal, (plus de trente de ces points sur la quatrième strie) : la troisième généralement liée à la sixième en enclosant les quatrième et cinquième : souvent les troisième, quatrième, cinquième et sixième graduellement plus courtes : les septième et huitième au moins aussi courtes que la cinquième et postérieurement unies. Intervalles peu convexes en devant, un peu plus convexes postérieurement; crénelés et ridés par les points des stries; rugueusement ponctués; glabres ou à peu près. Bord supérieur du repli en majeure partie un peu visible en dessus. Côtés de l'antépectus marqué de points assez gros, un peu unis en sillons. Prosternum rebordé et offrant les traces d'un sillon médiaire. Postépisternums parallèles, quatre fois environ aussi longs que larges. Ventre et pieds marqués de points donnant naissance à un poil très-court. Tarses garnis en dessous de poils d'un fauve roux. ♂ : Jambes grêles : les antérieures sensiblement arquées, munies sur leur arête inférieure d'une saillie en forme de dent, naissant au tiers et se terminant brusquement aux trois-cinquièmes de leur longueur. Jambes intermédiaires et postérieures, à peu près droites et simples. Quatre premiers articles des tarses antérieurs dilatés : les deuxième et troisième plus sensiblement que le quatrième et surtout le premier. Long. 11,2 mm, larg. 4,4 mm. »

R e m a r k s. — Middle section of mentum with excavate basal half, there with fine median carina and strongly narrowed, carinate

sides; apical half lobiform, narrow, with subparallel sides, flat and sharply separated from basal half. Base of elytra with excavate, intra-humeral articulation surface; secondary intervals with dense micro-sculpture of cuticle. In the ♂ the anterior tarsi very strongly dilated, slightly broader than apical width of anterior tibiæ and about twice as broad as intermediate tarsi, as the latter with spongiose soleæ below; posterior tarsi elongate, with dense, long bristles

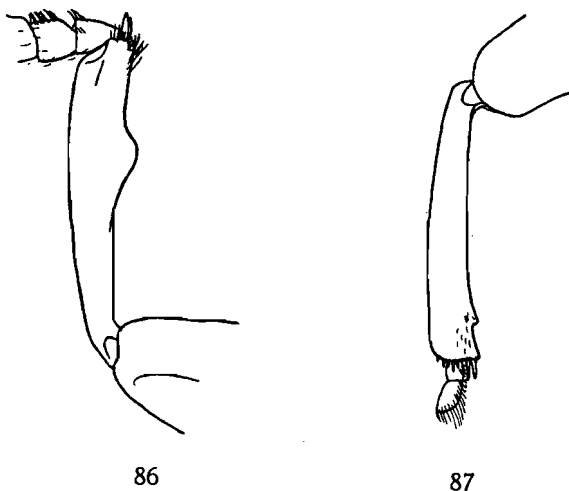


FIG. 86. — Anterior tibia of a ♂ of *Opatrinus (Zidalus) corvinus* MULSANT & REY.
 FIG. 87. — Intermediate tibia of a ♂ of *Opatrinus (Zidalus) niloticus* MULSANT & REY.

below, but not soleate; anterior tibiæ (fig. 86) excavate underneath, with strong, arcuate median or slightly postmedian dilation of inner contours; intermediate tibiæ with weak, little sensible, obtuse preapical dilation of inner contours, rarely with triangular, pointed, small preapical tooth at about halfway between middle and apex (var. *pinheyi* nov.); posterior tibiæ straight and simple. In the ♀ the anterior tarsi moderately dilated, slightly broader than the intermediate tarsi, with entire soleæ below; the soleæ on the underside of intermediate tarsi divided.

Ædeagus. — Apicale rather long, the sides moderately narrowed in a straight line towards apex; the parameres slightly complanate, with broadly rounded to subtruncate, weakly bent apices. Basale slightly broader than base of apicale, about three times as long as apicale. Ventral groove with broadly exposed penis and lacinia.

D i m e n s i o n s. — Length 10 to 12 mm, width 4 to 5 mm.

Type locality. — « Galam » (French Somaliland) and « l'Egypte ». Type (« Voyage de M. LEPRIEUR ») probably in Museum Paris.

D i s t r i b u t i o n. — Probably in the whole Trans-Sudanese Province, in the North reaching the Mediterranean coast at Alexandria along the Nile valley, in the South found in the south-western part of British East Africa. — French Somaliland: Galamo (*locus classicus*). — Nile Egypt: recorded from Assyut in Upper Egypt to Alexandria (KOCH, SCHUSTER, loc. cit.). — South-western British East Africa: in the Nyanza District at Homa, South of Kavirondo (XI-XII, 1934, H. J. ALLEN TURNER, 1 ♂, B.M.) and Ahero Kisumu (IV, 1941, E. OPIKO, 1 ♂, var. *pinheyi*, C.M.). — Gold Coast: Pundu, Upper Volta River (OLSUFIEW, 4 spec., M.St). — Senegal: GRIDELLI mentions 1 ♀ from Senegal, the classification of which is doubtful in that it may belong to this species or *O. erythræus*.

- Anal sternite of abdomen without any trace of a marginal sulcus; slightly shiny, with less dense and finer sculpture. In the ♂ the inner contours of anterior tibiæ without prominent and dentiform median dilation.

[***Opatrinus (Zidalus) erythræus*** GRIDELLI.]

*1939, *Opatrinus corvinus erythræus* GRIDELLI, p. 239. — 1947, GRIDELLI, p. 41, figs. 3 and 4.

Original description. — « Presenta tutti i caratteri del tipico *corvinus*, dal quale differisce per la punteggiatura degli urosterniti ancora più densa e per i caratteri sessuali secondari del maschio. ♂ Protibie incavate come nella forma tipica, ma il margine anteriore della zona incavata non è dilatato, bensì tagliente, rettilineo o appena convesso. Margine flessorio apparente delle mesotibie con un dente preapicale corto ma acuto. Fallo come nella forma tipica. Lunghezza 10 ½ to 11 ½ mm — Ritengo molto probabile che il mio *erythræus* rappresenti in realtà una specie diversa dal *corvinus*. Per quanto riguardo le protibie il *corvinus* presenta un carattere molto marcato, che nell'*erythræus* è fortemente ridotto, ossia la dilatazione mediana del margine anteriore. Ma il contrario avviene per le mesotibie, che sono inermi nel *corvinus* e dentate nell'*erythræus*. Bisognerebbe invocare uno spostamento distale della sinuosità ed uno sviluppo dentiforme del suo inizio prossimale. Ma tale accentuazione di un carattere delle mesotibie contrasta con la riduzione del carattere delle protibie. »

R e m a r k s. — I do not know GRIDELLI's typical material from Eastern Africa, but a ♂ from Senegal agrees completely with his findings. It is very closely related to *O. corvinus*, the pronotum is less strongly cordiform, the secondary intervals on elytra are shiny,

with scarcely discernible micro-sculpture of cuticle, the intra-humeral cavity of elytral base is slightly more reduced, and the distinctive characters of the legs in the ♂ agree exactly with GRIDELLI's description of *erythræus*. Taking into consideration the almost sympatric occurrence of *corvinus* and *erythræus*, I have no doubt in considering both forms independent species. There do not exist intermediate forms as to the very different structure of anterior tibiæ, whereas a similar development of intermediate tibiæ occurs in *erythræus* and the var. *pinheyi* of *corvinus*.

Type locality. — Erythræa and Abyssinia : Tessenei, Om Ager, Adi Ugri.

Distribution. — Probably Trans-Sudanese and of a similar distribution as *O. corvinus*. — Erythræa : Tessenei, Om Ager, Adi Ugri. — Italian Somaliland : Belet Amin, Villagio Duca Abruzzi, Giumbo, btwn. Dime and Bass Narok, Mogadiscio (teste GRIDELLI, 1947). — South-western Abyssinia : Gondaraba, Lake Stefanie region (teste GRIDELLI, 1947). — Senegal : without specified locality (1 ♂, coll. BURGEON, BCM).

5. Pronotum posteriorly with subparallel sides and very narrow, smoothed, but distinct justa-lateral canaliculation. Body fully winged; the metasternum long, decidedly as long as the basal sternite of abdomen and between meso and metacoxal cavities a third longer than the latter. Elytra with rather sharp humeral angles; the lateral portions of base straight, without intra-humeral cavity on articulation surface. Under surface of body densely punctured, the prosternum plus episternum included.

[*Opatrinus (Zidalus) niloticus* MULSANT & REY.]

- *1853 a, *Opatrinus (Opatrinus) niloticus* MULSANT & REY, p. 312. — 1853 b, MULSANT & REY, pp. 74, 87. — 1870, GEMMINGER & DE HAROLD, p. 1915. — 1906 a, GEBIEN, p. 15. — 1910 b, GEBIEN, p. 277. — 1938-1942, GEBIEN, p. 415, n° 5557. — 1947, GRIDELLI, pp. 40, 51. — 1950, GRIDELLI, p. 170. — 1953, GRIDELLI, p. 57.
 *1887, *Opatrinus angulicollis* FAIRMAIRE, p. 283. — 1947, *Opatrinus niloticus angulicollis* GRIDELLI, p. 52, fig. 18.
 *1943, *Opatrinus niloticus zolotarevskyi* ESPAÑOL, p. 138, fig. 3 a. — 1950, GRIDELLI, p. 171.

Original description. — « Corps oblong; peu convexe; d'un noir mat ou peu luisant. Tête marquée de points assez petits, serrés et peu enfoncés. Partie médiane du menton, peu ou point entaillée en devant. Antennes à peu près aussi longuement prolongées que les angles postérieurs du prothorax; noires. Prothorax élargi en ligne courbe jusqu'aux deux cinquièmes, subparallèle ensuite; muni latéralement d'un rebord saillant, médiocrement épais; assez faiblement bisinué à la base, avec les trois cinquièmes médianes peu arqués en arrière et un peu moins prolongés que les angles;

rayé au devant de la base d'une ligne constituant un rebord étroit, uniforme, non interrompu; assez faiblement convexe; couvert de points aussi serrés que ceux de la tête, plus petits près du bord antérieur que postérieurement. Écusson en triangle à côtés curvilignes ou anguleux; un peu plus large à la base qu'il est long dans son milieu; ponctué. Élytres presque parallèles ou à peine élargies jusqu'aux trois-cinquièmes, postérieurement rétrécies d'une manière faiblement sinuée, avec l'extrémité obtuse; assez faiblement ou médiocrement convexes; à stries assez profondes, très-prononcées, marquées de points transverses, égaux au tiers ou presque à la moitié des intervalles, séparés les uns des autres par un espace plus grand que leur diamètre (environ trente à trente-trois de ces points sur la quatrième strie). Intervalles peu convexes en devant, graduellement plus convexes à leur partie postérieure; assez finement ponctués; crénelés et comme ridés par les points des stries. Bord supérieur du repli en majeure partie visible en dessus. Dessous du corps et pieds noirs ou d'un noir brun. Prosternum rebordé. Côtés de l'antépectus marqués de points assez gros, unis en sillons. Postépisternums peu profondément ponctués; plus de trois fois aussi longs que larges. Ventre couvert de points assez fins, presque disposés en rides longitudinales. (Les tarsi antérieurs manquaient à l'exemplaire que nous avons sous les yeux). »

R e m a r k s. — *Mentum* as in *corvinus*. *Metasternum* longer than in *corvinus* (in which it is not longer than the space between meso and metacoxal cavities). In the ♂ the anterior and intermediate tarsi as strongly dilated and soleate as in *corvinus*; in the ♀ the intermediate tarsi without soleæ below, but with long, dense bristles on both sides. In the ♂ the underside of anterior tibiae excavate, with only very weak to inconspicuous median dilation of inner contours, as is the case in *erythræus*; the inner contours of intermediate tibiae either with preapical, sharp, small tooth (fig. 86) (as in *erythræus* and var. *pinheyi* of *corvinus*) or with only small preapical emargination, but without prominent tooth (var. *edentatus* nov.).

Æ d e a g u s. — Similar to *O. opatrinus*, but the apicale shorter, more strongly narrowed towards apex, the parameres not complanate and with obtusely pointed apices. Basale about four times as long as apicale.

D i m e n s i o n s. — Length $9\frac{1}{2}$ to 11 mm, width 4 to $4\frac{1}{4}$ mm.

T y p e l o c a l i t y. — « l'Égypte ». Type (coll. DEYROLLE) probably in Museum Lyon.

S u b s p e c i e s. — The formation of subtle geographic forms can be observed in all *Platynotini*, but it is impossible to separate

them from the typical form if not by absolute characters. *Angulicollis* FAIRMAIRE, described from Guelidi in Italian Somaliland, is such a slightly different geographic form which, according to GRIDELLI, 1947, disagrees slightly from the typical form by the posteriorly sometimes weakly dilated sides of pronotum and a little finer and denser punctation on primary rows on elytra. GRIDELLI adds that « singoli esemplari non sono distinguibili dalla forma tipica e i caratteri sessuali sono gli stessi ».

As to *zolutarevskyi* ESPAÑOL from Ifni, GRIDELLI, 1950, having examined material from the French Sudan and Mauritania, considers *zolutarevskyi* probably a synonym of the typical *niloticus*. The original description is quite insufficient, as ESPAÑOL compares his form carefully with *O. corvinus* but not with *niloticus* which « no conocemos ». Nevertheless he places his *zolutarevskyi* as a new subspecies to *niloticus*. His drawing of the pronotum (fig. 3a) agrees fairly well with *O. insularis* in the posteriorly shallow and long sinuosity of sides, but not with *niloticus*.

Distribution. — Trans-Sudanese, in the North expanding to the Anglo-Egyptian Sudan (but not to Egypt, cf. ANDRES, 1931, and KOCH, 1935), in the South reaching the south-western part of British East Africa, in the East entering into the south-western parts of Arabia. — Anglo-Egyptian Sudan: Khartoum (teste GRIDELLI, 1941); Sudanese Nile valley, VIII, Count GYLDESTOLPE (Prince WILHELM Exped., 6 sp., M.St.). — Erythraea: Tessenei (teste GRIDELLI, 1941). — Abyssinia: Omo valley, I.1942, T. H. E. JACKSON (9 spec., all var. *edentatus*, C.M.); Harar: Bubassa (teste GRIDELLI, 1941). — Italian Somaliland: Guelidi, Villaggio Duca degli Abruzzi, Gabredarre, Dolo, Belet Uen, Sceic Hosc, Merca, Garad, Belet Amin, Gumbo, Rahanuin, Margherita, Brava, btwn. Matagoi and Lugh, and Mogadiscio (teste GRIDELLI, 1941); Mogadiscio, XI.1941, A. F. J. GEDYE (1♀, C.M.); btwn. Belet Uen and Shillave, XI.1941, D. G. MACINNES (2♀♀, C.M.). — South-western Arabia: Yemen, Ta'izz (teste GRIDELLI, 1941); Aden Protectorate, Dhala (according to GRIDELLI, 1953, agreeing with var. *edentatus*). — British East Africa: Turkana Distr., XI.1940, T. H. E. JACKSON (1♀, C.M.); Magadi, V.1949, A. J. RHEAD (2♀♀, C.M.); Olgasalic, V.1944, MENEGHETTI (1♀, C.M.); Homa, South Kavirondo, XI-XII.1934, H. J. ALLEN TURNER (1♂, with very dense, subrugose punctation on pronotal disc, C.M.). — French Sudan and Mauritania: Air (Agadez, Téouar, Monts Baguezans); Mauritania (Akjouijt and Adrar des Iforas, Kerchoual) (all teste GRIDELLI, 1950).

- Pronotum posteriorly with very shallowly, elongately sinuate, slightly narrowed sides, without any trace of a justa-lateral canaliculation. Body with reduced to rudimentary wings; the metasternum short, a quarter shorter than the basal sternite of abdomen and between meso and metacoxal cavities more than a third shorter than the latter. Elytra with bluntly rectangular to slightly obtuse humeral angles; the lateral portions of base strongly sinuate, with well developed intra-humeral cavity on articulation surface. Under surface of body with fine, scattered punctures on proximal sternites of abdomen, almost smooth or only shallowly punctured on prosternum plus episternum.

[*Opatrinus (Zidalus) insularis* MULSANT & REY.]

- *1853 a, *Opatrinus (Zodinus) insularis* MULSANT & REY, p. 320. — 1853 b, MULSANT & REY, pp. 90, 95. — 1870, GEMMINGER & DE HAROLD, p. 1915. — 1910 b, GEBIEN, p. 277. — 1913, CHATANAY, p. 765, figs. 1 and 2. — 1922, GEBIEN, p. 273. — 1938-1942, GEBIEN, p. 415, n° 5552. — 1947, GRIDELLI, pp. 40, 50, figs. 14 and 15.
- *1887, *Opatrinus (Zodinus) ater* CL. MUELLER, p. 301, pl. 12, fig. 4. — 1922, GEBIEN, p. 273.
- *1947, *Opatrinus insularis somalicus* GRIDELLI, p. 51.

Original description. — « Corps oblong; médiocrement convexe; noir, mat et glabre en dessus. Tête finement ponctuée, rayée sur la suture frontale. Antennes prolongées à peu près jusqu'aux angles postérieurs du prothorax; pubescentes; noires, avec l'extrémité graduellement d'un noir grisâtre; grossissant à partir du sixième article: les septième à dixième un peu obconiques, plus larges en devant que longs. Prothorax faiblement élargi et en ligne peu courbe jusqu'à la moitié, un peu plus faiblement rétrécie ensuite; muni latéralement d'un rebord assez étroit, un peu saillant; assez faiblement convexe; très-finement ponctué, avec les intervalles presque unis. Écusson en triangle ogival, près d'une fois plus large que long; luisant; assez grossièrement ponctué; parfois sillonné sur son milieu. Élytres presque parallèles jusqu'aux trois-cinquièmes: médiocrement convexes; à stries rendues plus profondes par la convexité des intervalles; marquées de points un peu transverses qui crénelent les intervalles (environ 28 à 32 de ces points sur la quatrième strie). Intervalles médiocrement convexes; un peu plus convexes sur la moitié externe que sur l'interne; finement pointillés: le troisième postérieurement uni au septième et au neuvième. Bord supérieur du repli visible en dessus sur toute sa longueur. Dessous du corps un peu luisant; lisse ou superficiellement pointillé sur les côtés de l'antépectus, plus sensiblement ponctué sur le ventre. Postépisternums parallèles, trois fois et demie aussi longs que larges. Pieds assez finement ponctués et garnis de poils très-courts, peu distincts; grêles; simples (♂ ♀). ♂: Jambes antérieures à peine arquées; les postérieures légèrement échancrées vers le tiers de l'arête inférieure: quatre premiers articles des tarsi antérieurs dilatés: les deuxième à quatrième plus que le premier. ♀: Jambes droites. Tarsi antérieurs à peine dilatés. Long. 10 mm, larg. 3,6 mm. »

Remarks. — Shape of body as in *corvinus* and *niloticus*. In the ♂ the anterior and intermediate tarsi more strongly dilated than in the two preceding species, soleate below; the anterior tarsi distinctly broader than the apex of anterior tibiae; the posterior tarsi setiferous below, with the exception of the soleate preapical segment. In the ♀ the anterior and intermediate tarsi moderately dilated and soleate below, the anterior tarsi scarcely broader than the inter-

mediate ones, the posterior tarsi with soleate preapical segment. In the ♂ the anterior tibiae with excavate underside, with the inner contours inconspicuously emarginate on distal half (forma typica) or straight (ssp. *somaticus*); the intermediate tibiae with strong preapical tooth on inner contours; posterior tibiae straight or very slightly bent inwards in front of middle.

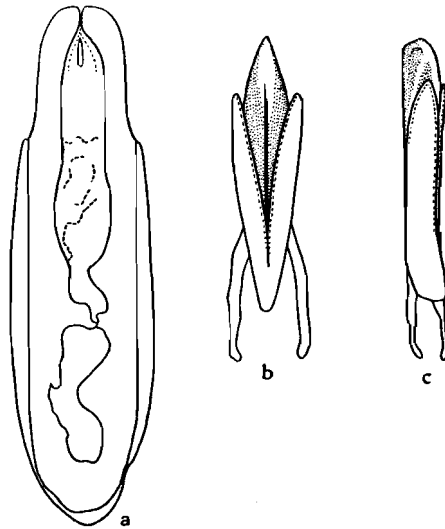


FIG. 88. — *Opatrinus (Zidalus) insularis* MULSANT & REY.

a : dissected and emptied aedeagal tegmen; b : the extracted penis plus lacinia of aedeagus, outer surface; c : ditto, in lateral view.

Ædeagus (fig. 87). — Apicale rather long, with very weakly converging, distally almost subparallel sides; parameres broad, flattened ventrally, with subtruncate, practically straight apices. Ventral groove with both the apically pointed penis and lacinia exposed. Basale broader than, and about three and a half times as long as, apicale.

Dimensions. — Length 9 to 11 $\frac{1}{4}$ mm, width 3 $\frac{1}{2}$ to 4 $\frac{1}{2}$ mm.

Type locality. — « Madagascar ». Type (coll. CHEVROLAT) probably in Museum Paris.

Subspecies. — GRIDELLI's *somaticus* is unknown to me. Its description reads as follows.

« I punti delle strie delle elitre sono più numerosi a più piccoli, non intaccanti gli intervalli. Le ali sono ridotte rispetto alle altre specie,

ma in confronto a quelle della forma *typica* sono più sviluppate ed il loro apice supera la metà dell'elitra, spingendosi circa sino all'inizio del quarto apicale. Ed inoltre nei maschi le metatibie sono poco più grosse, diritte, con margine flessorio rettilineo, privo di sinuosità. Lunghezza. 9 ½ - 11 mm. »

The above description seems to be based on rather superficial, if not incorrect observations. According to GRIDELLI the typical form of *insularis* occurs in Madagascar as well as in the African Continent, having rudimentary to reduced wings which at any rate ought to be shorter than the wings described for his subspecies *somalicus*. My examination of specimens from the Comoro Islands and the Usambara District in the Tanganyika Territory, however, showed that the wings of these specimens agree completely with GRIDELLI's description of his *somalicus*, viz. extend to the apical quarter of elytral length. The other differential character which GRIDELLI claims for his *somalicus* is the shape of the posterior tibiæ in the ♂. It is possible that he refers only erroneously to the posterior tibiæ instead of correctly to the anterior tibiæ, but the posterior tibiæ of my *insularis* vary in their shape from straight through slightly bent inwards posteriorly to very weakly emarginate on distal third of inner contours. Without having in front of me topo-typical specimens from Madagascar, it is impossible to decide whether the populations from the Continent and the Comoro Islands are in actual fact different from those from Madagascar.

Distribution. — Eastern African, from Somaliland to the Zambesi River (as correctly stated already 1887 by CL. MUELLER) (1), and Madagascar archipelago. — Madagascar archipelago: Madagascar, Comoro Islands, Seychelles (I know only specimens from the Comoro Islands, T.M.) — Zambesi Region (teste CL. MUELLER). — Tanganyika Territory: Nguela, Usambara District (a long series in I.R., mentioned also by GEBIEN, 1922). — Zanzibar (teste CL. MUELLER and GRIDELLI). — Italian Somaliland: Belet Amin (type locality of *ssp. somalicus*), Mogadiscio, Villaggio Duca Abruzzi, Margherita, Alesandra (all teste GRIDELLI).

6. Body fully winged; metasternum quite as long as the basal sternite of abdomen, between meso and metacoxal cavities about as long as the latter. Elytra long, less strongly attenuate apically; with distinct humeral callosity and intra-humeral cavity of articulation face; the pseudopleural crest very fine, neither dilated nor reflected humerally. In the

(1) GRIDELLI, 1941, makes an incorrect statement in saying « Anche questa caratteristica specie è molto più ampiamente diffusa di quanto si credeva finora, dato che con la sua razza, alquanto differenziata, essa si spinge fino alla Somalia italiana meridionale ». In actual fact, however, GRIDELLI's delimitation of the range of *insularis* on the African Continent, viz. from Somaliland to Zanzibar, comprises a smaller area than was known to CL. MUELLER already in 1887, viz. from Somaliland to the Zambesi River.

- ♂ the posterior tibiæ dimorphic, in one case the intermediate tibiæ with strong preapical tooth on inner contours, in the other the anterior tibiæ strongly dimorphic 7
- Body apterous; metasternum almost a third shorter than basal sternite of abdomen, between meso and metacoxal cavities considerably shorter than the latter. Elytra shorter, strongly attenuate apically; with depressed humeral surface and without intra-humeral cavity on articulation surface; the pseudopleural crest dilated and reflected humerally. In the ♂ the posterior tibiæ practically straight, the intermediate tibiæ with only very slight, inconspicuous preapical emargination of inner contours and the anterior tibiæ shallowly curved, with simple inner contours.

[**Opatrinus (Zidalus) exalatus** n. sp.]

Closely allied to *O. latipes* and agreeing with this species to a great extent in the shape and sculpture of body. Head and antennæ as in *latipes*. Middle section of mentum broadly oval, with distally rounded and strongly narrowed, carinate sides, and raised, almost complete median carina; the apical portion flat, small, occupying about a quarter of length of mentum. Pronotum densely and uniformly punctured, as in *latipes*, but of less strongly transverse shape, with deep anterior emargination, strongly produced, sharp anterior angles, and with posteriorly very slightly rounded and narrowed sides. Prosternum almost smooth, episternum with strong, dense, round punctures, becoming longitudinally rugose on anterior portion, but absent from submarginal area. Elytra shorter, less convex than in *latipes*, with obtuse humeral angles and distinctly rounded sides. Primary rows with fine punctures which are more scattered than in *latipes*; with about 45 punctures in the fourth row; all rows sharply impressed and more deeply lineate on sloping lateral and apical portions. Secondary intervals as in *latipes*, densely punctured, but less strongly convex laterally. Pseudopleural crest entirely visible from above, with distinct submarginal depression on basal half. Abdomen as in *latipes*, the proximal sternites more densely punctured. In the ♂ and ♀ the anterior and intermediate tarsi dilated and soleate as in *latipes*. In the ♂ the anterior tibiæ briefly excavate underneath, with straight inner contours; the intermediate tibiæ sulcate underneath, their inner contours with short, weak preapical emargination and obtusely, faintly projecting apical angle; the posterior tibiæ finely sulcate on under surface, with inconspicuously curved, simple inner contours.

Dimensions. — Length 10 ½ to 12 mm, width 4 ¾ to 5 ¾ mm.

Remarks. — This species is very striking by its wingless body, in this respect forming a transition from the alate *Opatrinus* to the apterous *Anchophthalmus*, although decidedly maintaining the habitus and main characters of *Opatrinus*. It agrees with *O. insularis* in the shortness of metasternum, but is sharply separated from this species by the *latipes*-like structure of mentum, the different shape and very dense, coarse punctation of pronotum, the different basal formation and sculpture of elytra, as well as by the entirely wingless, larger and broader body; the ♂ lacks the preapical tooth on inner contours of intermediate tibiæ, which is always strongly developed in *insularis*, as well as in *latipes*.

Distribution (map 4). — Oriental Province of the Belgian Congo. — North-central Uele District, country of the Sassa (about 25° E and 5° N), 1895-1896, COLMANT (2♂♂, 4♀♀, types BCM.).

7. Head shaped as in all the other *Opatrinus*, with more or less rounded and narrowing tempora which are at most briefly subparallel behind eyes; this subparallel portion of tempora much shorter than the subparallel portion of genae. Secondary intervals on elytra with fine, but conspicuous and very dense punctation. In the ♂, as in all the other *Opatrinus*, the antennæ non-dimorphic; the anterior tibiæ almost simple, with shallow and long emargination of distal half of inner contours; the inner contours of intermediate tibiæ with obtuse, arcuate postmedian dilation and large justa-apical tooth; the posterior tibiæ strongly curved inwards, excavate on under surface and with the weakly arcuate outer carina of excavation slightly projecting beyond inner contours behind middle; the anterior femora simple.

***Opatrinus (Zidalus) latipes* (SAHLBERG).**

(Pl. III, fig. 3; Fig. 82.)

*1823, *Opatrum latipes* SAHLBERG, p. 13.

*1853 a, *Opatrinus (Zodinus) ovalis* MULSANT & REY, p. 315. — 1853 b, MULSANT & REY, p. 90, pl. 2, figs. 8-10. — 1904 b, GEBIEN, p. 61. — 1907, GEBIEN, p. 404

*1904, *Opatrinus opacus* GEBIEN, p. 4, pl. 1, fig. 2.

1870, *Opatrinus* (scr. *Hopatrinus*) *latipes* GEMMINGER & DE HAROLD, p. 1915. — 1910 b, GEBIEN, p. 277. — 1938-1942, GEBIEN, p. 415, n° 5550. — 1947, GRIDELLI pp. 40, 46.

*1885, *Opatrinus atratus* QUEDENFELDT, p. 8. — 1947, GRIDELLI, p. 46.

*1947, *Opatrinus latipes tanaensis* GRIDELLI, p. 47, figs. 10 and 11.

Original description. — *Ovalis* MULSANT & REY : « Corps oblong ou suballongé; assez faiblement convexe; d'un noir peu ou point luisant. Tête et prothorax uniformément et comme finement chagrinés; couverts de points serrés, donnant chacun naissance à un poil court, livide ou livide roussâtre, peu apparent. Partie médiaire du menton presque en losange, non échancrée ou anguleuse

en devant, aussi longuement (σ) ou un peu moins longuement (φ) prolongée que les angles du prothorax; noire. Prothorax élargi en ligne courbe jusqu'à la moitié environ ou un peu plus, presque parallèle ou très-faiblement rétréci ensuite et ordinairement sans sinuosité sensible; muni sur les côtés d'un rebord un peu saillant, peu épais, presque uniforme; assez fortement bisinué à la base, avec les trois-cinquièmes médiaires de celle-ci obtusément arqués en arrière et un peu moins prolongés que les angles; muni à ladite base d'un rebord très-étroit, presque interrompu dans son milieu; assez faiblement convexe. Écusson en triangle à côtés anguleux; de moitié plus large à la base que long dans son milieu; ponctué. Élytres presque parallèles jusqu'aux trois-cinquièmes, rétrécies ensuite d'une manière peu sinuée, avec l'extrémité obtuse; assez faiblement convexes; à stries étroites, notées de points les dépassant à peine, séparés par un espace un peu plus grand que leur diamètre (au moins soixante de ces points sur la quatrième strie). Intervalles assez superficiellement pointillés; garnis de poils d'un livide roussâtre, peu apparents, généralement plus courts que l'intervalle des points; subconvexes en devant, un peu plus sensiblement en arrière, parfois légèrement en toit obtus. Bord supérieur du repli presque entièrement visible en dessus. Dessous du corps et pieds un peu luisants. Côtés de l'antépectus marqués de gros points presque unis et parfois unis en sillons. Prosternum rebordé, souvent rayé d'un sillon longitudinal médiaire plus ou moins marqué. Postépisternums parallèles, quatre fois environ aussi longs que larges. Tarses garnis en dessous d'un duvet fauve roux. σ : Jambes grèles : les antérieures faiblement arquées, simples : les intermédiaires graduellement et assez faiblement élargies jusqu'à la moitié, subparallèles ensuite, armées d'une petite dent à l'extrémité postérieure de leur arête inférieure : les postérieures plus grèles, arquées sur leur tiers ou leurs deux-cinquièmes basilaires, échancrées en dessous vers le tiers. Quatre premiers articles des tarsi antérieurs dilatés : les deuxième et troisième plus fortement que le premier surtout : quatre premiers articles des tarsi intermédiaires presque égaux, un peu plus larges que les postérieurs. φ : Jambes droites, simples. Tarses antérieurs peu et uniformément dilatés. Long. 12,3 à 13,5 mm, larg. 4,5 à 6,7 mm ».

R e m a r k s. — Mentum (fig. 82) as described in *O. exalatus*, the lateral wings very narrow, the middle section more strongly broadened, with well rounded and dilated sides. In the σ the anterior and intermediate tarsi strongly dilated, soleate below, the anterior tarsi distinctly broader than the apex of anterior tibiae; the underside of posterior tarsi very densely setiferous, with divided soleae on pre-penultimate segment and entirely soleate on preapical

segment. In the ♀ the anterior and intermediate tarsi rather strongly dilated, much less broad than in the ♂; the anterior tarsi moderately broader than the intermediate ones, underside of all tarsi soleate.

Ædeagus. — Stout. Apicale short, moderately narrowed in a straight line towards apex; parameres stout, straight and not bent ventrad, with broadly rounded to subtruncate apices. Ventral groove with narrowly exposed apical portion of penis and lacinia. Basale strongly dilated towards middle, with ventrally very broad inflexed alæ, much broader than, and about five times as long as, apicale.

Dimensions. — Length 10 ½ to 15 mm, width 4 ½ to 6 ¾ mm.

Type locality. — Sierra Leone.

Subspecies. — I do not know GRIDELLI's ssp. *tanaensis* from the Lake Tana in Northern Abyssinia. The description of this form reads as follows: — « Individui molto simili a quelli della razza tipica, con i quali hanno in comune la grande statura, la forma del corpo e i caratteri sessuali. Ma i tegumenti dorsali sono nettamente pubescenti, come in *costatulus*, opachi in seguito alla maggiore profondità della microscultura reticolare; la punteggiatura delle elitre è nettamente più densa e gli intervalli delle elitre sono soltanto debolmente convessi, non subcarenati. I caratteri sessuali maschili sono gli stessi; però il dente apicale delle mesotibie è più sottile e la dilatazione suddescritta delle metatibie è pochissimo pronunciata. Lungh. 12 a 12 ½ mm ».

The very abundant material of *O. latipes* at my disposal, coming from the whole of Tropical Africa, exhibits a rather wide range of variability as to the sculpture of body, more or less strongly convex to subtectiform lateral secondary intervals on elytra, length and density of the microscopical pubescence of body, as well as to the more or less strong development of the dimorphism of legs in the ♂. I do not know whether the differential characters of the ssp. *tanaensis* in actual fact extend beyond the range of variability of species, but they all refer to subtle alterations of sculpture.

Distribution (maps 4, 6). — Practically Trans-Tropical, but apparently less diffused in the East; ranging from Senegal to Abyssinia in the North and reaching the Okavango River in the South. — [Senegal: (type locality of *O. ovalis*);] [Khayes, VIII.1582, NODIER (1 spec., S.A.M.).] — [Portuguese Guinea (teste GRIDELLI).] — [Sierra Leone (type locality of *O. latipes*).] — [Liberia: Cape Palmas (type locality of *O. atratus*).] — [Ivory Coast (teste GRIDELLI).] — [Gold Coast: Pundu, Upper Volta River, OLSUFIEW (a long

series, M.St.)] — [Dahomey : Oyo, Yoruba, P. FRANÇOIS (1 spec., S.A.M.)] — [Nigeria : Lokoja and Kabba, II.1949, B. MALKIN (2 spec., M.C.A.)] — [Cameroun : without specified locality, Y. SJÖSTEDT (type locality of *O. opacus*); [Mukonje, Mundame (1 spec., T.M.); [Joko, Ebolowa and Bamum (teste GRIDELLI).] — [Principe Islands (teste QUEDENFELDT).] — Belgian Congo (1) : [Léopoldville Province (Makaya Tete, Temvo, Thysville, Congo da Lemba, Lemfu, Kisantu, Mayidi, Léopoldville, Kalina, Mpese, Ngowa, Kunzulu, Kibenga, Leverville, Kikwit)]; [Equator Province (Bolobo, Lukolela, Bokala, Eala, Libenge, Flandria, Gemena, Karawa, Likimi, Mandungu)]; [Oriental Province (Barumbu, Mobwasa, Yangambi, Buta, Tukpwo, Bambesa, Stanleyville, Zobia, Sassa country, Ibembo, Amadi, Poko, Dundu, Faradje, Moto, Madyu, Watsa, Mahagi, Djugu, Nioka, Fataki, Blukwa, Nizi)]; [Albert National Park region (Beni, Ituri forest, Kawa forest, Mutsora, Mutwanga)]; [Ruanda-Urundi (Uvira, Kitega)]; [Kivu province (Kindu, Nyangwe, Kasongo, Mulungu, Katana, Costermansville)]; [Kasai Province (Makumbi, Lusambo, Katoka, Luluabourg, Kondue, Mwene Ditu, Kabinda)]; [Elisabethville Province (Kapanga, Tshibamba, Sandoa, Tshibalaka, Kafakumba, Kaniama, Bukama, Bunkeya, Lukuga, Elisabethville, Albertville)]; Upemba National Park : Mabwe, Mission G. F. DE WITTE. — [North-eastern Angola : Dundo, II.1949, A. DE BARROS MACHADO (6 spec., M.D.)]; [Saurino, XI.1949, Padre EDUARDO (1 spec., M.C.A.)]. — [North-western Bechuanaland : Andara, Bagani, XI.1951, R. G. STREY (1 spec., T.M.)]. — [Tanganyika Territory : Bukoba and Mwamgongo, XI.1943, MENEGHETTI (5 spec., C.M.)]; [Bismarckberg and Dar es Salaam (teste GRIDELLI).] — [Uganda : Kampala, I.1920, R. DUMMER (1 spec., S.A.M.)]; [Mubende, I.1923, H. HARGREAVES (1 spec., T.M.)]; [Bwamba forest, III.1948, J. G. WILLIAMS (1 spec., C.M.)]. — [Abyssinia : Lake Tana (Bakar-dagh, type locality of sp. *tanaensis*, teste GRIDELLI)].

- Head of peculiar shape, strikingly quadrangular; the tempora very long, exactly parallel, one and a half times as long as the subparallel portion of genae, and almost rectangularly bent towards the neck posteriorly. Secondary intervals on elytra with fine, scattered, inconspicuous punctation. In the ♂ the antennæ with the third to seventh segments thickened, abbreviate, attenuate towards the apex and with flattened, shiny, pubescent under surface; the anterior tibiæ with strongly broadened upper surface, very deeply excavate underneath, with the inner contours forming a strong premedian tooth, a short and semi-circular emargination at the bent middle, and slightly emarginate, subparallel

(1) From the Belgian Congo altogether 1402 specimens were examined, preserved in the « Institut des Parcs Nationaux du Congo belge », « Institut royal des Sciences naturelles de Belgique » and « Musée royal du Congo belge ». These specimens have been collected by FR. ANASTASE, P. BASILEWSKY, P. DE BEIR, J. BEQUAERT, BORGERHOFF, H. J. BRÉDO, M. BROUWERS, BUCKINCKX, L. BURGEON, P. CALLEWAERT, A. COLLART, COLMANT, J. COOREMAN, R. CREMER, DOUTRELEPONT, R. C. ELOY, A. FAIN, FLORIDON, M. FONTAINE, P. GÉRARD, J. GHESQUIÈRE, DE GIORDI, L. HACKARS, P. HENRARD, P. HULSTAERT, HUTEREAU, FR. HUTSEBAUT, P. LEFÈVRE, N. LELEUP, LEONTOVITCH, J. V. LEROY, J. LISFRANC, P. LOOTENS, E. LUJA, R. MASSART, R. MAYNÉ, P. J. MERTENS, SH. NEAVE, N. NEUMAN, G. F. OVERLAET, PUTNAM, C. SCOOPS, H. SCHOUTEDEN, H. TAZIEFF, P. VANDERIJST, P. VANDERPLAS, P. VANEYEN, P. VANKERCKHOVEN, VANHEEKE, J. VRIJDAGH, Q. WALLIN and Mission G. F. DE WITTE.

on distal half; the inner contours of intermediate tibiae almost simple, slightly curved and shallowly emarginate on distal half; the posterior tibiae almost straight, but with weak, elongate postmedian dilation and rather strong preapical emargination of inner contours; the anterior femora with small apical tooth on inner lateral surface and extremely broadened, excavate, densely pubescent under surface, the outer edge of which is strongly, triangularly enlarged and reflected distally.

Opatrinus (Zidalus) mirabilis n. sp.

(Fig. 89.)

Allied to *O. latipes* and agreeing with this species in the fully winged body, large size, shape and sculpture, but, apart from the unique dimorphism of the antennae and legs in the ♂, readily distinguished as follows. Mentum with broader lateral wings and narrower middle section; the latter one and a half times as long as broad, with almost complete median carina, but only shallowly impressed surface each side of carina; the sides of middle section edged, narrowed from base to middle, thence sinuate and almost subparallel at the constricted apical fourth or fifth, with truncate apical margin. Pronotum similar to *latipes*, but considerably more strongly convex, with depressed anterior angles, very dense, coarser punctation and posteriorly subparallel to shallowly sinuate sides. Elytra as in *latipes*, with the same dense, fine punctation of primary rows, but with very sparsely, inconspicuously punctured, flat to slightly convex secondary intervals. Under surface of hind body as in *latipes*, the abdomen a little more densely punctured and more elongately setiferous. The tarsi as strongly dilated and soleate as in the ♂ and ♀ of *latipes*.

The new species represents the only species within the genus, exhibiting dimorphic anterior femora and antennae.

Ædeagus. — Rather differentiated from all the other species. Apicale broad, moderately narrowed in a slightly rounded line towards apex, with complanate, almost laminiform distal half; parameres flattened dorsally and ventrally, with obliquely cut apices; ventral groove broad, with almost entirely exposed, long penis and lacinia. Basale moderately broader than apicale and about three and a half times as long as the latter.

Dimensions. — Length 13 to 14 mm, width $5 \frac{3}{4}$ to $6 \frac{1}{4}$ mm.

Distribution (map 4). — Elisabethville Province of the Belgian Congo. — Upemba National Park: Mabwe, I.1949, G. F. DE WITTE (1♂, 3♀, types I.P.N., collected together with *O. setuliger* and *O. latipes*).

8. In the ♂ the inner contours of anterior tibiæ with conspicuous to obtusely dentiform median dilation, the inner contours of intermediate tibiæ with strong preapical tooth 9
- In the ♂ the inner contours of anterior tibiæ straight and simple, those of intermediate tibiæ with minute, inconspicuous apical spine, either simple or with very weak postmedian emargination 10

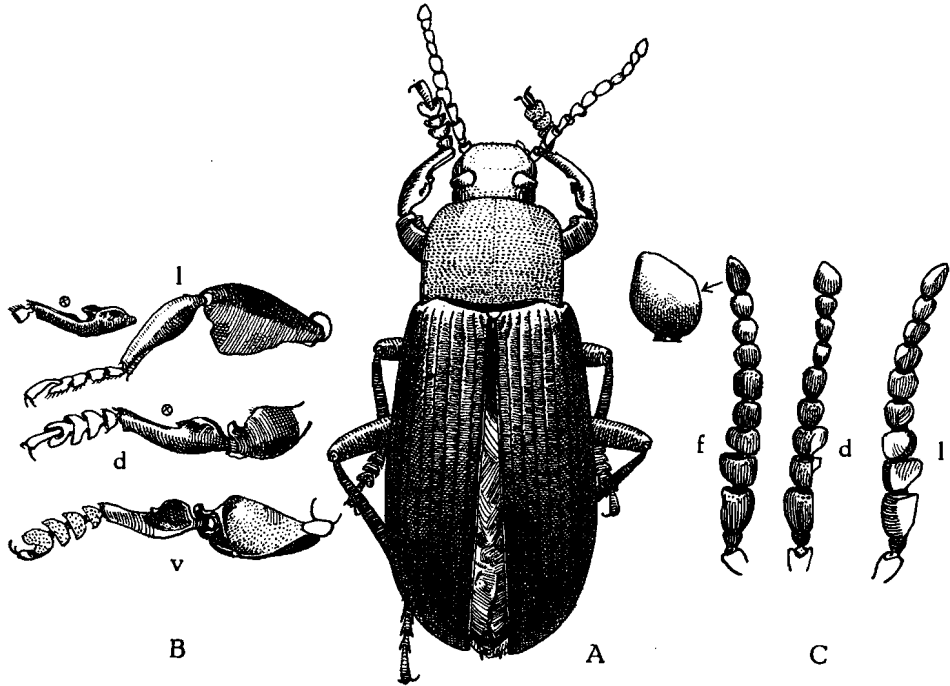


FIG. 89. — *Opatrinus (Zidatus) mirabilis* n. sp.

A : dorsal view. — B : anterior leg of ♂ (l : in lateral view; d : in dorsal view, v : in ventral view). — C : antenna of ♂ (f : inner lateral surface; d : dorsal surface; l : outer lateral surface).

9. In the ♂ the inner contours of intermediate tibiæ with strong, triangular preapical tooth, those of anterior tibiæ with arcuate, non-dentiform and not prominent median dilation.

[***Opatrinus (Zodinus) costulatus*** (GUÉRIN).]

(Pl. III, fig. 4.)

*1849, *Opatrum costulatum* GUÉRIN, p. 321, pl. 5, fig. 3.

1870, *Opatrinus costulatus* GEMMINGER & DE HAROLD, p. 1915. — 1910 b, GEBIEN, p. 276. — 1938-1942, GEBIEN, p. 415, n° 5555. — 1939, GRIDELLI, p. 239. — 1947, GRIDELLI, pp. 40, 48, figs. 8 and 9.

GRIDELLI has the merit of introducing this forgotten species into modern systematics. In his revision of *Opatrinus* he reproduced GUÉRIN's original diagnosis, but added the following re-description.

Description (*sensu* GRIDELLI, 1941). — « Perfettamente riconoscibile per la forma del corpo e, soprattutto, per la pubescenza cortissima, subcoricata, giallo bruna, dei tegumenti dorsali, perfettamente visibile anche a debole ingrandimento. Anche le zampe, le antenne ed i tegumenti delle parti ventrali presentano una pubescenza analoga. Tegumenti dorsali subopachi. Il pronoto è pochissimo arrotondato ai lati, con la massima larghezza un poco dietro alla metà, a lati pochissimo convergenti posteriormente ed ivi subparalleli, non sinuati; la base è bisinuata e quindi gli angoli posteriori sono acuti. I lati convergono notevolmente all'innanzi; a visione dorsale l'orlo anteriore appare uniformemente concavo e gli angoli anteriori leggermente acuti, poco sporgenti. Margine laterale orlato, notevolmente ispessito; orlatura del margine basale fina, completa (ma sottilissima nel tratto mediano), mentre quella del margine orale è presente (poco evidente) solo ai lati, dietro agli occhi. Punteggiatura piuttosto grossa, densissima, con tendenza a formare rugosità longitudinali. Una leggera depressione trasversale corre ad una certa distanza dal margine posteriore. Parte ripiegata con punteggiatura densa, a punti grossi, isolati o più o meno confluenti; è presente una zona liscia in corrispondenza alla convessità articolare ed una zona marginale esterna a punteggiatura fina. Strie delle elitre molto sottili, a punti finissimi e molto numerosi, non intaccanti in alcun modo gli intervalli, i quali sono opachi, leggermente convessi (specialmente gli esterni), a punteggiatura finissima e piuttosto densa. Ali completamente sviluppate. Mento piano, opaco, densamente rugoso-punteggiato, con linea mediana longitudinale irregolare liscia. Addome lucido, con punteggiatura fina, più o meno ridotta sulla zona centrale degli sterniti anteriori. ♂ : Protibie ingrossate, leggermente curvate, con la faccia flessoria scavata e dilatata come in *corvinus*. Mesotibie dilatate, con dente preapicale interno molto vistoso, acuto. Metatibie leggermente curvate, con ampio tratto mediano della faccia flessoria leggermente incavato, a punteggiatura meno densa e quindi lucido. Trocanteri delle zampe del secondo paio con apice distale acuto, simile ad una spinetta. Addome appiattito nel mezzo, appena depresso in corrispondenza al tratto mediano del primo sternite visibile ed al tratto mediano basale del secondo e del terzo, e ivi con alcune lievi rugosità longitudinali. — Lungh. 9-9,5 mm. »

Æ d e a g u s. — Apicale narrowed towards apex. but the apical portion almost subparallel and weakly demarcated from the basal portion by a shallow, long sinuosity; parameres stout, rather convex,

with narrowly rounded, slightly bent apices; ventral groove rather broad, with exposed apical portions of penis and lacinia. Basale with subparallel sides, only slightly broader than apicale, about three and a half times as long as the latter.

Dimensions. — Length 9 to 11 $\frac{1}{2}$ mm, width 4 to 4 $\frac{3}{4}$ mm.

Type locality. — Abyssinia.

Distribution (map 4). — Northern East African, from the Anglo-Egyptian Sudan southwards to the north-eastern parts of the Belgian Congo. — Anglo-Egyptian Sudan: btwn Khartoum and Gondokoro, Erer valley, btwn. Bongo and Uata. — Abyssinia: Shoa, Cialalaka. — Erythræa: Adi Ugri, Saganeiti (all teste GRIDELLI, 1947). — North-eastern Belgian Congo: Kibali-Ituri District (Nioka, VII. 1934, J. LEROY, 15 spec., BCM.; btwn. Blukwa and Nizi, XI.1929, A. COLLART, 25 spec., I.R.; Mahagi, Odongo, III.1929, A. COLLART, 1 spec., I.R.); Uele District (Bambesa, VI.1937, J. VRIJDAGH, 5 spec., I.R. and BCM.).

- In the ♂ the inner contours of intermediate tibiæ with fine, spiniform apical tooth, those of anterior tibiæ with strongly prominent, arcuate, obtusely dentiform median dilation.

[**Opatrinus (Zodinus) servus** MULSANT & REY.]

*1853 a, *Opatrinus (Zodinus) servus* MULSANT & REY, p. 317. — 1853 b, MULSANT & REY, pp. 90, 92. — 1870, GEMMINGER & DE HAROLD, p. 1914. — 1904 b, GEBIEN, p. 61. — 1910 b, GEBIEN, p. 277. — 1920, GEBIEN, p. 21. — 1938-1942, GEBIEN, p. 415, n° 5553. — 1947, GRIDELLI, pp. 40, 45, figs. 16 and 17.

Original description. — « Corps oblong; peu ou assez faiblement convexe; brun ou d'un brun noir, un peu soyeux. Tête densément ponctuée, un peu plus finement sur l'épistome que sur le front, beaucoup plus finement sur le vertex. Partie médiaire du menton ovalaire, ou rapprochée de cette forme, et non échancrée en devant. Antennes prolongées environ jusqu'aux angles postérieurs (♂); noires. Prothorax échancré en arc assez régulier, en devant, avec les angles avancés en forme de dent, élargi en ligne peu courbe jusqu'au tiers aux deux-cinquièmes, très-faiblement élargi ou sub-parallelè ensuite; fortement bisinué à la base, avec la partie médiaire arquée et à peine aussi prolongée en arrière que les angles; muni latéralement d'un rebord peu ou point saillant, graduellement moins étroit vers les angles postérieurs; rayé au devant de la base d'une ligne non interrompue, constituant un rebord presque également étroit; peu convexe; couvert de points assez fins, épais, surtout près des bords latéraux: chacun de ces points, comme ceux de la tête, donnant naissance à un poil court. Écusson en demi-hexagone, de moitié plus large que long; ponctué. Élytres subparallèles jusqu'aux deux tiers; à stries très-marquées, étroites, notées de points ronds, petits, égaux à peine au sixième de la largeur des intervalles médiaire-

res, très-rapprochés les uns des autres (environ cinquante de ces points sur la quatrième strie). Intervalles finement ponctués : ces points donnent naissance chacun à un poil très-court; plans ou presque plans en devant, faiblement convexes à leur extrémité. Bord supérieur du repli en partie visible en dessus. Dessous du corps un peu luisant. Prosternum offrant les traces de trois sillons. Côtés de l'antépectus marqués de points assez gros unis en sillons. Ventre finement ponctué. Postépisternums parallèles, quatre fois aussi longs que larges. Pieds marqués de points donnant, comme ceux du ventre, naissance à un poil très-court. Tarses garnis en dessous d'un duvet flave roussâtre, en forme de brosse, surtout sur les tarses antérieurs ♂ : Jambes grêles : les antérieures et intermédiaires presque droites : les postérieures droites; sans dent ni échancrure : celles de devant garnies d'un duvet flavescent vers l'extrémité de leur arête inférieure. Quatre premiers articles des tarses dilatés : les mêmes des intermédiaires presque semblables aux postérieurs. Long. 10 à 11,2 mm, larg. 4,5 mm. »

Remarks. — I am accepting GRIDELLI's interpretation of this species, although the description of the legs in the ♂ by MULSANT & REY does not agree with GRIDELLI's species. But there is a strong probability that MULSANT & REY's ♂ in actual fact is a ♀, as the original description refers to the dilated intermediate tarsi as being almost equal to the posterior tarsi, a proportion which fits in all the *Opatrinus* exclusively the ♀, but not the ♂. — This species is very closely related to *O. costulatus*, agreeing with the latter in the posteriorly prominent eyes, length of metasternum, structure of mentum, as well as sculpture. But it is considerably more oblong, with a slender pronotum and more strongly elongate elytra. In the ♂ the anterior tarsi are very strongly dilated and all tarsi are soleate below, as is the case also in the ♀; the posterior tibiae are strongly curved as in *costulatus*.

Ædeagus. — Similar to *O. costulatus*, but the apicale more slender, with narrow and subparallel distal half.

Dimensions. — Length 10 to 11 $\frac{1}{4}$ mm, width 4 to 4 $\frac{1}{4}$ mm.

Type locality. — « La Guinée ». Type (coll. DEYROLLE) probably in Museum Paris.

Distribution (map 4). — Trans-Sudanese. — French Guinea. — Dahomey : Zanganado (teste GRIDELLI). — Gold Coast : Pundu, Upper Volta River, OLSUFIEW (3 spec., M.St.). — Cameroons : Mundame (teste GRIDELLI). — North-western Abyssinia : Gambela (teste GRIDELLI). — Anglo-Egyptian Sudan : Malakal, L. BURGEON (2 spec., BCM.); Kosti, L. BURGEON (2 spec., BCM.). GEBIEN's record (1920) from Kisantu (Belgian Congo, Léopoldville Province, Bas Congo District) may have to be confirmed.

10. Secondary intervals on elytra appearing as if smooth, as the punctuation is extremely fine, less dense, scarcely discernible; primary rows usually with more distinct, less concentrated punctures. Middle of prosternum with fine and scattered punctures. In the ♂ the inner contours of intermediate tibiæ with very shallow and weak median emargination.

[*Opatrinus (Zodinus) attenuatus* KLUG.]

- *1833, *Opatrinus attenuatus* KLUG, p. 88. — 1922, GEBIEN, p. 273. — 1938-1942, GEBIEN, p. 415, n° 5551. — 1947, GRIDELLI, pp. 39, 44, fig. 7.
 *1853 a, *Opatrinus (Zodinus) madagascariensis* MULSANT & REY, p. 319. — 1853 b, MULSANT & REY, pp. 90, 94. — 1870, GEMMINGER & DE HAROLD, p. 1915. — 1910 b, GEBIEN, p. 277. — 1913, CHATANAY, p. 766, fig. 3.
 *1870, *Eurynotus inops* FÄHRAEUS, p. 289. — 1953 a, KOCH, p. 272.
 *1947, *Opatrinus attenuatus bottegoi* GRIDELLI, p. 45, figs. 6 and 7.

Original description. — *Madagascariensis* MULSANT & REY : « Corps oblong; faiblement convexe; noir ou d'un brun noir; mat et garni en dessus de poils indistincts, surtout sur les élytres. Tête densément ponctuée. Partie médiaire du menton presque ovulaire. Antennes au moins aussi largement prolongées que les angles postérieurs du prothorax; noires. Prothorax élargi en ligne peu courbe jusqu'aux deux-cinquièmes, légèrement rétréci ensuite en ligne à peine courbe et à peine sinuée près des angles postérieurs; muni latéralement d'un rebord étroit à peine saillant en avant, graduellement moins étroit et plus sensiblement saillant vers les angles postérieurs; fortement bisinué à la base, avec la partie supérieure arquée et un peu moins prolongée en arrière que les angles; rayé en avant de la base d'une ligne légère constituant un rebord très étroit; peu ou très-médiocrement convexe; densément ponctué : ces points, comme ceux de la tête, donnant naissance à un poil très-court. Écusson en demi-hexagone; ponctué. Élytres élargies en ligne à peine courbe jusqu'aux deux tiers de la longueur; à stries très-marquées; étroites, notées de points ronds, petits, égaux à peine au septième de la largeur des intervalles médiaires, séparés les uns des autres par des intervalles plus courts que leur diamètre (quarante-cinq à cinquante de ces points sur la quatrième strie). Intervalles pointillés ou marqués de points petits, presque glabres ou donnant naissance à un poil presque indistinct; un peu convexes : le juxtasutural déprimé : les premier, troisième, cinquième et septième sensiblement plus élevés et plus larges. Bord supérieur du repli en majeure partie visible en dessus. Dessous du corps un peu luisant; ponctué sur les côtés de l'antépectus. Prosternum rebordé. Postépisternums parallèle, quatre fois environ aussi longs que larges. Tarses garnis en dessous de poils d'un roux testacé, en forme de brosse sur les quatre premiers articles des antérieurs, les trois articles intermé-

diaires des tarses suivants, et les deuxième et troisième des tarses postérieurs. ♂ : Jambes assez grêles : les antérieurs un peu arquées : toutes sans dent ni échancrure. Quatre premiers articles des tarses antérieurs dilatés : le premier un peu moins largement : tarses intermédiaires un peu moins étroit que les postérieurs. Long. 10 mm, larg. 3,9 mm ».

Remarks. — Agreeing with the two preceding species of *Opatrinus* (*Zodinus*) in the shape of body, structure of mentum and the posteriorly prominent eyes, but readily recognized in the ♂ by the practically simple anterior tibiae, the only slightly dimorphic, inermous intermediate tibiae (the minute apical spine of which is inconspicuous) and the more strongly curved posterior tibiae.

Eurynotus inops FÄHRÆUS is a simple synonym of this species, agreeing with its typical form from Madagascar.

Dimensions. — Length 8 to 11 mm, width $3\frac{1}{2}$ to $4\frac{3}{4}$ mm.

Type locality. — Madagascar. Type in Museum Berlin.

Subspecies. — Description of ssp. *bottegoi* GRIDELLI : — « La massima larghezza del pronoto è spostata verso la base. I lati convergono caudalmente per un tratto più corto ed in grado minimo o nullo e quindi gli angoli posteriori sono più acuti. Oralmente essi convergono per un tratto più lungo ed in grado maggiore e di conseguenza il pronoto è nettamente conico. La sua punteggiatura è più sottile e quindi meno densa. Nei maschi le metatibie presentano una curvatura molto più accentuata, spostata alquanto distalmente ed il tratto apicale è più ingrossato; il tratto concavo della faccia flessoria mostra una pubescenza molto corta, bruno chiara, aderente, e relativamente densa, più sviluppata che nei maschi della forma tipica esaminati. Lungh. 9-10 $\frac{1}{2}$ mm ».

I do not know either the types or the ♂ of this form, but 3 ♀♀ from British East Africa and the north-eastern part of the Belgian Congo agree very well with GRIDELLI's description. They are considerably stouter than *attenuatus*, the secondary intervals on elytra are smooth, more convex and the punctures of primary rows are coarse. I have little doubt that *bottegoi* represents an independent species, belonging to the subgenus *Zodinus* on behalf of the posteriorly prominent eyes, but probably more closely related to *setuliger* than to *attenuatus*.

Distribution (maps 4, 6). — Madagascar archipelago and eastern part of Southern Africa. from Southern Portuguese East Africa through Transvaal to Natal and Zululand. The ssp. *bottegoi* in British East Africa, Zanzibar and the north-eastern part of the Belgian Congo.

a) attenuatus. — Madagascar (type locality of *attenuatus* and *madagascariensis*): 4 spec. T.M. and S.A.M. — Aldabra Island (teste GRIDELLI). — Comoro Islands (teste GRIDELLI). — Southern Portuguese East Africa: Beira, 1903, P. A. SHEPPARD (10 ♀ ♀, S.A.M.); Busi River, P. A. SHEPPARD (1 ♂, S.A.M.); Umbeluzi, XI.1949, W. G. FERREIRA (1 ♀, M.A.C.). — Union of South Africa: Caffraria (type locality of *inops*); Natal (Durban, 1891, C. N. BARKER, 2 ♂ ♂, 1 ♀, S.A.M.; Congella, III.1915, H. W. BELL MARLEY, 1 ♂, S.A.M.); Transvaal (Zoutpansberg, XI.1924, H. J. HESKE, 1 ♂, T.M.).

b) bottegoi. — British East Africa: P. Sancurar (probably Sankuri), type locality of *bottegoi*; Wajù (teste GRIDELLI); Kalin, Northern Turkana, IX.1941, T. H. E. JACKSON (1 ♀, C.M.). — Belgian Congo, Oriental Province, Kibali-Ituri District: Kasenye, V.1935, H. J. BRÉDO (2 ♀ ♀, BCM.).

- Secondary intervals on elytra with dense, conspicuous punctation; primary rows with very dense, fine, often obsolescent punctures. Middle of prosternum with more concentrated, denser, often asperate punctures. In the ♂ the inner contours of intermediate tibiae without any trace of emargination, slightly curved and more strongly dilated towards apex.

Opatrinus (Zodinus) setuliger CL. MUELLER.

(Pl. IV, fig. 1.)

*1887, *Opatrinus (Zodinus) setuliger* CL. MUELLER, p. 301. — 1910 b, GEBIEN, p. 277. — 1938-1942, GEBIEN, p. 415, no 5554. — 1947, GRIDELLI, pp. 39, 43, figs. 12 and 13.

*1947, *Opatrinus setuliger camerunensis* GRIDELLI, p. 44.

Original description. — « Oblongus, nigricans, opacus, subtiliter setulosus; capite thoraceque dense punctatis; elytris punctato-striatis, interstitiis convexis, minus dense subtiliter punctulatis; pedes simplices. — Der Untergattung *Zodinus* angehörend. Länglich, grau-schwarz, durch die zahlreichen anliegenden feinen braunen Börstchen etwas bräunlich matt. Kopf und Halsschild dicht punktiert, bei letzterem an den Seiten noch gedrängter und die Punkte zu Runzeln zusammenfliessend. Halsschild ein halbmal breiter als lang, wenig gewölbt, fein gerandet, bis etwas über die Mitte gleichbreit, dann stark nach vorn verschmälert, der Vorderrand ziemlich stark ausgerandet, der Hinterrand stark zweibuchtig, die Hinterecken sehr spitz, etwas nach auswärts gerichtet. Flügeldecken wenig gewölbt, punktiert-gestreift, Punkte in den Streifen klein und sehr dicht aneinander stehend (65-70 im vierten Streifen), Zwischenräume leicht gewölbt, der 3., 5. und 7. kaum merklich höher, nicht dicht aber sehr fein punktiert. Auf der Unterseite die Seitentheile des Halsschildes dicht grob längsrunzlich punktiert. Prosternalkiel an den Seiten gerandet, hinterwärts stark gerundet und ungerandet. Hinterleib glänzend zerstreut punktiert, in jedem Punkte ein feines braunes Börstchen. Beine einfach, ohne Zähne an den Mittelschienen beim Männchen, die Schienen leicht gebogen. Long. 9-10 $\frac{1}{2}$ mm. lat. 4-4 $\frac{1}{2}$ mm ».

R e m a r k s. — Very closely related to *O. attenuatus*. In the ♂ the inner contours of intermediate tibiae without median emargination or sinuosity, but sometimes curved in a continuous line or the constricted proximal half is somewhat angularly demarcated from the dilated distal half.

D i m e n s i o n s. — Length $8 \frac{1}{2}$ to $12 \frac{3}{4}$ mm, width $3 \frac{1}{2}$ to $5 \frac{1}{4}$ mm.

T y p e l o c a l i t y. — « Zambesi Gebiet, leg. BRADSHAW ». Type probably in Museum Amsterdam.

S u b s p e c i e s. — Description of ssp. *camerunensis* GRIDELLI : — « Presenta tutti i caratteri del tipico *setuliger*, dal quale differisce per i tegumenti glabri, per la punteggiatura del pronoto ad elementi un poco più piccoli e quindi un poco meno densa, ma specialmente per le elitre più strette ed il pronoto più stretto, conico, a lati meno arrotondati, convergenti oralmente in grado maggiore e per un tratto più lungo (e quindi gli angoli orali sono più acuti). Caudalmente i lati non convergono affatto, anzi essi divergono leggermente; talora essi sono rettilinei, tal'altra essi presentano una debole e lunga sinuosità (e quindi gli angoli posteriori sono più acuti). Lunghezza : 9-10 mm ».

GRIDELLI, when describing his subspecies, possessed only a very poor material of this species, viz. 6 paratypes from the Zambesi, a couple from the southern part of the Tanganyika Territory and probably a few specimens, if not only a couple, from the Cameroons. With about 500 specimens of this species in front of me, coming from the whole of Tropical and the northern parts of Southern Africa, I am able to confirm the exactness of GRIDELLI's observation, but on the other hand no sharp morphological line can be drawn between the slender, smaller and practically bare western specimens (*camerunensis*) and the stout, larger and very distinctly pilose eastern specimens (*setuliger*). The transitions between both groups occur in the Southern Belgian Congo, but individually also in more western parts. A detailed study of the copulatory organ of ♂ and of the probably existing minute differences in the formation of intermediate tibiae of ♂ may result in a split up into several subtle geographic forms of this species, a task, however, which I do not consider very advisable to taxonomy.

D i s t r i b u t i o n (map 4). — Trans-Tropical, in the North reaching the Cameroons and British East Africa, in the South penetrating into the Southern African Region at Northern Bechuanaland and Southern Rhodesia. — [Zambesi Region (2 paratypes, S.A.M.).] — [Northern Bechuanaland : Maun, VII.1938, MUS. STAFF (1 spec., S.A.M.).] — [Southern Rhodesia : Untali, 1939 (5 spec., S.A.M., the ♂ with strongly curved and dilated intermediate tibiae)]; [Bulawayo, IX.1938 (1 spec., M.S.Rh.)]; [Penkrige, Melssetter District,

II. 1928, R. H. R. STEVENSON (1 ♂, T.M., with the intermediate tibiae as in Umtali specimens.) — Belgian Congo : [Elisabethville Province (Kapanga, III.1939, F. G. OVERLAET, 58 spec., BCM; Kafakumba, II.1933, F. G. OVERLAET, 16 spec., BCM.; Tshibamba, XII.1931, F. G. OVERLAET, 8 spec., BCM.; Elisabethville, VII.1912, STAPPERS (8 spec., BCM)]; Upemba National Park (Mabwe, VIII.1947, 346 spec., I.P.N.; Masombwe, VII.1948, 1 spec., I.P.N.; Munoi, VI.1948, 12 spec., I.P.N.; Lusinga, VII.1947, 3 spec., I.P.N.; Mukana, I.1948, 2 spec., I.P.N.); [Dipidi River, I.1948, 1 spec., I.P.N.]; Mubale River, V.1947, 1 spec., I.P.N.; Kaswabilenga, IX.1947, 1 spec., I.P.N.; [Kampokotwe, V.1949, 9 spec., I.P.N.]; all collected by the Mission G. F. DE WITTE. — Kivu Province (Costermansville, VII.1937, H. J. BRÉDO, 21 spec., BCM.; Mulungu, V.1935, J. V. LEROY, 54 spec., BCM.; Ibanda, 1935, M. VANDELLANOITE, 18 spec., BCM.; Rutshuru, V.1937, J. GHESQUIÈRE, 4 spec., BCM.; Kasai Province (Luebo, 1 spec., BCM.); Léopoldville Province (Kisantu, P. GILLET, 33 spec., BCM.; Thysville, VII.1949, N. LELEUP, 84 spec., BCM.; Lemfu, VI.1945, P. L. DE BEIR, 4 spec., BCM.; Mayidi, 1942, P. VANEYEN, 24 spec., BCM.); Urundi-Ruanda (Rukoma, I.1953, P. BASILEWSKY, 3 spec., BCM.; Gitarama, I.1953, P. BASILEWSKY, 1 spec., BCM.). — [Northern Rhodesia : Mweru-Wantipa, Lac Chisi, XII.1943, H. J. BRÉDO (1 spec., I.R.). British East Africa : Nairobi, I.1923, coll. BABAULT (6 spec., BCM.; Naivasha, V.1936, H. J. ALLEN TURNER (5 spec., C.M.); Kaimosi, IV.1932, H. J. ALLEN TURNER (6 spec., C.M.). Tanganyika Territory : Bismarckberg (teste GRIDELLI). Cameroons : Bamum (type locality of ssp. *camerunensis*).]

ANCHOPHTHALMOID PLATYNOTINA.

ANCHOPHTHALMUS GERSTAECKER.

*1854, *Anchophthalmus* GERSTAECKER, p. 533. — 1859, LACORDAIRE, p. 240. — 1873, GERSTAECKER, p. 175. — 1910 b, GEBIEN, p. 278. — 1938-1942, GEBIEN, p. 417. — 1953 a, KOCH, p. 269. — 1955 a, KOCH, p. 428.
1859, *Opatrinus* LACORDAIRE, p. 241. — 1870, GEMMINGER & DE HAROLD, p. 1914.
*1870, *Oxythorax* FÄHRAEUS, p. 288.

Diagnosis. — Body apterous, more or less strongly depressed, elongate to roundish; bare or with short, rarely conspicuous bristles. Upper surface dull to weakly shining. Eyes strongly constricted by genal canthus. Mentum with entirely exposed, broad lateral wings; median section peculiar, formed by a narrow, elongate, subparallel convexity, with perpendicular, steep, but non-carinate sides. Apical segment of maxillary palpi extremely dimorphic, in the ♂ twice as broad as in the ♀, strikingly securiform, much broader than long and about as broad as the combined length of the third and fourth antennal segments. Antennae often very strongly accrescent and compressed towards apex, with strongly to very transverse distal segments. Pronotum weakly convex to flattened, with broad submarginal depression, transverse; the posterior portion of sides usually rounded and narrowed towards base, rarely quasi subparallel or sinuate in front of posterior angles. Marginal carina of sides strong, often very thick and slightly reflected. Anterior margin deeply emarginate, usually immarginate on middle, with produced anterior angles. Base strongly bi-sinuate, com-

pletely carinate, exceptionally the marginal carina becoming obsolescent on top of lateral emarginations; posterior angles more or less strongly produced backwards and sharp. Integument densely, often rugosely punctured. Prosternal apophysis horizontally produced; episternum of prosternum with distinct to evanescent, separated punctures on inner portion. Elytra moderately broader than pronotum, but sometimes and particularly in the ♂, as broad as pronotum or even slightly narrower, elongate to broadly rounded, weakly convex to entirely flattened, with rectangular to obtuse, sometimes obtusely projecting humeral angles. Primary rows usually

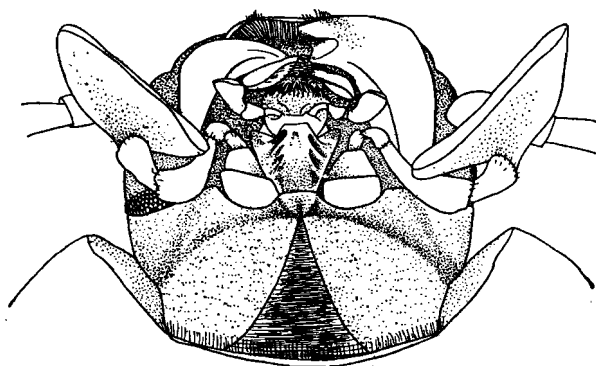


FIG. 90. — Under surface of head of *Anchophthalmus plicipennis* PÉRINGUEY (drawn after a ♂ specimen from Elisabethville).

distinct, very variable in sculpture, composed of round to transverse, fine to subfoveate punctures, or striolæ; secondary intervals with fine, scattered, sometimes inconspicuous to very dense, strong punctation, flat to subcostate, the alternating or lateral intervals often sharply costate. Pseudopleura complete, narrowed apically, there with sharply carinate and distinctly separated epipleural crest; dilated basally, occupying the ventrally reflected portion of elytra at least on basal half, but sometimes leaving exposed a narrow portion of the ninth secondary interval posteriorly. Pseudopleural meso and metacoxal cavities only a little longer than the pre-metacoxal of elytra along the middle section, sometimes entirely exposed and with submarginal depression on basal half, running around dorsal portion of apex of elytra, apically straight or shallowly sinuate. Metasternum very short, about one half the length of basal sternite of abdomen and between meso and metacoxal cavities only a little longer than the pre-metacoxal sclerite is laterally or at the best about one-third the length of metacoxal cavity. Abdomen with fine punctation, the anal sternite sometimes with very fine marginal sulcus on basal third of sides. Legs moderately slender. Tibiæ inconspicuously dilated, with non-prominent outer apical angle, the

upper surface of intermediate and posterior tibiae evenly convex, that of anterior tibiae more or less distinctly edged; in the ♂ the inner contours sometimes with moderately developed distinctive characters, the under surface simple, sometimes the underside of posterior tibiae with a stripe of subtomentose yellowish hairs. Tarsi never dilated or soleate in the ♀; in the ♂ variable, the anterior tarsi from simple and non-dimorphic to rather strongly dilated and soleate below. Femora slender, usually non-dimorphic, in some exceptional cases with a fine fringe of hairs in the ♂.

Ædeagus. — Simple and rather homogeneous. The apicale much shorter than the basale, with divided, converging to subparallel or spiniform parameres. Ventral groove variable, the penis and lacinia therefore sometimes almost concealed, sometimes entirely and broadly exposed. Basale from one and a half times to about four times as long as apicale.

Dimensions. — 9 to 20 mm long.

Relationship. — LACORDAIRE, in his mania of synthesis, considered *Anchophthalmus* a simple synonym of *Opatrinus*. In actual fact, however, *Anchophthalmus* is one of the best characterized genera of *Platynotini*, clearly cut from all the other genera by the complete pseudopleura in association with the winglessness of body, as well as by the unique dimorphism in the structure and size of the apical segment of maxillary palpi. Phylogenetically *Anchophthalmus* may be regarded a direct descendent from the alate and primitive *Opatrini*. As one of the most important paleogenetic particulars the *Anchophthalmus* have maintained the complete pseudopleura of elytra, but lost the wings. They demonstrate the first step from the detritivorous, winged opatrinoid *Platynotina* to the many xerophilous, geophilous, specialized, phylogenetic lines of the selinoid and trigonoid *Platynotina*. Their deviation from *Opatrinus* must be a rather ancient one, for there are no more transitional forms between both genera. The only apterous *Opatrinus* (viz. *O. exalatus*) does not show more closely related to the *Anchophthalmus* than the other *Opatrinus* are, exhibiting clearly the features of *Opatrinus* (e. g. large metasternum, absence of submarginal depression of pronotum etc.).

Type species. — *Anchophthalmus silphoides* GERSTAECKER, 1854.

Distribution (maps 4, 6). — East African, from the southern parts of the Anglo Egyptian Sudan to Southern Rhodesia, Transvaal and Southern Portuguese East Africa, in the West not expanding beyond Eastern Bechuanaland and the eastern parts of the Belgian Congo.

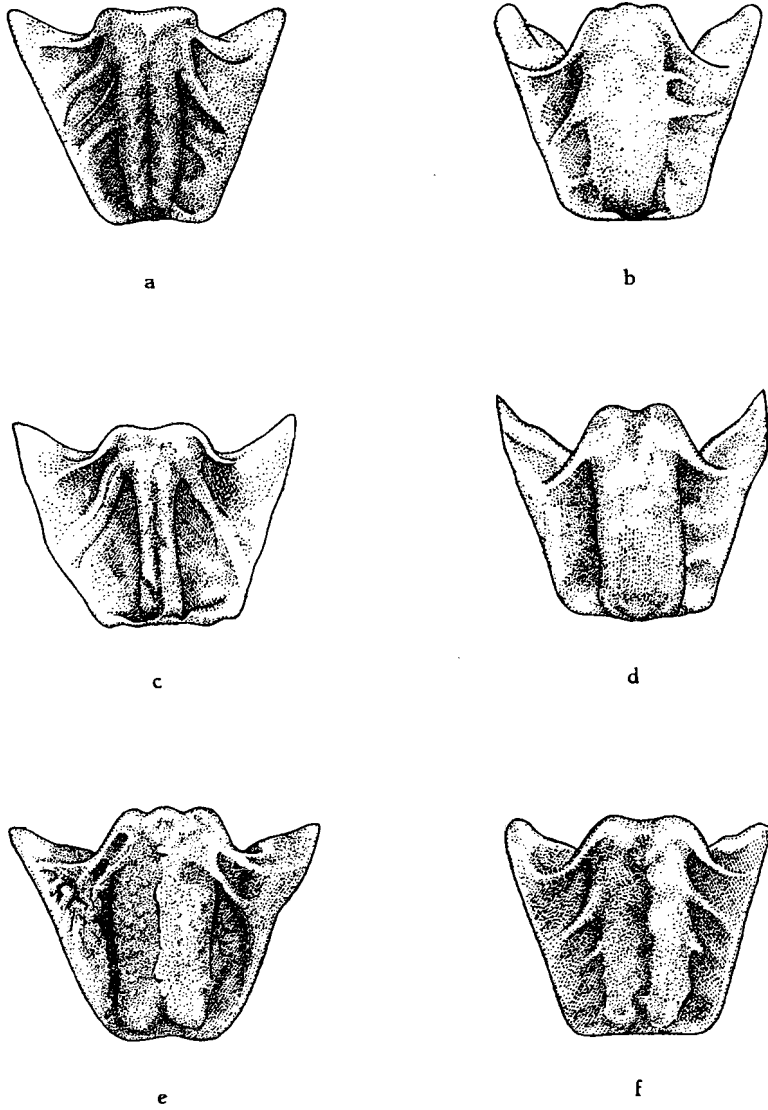


FIG. 91. — The mentum in a few species of *Anchophthalmus*.
a : *A. altiiricola* n. sp.; b : *A. oncotipes* n. sp.; c : *A. plicipennis* PÉRINGUEY;
d : *A. algoensis* PÉRINGUEY; e : *A. striolipennis* n. sp.; f : *A. simplex* n. sp.

KEY.

1. Lateral carina of pronotum very broad, about as broad as the third antennal segment or slightly broader. Elytra with even cuticle, never with transverse wrinkles running across primary rows
silphoides group. 2
- Lateral carina of pronotum fine to moderately broad, considerably narrower than the third antennal segment, exceptionally as broad as the latter, when the cuticle of elytra is uneven, forming slightly convex, transverse wrinkles running across primary rows and uniting more or less the convex secondary intervals 4
2. At least the seventh secondary interval on elytra strongly convex to subcostate apically; the seventh, eighth and ninth primary rows with strong punctures, not narrower than the subcostate alternating intervals ... 3
- All secondary intervals on elytra almost flat, also apically; there the seventh interval not more strongly raised than the adjacent intervals; the seventh, eighth and ninth primary rows with very fine punctures, much narrower than the flat to very weakly convex secondary intervals.

[*Anchophthalmus dentipes* GERSTAECKER.]

(Pl. IV, fig. 2; Figs. 92, 93.)

*1854, *Anchophthalmus dentipes* GERSTAECKER, p. 533. — 1862, GERSTAECKER, p. 288, pl. 17, fig. 5 (Θ). — 1910 b, GEBIEN, p. 278. — 1938-1942, GEBIEN, p. 418, n° 5616.

1870, *Hopatrinus dentipes* GEMMINGER & DE HAROLD, p. 1915.

*1905, *Anchophthalmus indigus* PÉRINGUEY, p. 237. — (=syn. nov.).

Original description. — « *Anchophthalmus niger*, opacus, ore, antennis tarsisque piceis; elytris punctato-sulcatis, interstitiis convexis, punctulatis; tibiis mediis intus subdentatis. Long. lin. 8. — Dem *Anchophthalmus silphoides* sehr ähnlich, doch grösser und durch die Bildung der mittleren Schienen ausgezeichnet. Der Kopf ist dicht und zum Theil runzlig punktirt, wie die ganze Oberseite matt schwarz. Die Mundtheile und Fühler sind pechbraun, mit dünner greiser Pubescenz bekleidet. Das Halsschild ist auf der Scheibe etwas gewölbt als bei *Anch. silphoides* und der Eindruck zu beiden Seiten mehr in die Breite gezogen, der Seitenrand stärker aufgebogen und gewulstet, die Hinterecken kürzer and stumpfer; die Punktierung ist fast dieselbe, nur ist von einer glatten Mittellinie keine Spur vorhanden. Das Schildchen ist dicht punktirt. Die Flügeldecken sind mehr als um die Hälfte länger als breit, an den Seiten hinter den Schultern ein wenig eingebuchtet, dann leicht

gerundet und nach hinten allmählig verengt; flach gewölbt, punktirt gefurcht, die Punkte deutlich von einander getrennt und etwas in die Quere gezogen, die Zwischenräume gewölbt und mit zerstreuten Pünktchen besetzt. Die Unterseite ist matt glänzend, leicht gerunzelt. Die Vorderschenkel sind an der Unterseite mit dichten goldgelben Haaren besetzt, die Mittelschienen gegen die Mitte des Innenrandes zahnförmig erweitert, die Hinterschienen innen lang behaart. »

R e m a r k s. — Antennæ short, the preapical segments not quite one and a half times as broad as the third segment; the apical segment transverse, with truncate apical margin. In the ♂ the apical segment of maxillary palpi almost as broad as the third and fourth segments of antennæ are long together. Pronotum rounded and narrowed towards base, with broad submarginal depression of sides, but this depression not reaching the base, as a slight, oblique convexity runs from posterior angles towards disc; lateral carina very broad, shiny, but disappearing on posterior angles; the latter not or only minutely demarcated. Underside of prothorax practically impunctate, the lateral submarginal area of episternum transversely wrinkled; intercoxal apophysis with pointed, weakly reflected apex of horizontally produced portion. Elytra almost subparallel in the ♂, slightly rounded in the ♀, a little broader than pronotum. Base broader than pronotal base, with bluntly rectangular humeral angles which project a little beyond sides of elytra in the ♀. Primary punctures very fine, the ninth primary row situated on the extremely narrow, submarginal depression. Pseudopleural crest visible from above; pseudopleura smooth. Abdomen with very fine, scattered punctures. In the ♂ the anterior and intermediate tarsi distinctly dilated, with the underside of the four proximal segments provided with densely poriferous, divided soleæ, the anterior tibiæ (fig. 93) slightly curved, their underside excavate for entire length of tibia and densely covered with erect, fine yellowish hairs; intermediate tibiæ (fig. 93) with the outer lateral surface produced into an obtusely dentiform, strongly arcuate, carinate postmedian dilation, the inner contours with a slight, obtuse preapical dilation; posterior tibiæ straight, the outer lateral surface with fine, rather long, scattered yellowish hairs, the underside with a distal stripe of subtomentose, yellowish hairs along inner edge; underside of anterior femora with a strong and dense brush of testaceous hairs, that of posterior femora with much less conspicuous, short, yellowish hairs.

Very closely allied to *A. silphoides*, with which *A. dentipes* agrees in the unique structure of legs in the ♂. None of the other *Anchophthalmus* exhibits a similar formation of the intermediate tibiæ in the ♂.

Ædeagus (fig. 92). — Large, with entirely exposed penis and lacinia. Apicale much shorter than basale, broad, in dorsal aspect appearing as if truncate apically, as the pointed parameres are angularly bent ventrad apically, forming a transversely projecting hook, if viewed from the sides. Basale about three times as long as apicale. Lacinia baculiform, with sharply pointed apices which are directed outwards. Penis with dilated apical orifice.

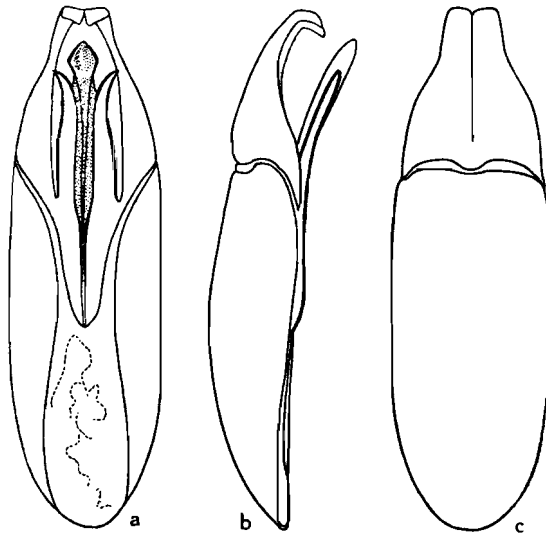


FIG. 92. — *Ædeagus* of *Anchophthalmus dentipes* GERSTAECKER.
a : ventral surface; b : lateral view, with the ventral surface at right;
c : dorsal surface.

Dimensions. — Length $14 \frac{3}{4}$ to $19 \frac{1}{2}$ mm, width $6 \frac{3}{4}$ to 9 mm.

Synonymy. — There are no other differences between the holotype of *indigus* and the practically topotypical specimens of *dentipes* from Chemba than the slightly more depressed elytra and the apically flat seventh interval of elytra. In the Chemba specimens the seventh interval is equally and weakly convex from base to apex; among specimens from Umtali, however, this character shows intermediate. The structure of legs in the ♂, as well as the aedeagus are identical in both forms.

Type locality. — « Sena » (Manica e Sofala Province of Portuguese East Africa). Types probably in Museum Berlin.

Distribution. — Portuguese East Africa and Southern Rhodesia. — Portuguese East Africa, Manica e Sofala Province: Chemba, 1931, A. RAVET (1♂, 4♀, BCM.); Bopira, Buzi, Mossurize District, III.1942, B. LEROED (1♂, T.M.). — Southern Rhodesia: Christmas Pass. Manica, J. C. Selous (1♂♀, types of *Anch. indigus*, S.A.M.); 25 miles south of Umtali, XI.1950, A. MITTON (1♀, T.M.); Umtali, A. BODONG (2♂♂, S.A.M.), XI.1932, P. A. SHEPPARD (1♀, T.M.); Kaia, XII.1908 (1♀, S.A.M.).

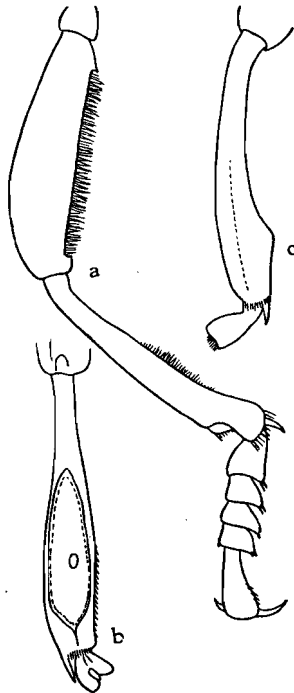


FIG. 93. — *Anchophthalmus dentipes* GERSTAECKER.

a: anterior leg of ♂; b: underside of anterior tibia of ♂;
c: intermediate tibia of ♂.

3. Pseudopleura smooth. On elytra also the distal portion of inner secondary intervals more or less distinctly convex; the three inner intervals of practically equal width; primary rows with distinct punctures, becoming strong towards sides; humeral angles slightly projecting outwards beyond sides. In the ♂ the anterior and intermediate tarsi dilated, with soleæ below; the femora and tibiæ with the same distinctive characters as in *A. dentipes*.

[*Anchophthalmus silphoides* GERSTAECKER.]

*1854, *Anchophthalmus silphoides* GERSTAECKER, p. 533. — 1862, GERSTAECKER, p. 288. — 1910 b, GEBIEN, p. 279. — 1938-1942, GEBIEN, p. 418, n° 5614.
1870, *Hopatrinus silphoides* GEMMINGER & DE HAROLD, p. 1915.

Original description. — « *Anchophthalmus niger*, opacus, ore antennarum basi tarsisque piceis; capite thoraceque rugoso-punctatis, elytris fortiter punctato-striatis, interstitiis convexis, punctulatis. Long. lin. 6. — Die Oberfläche des Körpers ist matt schwarz, flach gedrückt. Der Kopf ist dicht runzlig punktirt. Die Mundtheile so wie die zwei ersten Fühlerglieder sind pechbraun, die Fühler gegen die Spitze dünn greis behaart. Der Thorax ist breiter als lang, vorn und hinten tief ausgeschnitten, die Hinterecken etwas nach aussen gebogen, an den Seiten regelmässig gerundet und nach vorne stärker als nach hinten verengt, abgeflacht, jederseits innerhalb des Seitenrandes mit einem Längseindruck, dicht runzlig punktirt, mit schmaler, glatter, nach vorn abgekürzter Mittellinie. Schildchen dicht punktirt. Die Flügeldecken um die Hälfte länger als zusammen breit, hinter der Mitte allmählich verengt, sehr flach gewölbt, mit Reihen tiefer und grosser, quergestellter Punkte, welche zu beiden Seiten in Fältchen ausgezogen sind; die Zwischenräume gewölbt, mit zerstreuten Pünktchen besetzt. Die Unterseite ist matt glänzend, auf der Brust stärker, auf dem Abdomen schwächer punktirt. Die Beine sind schwarz, mit pechbraunen Tarsen. »

Remarks. — Very closely related to *A. dentipes*, but constantly distinguished by the distinctly shiny upper surface, a sometimes developed, extremely fine, smooth median line on basal portion of pronotal disc, and by the more or less strongly convex, apically subcostate secondary intervals on elytra. Legs in the ♂ and aedeagus as in *dentipes*. According to GERSTAECKER *silphoides* ought to be distinguished easily from *dentipes* by the simple legs. However, this observation is based on an error, as GERSTAECKER did not recognize the strong dimorphism in the structure of legs and maxillary palpi, describing in actual fact a ♂ in the case of *dentipes*, but a ♀ in that of *silphoides*.

Dimensions. — Length 16 to 17 $\frac{1}{2}$ mm, width 7 $\frac{3}{4}$ to 8 $\frac{3}{4}$ mm.

Type locality. — « Inhambane » (Sul do Save Province of Portuguese East Africa). Type probably in Museum Berlin.

Distribution. — Southern Portuguese East Africa, Transvaal, South-eastern Bechuanaland. — Northern Transvaal: Middle Limpopo, I.1892, C. W. WEST (1 ♂ ♀, S.A.M.); Great Saltpan, Zoutpansberg District, I.1931, G. VAN SON (1 ♀, T.M.); Makgabeng, II.1903, A. J. T. JANSE (2 ♀ ♀, T.M.). — South-eastern Bechuanaland: Macloutsie B, XI.1901, C. FRY (1 ♀, T.M.).

- Pseudopleura distinctly, rather densely punctured. On elytra only the lateral secondary intervals convex to subcostate; the second interval distinctly to considerably narrower than the third interval; humeral angle obtuse, in line with the sides of elytra. In the ♂ the anterior and intermediate tarsi not dilated, without soleæ below, the femora and tibiæ non-dimorphic.

[**Anchophthalmus nyassicus** n. sp.]

Very similar to *A. silphoides* but related to *A. plicipennis*. Differing from *silphoides* as follows :— Upper surface of body dull, as in *dentipes*. Head identical, only the antennæ slightly more slender. Pronotum almost of the same shape, slightly more strongly rounded laterally, with thick lateral carina, very dense, rugosely confluent sculpture and with broad, strong submarginal depression, but without any trace of a median line. Posterior angles more strongly produced backwards. Episternum of prosternum with distinct punctures on inner portion of anterior half; intercoxal apophysis strongly produced horizontally. Elytra more strongly flattened, with the sides weakly narrowed towards base, without prominent humeral angle, with flattened but densely punctured secondary intervals and finely punctured primary rows. On apical declivity only the lateral intervals seven to nine subcostate; the discal portion of the third and fifth intervals flat or very slightly more convex than the adjacent even intervals. Pseudopleural carina, in dorsal aspect, distinctly visible only anteriorly and apically (as in *silphoides*, but not agreeing with *dentipes*, in which the entire pseudopleural crest is exposed). Pseudopleura densely punctured. Underside of hind body as in *dentipes*. Legs simple in both sexes. In the ♂ the anterior and intermediate tarsi small, scarcely broader than in the ♀, with a narrow area of yellowish bristles along sides of underside; femora and tibiæ simple, the apical portion of inner contours of anterior and intermediate tibiæ inconspicuously curved inwards.

Remarks. — *A. nyassicus*, although much resembling *silphoides* and *dentipes*, agrees with *plicipennis* in the structure of ædeagus, the punctured pseudopleura of elytra and the non-dimorphic legs in the ♂. It is easily distinguished from *plicipennis* and the other allied species by the thick lateral carina of pronotum and the absence of transverse wrinkles on elytra.

Ædeagus. — Slender. The apicale elongately acuminate, with very fine median division only on distal half of dorsal surface; the apices of parameres appearing as if grown together, compressed and obtusely bent ventrad. Ventral groove broad, with only the penis being exposed. Basale short, one and a half times as long as apicale.

Dimensions. — Length $16 \frac{1}{4}$ to $16 \frac{3}{4}$ mm, width 8 to $8 \frac{1}{4}$ mm.

Distribution. — Northern Portuguese East Africa. — Southern Nyassa Province: Mutuali, IV.1954, A. J. BARBOSA (1 ♂ ♀, types Centro Investigação Cient. Algodoeira, Lourenço Marques).

4. Primary rows on elytra composed of subfoveate, very coarse, transverse punctures; all secondary intervals more or less strongly subcostate, but the alternating even intervals sometimes reduced to fine crests due to the expansion of the foveate punctures of adjacent primary rows

algoensis group. 5

- Primary rows on elytra formed by round to slightly transverse or elongate punctures or strioles; punctures or strioles fine to coarse but never subfoveate; sometimes the alternating odd inner intervals and often the lateral ones more or less strongly convex, the latter rarely subcostate

6

5. In the ♂ the apical segment of maxillary palpi with a broad impression on posterior half of outer surface and there covered with a fine, subtomentose yellowish pubescence; the inner apical angle of intermediate tibiae curved inwards and produced into an obtuse spine; underside of posterior femora with a fringe of yellowish bristles along inner edge.

[**Anchophthalmus algoensis** PÉRINGUEY.]

(Pl. IV, fig. 3; Figs. 91 d, 94, 95.)

*1904, *Anchophthalmus algoensis* PÉRINGUEY, p. 237. — 1910 b, GEBIEN, p. 278. — 1938-1942, GEBIEN, p. 417, n° 5610.

Original description. — « ♀ : Black, somewhat shining; head closely and somewhat roughly punctate; prothorax rounded laterally, but straighter in the posterior than in the anterior part, convex in the middle with the sides broadly depressed and the outer margin reflexed, narrowly and somewhat finely scrobiculate-punctate; scutellum deeply punctate; elytra slightly sinuate laterally behind the humeral angle, somewhat ampliate, short, convex at about the median part, strongly dehiscent thence, highly costate with the third, fifth and seventh costæ more raised than the others, the first and second are broader and subtectiform, the others very sharp, and the intervals are filled with deep, transverse foveæ impinging on the whole side of the costæ but not on the sharp, carinate part; underside striolate. — Differs from the other South African species by its shorter appearance due to the greater convexity of the elytra. Length 16 to 17 mm, width 9 to 10 mm. »

R e m a r k s. — Genæ distinctly demarcated from eyes. Antennæ strongly dilated towards apex, but the proximal segments slender. In the ♂ the apical segment of maxillary palpi about as broad as the third and fourth antennal segments are long taken together. Mentum, fig. 91*d*. Pronotum with posteriorly rounded and narrowed sides, strong and broad submarginal depression and rather narrow lateral carina; the latter distinctly narrower than the third

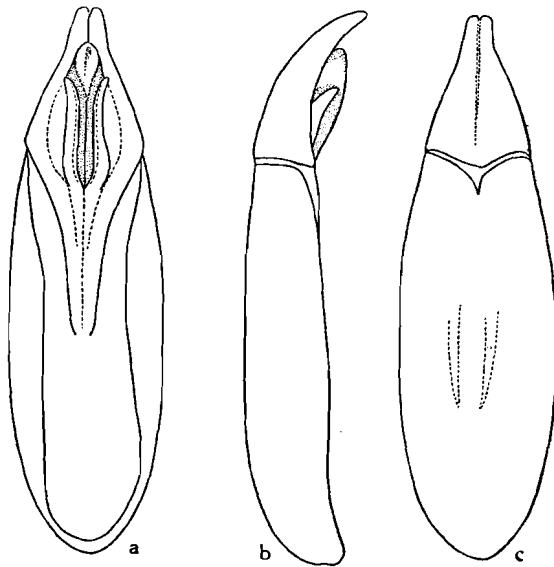


FIG. 94. — Aedeagus of *Anchophthalmus algoensis* PÉRINGUEY.
a : ventral surface; b : lateral view, with the ventral surface at right;
c : dorsal surface.

segment of antennæ. Prosternum transversely rugose; episternum almost smooth; intercoxal apophysis with dentiform reflected tubercle on apex of horizontal portion. Elytra with bluntly rectangular humeral angles. In dorsal aspect the pseudopleural crest not quite visible behind middle. In the ♂ the anterior tarsi moderately but distinctly dilated, their underside with more or less strongly divided, rarely entire soleæ; anterior tibiæ slightly more strongly dilated towards apex than in the ♀, but simple and almost straight; intermediate tibiæ (fig. 95) with straight outer contours, the apical angle of inner contours strongly curved inwards and produced into a short, obtuse spine; posterior tibiæ inconspicuously bent inwards distally; underside of posterior femora with a fringe of fine, yellowish bristles along inner edge.

Ædeagus (fig. 94). — Large, similar to *A. dentipes*, with exposed penis and lacinia, but the lacinia with straight apices and grown together with inflexed alæ of apicale basally. The apices of parameres only slightly and continuously bent ventrad, without forming a hook.

Dimensions. — Length 13 to 18 mm, width $6\frac{1}{2}$ to 10 mm.

Type locality. — « Mozambique (Algoa Bay). J. DE COSTER ». Type in South African Museum. The species was named erroneously « *algoensis* », as the material collected by J. DE COSTER comes from Delagoa Bay in Portuguese East Africa, where *algoensis* frequently has been collected subsequently, but not spreading more southwards.

Distribution. — Southern Portuguese East Africa and Northern Transvaal. — Sul do Save Province of Portuguese East Africa: Lourenço Marques, I.1953, M. C. FERREIRA (1♀, T.M.); Namaacha, I.1950, J. VALENTE (3♂♂, 1♀, M.A.C.); Maputo, III.1949, S. CARREIRA (1♀, M.A.C.); Umbeluzi, V.1949, M. C. FERREIRA (1♂♀, M.A.C.). — Northern Transvaal: Lekkerwater, XII.1903, A. J. T. JANSE (1♂, T.M.); Potgietersrus, XII.1924, G. VAN DAM (1♀, T.M.); Mokeetse, I-III.1922, STREETER (1♂, T.M.); Three Sisters, III.1911, A. J. T. JANSE (1♂, T.M.); Nyl to Seleka, II.1903, A. J. T. JANSE (1♀, T.M.); Waterval, XI.1899, A. J. T. JANSE (1♀, T.M.); Moorddrift, XII.1914, C. J. SWIERSTRA (1♂, T.M.); Leydsdorp Road, II.1927, G. VAN SON (1♀, T.M.); Louis Trichardt, I-II.1928, R. F. LAWRENCE (1♀, S.A.M.); Zoutpansberg, XI.1907 (1♂, S.A.M.).

- In the ♂ the apical segment of maxillary palpi as strongly dilated as in *algoensis*, but with simple, evenly plane and uniformly sculptured outer surface; the intermediate tibiæ inermous, non-dimorphic; underside of posterior femora bare.

[*Anchophthalmus fahraei* PÉRINGUEY.]

*1870, *Oxythorax clathratus* FÄHRAEUS, p. 288.

*1904, *Anchophthalmus fahraei* PÉRINGUEY, p. 238. — 1910 b, GEBIEN, p. 278. — 1938-1942, GEBIEN, p. 417, n° 5609.

Original description. — *Clathratus* FÄHRAEUS : « Oblongus, depressus, ater, supra opacus. Caput rotundatum, depressum, crebre ruguloso-punctatum, epistome emarginato, linea transversa, obsoleta, a fronte separato; labrum transversum piceum. Antennæ latitudine capitis duplo longiores, articulo 3:o sequente dimidio longiore. Thorax basi longitudine media fere duplo latior, ante medium rotundato-dilatatus, postice bisinuatus, angulis supra humeros fortiter acuminato-productis; antice profunde emarginatus, angulis acuminatis; supra valde depressus, densissime ruguloso-punctatus, lateribus deplanatis, margine nonnihil elevato, carinato. Scutellum minutum, transversum. Elytra antice basi thoracis parum

latoria, humeris prominulis, pone humeros ad medium linearia, apice conjunctim rotundata, latitudine vix duplo longiora, supra antice depressa, postice modice declivia, sulcis novem cancellato-punctatis exarata, punctis plerisque transversis, interstitiis angustis, subundulatis, coriaceis et obsolete punctulatis, 2:0, 4:0 et 6:0 paullulum distinctioribus. Corpus subtus parum convexum, antice

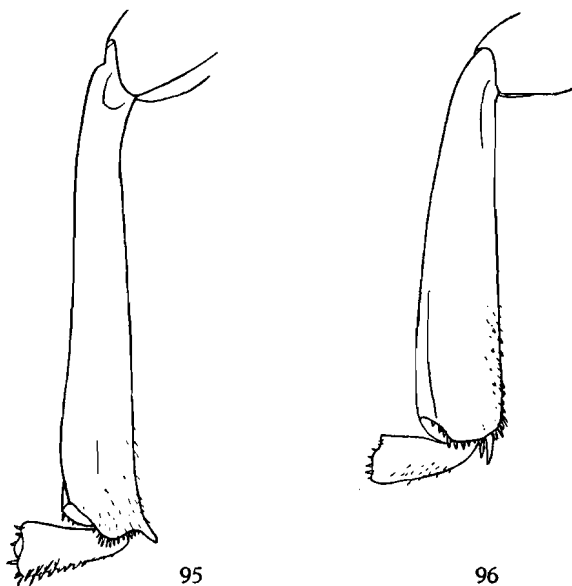


FIG. 95. — The intermediate tibia of a ♂ of *Anophthalmus algoensis* PÉRINGUEY.

FIG. 96. — The intermediate tibia of a ♂ of *Anophthalmus fahraei* PÉRINGUEY.

distinctius punctatum, abdominis segmentis 3 anterioribus strigosis, reliquis tenuiter punctulatis. Pedes subtenuis, subtiliter punctati, tarsi anticis ♂ distinctius, ♀ parum dilatatis. Long. 12 - 12 $\frac{1}{2}$, lat. 5 $\frac{2}{3}$ - 6 millim. »

Remarks. — This species is very closely related to *A. algoensis* and forms with the latter an easily recognizable group, exhibiting a luxurious development of elytral sculpture by the formation of foveate primary rows and costate secondary intervals. The differences between *algoensis* and *fahraei* are confined to the smaller size of body of the latter and the reduced secondary sexual characters in the ♂. In this sex the anterior tarsi are very faintly dilated,

bearing small, divided soleæ on underside, and all the tibiæ are non-dimorphic (fig. 96). The ædeagus resembles *algoensis*, but is smaller in size, the lacinia are less broadly exposed and the apicale is shorter.

D i m e n s i o n s. — Length 12 to 13 $\frac{3}{4}$ mm, width 5 $\frac{3}{4}$ to 7 mm.

T y p e l o c a l i t y. — « Caffraria ». Types in Naturhistoriska Riksmuseum, Stockholm (examined!).

D i s t r i b u t i o n. — Northern Transvaal and Eastern Bechuanaland. — Northern Transvaal: Zoutpan, Zoutpansberg District, IV.1950, G. VAN SON (1♂ ♀, T.M.); Junction Crocodile and Marico Rivers, II.1918, R. TUCKER (1♂, S.A.M.). — Eastern Bechuanaland: Metsimaklaba, III.1930, VERNAY-LANG Kalahari Exped. (1♀, T.M.); without specified locality, 1895 (1♂, S.A.M.).

- 6.** Apicale of ædeagus with elongate, subparallel and spiniform parameres. Primary rows on elytra always composed of fine, sharply impressed striae. In the ♂ the inner apical angle of intermediate tibiæ often produced and then sharply spiniform. Pseudopleura always smooth ...

striolipennis group. **7**

- Apicale of ædeagus with the sides of parameres converging in a straight line from base to apex. Primary rows on elytra with round, transverse or elongate punctures, rarely with striae. Pseudopleura smooth or punctured. In the ♂ the inner apical angle of intermediate tibiæ not or only obtusely dilated, never spiniform **11**

- 7.** Body slender, the elytra elongate, dull, with very fine to obsolescent punctures on secondary intervals. Pseudopleural crest narrowed in a straight line towards apex. In the ♂ the inner angle of intermediate tibiæ produced and sharply spiniform

subgroup of *curvipes*. **8**

- Body short, the elytra broad, not much longer than broad, distinctly shiny, with very dense, rather strong punctures on secondary intervals. Pseudopleural crest inconspicuously sinuate preapically. In the ♂ all tibiæ simple and inermous (subgroup of *striolipennis*).

[Anchophthalmus striolipennis n. sp.]

(Figs. 91 c, 97, 98.)

Head rugosely punctured, in part longitudinally rugose on vertex. Mentum fig. 91 c. Pronotum depressed, strongly transverse, about twice as broad as long, very densely and uniformly rugose, broadest at about middle, with rather strongly, evenly rounded sides which are well rounded and narrowed also towards base. Anterior margin

deeply emarginate, with strongly produced, sharp anterior angles. Base deeply bi-sinuate, with produced, lobiform, sharp posterior angles which project strongly beyond level of middle section of base; marginal carina fine, obsolescent on top of lateral emarginations. Lateral carina rather narrow, only half the width of third antennal segment. Submarginal depression of sides strong and broad. Prosternum with fine punctures; episternum almost smooth, the

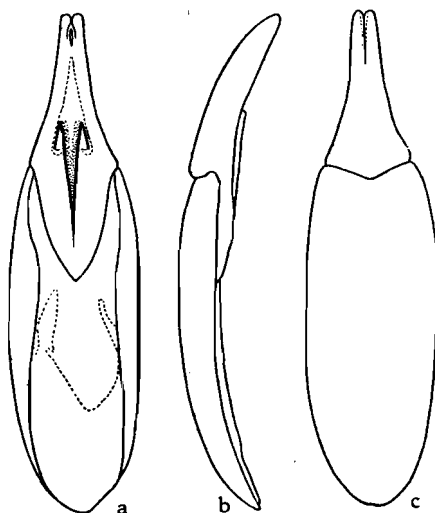


FIG. 97. — Edeagus of *Anchophthalmus striotipennis* n. sp.
 a : ventral surface; b : lateral view,
 with the ventral surface at right;
 c : dorsal surface.

flattened submarginal depression of sides broad and transversely rugose; intercoxal process obtusely tuberculate on apex of horizontally produced portion. Elytra broad, not or only slightly broader than pronotum, with weakly rounded sides and shallow post-humeral sinuosity; humeral angles rounded and slightly obtuse. Lateral portions of base obliquely sloping. Lateral convexity rather strong, with the ninth secondary interval almost perpendicular and lateral in position. Primary rows composed of fine, sharply impressed, scattered striae, but the lateral and ninth rows with dense, rather coarse punctures. Secondary intervals uneven, with transverse wrinkles running across primary rows, the alternating odd intervals broad, faintly convex; densely and strongly punctured, the lateral intervals much broader than primary rows. Pseudo-pleura smooth to obsoletely punctured. Abdomen shiny, with very fine, scattered punctures. In the ♂ the legs practically non-

dimorphic; the anterior tarsi not dilated, with small lateral patches of yellowish bristles below, but not soleate; the inner contours of anterior tibiae very shallowly curved inwards apically, those of intermediate and posterior tibiae almost straight, inconspicuously curved inwards apically; all tibiae inermous.

Ædeagus (figs. 97, 98). — Well characterized by the subparallel contours of the strongly narrowed distal half of parameres, in this respect agreeing only with the following species of the

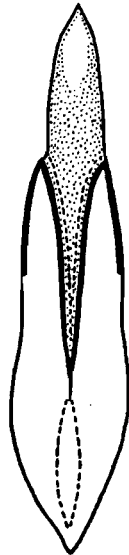


FIG. 98. — Outer surface of the extracted penis plus lacinia of ædeagus of *Anchophthalmus striolipennis* n. sp.

subgroup of *curvipes*. Penis and lacinia narrowly exposed ventrally. Apices of parameres broadly rounded, practically straight and not bent ventrad. Basale slightly more than twice as long as apicale.

Dimensions. — Length $11 \frac{1}{4}$ to 15 mm, width $5 \frac{3}{4}$ to $8 \frac{1}{2}$ mm.

Distribution (map 4). — South-eastern Belgian Congo. — South-eastern Elisabethville Province: Elisabethville, banks of the Lubumbashi River, V.1911, STAPPERS (8 spec., types BCM.), XII. 1925, VAN SACEGHEM (8 spec., BCM.); Elisabethville, J. BEQUAERT, TERNEST, G. F. OVERLAET, M. LIPS, M^{me} MERKVOORDE (22 spec., BCM.); savanna east of Elisabethville, V.1911, STAPPERS (9 spec., BCM.); Lomami, Mwene Ditu, DOUTRELEPONT (1 spec., BCM.).

8. In the ♂ the anterior tibiae straight 9
 — In the ♂ the anterior tibiae rather strongly curved inwards on distal half.

[*Anchophthalmus curvipes* n. sp.]

(Pl. IV, fig. 4; Figs. 99, 100.)

Allied to *A. striolipennis*, but the body very slender and the elytra elongate. Upper surface very dull. Head above densely rugose, usually with two minute, specular spots on middle of vertex. Outer contours of genæ in line with those of eyes and tempora. In the ♂ the apical segment of maxillary palpi almost as broad as the third

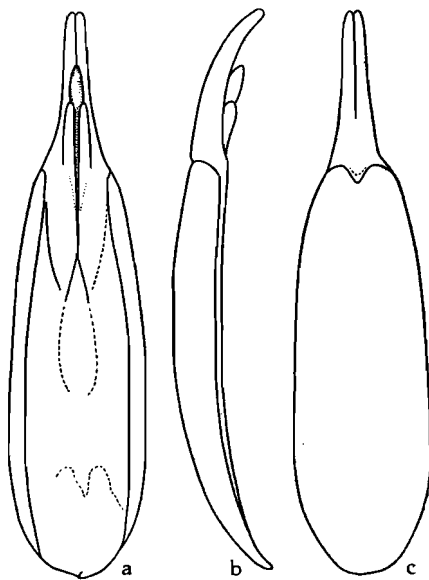


FIG. 99. — Aedeagus of *Anchophthalmus curvipes* n. sp.
a: ventral surface; b: lateral view, with the ventral surface at right;
c: dorsal surface.

and fourth antennal segments are long taken together. Antennæ rather short, very strongly accrescent towards apex; the apical segments strongly transverse, about twice as broad as the third segment. Pronotum strongly rounded laterally, densely and uniformly rugose, with obsoletely smoothed, narrow median line, with broad, strong and complete submarginal depression, two irregular impressions on each side of discal convexity and with narrow lateral carina. Prosternum with scattered, fine sculpture; episternum practically smooth; intercoxal apophysis moderately produced, with pointed apex. Elytra subparallel anteriorly, with bluntly rectangular, not projecting humeral angles. Pseudopleural crest just visible from above. Primary rows formed by sharply impressed, lineate striae, closely following one another, becoming deeper on lateral portions. Secondary intervals densely punctured, uniformly

flat to weakly convex, not subcostate either apically or laterally, with scattered, irregular transverse wrinkles running across primary rows between strioles; the seventh interval apically scarcely more strongly convex than the adjacent intervals. Pseudopleura smooth. Abdomen with scattered fine punctures. In the ♂ (fig. 100) the anterior tarsi inconspicuously dilated, bearing tomentose soleæ on underside of second and third segments; inner contours of anterior tibiæ more or less strongly curved on distal half, with rectangular to acute apical angle; both the intermediate and posterior tibiæ straight, but the inner apical angle produced into a strong, inwardly bent spine; femora simple.

Ædeagus (fig. 99). — Of the peculiar shape of *A. striolipennis*, but the parameres more strongly spiniform. Apicale small, very slender, with extremely fine median division dorsally, strongly narrowed from base to about basal third, thence with very narrow, subparallel, almost spiniform and practically coalescent parameres; the latter straight, obtuse and scarcely bent ventrad apically. Ventral groove very narrow, with only the baculiform penis being clearly exposed. Basale large, about five times as long as apicale, narrowed in a straight line towards apicale on distal half.

Dimensions. — Length 14 to 15 ½ mm, width 6 ½ to 6 ¾ mm.

Distribution (map 4). — South-eastern Belgian Congo. — South-eastern Elisabethville Province: Elisabethville, 1935, RICHARD (1 ♂, holotype BCM.); Kapolowe, 1935, RICHARD (2 ♂ ♂, BCM.); Jadotville, XII.1936, M. PRINZ (1 ♂ ♀, allotype BCM.).

9. In the ♂ the inner apical angle of posterior tibiæ strongly produced inwards 10
 — In the ♂ the inner contours of posterior tibiæ straight from base to apex, the apical angle simple, neither dilated nor spiniform.

[**Anchophthalmus katangicus** n. sp.]

(Pl. V, fig. 1; Fig. 101.)

Very closely related to *A. curvipes*, but of smaller size, the antennæ more strongly dilated towards apex, with the three preapical segments very strongly transverse, somewhat subcordiform and distinctly more than twice as broad as the third segment, the elytra with obliquely sloping lateral portions of base and differing in that the lateral secondary intervals are slightly more convex and forming an obsolescent and widely meshed reticulation together with the transverse wrinkles between strioles of primary rows. In the ♂ the apical segment of maxillary palpi more strongly securiform, the inconspicuously dilated anterior tarsi with a fine fringe of yellowish bristles only on extreme sides of underside, all tibiæ (fig. 101) straight, but the anterior and intermediate tibiæ with a short, sharp, inwardly bent apical spine on inner contours.

Dimensions. — Length $10\frac{1}{2}$ to 13 mm, width 5 to $5\frac{3}{4}$ mm.

Distribution (map 4). — South-eastern Belgian Congo. — Elisabethville Province : Lubudi, IX.1936, M. PRINZ (1 ♂ ♀, types, BCM.), IV.1945, R. CLOSE (1 ♂, BCM.).

10. In the ♂ the anterior and intermediate tarsi distinctly dilated, in part soleate below; anterior tibiæ with simple inner apical angle; the inner apical spine of posterior tibiæ small, shorter than the conspicuous spine of intermediate tibiæ.

***Anchophthalmus soleatus* n. sp.**

(Fig. 102.)

Very closely related to *A. curvipes*, but of larger size and the elytra with very uneven cuticle. The secondary intervals on elytra are somewhat swollen, becoming more strongly convex towards sides and forming together with the transverse branches a kind of irregular reticulation, the meshes of which are enclosing more or less the deeply impressed strioles of primary rows. In the ♂ (fig. 102) the underside of the basal, second and third segments of anterior tarsi with entire poriferous soleæ, as well as the underside of the second, third and the lateral portions of the basal and fourth segments of intermediate tarsi; underside of intermediate and posterior femora with fine, erect and scattered bristles.

Dimensions. — Length 15 to $16\frac{3}{4}$ mm, width 7 to $8\frac{1}{4}$ mm.

Distribution. — South-eastern Belgian Congo. — Upemba National Park : [Kimiala s/Sampwe, Kundelungu, IV.1949, Mission G. F. DE WITTE (2 ♂ ♂, 1 ♀, types I.P.N.)].

- In the ♂ the anterior and intermediate tarsi not dilated, without soleæ below; all tibiæ with sharp, inwardly bent inner apical spine; the spines of intermediate and posterior tibiæ of equal size.

***Anchophthalmus spinipes* n. sp.**

(Pl. V, fig. 2; Fig. 103.)

Very similar to *A. soleatus*, but of smaller size, the sides of elytra shallowly sinuate behind humeral angles and the femora bare in both sexes. Tibiæ in the ♂ fig. 103. Ædeagus almost identical with *A. curvipes*, but the spiniform parameres somewhat pointed apically and the penis exposed together with apical third of lacinia.

Dimensions. — Length 12 to $14\frac{3}{4}$ mm, width 5 to 7 mm.

Distribution. — South-eastern Belgian Congo. — Upemba National Park : R. Lusinga, III.1947 (2 ♂ ♂, 4 ♀ ♀, types I.P.N.); Lusinga, XII.1947, Mission G. F. DE WITTE (3 ♂ ♂, 1 ♀, I.P.N.); [Kishuwa, VII.1925, C. SEYDEL (1 ♂, BCM.)].

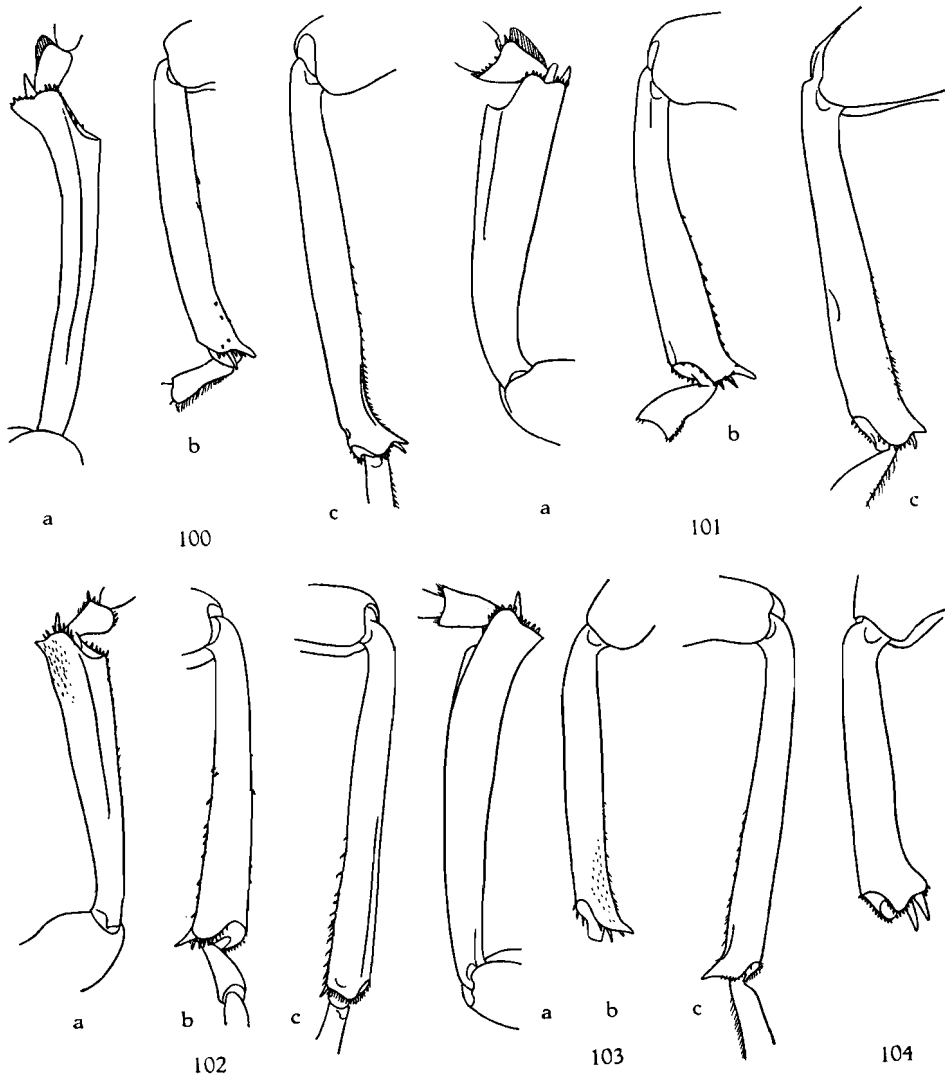


FIG. 100. — *Anchophthalmus curvipes* n. sp. — FIG. 101. — *Anchophthalmus katangicus* n. sp. — FIG. 102. — *Anchophthalmus soleatus* n. sp. — FIG. 103. — *Anchophthalmus spinipes* n. sp. — FIG. 104. — The intermediate tibia of a ♂ of *Anchophthalmus plicipennis* PÉRINGUEY from Pemba.

a : anterior tibia of ♂; b : intermediate tibia of ♂; c : posterior tibia of ♂.

11. Secondary intervals on elytra with very fine and sparse punctures, often appearing as if smooth; cuticle even *clathratus* group. 12
 — Secondary intervals on elytra with dense, strong, conspicuous, sometimes rugose punctation; cuticle often with transverse wrinkles 17
12. In the ♂ the underside of posterior tibiæ simple, without stripe of yellowish hairs 13
 — In the ♂ the underside of posterior tibiæ with a broad stripe of sub-tomentose, dense yellowish hairs on distal two-thirds.

[**Anchophthalmus oncotipes** n. sp.]

(Pl. V, fig. 3; Figs. 91 *b*, 105.)

Very opaque, of elongate shape. Head above densely rugose, with longitudinally confluent rugosities on vertex. Mentum fig. 91 *b*. Antennæ strongly dilated towards apex. Apical segment of maxillary palpi in the ♂ distinctly broader than the combined length of the second and third antennal segments and almost as broad as the third and fourth antennal segments are long taken together. Pronotum broadest slightly in front of middle, strongly transverse, about twice as broad as long, uniformly, densely rugose, transversely rugose on submarginal depression. Anterior margin deeply emarginate, with produced anterior angles. Sides considerably rounded and narrowed towards base, sometimes shallowly sinuate in front of posterior angles; lateral carina rather narrow, much narrower than the third antennal segment, becoming flattened and indistinct on posterior angles; submarginal depression broad and strong. Base deeply bi-sinuate, finely carinate, with strongly projecting, rather sharp, lobiform posterior angles. Disc uniformly, weakly convex, without conspicuous impressions. Prosternum with fine, scattered punctures; episternum with shallow, scattered, coarse punctures on inner portion of anterior half, the flattened submarginal depression with dense transverse wrinkles; intercoxal apophysis produced and tuberculate apically. Elytra flattened, slightly broader than pronotum, with the sides weakly rounded and dilated towards middle. Humeral angles not projecting beyond sides of elytra, bluntly rectangular to slightly obtuse, sometimes with very weak post-humeral sinuosity of sides. Primary rows with rather fine, slightly transverse, well separated punctures, of which about 30 to 35 are found in the fourth row. Secondary intervals with very fine, sparse, almost inconspicuous punctures, weakly convex to almost flattened on inner intervals, but becoming gradually more strongly convex towards sides. Pseudopleural crest sharp, entirely exposed dorsally, but in the ♂ with flattened and narrow justa-marginal depression and therefore better visible than in the more strongly convex ♀.

Pseudopleura with shallow, rather dense punctures. Abdomen with fine punctures, concentrated on anal sternite. In the ♂ the anterior tarsi weakly dilated, with divided soleæ below; the anterior tibiæ very slightly curved, with a scarcely discernible, small patch of fine, aggregated, yellowish hairs on middle section of underside; the intermediate tibiæ simple, but rather robust and dilated towards apex; the posterior tibiæ robust, with the inner contours inconspicuously curved inwards on distal third, and the underside provided with a broad sulcus, filled with a dense, sessile and subtomentose yellowish pilosity.

The *Oncotini*-like structure of the posterior tibiæ in the ♂ is unique among all the other species of *Anchophthalmus*.

Ædeagus (fig. 105). — Simple, with exposed penis and lacinia. Parameres of apicale converging towards apex, with obtuse, faintly curved apices. Basale about three times as long as apicale.

Dimensions. — Length 11 to 13 $\frac{1}{4}$ mm, width 5 $\frac{1}{2}$ to 6 $\frac{3}{4}$ mm.

Distribution. — Southern Rhodesia. — Bulawayo, XII.1921 (8 spec., types T.M.), VI.1925, R. H. R. STEVENSON (2 spec., T.M.); Penkridge, XII.1927, R. H. R. STEVENSON (5 spec., T.M. and N.M.S.R.); Insiza, I.1919, G. FRENCH (4 spec., S.A.M.); Matabele, HARD AF SEGERSTAD (1 ♂, M.St.).

13. Pronotum not or only slightly narrower than elytra, with the sides posteriorly from almost subparallel to more or less strongly narrowed in a straight or rounded course towards posterior angles 14
 — Pronotum considerably narrower than elytra, of subcordiform shape, with the sides strongly and deeply sinuate in front of posterior angles.

[*Anchophthalmus mittoni* n. sp.]

Related to *A. oncotipes*, this new species is readily recognized from all the other *Anchophthalmus* by the strongly cordiform shape of pronotum and the broad elytra, recalling the habitus of *Ectateus*. Agreeing with *oncotipes* in the very opaque upper surface and sculpture, it is furthermore distinguished from this species by the shape of pronotum, the discal punctation on which is fine, round and well separated, and by the flattened elytra, exhibiting evenly flat secondary intervals which are inconspicuously more strongly convex on lateral portions. The punctures on the proximal sternites of abdomen and pseudopleura are very fine and scattered. The pseudopleural crest is entirely exposed dorsally. The ♂ is unknown.

Dimensions. — Length 11 $\frac{1}{2}$ mm, width 5 $\frac{1}{2}$ mm.

Distribution. — Southern Rhodesia. — 25 miles south of Umtali, XI.1950, A. MITTON (1 ♀, holotype T.M.).

Dedication. — Named in honour of Mr. A. MITTON of the Coryndon Museum, Nairobi.

14. Primary rows of elytra with round to elongate, fine to moderately strong punctures; the third and fifth secondary intervals often broader than the second, fourth and sixth intervals, but the sixth interval always much broader than one of the adjacent primary rows; the six inner primary rows not arranged in approximated pairs; the third and fifth secondary intervals not or only faintly more strongly convex than the adjacent even intervals 15
- Primary rows of elytra with rather coarse, distinctly transverse punctures; the third and fifth secondary intervals much broader than the second, fourth and sixth intervals; the sixth interval reduced, constricted and much narrower than one of the adjacent primary rows to about as broad as the latter; the six inner primary rows are clearly arranged in approximated pairs; the third and fifth secondary intervals obtusely subcostate, much more strongly convex than the adjacent even intervals.

[*Anchophthalmus clathratus* GERSTAECKER.]

(Pl. V, fig. 3; Fig. 108.)

*1871, *Anchophthalmus clathratus* GERSTAECKER, p. 60. — 1873, GERSTAECKER, p. 176. — 1897, FAIRMAIRE, p. 120. — 1910 b, GEBIEN, p. 278. — 1938-1942, GEBIEN, p. 417, n° 5608.

Original description. — « Obtuse ovatus, niger, parum nitidus, glaber, prothoracis margine deplanato sat lato, extus ruguloso, disco convexiusculo, subtiliter punctato, elytris seriatim foveato-punctatis, interstitiis 3., 5., 7. costatim elevatis. Long. 13, lat. 6 mill. — Bei gleicher Breite beträchtlich kürzer als *A. silphoides*, auch nicht matt kohlschwarz, sondern mit sichtbarem, wenngleich geringem Glanz besonders auf der Oberseite des Prothorax. (Fühler fehlen). Kopf etwas schmaler als bei der genannten Art, in übereinstimmender Weise dicht gedrängt punktiert, vor den Augen etwas stärker aufgewulstet. Prothorax merklich kürzer, mit etwas stärker ausgezogenen Vorder- und Hinterecken, flach abgesetztem und sogar leicht aufgebogenem Seitenrand, stärker kissenartig gewölbter Scheibe und sehr viel feinerer, in der Mitte sogar deutlich sperriger Punktierung; dieselbe fließt selbst zu beiden Seiten der Scheibe, wo sie beträchtlich dichter ist, nirgends zu Runzeln zusammen, nur die Seitentheile lassen solche zunächst dem aufgeworfenen Aussensaum deutlich erkennen. Schildchen mit gleicher Punktierung wie der Prothorax. Flügeldecken nur um ein Viertel länger als zusammen breit, bis zum letzten Drittheil parallel, sodann eiförmig zugerundet. Die gewöhnlichen neun Punktstreifen der auf der hinteren Hälfte stärker gewölbten Oberfläche furchenartig vertieft, die Punkte selbst sehr grob, grubenartig, etwas in die Quere gezogen, die Zwischenräume sehr fein und zerstreut punktiert, gewölbt, der dritte, fünfte und siebente schon für das unbewaffnete Auge deutlich rippenartig

erhöht, der dritte und siebente hinten miteinander schleifenartig verbunden, die dazwischenliegenden daher verkürzt. Vorder- und Hinterbrust gleich dem Hinterleib deutlicher, die Epipleuren dagegen verloschen fein und zerstreut punktirt, die Oberfläche zwischen den Punkten stellenweise leicht gerunzelt. Alle drei Schienenpaare einfach und gerade. »

Remarks. — This species has been interpreted quite incorrectly by subsequent authors, and practically all specimens with a clathrate sculpture on elytra have been classified as *clathratus*. In actual fact *A. clathratus* does not exhibit but a slightly indicated clathrate elytral sculpture, as the cuticle is even and does not form the transverse wrinkles usually found in the *plicipennis* and *striolipennis* groups.

A. clathratus is well characterized by the small size of body, the distinctly shiny upper surface particularly of pronotum, the only weakly rounded, medially almost subparallel sides of pronotum, the not or only slightly confluent pronotal punctation, the rather coarse primary punctures on elytra, arranged in clearly approximated pairs, and the even, impunctate, alternating, subcostate secondary intervals on elytra. In the ♂ the apical segment of maxillary palpi is strongly dilated, but distinctly less broad than the length of the third and fourth antennal segments combined; the anterior and intermediate tarsi are not dilated, nor provided with soleæ below; the tibiæ are simple, except for the intermediate ones, the inner apical angle of which is slightly to inconspicuously dilated and minutely curved inwards.

Ædeagus (fig. 108). — Slender, of simple shape, but the ventral groove very strongly constricted by the broadened inflexed alæ, concealing the penis as well as the lacinia. Parameres of apicale long, strongly narrowed proximally, weakly so distally, with obtuse, slightly bent apices. Basale about twice as long as apicale.

Dimensions. — Length $11 \frac{1}{4}$ to $14 \frac{1}{2}$ mm, width 5 to $7 \frac{1}{2}$ mm.

Type locality. — « Am Jippe See » (North-eastern Tanganyika Territory). Types probably in Museum Berlin.

Distribution. — North-eastern Tanganyika Territory and Central-southern British East Africa. — Kilimandjaro area : Lake Yipe; Ngang Forest, 1.900 m (12 spec., I.R.); Nairobi (2 spec., C.M.); Thika Road, Nairobi, I.1950, E. PINHEY (2 spec., C.M.); Embakasi, VII.1933, C. G. MACARTHUR (1 spec., C.M.).

15. On elytra at least the seventh secondary interval distinctly convex to subcostate apically 16
 — All secondary intervals on elytra flat, not or inconspicuously convex on lateral portions, the seventh interval scarcely more strongly raised than the adjacent intervals.

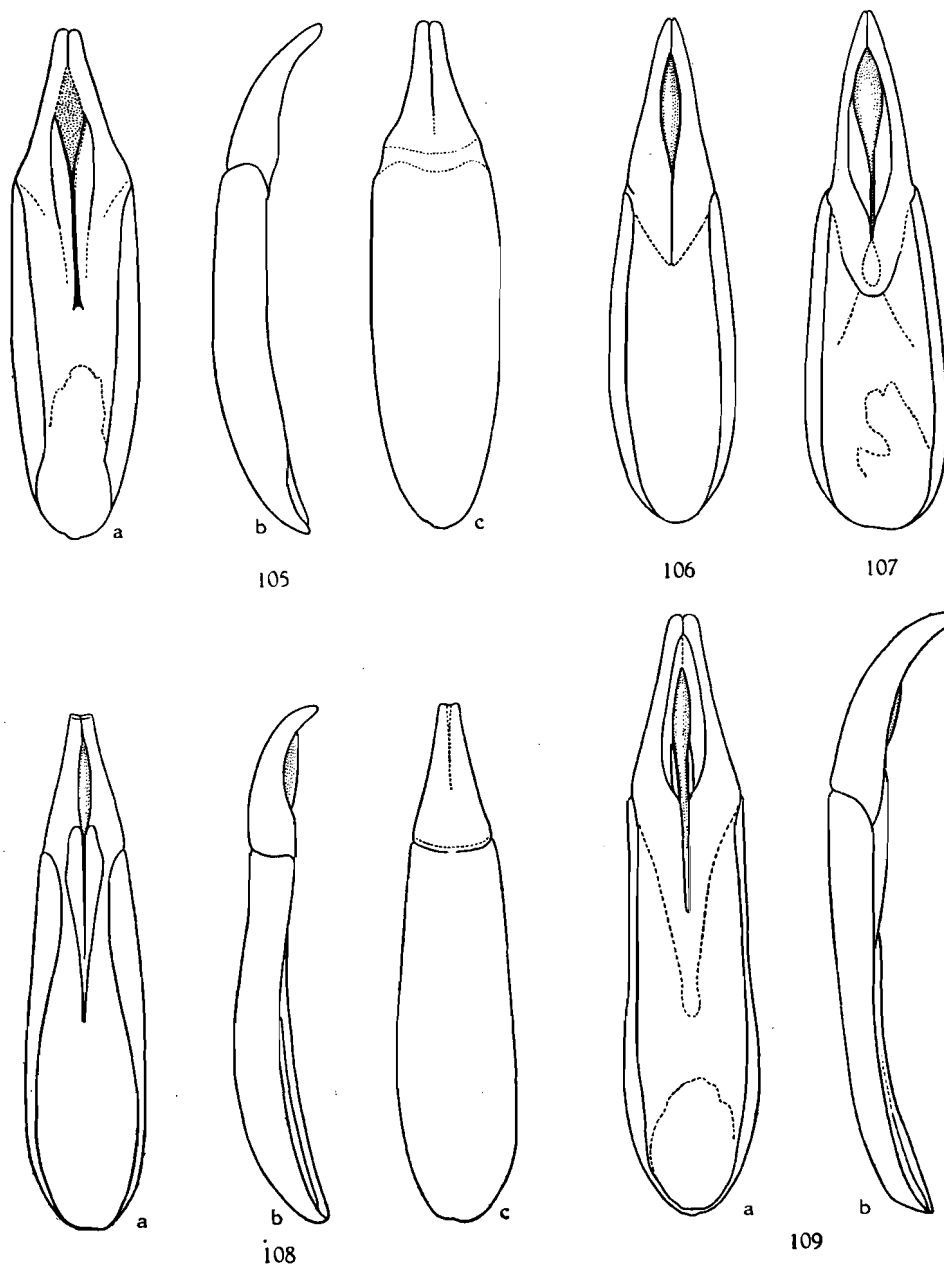


FIG. 105. — *Ædeagus* of *Anchophthalmus oncotipes* n. sp. (a : ventral surface; b : lateral view, with the ventral surface at right; c : dorsal surface). — FIG. 106. — Ventral surface of the *ædeagus* of *Anchophthalmus altioricola* n. sp. — FIG. 107. — *Ædeagus* of *Anchophthalmus plicipennis* PÉRINGUEY, typical form from Salisbury (ventral surface). — FIG. 108. — *Ædeagus* of *Anchophthalmus clathratus* GERSTAECKER (a : ventral surface; b : lateral view, with the ventral surface at right; c : dorsal surface). — FIG. 109. — *Ædeagus* of *Anchophthalmus basilewskyi* n. sp. (a : ventral surface; b : lateral view, with the ventral surface at right).

[*Anchophthalmus altioricola* n. sp.]

(Pl. VI, fig. 1; Figs. 91 a, 106.)

Related to *A. clathratus*, but readily distinguished by the small size of body and the flat secondary intervals on elytra. Mentum fig. 91 a. Pronotum as in *clathratus*, slender, with weakly rounded, medially almost subparallel sides; punctures on disc dense, strong, round and separated. Elytra almost dull, with obliquely sloping lateral portions of base and faintly rounded sides. The primary rows with moderately strong, round punctures, becoming fine and evanescent on apical portion; secondary intervals broad, with hardly discernible punctation, flat, very weakly convex towards sides. Pseudopleural carina entirely exposed dorsally. Pseudopleura smooth. Legs robust; in the ♂ the anterior tarsi distinctly dilated, with spongiose soleæ below; the inner apical angle of intermediate tibiæ dilated and rather strongly, abruptly bent inwards. Ædeagus (fig. 106) stouter than in *clathratus*, with continuously narrowed outer contours of apicale and slightly more broadened groove, leaving exposed the apical portion of penis. ♀ unknown.

Dimensions. — Length 10 ½ to 11 ¼ mm, width 5 to 5 ½ mm.

Distribution. — South-central British East Africa. — Limuru, III.1941 (3 ♂, holotype C.M.); Ngong, 6.000 ft., VI.1939, VAN SOMMEREN (1 ♂, C.M.).

16. Body of smaller size, 10 to 14 ¼ mm long. Primary rows on elytra with fine to moderately strong, more or less well separated punctures; there are about 25 to 40 punctures in the fourth row. In the ♂ the inner apical angle of intermediate tibiæ more or less distinctly dilated and curved inwards.

(1) Unknown to me. The description reads as follows: — « Viel breiter und gewölbter als die Stammform; Halsschild flacher und breiter, nach hinten stärker gerundet verengt, die Hinterecken weniger nach hinten ausgezogen, etwas gerundet, stumpfwinklig. Flügeldecken in der Querrichtung gleichmässig gewölbt, in der Mitte neben der Naht nicht eingedrückt, die Zwischenräume fast flach, der 3., 5. und 7. etwas breiter, aber nicht kielförmig über die Wölbung der Flügeldecken erhaben. Schultern breit abgerundet, Seitenrand viel breiter abgesetzt. Länge: 12,5-15,5 mm; Breite: 7,3-8,2 mm. — 3 Exemplare von Ugano, 1500-1700 m, XII.1935-I.1936, H. ZERNY; ein Exemplar von Kigonsera, westlich von Songea. — Der Typus befindet sich in der Sammlung des Ungarischen Nationalmuseums in Budapest, Cotypen im Wiener Naturhistorischen Museum ».

[Anchophthalmus variabilis GEBIEN, sensu novo.]

1910 a, *Anchophthalmus variabilis* GEBIEN, p. 373. — 1910 b, GEBIEN, p. 279. —
1938-1942, GEBIEN, p. 418, n° 5617.
1947, *Anchophthalmus variabilis curtus* KASZAB, p. 168 (1).

Original description. — « Gedrungen gebaut, schwarz, wenig glänzend oder matt, unbehaart und unbeschuppt. Kopf sehr dicht und fein punktiert, der Clypeus oft nur gering, meist aber deutlich und ziemlich tief, etwa im Viertelkreisbogen ausgeschnitten. Die Augen in der Mitte nur wenig eingeschnürt, die letzten 4 bis 5 Fühlerglieder quer. Der Halsschild in der Form sehr variabel, etwa doppelt so breit wie in der Mittellinie lang, die grösste Breite liegt in der Mitte, von dort ist er nach hinten sehr oft parallel, d.h. kaum merklich verengt, oft aber sind die Seiten ziemlich stark gebogen und nach hinten kräftig verengt, der Seitenrand ist fein kielig aufgeworfen, die Vorderecken sind rechtwinkelig, kurz verrundet, die Hinterecken, die weiter nach hinten reichen als die Mitte der Basis, sind gerandet, auch die basale Rundung fast immer ganz, wenn auch sehr fein, Oberfläche dicht und fein, aber nicht gedrängt punktiert, nur der flach gedrückte Seitenrand fein runzlig. Neben dem Seitenrand läuft ein kräftiger Längseindruck, welcher die Scheibe von den Seiten absetzt. Flügeldecken etwa in der Mitte am breitesten, der Seitenrand von oben überall sichtbar, die Schultern schräg abgeschnitten, nicht nach aussen gezogen, sie bilden mit dem Seitenrand einen Winkel von ca. 120°, der Seitenrand dort nicht oder nur wenig breiter abgesetzt. Die Oberfläche in der Skulptur unglaublich variabel : entweder sind (in selteneren Fällen) die Zwischenräume fast gleichmässig schwach konvex, oder aber scharf rippenartig erhaben, oder der 3., 5., 7. Zwischenraum sind breiter und meist stärker erhaben, und zwar tritt das zuerst am 7. Zwischenraum auf, besonders an der Spitze fällt der Höhenunterschied auf, die Verbindung der erhöhten Rippen an der Spitze ist ganz verschieden, verbunden sind 3 und 7 und 5 eingeschlossen, oder 5 und 7 und 3 schliesst sich an. Die Punkte der Streifen sind ziemlich gross, ca. 30 im vierten Streifen, die Punkte stehen oft in kleinen Grübchen, die besonders seitlich auf die Interstitien greifen. Mentum in der Mitte kräftig erhöht, die Pleuren der Vorderbrust vom Sternum durch eine Furche ähnlich wie auf der Oberseite abgesetzt, der abgesetzte flache Teil meist deutlich gerunzelt. Prosternum zwischen den Hüften jederseits gefurcht, am Ende schwach niedergedrückt und dann senkrecht abfallend. Abdomen glänzend, fein längsstrigos, die Seiten der Segmente ohne eingeschnittene Linie. Beine in beiden Geschlechtern ohne Auszeichnung : die Erweiterung der Vordertarsen des ♂ so gering, dass man sie nur beim Vergleich mit dem ♀ sieht. — Es giebt wenig Insekten, die es an Veränderlichkeit mit dieser Art

aufnehmen können. Vielleicht sind auch *Anch. clathratus*, *obsoletus* und *alternatus* nur Formen einer ebenso variablen Art. *Anch. silphoides* aus dem Küstengebiet scheint mir die nächstverwandte Art zu sein, doch sind hier die Zwischenräume ganz gleichmässig, der Halsschild ist gedrängt runzlig punktiert und das Prosternum ganz wagrecht. — L. 10-15 mm. »

Remarks. — GEBIEN's description, although very detailed, is confusing and seems to be based on different forms which he did not care to analyse. On the one hand he describes details of morphology, which are common to the whole genus, while he is not aware of the strong dimorphism in the size of the apical segment of maxillary palpi. His conclusions as to the systematic position of his artificial species are quite erroneous, as he assumes *A. silphoides* to be the nearest allied species (which in actual fact belongs to a different phylogenetic line), whereas *A. clathratus*, *alternatus* and *obsoletus* are considered simple « forms » of an identical species. However, *clathratus* and *obsoletus* belong to two different groups, and an « *alternatus* » has never been described.

It is impossible to refer GEBIEN's description to a single species, but in part his description agrees almost literally with the description of *A. clathratus*, in part with species which may be distinguished from the latter. Two paratypes of *variabilis* differ strongly from *A. clathratus*, but also from GEBIEN's own description by the dimorphism of elytral sculpture, a particular which is unknown among all the other *Anchophthalmus*. On these two specimens I am basing the following diagnosis of *A. variabilis* sensu novo.

A. variabilis is very closely allied to *A. clathratus* and *A. altioricola*, agreeing with both in the slender shape of pronotum, the well separated punctures on the disc of the latter and the practically impunctate secondary intervals on elytra. The latter are flat to slightly convex, but in the ♀ more strongly convex laterally than in the ♂, with particularly the seventh interval subcostate from base to apex. In the ♂ the apical segment of maxillary palpi is as much dilated as in *clathratus*, but not broader than the second and third antennal segments are long taken together; the anterior tarsi are faintly dilated, with poriferous patches on lateral portions of underside; the intermediate tibiae with slightly dilated, inner apical angle.

Dimensions. — Length 11 to 12 ½ mm, width 5 ½ to 6 mm.

Type locality. — « Kilimandjaro : Mwika und Meru Niederung ». Type probably in Museum Frey.

Distribution. — North-eastern Tanganyika Territory : Meru lowland, XII, Y. SJÖSTEDT (1 ♀ ♂, paratypes T.M.).

(Several new species are known to me from Central-northern Tanganyika Territory to Southern Abyssinia, all more or less closely allied to *A. clathratus*. The material available of these species, however, is too scarce as to allow for a serious study of the variability of distinguishing characters. *Anchophthalmus densaticollis* FAIRMAIRE (1), described from the Bar-el-Gazal region of the Anglo Egyptian Sudan, may probably belong to this group of northern species.)

- Body of large size, 15 ½ mm long. Primary rows on elytra with extremely fine and dense punctures which follow very closely one another; there are about 60 punctures in the fourth row. In the ♂ the inner apical angle of intermediate tibiæ without any indication of dilation or curvature, the inner contours of tibia consequently straight from base to apex.

[***Anchophthalmus basilewskyi*** n. sp.]

(Fig. 109.)

The largest species of the *clathratus* group and because of the elongate shape of body recalling certain species of the *plicipennis* group. Related to *A. clathratus*, but the upper surface entirely sericeous, the size of body larger, the pronotum broader and much more coarsely punctured, the lateral carina of pronotum broader and the elytral sculpture different. The primary rows are sharply impressed and composed of extremely fine, dense punctures; third secondary interval broadened and considerably broader than the adjacent even intervals; the seventh interval similarly subcostate in both sexes.

Æ d e a g u s. (fig. 109). — Simple, with only apically exposed penis. Parameres moderately long, continuously narrowed towards apex, with obtuse, rather broad and almost straight apices. Basale a little more than twice as long as apicale.

D i m e n s i o n s. — Length 15 ½ mm, width 7 to 7 ½ mm.

D i s t r i b u t i o n. — Ruanda-Urundi. — Rumonge, 800 m, III.1953, P. BASILEWSKY (1♂♀, types BCM.).

D e d i c a t i o n. — Named in honour of Mr P. BASILEWSKY, chief entomologist to the Musée royal du Congo Belge, Tervueren.

(1) *Anchophthalmus densaticollis* FAIRMAIRE, 1887, p. 282. — « Oblongo-ovatus, fuscus, parum nitidus, capite prothoraceque subtiliter densissime punctato-rugulosis et setulis minutissimis fulvis sat dense vestitis; prothorace longitudine duplo latiore, lateribus rotundatis, basi leviter sinuatis, intus haud depressis, antice paulo angustiore, angulis anticis sat latis, acute rectis, margine postico utrinque sinuato, angulis posticis latis, postice productis et apice sat acutis, humeros obtegentibus; scutello late triangulari, punctato; elytris ovatis basi late truncatis, postice angustatis, fortiter striatis, striis dorsalibus lævibus, externis punctatis, intervallis subtilissime punctulatis, modice convexis, externis paulo angustioribus et magis convexis; subtus cum pedibus dense punctulatus, prosterno apice breviter dentiforme. — Long. 13 ½ mm — l'orme peu caractérisée, semblant établir un passage aux *Selinus*. »

17. Upper surface of head plane, without median carinula. In the ♂ the anterior tarsi not dilated 18
 — Upper surface of head with fine median carinula on frons. In the ♂ the anterior tarsi distinctly to rather strongly dilated
cariniceps group. 24
18. Cuticle of elytra with transverse wrinkles running across primary rows and irregularly communicating with the more or less convex secondary intervals; the elytra therefore appearing as if obsolete to distinctly clathrate. Secondary intervals convex at least apically. Body either elongate or broad, but in the latter case the primary rows formed by elongate striae *plicipennis* group. 19
 — Cuticle of elytra entirely even, without transverse wrinkles and not appearing as if clathrate. Body roundish to broadly oval, the primary rows of elytra always densely punctured, the secondary intervals uniformly flat *obsoletus* group. 20
19. Body elongate. Sides of pronotum rounded and narrowed towards base, but without or with scarcely indicated sinuosity in front of posterior angles. Primary rows on elytra with round to elongate, more or less coarse punctures; the seventh and eighth primary rows at least as broad as the convex adjacent secondary intervals. Pseudopleural crest straight apically.

[*Anchophthalmus plicipennis* PÉRINGUEY.]

(Pl. VI, figs. 2, 3; Figs. 91 c, 104.)

*1904, *Anchophthalmus plicipennis* PÉRINGUEY, p. 238. — 1910 b, GEBIEN, p. 278. — 1938-1942, GEBIEN, p. 418, n° 5612.

1904, *Anchophthalmus salisburyensis* PÉRINGUEY, pl. 13, fig. 16.

Original description. — « ♀ : Black, opaque, covered on the upper side with most minute greyish hairs; head deeply and closely punctate; prothorax nearly equally rounded laterally, the sides are not very broadly ampliate, but the margin is well raised, the discoidal part is only slightly convex and bears two faint, median impressions, it is covered with somewhat small, moderately deep punctures separated by a very narrow, irregular, only slightly raised wall; scutellum deeply punctate; elytra, slightly ampliate past the median part where they are one-fifth wider than across the base, acuminate in the posterior part, almost plane from the base to the posterior declivity, slightly convex there, and slanting thence to the apex, finely striate, but the striæ are shallow, the first three intervals are plane, the fifth and sixth are raised, the whole surface is deeply punctate and covered with irregular, wrinkle-like, transverse, foveate punctures, shallow in the dorsal part, deeper and more seriate on

the sides, these folds are produced by the raised walls of these foveæ and the two raised supra-lateral intervals are very plainly wavy and wider than the intervening one; under side glabrous; legs minutely hairy. Length $13 \frac{1}{2}$ - 17 mm, width $6 \frac{1}{2}$ - $8 \frac{1}{2}$ mm. »

Remarks. — Mentum fig. 91c. *A. plicipennis* is closely allied to *A. nyassicus* on the one hand, to the *curvipes* subgroup of the *striolipennis* group on the other. It seems to be widely spread and subject to the development of the following subtle geographic forms.

a) Elytra dull; the seventh and eighth secondary intervals subcostate and wavy; transverse wrinkles moderate. Pseudopleura densely, rather deeply punctured. Pronotum with very broad lateral carina; the latter almost as broad as the third antennal segment. In the ♂ the apical segment of maxillary palpi very strongly dilated, about as broad as the third and fourth antennal segments are long taken together; the anterior tarsi not dilated, without soleæ below; the inner apical angle of intermediate tibiæ faintly dilated. *Ædeagus* (fig. 108) as in *nyassicus*. — Typical form, described from Salisbury, examined from Southern Rhodesia (Salisbury, Bindura) and South-western Tanganyika Territory (Lake Rukwa and Dodoma).

b) As the typical form, but the lateral carina of pronotum very broad, slightly broader than the third antennal segment, and in the ♂ the inner apical angle of intermediate tibiæ abruptly, strongly, obtusely dilated and curved inwards (fig. 104). — 2 identical ♂♂ from Northern Rhodesia (Feira, Zambesi Region and Pemba).

c) (Pl. VI, fig. 2). Elytra dull; the seventh and eighth secondary intervals less convex, not distinctly wavy; transverse wrinkles reduced, the surface of elytra therefore more even. Pseudopleura with obsolescent, fine, scattered punctures. Pronotum with rather narrow lateral carina which is considerably narrower than the third antennal segment. In the ♂ the apical segment of maxillary palpi less strongly dilated and narrower than the combined length of the third and fourth antennal segments; the anterior tarsi not dilated; the inner apical angle of intermediate tibiæ inconspicuously curved. *Ædeagus* very similar to the typical form but the apicale shorter. — A series from North-western Tanganyika Territory (Ukerewe Island).

d) (Pl. VI, fig. 3). Elytra distinctly shiny; the seventh and eighth secondary intervals strongly wavy and subcostate; transverse wrinkles usually strongly developed, often forming a kind of widely meshed reticulation around subfoveate punctures of primary rows, and the elytra appearing as if strongly clathrate. Pseudopleura with fine punctures. Pronotum as in the form from Ukerewe

- Island, but more shiny and the sides subparallel to very faintly sinuate in front of posterior angles. In the ♂ the apical segment of maxillary palpi strongly dilated, as in the typical form; the anterior tarsi not dilated; the intermediate tibiæ with entirely straight inner contours from base to apex and without any trace of apical dilation. Ædeagus with slender and moderately long apicale.
- South-eastern Belgian Congo, in the Elisabethville Province (Baudouinville, Saint-Louis, Moliro, Kafwanka and Lukuga valley).
- Body short and broad. Sides of pronotum distinctly though shallowly sinuate in front of posterior angles. The seventh and eighth primary rows on elytra much narrower than the flattened adjacent secondary intervals; primary rows with fine, elongate striae. Pseudopleural carina weakly sinuate apically.

[**Anchophthalmus brevis** n. sp.]

In shape and sculpture of body almost identical with *A. striolipennis*, but the sides of pronotum distinctly sinuate in front of posterior angles and the ædeagus similar to *A. plicipennis*. Apicale of ædeagus very short, in ventral view scarcely longer than broad between basal articulations, with triangularly converging lateral contours; parameres with narrow, obtuse, rather strongly bent apices, and with narrow, almost subparallel, inflexed alæ ventrally. Ventral groove with exposed penis and lacinia. Basale about four and a half times as long as apicale. In the ♂ the apical segment of maxillary palpi and the legs shaped as in *striolipennis*.

Dimensions. — Length 12 $\frac{3}{4}$ to 15 mm, width 6 $\frac{3}{4}$ to 8 mm.

Distribution (map 4). — South-eastern Belgian Congo. — Central-southern Elisabethville Province: Kanzenze, 1932, R. P. LEFEBURE (1♂, 3♀, types BCM.), VI.1924, C. SEYDEL (1♂, BCM.).

20. Elytra distinctly shiny; secondary intervals with dense and rather strong punctures 21
- Elytra very opaque; secondary intervals with very fine and more scattered punctures.

Anchophthalmus obsoletus (ANCEY).

(Pl. VI, fig. 4; Fig. 110.)

*1877, *Selinus obsoletus* ANCEY, p. 468. — 1887, FAIRMAIRE, p. 286. — 1910 b, GEBIEN, p. 278.
1938-1942, *Anchophthalmus obsoletus* GEBIEN, p. 418, n° 5613.

Original description. — « Ater haud nitidus, subtus levior; caput prothoraxque densissime punctulata; ille depres-

sus, medio leviter convexus, lateribus carinatus, rotundatus, apice attenuatus, postice minus; angulis anticis et posticis valde productis, non acutis; marginatus et ad marginem convexior. Scutellum parvum, punctatum, triangulare. Elytræ lateribus carinatæ, rotundatæ, tenuissime punctulatæ, singula 9 sulcis linearibus, punctigeris, quorum unus prope carinam, instructa, intervalli fere plani. Pars inferior corporis nitida, parum dense punctulata, pedes graciles. — Long. 14 $\frac{1}{2}$ mill — Le *S. obsoletus* est tout-à-fait à part par sa forme arrondie, son aspect mat, la sculpture très fine de ses élytres, enfin par la forme de son thorax arrondi latéralement et fortement bisiné à sa base. »

R e m a r k s. — This species is very well distinguished from all the preceding *Anchophthalmus* by the strongly flattened and roundish body, the very opaque upper surface, the depressed elytra and the fine sculpture of the latter. Head above rugosely punctured, with long, subparallel genæ and subparallel tempora. Epistome well demarcated from genæ. In the ♂ the apical segment of maxillary palpi strongly dilated, at least as broad as the combined length of the third and fourth antennal segments. Antennæ short, strongly accrescent towards apex; the two preapical segments strongly enlarged, at least twice as broad as long. Pronotum strongly transverse, broadest a little behind middle, depressed, uniformly and very densely covered with extremely fine rugosities, becoming somewhat smoothed along midline, transversely confluent on submarginal depression. Anterior margin deeply emarginate, with sharply produced anterior angles, carinate only on lateral portions. Sides rather strongly rounded and narrowed towards base; lateral carina fine and much narrower than third antennal segment; submarginal depression strong and broad. Base finely carinate, rather shallowly bi-sinuate, but with strongly produced, lobiform posterior angles. Disc weakly convex, with irregular, shallow impressions. Prosternum with rather strong punctures; episternum practically smooth and very opaque, except for the large submarginal depression which is shiny and strongly rugose transversely; intercoxal apophysis immarginate, with broadly rounded and flat apex of horizontally produced portion. Elytra not or only slightly broader than pronotum, depressed, with rectangular to weakly obtuse humeral angles. Sides weakly rounded and dilated towards middle, without posthumeral sinuosity. Primary rows sharply and linearly impressed, composed of fine, dense punctures which are scarcely larger than those on disc of pronotum; there are about 50 punctures in the fourth row, but on apical declivity the background of all rows is uniformly smooth, lineate, without discernible punctation; the first and second primary rows, as well as the third and fourth ones

are somewhat arranged in pairs and each of these pairs coalesce basally. Secondary intervals uniformly flat, becoming weakly convex towards sides and apex, very broad, densely micro-sculptured, and with fine, rather dense punctures which are only indistinctly visible on account of the dense micro-sculpture; the lateral intervals several times broader than the adjacent primary rows. Pseudo-

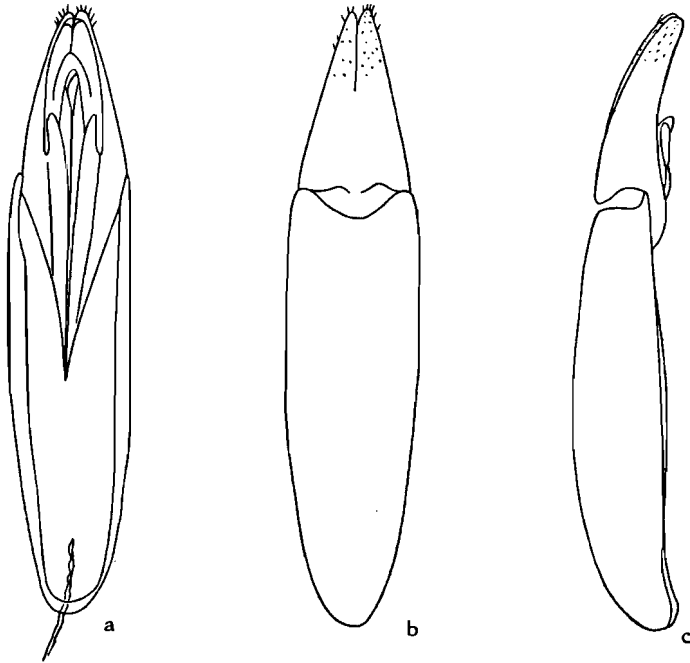


FIG. 110. — Aedeagus of *Anchophthalmus obsoletus* (ANCEY).
a : ventral surface; b : dorsal surface; c : lateral aspect,
with the ventral surface at right.

pleural crest entirely exposed dorsally, with fine submarginal canaliculation, on which the ninth primary row is situated. Pseudopleura very broad, flat, shallowly punctured. Abdomen with fine, scattered punctures, concentrated only on anal sternite. Legs practically non-dimorphic. In the ♂ the anterior tarsi inconspicuously dilated, and, as the intermediate tarsi, with small, broadly divided soleæ on median segments; the intermediate and posterior tibiæ with entirely straight inner contours.

Aedeagus (fig. 110). — Simple. Apicale moderately long, rather stout, with continuously narrowed, broad parameres, the apices of which are rounded and almost straight; ventral groove with exposed penis and lacinia. Basale about two and a half times as long as apicale.

Dimensions. — Length 11 to 15 mm, width 6 to 9 mm.

Type locality. — « Uzagara » (Central Tanganyika Territory). Type probably in Museum Paris.

Distribution (map 4). — Central Tanganyika Territory and South-eastern Belgian Congo. — [Central and North-eastern Elisabethville Province: Albertville, XII.1918, R. MAYNÉ (2 spec., BCM.), I.1933, L. BURGEON (1 spec., BCM.); Bassin Lukuga, IV-VII.1934, H. DE SAEGER (1 spec., BCM.); Lusindoi, VI.1911, L. BURGEON (1 spec., BCM.).] — Upemba National Park: Kankunda, XI.1947 (72 spec., I.P.N.); River Kateke, XII.1947 (9 spec., I.P.N.); Munoi, VI.1948 (15 spec., I.P.N.); Lupiala, X.1947 (4 spec., I.P.N.); gorges de la Pelenge, VI.1947 (10 spec., I.P.N.); Kaswabilenga, X.1947 (8 spec., I.P.N.); Luanana River, pistes Pelenge—Lufira, XI.1947 (1 spec., I.P.N.); all collected by the Mission G. F. DE WITTE.

21. Pronotum broadest in front of, or at about, middle, with the sides more or less strongly narrowed towards base 22
 — Pronotum broadest basally, with the sides gradually dilated from middle towards base

***Anchophthalmus straeleni* n. sp.**

(Pl. VII, figs. 1, 2; Pl. I, fig. 2; Fig. 111.)

Upper surface moderately shiny, appearing as if bare, as the setæ of punctures are microscopically short. Head above very densely, rather coarsely punctured, longitudinally confluent on middle. Epistome shallowly emarginate, weakly separated from genæ by a small sinuosity of sides. Genæ subparallel, shallowly impressed on supra-antennal surfaces. Eyes strongly constricted by genal canthus; dorsal section more than twice as broad as long. Tempora almost subparallel behind eyes, briefly narrowed towards neck, with very faint and shallow post-ocular depression. Apical segment of maxillary palpi in the ♂ strongly dilated, distinctly broader than the combined length of the third and fourth antennal segments and about three times as broad as long; in the ♀ only one and a half times as broad as long. Antennæ short, slender, scarcely extending beyond middle of pronotum, strongly dilated and compressed distally; third segment about two and a half times as long as broad; eighth segment triangular, only slightly broader than long; the two preapical segments moderately transverse, about one-half broader than long; apical segment large, almost square, distinctly longer but barely narrower than the penultimate segment. Pronotum strongly transverse, in both sexes slightly more than twice as broad as long, depressed, with strong, broad submarginal depression which is separated from disc by a longitudinal and sulciform impression. Disc with several irregular impressions. Anterior margin deeply emarginate, finely carinate also on middle, with very strongly produced,

sharply rectangular anterior angles, enclosing the head up to level with genæ. Sides strongly narrowed and rounded anteriorly, very slightly dilated from middle to base. The latter strongly bi-sinuate, with the posterior angles produced backwards beyond level of middle section of base. Integument covered with an extremely dense punctation, in a rather peculiar way growing together obliquely towards the usually smoothed centre of disc, more or less transversely rugose on lateral portions. Prosternum coarsely punctured; episternum distinctly less densely punctured, with smoothed to densely and transversely rugose submarginal areas; intercoxal apophysis rugosely punctured, with the apex of horizontal portion rounded and rotundate with apical declivity. Elytra broad, only slightly longer than broad, depressed, basally slightly broader than pronotal base. Base with obliquely sloping lateral portions and bluntly rectangular to slightly oblique humeral angles. Primary rows sharply impressed, with fine, round, separated punctures, becoming smooth and lineate on apical declivity; with about 50 punctures in the fourth row. Secondary intervals broad, flat, very densely, rather coarsely punctured, with a few transverse impressions on disc; third interval slightly broader than the adjacent intervals. Pseudopleural crest entirely visible dorsally, with distinctly canaliculate submarginal depression. Pseudopleura very broad, flat, rather densely and coarsely punctured. Abdomen with fine, scattered, distinctly setiferous punctures, forming longitudinally acuductate striae on sides of basal sternite. Legs practically non-dimorphic, shaped as in *A. obsoletus*, but the underside of tarsi densely setiferous laterally and non-soleate.

Remarks. — This specialized species is well characterized by the basally broadest pronotum, the peculiar discal sculpture on pronotum, which is obliquely directed towards centre, and the very dense, strong punctation on secondary intervals of elytra. It resembles *A. obsoletus* on account of the roundish and broad, strongly depressed shape of body, but is easily distinguished by the smaller size, the distinctly shiny upper surface, shape and sculpture of pronotum, and particularly by the strong and dense punctures on secondary intervals of elytra.

Ædeagus (fig. 111). — Almost identical with *A. obsoletus*, the apicale slightly shorter and the basale about three times as long as apicale.

Dimensions. — Length $9 \frac{3}{4}$ to $11 \frac{1}{2}$ mm, width $5 \frac{1}{4}$ to 7 mm.

Distribution (map 4). — South-eastern Belgian Congo. — Central Elisabethville Province, Upemba National Park: Lusinga, XI-XII.1947 (7 spec.,

types I.P.N.); Mukana, I.1948 (5 spec., I.P.N.); Kapelwa River, XII.1948 (1 spec., I.P.N.); Kamitunu River, III.1947 (1 spec., I.P.N.); Buye-Bala, III.1948 (1 spec., I.P.N.); Kabwekanono, III.1948 (1 spec., I.P.N.); all collected by the Mission G. F. DE WITTE.

D e d i c a t i o n. — Named in honour of Prof. V. VAN STRAELEN, Honorary Director of the Institut royal des Sciences naturelles de Belgique and President of the Comité de Direction de l'Institut des Parcs Nationaux du Congo Belge.

- 22.** Sides of pronotum distinctly to strongly rounded and narrowed towards base **23**
- Sides of pronotum with a long, shallow but distinct sinuosity in front of posterior angles.

[**Anchophthalmus bredoi** n. sp.]

Very closely related to *A. straeleni*, but readily distinguished as follows : — Body less strongly broadened, with more elongate elytra. Head above more strongly sculptured, covered densely with coarse rugosities. Epistome sharply demarcated from genæ; the latter rounded and narrowed towards eyes, including a re-entrant angle with the outer contours of eyes. Antennæ stout, considerably thicker than in *straeleni*. Apical segment of maxillary palpi strongly dilated, as in *straeleni*. Pronotum broadest at about middle, less strongly transverse, densely covered with a rather coarse, rugose sculpture which is quite irregular and does not tend to grow together towards the centre of disc. Sides strongly rounded and narrowed towards base, with a long, shallow sinuosity in front of posterior angles; lateral carina broader; submarginal depression strong, broad, densely rugose transversely, and separated from discal convexity by a longitudinal, shallow sulcus. Episternum of prosternum with scattered, shallow punctures. Elytra less broad, produced apically, with very dense to rugosely confluent punctation on secondary intervals and less dense, but stronger punctures of primary rows; the latter sometimes badly defined on account of the dense and coarse sculpture of secondary intervals; the third and fifth intervals sometimes very slightly convex. Pseudopleural crest as in *straeleni*, but apically very shallowly sinuate and not straight. Pseudopleura densely and coarsely punctured. The legs as in *straeleni*.

Dimensions. — Length $11 \frac{1}{4}$ to $12 \frac{3}{4}$ mm, width 6 to $7 \frac{1}{4}$ mm.

Distribution. — Northern Rhodesia. — Abercorn, XII.1942, H. J. BRÉDO (1♂, 2♀, types I.R.); Mweru—Wantipa, Buleya, IV.1944, H. J. BRÉDO (1♀, I.R.).

D e d i c a t i o n . — Named in honour of its discoverer, Mr. H. J. BRÉDO, Assistant Chief Scientist to the Scientific Council for Africa South of the Sahara, Bukavu.

23. Elytra strongly depressed; the pseudopleural carina subcanaliculate and entirely exposed dorsally; the ninth secondary interval entirely dorsal in position, and in caudal aspect only weakly sloping towards pseudopleural canaliculation; primary rows with dense, fine, round punctures. Discal convexity of pronotum separated by a shallow sulcus from submarginal depression.

[**Anchophthalmus eurychoroides** n. sp.]

(Pl. VII, fig. 3.)

Very closely related to *A. straeleni* and agreeing with the latter even in the peculiar, fine sculpture on pronotum, but upper surface of body more strongly shiny, the pronotum more slender, broadest a little behind middle and with the sides distinctly to strongly rounded and narrowed towards base, the elytra distinctly broader than pronotum, the primary rows composed of less dense and stronger punctures, the secondary intervals less densely punctured, and the sutural, third and fifth intervals weakly convex and broader than the alternating even intervals. The legs and maxillary palpi in the ♂ as in *A. straeleni*. In all remaining characters very similar to *straeleni*.

D i m e n s i o n s . — Length 9 ½ to 12 mm, width 5 ½ to 6 ½ mm.

D i s t r i b u t i o n (map 4). — South-eastern Belgian Congo. — South-eastern Elisabethville Province: southern part of the Kundelungu Mountains, II.1950, N. LELEUP (1♂, 4♀♀, types BCM.).

- Elytra convex; the pseudopleural carina very narrowly demarcated from lateral convexity, becoming concealed and indistinct behind middle (dorsal aspect); the ninth secondary interval lateral in position, in caudal aspect practically perpendicular; primary rows with scattered, elongate to lineate punctures. Discal convexity of pronotum not clearly demarcated from submarginal depression, without longitudinal sulcus along sides.

[**Anchophthalmus simplex** n. sp.]

Belonging to the *obsoletus* group, but strongly recalling the species of the *plicipennis* group on account of the more elongate shape and stronger convexity of body. Among the species of the *obsoletus* group only related to *A. bredoi*, but of larger size, the

elytra longer and much more strongly convex, the epistome scarcely demarcated from genæ, the genæ subparallel in front of eyes and continuous with ocular contours, the pronotum more strongly transverse, with less deeply sinuate anterior margin, broader lateral carina, less dense but also coarse sculpture, and posteriorly simply rounded and narrowed sides, the underside of prothorax practically smooth, impunctate, without transverse rugosities on submarginal depression, the pseudopleura with very sparse, extremely fine punctures, the pseudopleural crest without submarginal canalization and not entirely exposed dorsally, and the sculpture of elytra different. The primary rows are composed of elongate punctures which are rather scattered, distinct and well separated also apically, with only about 25 punctures in the fourth row; the inner six rows are arranged in clearly approximated pairs, becoming coalescent basally. Secondary intervals with less dense, much finer punctation, the alternating odd intervals broader than the adjacent even intervals and slightly convex. In the ♂ the apical segment of maxillary palpi slightly less strongly dilated than in *bredoi*; the legs non-dimorphic, as in *bredoi*, but of more robust build. Mentum fig. 91f.

Ædeagus. — Simple; the apicale long, narrowed in a continuous line from base to apex, with distinctly bent and narrow apices of parameres. Basale only one and a half times as long as apicale.

Dimensions. — Length 13 $\frac{3}{4}$ to 16 mm, width 6 $\frac{1}{2}$ to 8 $\frac{1}{2}$ mm.

Distribution. — Central Tanganyika Territory. — Kigonsera (10 spec., types T.M.); Ukerewe Island (5 spec., BCM.).

24. Upper surface of body appearing as if bare, with only inconspicuous, microscopically short bristles. Anal sternite of abdomen with extremely fine margination along basal third of sides 25
- Upper surface of body with conspicuous, dense, sessile yellowish bristles. Anal sternite of abdomen entirely immarginate, as usual in *Anchophthalmus*.

***Anchophthalmus pulvereus* n. sp.**

(Pl. VII, fig. 4; Pl. I, fig. 1; Fig. 112.)

Upper surface dull, covered uniformly and densely with fine, short, depressed yellowish bristles. Body elongate. Head above coarsely punctured, with distinct, smooth, fine, longitudinal median carinula. Epistome shallowly emarginate, well separated from genæ; clypeal and epistomal sutures sharply impressed. Genæ subparallel, strongly constricting eyes, with anteriorly subfoveate supra-antennal surfaces. Dorsal section of eyes about two and a half times as broad

as long. Tempora long, moderately rounded, with shallow, oblique post-ocular sulcus. Apical segment of maxillary palpi in the ♂ very strongly securiform, about two and a half times as broad as long

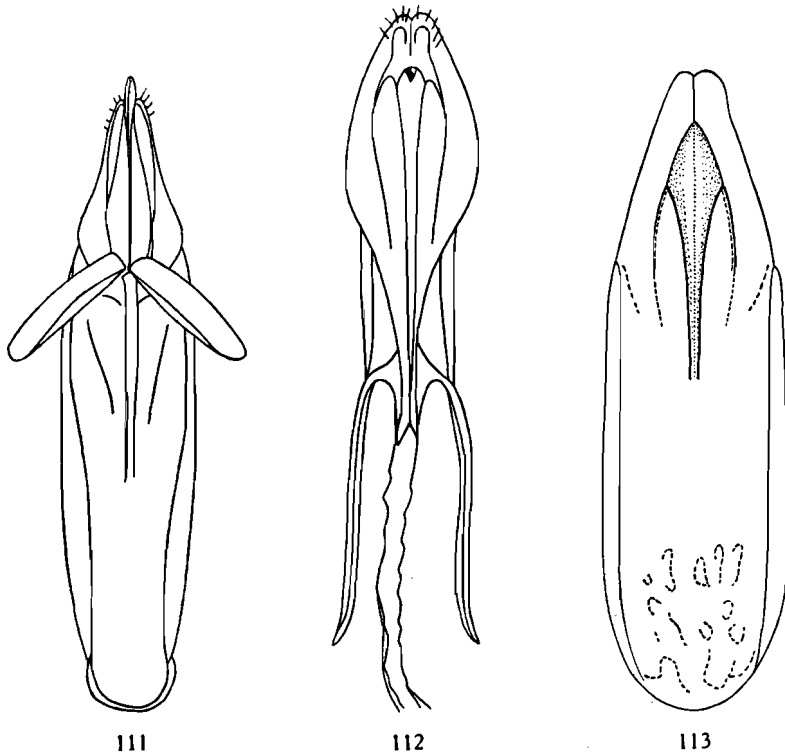


FIG. 111. — *Anchophthalmus straeleni* n. sp.

Ventral surface of aedeagus with the unclashed lacinia stretched outwards.

FIG. 112. — *Anchophthalmus pulvereus* n. sp.

The apical part of aedeagus with the extracted basal parts of inner sclerites (basal part of aedeagal tegmen removed).

FIG. 113. — Aedeagus of *Anchophthalmus cariniceps* n. sp.

Ventral surface.

and almost as broad as the combined length of the third and fourth antennal segments; in the ♀ moderately securiform, only about one and a half times as broad as long. Antennae extending beyond middle of pronotum, strongly dilated and compressed distally; third segment about two and a half times as long as broad, the median segments becoming gradually shorter, the three preapical segments

strongly transverse and twice as broad as long; the apical segment distinctly longer but slightly narrower than the penultimate segment, briefly pointed at one side of apical margin. Pronotum slender, in the ♂ about two-thirds broader than long, in the ♀ almost twice as broad as long, depressed, with broad submarginal depression, deeply emarginate anteriorly and bi-sinuate basally. Anterior margin with strongly produced, sharply rectangular to acute anterior angles, enclosing head up to level with genæ; marginal carina very fine to evanescent on middle section. Sides strongly rounded and narrowed from about middle towards anterior margin, straight and subparallel to faintly narrowing posteriorly. Base finely and completely carinate, deeply bi-sinuate, with the posterior angles strongly produced backwards, sharp and acute. Integument with rather fine but very dense, round, separated, setiferous punctures, becoming more concentrated, slightly to obliquely rugose on submarginal depression. Prosternum punctured; episternum with obsolescent, fine, shallow, sparse punctures, more or less transversely rugose on the flattened submarginal area; intercoxal apophysis obsoletely marginate, obtusely triangular on apex of horizontally produced portion. Elytra depressed, about one and a half times as long as broad, basally only slightly broader than pronotal base, practically subparallel on basal third. Base faintly oblique laterally, with bluntly rectangular humeral angles. Primary rows with fine, dense, round punctures, of which there are about 50 to 60 in the fourth row; all rows very fine and linearly impressed posteriorly; ninth row more coarsely punctured. Secondary intervals flat, much broader than primary rows, with extremely fine, moderately dense and elongately setiferous punctures; the third interval not broader than the adjacent intervals. Pseudopleural crest subcanaliculate and entirely visible dorsally. Pseudopleura very broad, flat, practically smooth. Abdomen with fine, scattered punctures, becoming coarser and more concentrated on proximal sternites, elongate and somewhat acuductate on lateral portions of basal sternite; anal sternite immarginate. In the ♂ the anterior and intermediate tarsi moderately dilated, with entire soleæ below; the tibiæ simple, except for the underside of anterior tibiæ, which exhibits a rather broad stripe of fine, yellowish pilosity on distal two-thirds.

Remarks. — This new species, allied to the depressed species of the *obsoletus*-group, is well characterized among all the other *Anchophthalmus* by the conspicuous yellowish bristles on upper surface of body. It belongs to the *cariniceps*-group, the species of which are all well distinguishable by a longitudinal median carinula on upper surface of head.

Ædeagus (fig. 112). — Simple. Apicale rather stout, with continuously converging sides. Apices of parameres almost straight, broadly obtuse. Ventral groove with exposed penis and lacinia. Basale about three times as long as apicale.

Dimensions. — Length $9\frac{1}{2}$ to $12\frac{1}{2}$ mm, width 5 to $6\frac{1}{4}$ mm.

Distribution (map 4). — South-eastern Belgian Congo. — Entire Elisabethville Province : Upemba National Park (Mabwe, XI.1948, 11 spec., types I.P.N.; Kalule River, north facing Mujinga Kalenge, III.1949, 1 spec., I.P.N.; Kaswabilenga, X.1947, 1 spec., I.P.N.; Kanonga, II.1949, 1 spec., I.P.N.; Munoi, VI.1948, 3 spec., I.P.N.; all collected by the Mission G. F. DE WITTE; [Mulongo, Mafinge, VII.1930, P. GÉRARD (1 spec., BCM.; Kinda, X.1914, L. CHARLIERS (3 spec., BCM.), XII.1926 (2 spec., I.R.); Kanzenze, 1932, R. P. LEFEBURE (2 spec., BCM.); Kamina, Lomami, 1930, R. MASSART (1 spec., BCM.); Kayambo-Dikulwe, VI.1907, SH. NEAVE (1 spec., BCM.)].

25. In the ♂ the anterior tarsi only weakly dilated, much narrower than the preapical segments of antennæ and only half the width of apex of anterior tibiæ; the tibiæ slender, without fringe of long hairs on inner side; the inner contours of intermediate and posterior tibiæ straight from base to apex.

[*Anchophthalmus cariniceps* n. sp.]

(Pl. VIII, fig. 1; Fig. 113.)

Related to *A. pulvereus*, but the body broader and shorter, approximately of the shape of *A. straeleni*. Readily distinguished from *pulvereus* as follows. Upper surface of body as dull as in *pulvereus*, but the bristles extremely short, fine, inconspicuous and microscopical. Head, antennæ and maxillary palpi as in *pulvereus*; in the ♂ the apical segment of maxillary palpi extremely dilated and as broad as the combined length of the third and fourth antennal segments. Pronotum broader, distinctly transverse, broadest at, or behind, middle, with posteriorly subparallel or very slightly constricted or inconspicuously dilated sides. Punctuation round and separated as in *pulvereus*, but not elongately setiferous. Elytra much shorter, broader, only about one and a quarter times as long as broad, as strongly depressed as in *pulvereus* and with almost identical, fine sculpture. Humeral angles broadly rectangular; the intra-humeral depressions more spacious and smoothed. Secondary intervals becoming slightly more convex towards sides and apex. The anal sternite with fine margination on basal third of sides. Legs very similar to *pulvereus*, but more slender. In the ♂ the anterior tarsi less strongly to weakly dilated; the underside of anterior tibiæ more strongly flattened and broadened on distal two thirds, but there with only scattered, erect bristles.

Ædeagus (fig. 113). — Very similar to *A. pulvereus*, but the apicale short and broad, triangularly converging towards apex. Basale about four and a half to five times as long as apicale.

Dimensions. — Length 9 to 11 mm, width $4\frac{3}{4}$ to 6 mm.

Distribution (map 4). — South-eastern Belgian Congo. — Elisabethville Province: Sandoa, VI-VIII.1932, G. F. OVERLAET (52 spec., types BCM.); Muteba, XI.1931, G. F. OVERLAET (19 spec., BCM.); Kapanga, VI.1933, G. F. OVERLAET (5 spec., BCM.); Tshibamba, XII.1931, G. F. OVERLAET (2 spec., BCM.); Kafakumba, XI.1933, G. F. OVERLAET (13 spec., BCM., I.R.); Katombe, VI.1930, P. GÉRARD (1 spec., BCM.).

- In the ♂ the anterior tarsi rather strongly dilated, about as broad as the preapical segments of antennæ and only a little narrower than the width of apex of anterior tibiæ; the tibiæ robust, thick, with a fringe of dense, long yellowish hairs on inner side; the inner contours of intermediate and posterior tibiæ with more or less strongly dilated and inwardly curved apical angle.

[**Anchophthalmus pedestris** n. sp.]

(Pl. VIII, fig. 2.)

In the ♂ readily distinguished from all the other *Anchophthalmus* by the long fringe of hairs on all tibiæ and the strongly dilated anterior and intermediate tarsi. Very closely related to *A. cariniceps* and in most of characters agreeing with this species. Body of the same shape and sculpture, the pronotum slightly broader and with finer, discally often more scattered punctures. In the ♂ the apical segment of maxillary palpi as strongly dilated as in *cariniceps*; the strongly dilated anterior and intermediate tarsi with entire soleæ below; the anterior tibiæ with thickened upper surface, broadly flattened and densely pilose below, with the inner contours shallowly emarginate on distal two-thirds and bearing a dense fringe of squarrose, yellowish hairs; the intermediate and posterior tibiæ sulcate below, with a fringe of dense hairs; the inner contours of intermediate tibiæ slightly curved, with inconspicuously to strongly dilated and projecting apical angle; the inner contours of posterior tibiæ shallowly emarginate on distal three-quarters, with the apical angle very weakly to rather strongly curved inwards, but not dilated.

Ædeagus. — Almost identical with *A. cariniceps*.

Dimensions. — Length $9\frac{1}{2}$ to $11\frac{1}{4}$ mm, width $4\frac{3}{4}$ to $5\frac{3}{4}$ mm.

Distribution (map 4). — South-eastern Belgian Congo. — Elisabethville Province: Luashi, XI.1933, F. FREYNE (5 spec., types BCM.); Lukoshi-Luco,

XI.1937, F. FREYNE (1 spec., BCM.); Bassin Lukuga, IV-VII.1934, H. DE SAEGER (2 spec., BCM.); Mukunkoto, XI.1937 (2 spec., I.R.); source Sosoka, II.1932, G. F. OVERLAET (1 spec., BCM.); source Lubilash, XI.1937, F. FREYNE (1 spec., BCM.).

ONCOTIPHALLOPS n. gen.

Agreeing in all main characters with *Anchophthalmus*, but readily distinguished by the double sulci on lateral portions of pronotum. Generically differentiated by the *Oncotini*-like structure of apicale of aedeagus.

Type species is *Oncotiphallops barbosai* from Central Portuguese East Africa. Monotypical.

[*Oncotiphallops barbosai* n. sp.]

(Fig. 114.)

Of the elongate shape of the *silphoides* group of *Anchophthalmus*. Upper surface dull to sericeous. Head above densely rugose. In the ♂ the apical segment of maxillary palpi very strongly dilated, about as broad as the combined length of the second and third antennal segments. Mentum as in *Anchophthalmus*. Antennae long, strongly accrescent and compressed distally; the two preapical segments transverse; apical segment transverse, with obliquely truncate apical margin. Pronotum transverse, broadest a little in front of middle, very densely and coarsely rugose, with the sides rounded and narrowed towards base. Anterior margin and base strongly emarginate and bi-sinuate, respectively. Lateral carina complete, much narrower than the third antennal segment. Lateral portions with a longitudinal convexity, extending from base to anterior margin, flanked by a longitudinal sulcus on both sides. Base completely marginate. Underside of prothorax impunctate, but the flattened submarginal area of episternum of prosternum rugose; intercoxal apophysis horizontally produced, with obtusely pointed apex of horizontal portion. Elytra slightly broader than pronotum, convex laterally, with subparallel to weakly rounded sides which are shallowly sinuate behind the obtusely rounded to bluntly rectangular humeral angles. Primary rows with rather strong, more or less transverse, dense punctures, becoming fine and scattered on apical declivity; there are about 35 punctures in the fourth row. Secondary intervals covered densely with extremely fine punctures; the four inner intervals flat to slightly convex apically, the lateral intervals convex to subcostate apically; the eighth and ninth intervals narrower than the adjacent primary rows; the third, fifth and seventh intervals usually broader than the alternating even intervals. Pseudopleural crest dorsally concealed by the lateral convexity of elytra along middle section. Pseudopleura constructed as in *Anchophthalmus*, complete and with sharply separated epipleural and pseudopleural

carinae apically; sericeous, densely micro-sculptured and punctured. Metasternum short, as in *Anchophthalmus*. Abdomen with very fine and scattered punctures on proximal sternites, densely and distinctly punctured on anal sternite; the latter immarginate. Legs non-dimorphic. In the ♂ the anterior tarsi inconspicuously larger than in the ♀, on underside with scarcely larger tomentose patches on extreme sides of segments; anterior tibiae very faintly curved; intermediate and posterior tibiae with entirely straight inner contours.

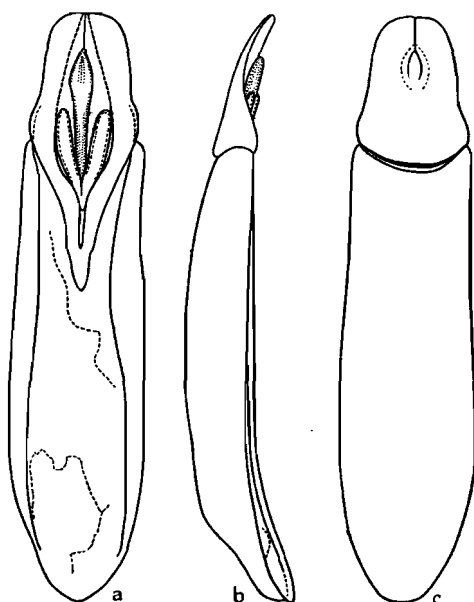


FIG. 114. — Aedeagus of *Oncotiphallops barbosai* n. sp.

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

Aedeagus (fig.114). — Apicale only slightly narrower than basale, broad, with complanate and laminiform parameres. The latter subparallel to very slightly dilated towards the broadly rounded to subtruncate apex, with sharp median division, very strongly shiny, polished dorsally and ventrally, transversely impressed across middle on dorsal portion, with abruptly demarcated ventral groove distally, entirely complanate and sharply laminiform, in lateral aspect with thin, very sharp edges which are straight or very slightly curved dorsad (and not ventrad as in most of the *Anchophthalmus*). Penis and the distal portion of lacinia exposed, enclosed by the inflexed and basally produced alæ of base of apicale. Basale long, with

almost subparallel sides, about four times as long as apicale, with broad ventral groove, enclosing the basally produced inflexed alæ of apicale with the penis plus lacinia.

Dimensions. — Length 13 to 14 $\frac{1}{2}$ mm, width 6 $\frac{1}{4}$ to 7 mm.

Relationship. — *O. barbosa* is very closely allied to the *Anchophthalmus* of the *silphoides* group. It recalls strongly the sympatric *A. nyasicus*, with which it agrees in the similar sculpture and even cuticle of elytra, the similar shape of body and the non-dimorphic legs, but is readily distinguished by the double sulci and longitudinal convexity of pronotal sides and the narrow lateral carina of pronotum. The structure of ædeagus is quite unique and the formation of the laminiform apicale is the same as in the *Oncotini*; the presence of lacinia, however, as well as the general morphology of body agree completely with the *Platynotini*.

Distribution (map 6). — Central Portuguese East Africa. — Southern Nyassa Province: Mutuali, IV.1954, A. J. BARBOSA (2♂♂, 1♀, types Centro Investigação Cient. Algodoeira, Lourenço Marques).

Dedication. — Named in honour of its discoverer, Dr A. J. BARBOSA, chief entomologist to the above Institut.

COSMOGASTER n. gen.

Although in appearance very different from *Anchophthalmus* by the elongate and shiny body, this new genus exhibits many important features of *Anchophthalmus*, such as the apical construction of pseudopleura, the strongly dilated apical segment of maxillary palpi in the ♂, similar shape of mentum and the practically non-dimorphic tarsi. It differs generically from *Anchophthalmus* by the following characters: —

Mentum similar to *Anchophthalmus*, with broadly and entirely exposed lateral wings, but the subparallel, strongly raised middle section is sharply carinate, without perpendicular lateral declivities, with the sides gradually sloping and continuous with the surface of lateral wings; the truncate apical portion of middle section is broadened, flat and there are some traces of oblique lateral carinæ running basad on to the surface of lateral wings. The pronotum is rather strongly convex, without a distinct submarginal depression of sides, consequently the discal convexity is practically in contact with the lateral carina; the basal carina is confined to the middle section of base; the small but lobiform posterior angles are sharply demarcated from base of pronotum by two very deep, semi-circular lateral emarginations of base, which are, together with the posterior angles, immarginate. The episternum of prosternum is coarsely and densely punctured. The elytra are long, subparallel, strongly shiny, slightly narrower than pronotum, strongly convex laterally, with coarsely punctured primary rows and alternating, convex

to subcostate, finely punctured, secondary intervals. The base is peculiar by exhibiting a prominent, arcuate lobe, formed by the produced and coalescent fourth and sixth secondary intervals; it is tri-sinuate between both lobiform processes. Pseudopleura and metasternum as in *Anchophthalmus*. Anal sternite specialized, with a deep and broad sulcus around apical margin, interrupted on middle of the latter and there with a minute, but strongly convex, tuberculiform carinula on each side, with both the carinulae enclosing a small, immarginate, slightly concave space on middle of apical margin of sternite. Legs as in *Anchophthalmus*, with slender tibiae, distinguished in the ♂, and with simple, non-dimorphic tarsi. Aedeagus as in *Anchophthalmus*.

Type species is *Anchophthalmus impressicollis* FAIRMAIRE, 1897, from British East Africa.

Monotypical.

[**Cosmogaster impressicollis** (FAIRMAIRE).]

(Pl. VIII, fig. 3.)

*1897, *Anchophthalmus impressicollis* FAIRMAIRE, p. 121. — 1910 b, GEBIEN, p. 278. — 1938-1942, GEBIEN, p. 418, n° 5619.

Original description. — « Oblongus, convexiusculus, niger, nitidulus; capite prothoraceque subtiliter densissime punctatis, fere strigosulis, hoc lateribus rugosulo; capite arcuatim impresso, antennis prothoracis medium haud superantibus, apice rubiginosis, articulo 3° quarto sesquilingiore, penultimis transversis; prothorace transverso, antice tantum angustato, lateribus medio utrinque et basi impressiusculo, angulis posticis sat latis, modice productis, apice paulo obtusis; scutello brevissimo; elytris oblongo-ovatis, striato-punctatis, punctis magnis, sat profundis, intervallis convexis, crenatis, externis magis costatis, 3° postice magis elevato; subtus cum pedibus nitidior, subtiliter punctulatus, abdomine subtiliter striolato, prosterno medio fortius punctato, inter coxas impresso. — Long. 14 mill. — Plus petit, plus étroit, plus parallèle que le précédent (*Anchophthalmus clathratus*) et ressemblant un peu aux *Selinus*, se rapproche surtout du *densaticollis* FAIRMAIRE, mais le corps est plus brillant, plus étroit, les angles postérieurs du corselet sont échancrés en dedans et plus saillants, les stries des élytres sont bien plus fortement ponctuées avec les intervalles relevés. »

Remarks. — Head above rugosely punctured. Antennae dilated distally, with strongly transverse preapical segments. Apical segment of maxillary palpi in the ♂ slightly less strongly dilated than in *Anchophthalmus*, but a little broader than the combined length of the second and third antennal segments. Pronotum slender, broadest in front of middle, there about one and a half times as broad as long, with the sides weakly narrowed in an almost straight line towards the inwardly bent outer contours of posterior

angles. Anterior margin deeply emarginate, with very strongly produced, sharply acute anterior angles. Lateral carina much narrower than third antennal segment. Integument covered densely with deep, rather coarse, round and separated punctures on disc, becoming slightly and longitudinally wrinkled towards anterior margin, very densely rugose on lateral portions. Prosternum with rather fine, deep, round punctures; episternum with coarse, deep punctures, becoming densely rugose towards sides; intercoxal apophysis rugose, horizontally produced, with pointed, subtuberculate apex of horizontal portion. Elytra subparallel, shiny as is the pronotum, with obliquely rounded humeral angles. Primary rows with coarse, round, well spaced punctures, the fourth row with about 20 to 25 punctures; slightly arranged in pairs. Secondary intervals with very fine, scattered punctation, impinged by the coarse punctures of primary rows; the alternating even intervals less convex than the subcostate odd and lateral intervals; the latter narrower than the adjacent primary rows. Pseudopleural crest concealed by lateral convexity of elytra behind middle (dorsal aspect). Pseudopleura densely punctured. Legs slender. In the ♂ the anterior tarsi not dilated, on underside of segments with small lateral patches of a poriferous tomentosity; the anterior tibiæ excavate and smoothed below, but with simple, shallowly curved inner contours; the underside of intermediate and posterior tibiæ broadly excavate and smoothed; the inner contours of intermediate tibiæ very shallowly emarginate on distal two-thirds, but with strongly prominent, obtusely dilated and inwardly curved apical angle; the inner contours of posterior tibiæ with very shallow emargination on distal two-thirds and the apical angle slightly to inconspicuously curved inwards.

Ædeagus. — Large. The apicale with continuously converging outer contours. Apices of parameres obtusely rounded and strongly bent ventrad. Ventral groove with exposed penis and apically pointed lacinia. Basale very long, only slightly broader than apicale, weakly dilated in a straight line towards base, about four and a half times as long as apicale.

Dimensions. — Length 14 mm, width 5 ¼ mm.

Type locality — «Ikouta» (South-eastern British East Africa). Type probably in Museum Paris.

Distribution. — South-eastern British East Africa. — Ukamba District: Luitpold Mountains (1♂, T.M.); Ikutha. — Sejidie District: Tsavo River, V.1913, BAYER (1♂, BCM.).

PHALLOCENTRION n. gen.

Diagnosis. — Upper surface dull. Eyes strongly constricted by genal canthus. Antennæ slender, with moderately dilated and compressed distal segments. Apical segment of maxillary palpi in the ♂ only little broader than in the ♀, about one-third broader than long and as broad as the third

antennal segment is long. Mentum with broadly exposed distal half of lateral wings; the middle section twice as broad as lateral wings, with sharply carinate lateral margins and very fine median carinula; the sides broadly rounded and dilated proximally, and narrowed in a straight line towards the subtruncate apical margin. Pronotum depressed, with broad submarginal depression, transverse, with deeply emarginate anterior margin, posteriorly narrowing sides and deeply bi-sinuate base. Lateral carina rather broad, weakly raised; basal carina complete. Integument covered with rather scattered to aggregated, moderately strong to coarse punctures. Prosternum together with episternum only shallowly, sparsely punctured; inter-



FIG. 115. — Mentum of *Phallocentrion praelacinatum* n. sp.

coxal apophysis horizontally produced. Elytra strongly flattened discally, very strongly convex on sides, with almost re-entrant ninth interval, reflected humeral angle, intra-humeral cavity of articulation surface, and with weakly rounded sides. Primary rows lineate and finely punctured; secondary intervals broad, weakly to strongly convex laterally, with fine, scattered punctures. Pseudopleura complete, with the apical construction as in *Anchophthalmus*, but narrow and occupying practically only the inner half of the ventrally reflected portion of elytra, whereas the outer half is composed of the ninth interval on basal part, of the ninth plus eighth intervals on posterior part. Pseudopleural crest distinctly visible only basally and apically (dorsal aspect). Metasternum short. Anal sternite of abdomen immarginate. In the ♂ the anterior and intermediate tarsi distinctly, the former strongly dilated, soleate below; the underside of anterior tibiae with broad subtomentose stripe of yellowish hairs.

Ædeagus. — Of quite peculiar, but very different structure in both hitherto known species. The penis and lacinia entirely exposed, the latter extremely long and complanate in one species, short and subcylindrical in the other. Parameres complanate and laminiform in one species, convex and with inflexed alae ventrally in the other.

Dimensions. — 11 $\frac{3}{4}$ to 18 mm long.

Relationship. — On account of the complete and similarly constructed pseudopleura of elytra only allied to *Anchophthalmus* and similar in habitus. Sharply separable from this genus by the entirely different formation of mentum, the peculiar structure of ædeagus, the only slightly dimorphic maxillary palpi, and particularly by the narrow pseudopleura, leaving exposed a rather wide portion of elytral surface ventrally. On account of the last character *Phallocentrion* is differentiated from all the other African *Platynotina*, recalling to a certain extent the Indian platynotoid *Platynotina*.

Distribution. — The only existing Trans-Tropical group within the anchophthalmoid *Platynotina*, occurring in the northern part of the Belgian Congo, the Ubangi-Chari region of the French Congo, and apparently extending as far west as the Gold Coast.

Type species. — *Selinus edentatus* GEBIEN, 1914.

KEY.

- Pronotum less strongly narrowed posteriorly, with the sides not or only very shallowly sinuate in front of posterior angles; punctation fine, well separated to rather scattered on disc, concentrated but not distinctly confluent on submarginal depressions. Secondary intervals on elytra rather strongly convex laterally and apically; the bristles of setiferous punctures extremely short and of microscopical size. Ædeagus with very broad, entirely complanate, laminiform parameres; lacinia short and subcylindrical throughout, extending only to the basal quarter of parameres.

[*Phallocentrion edentatum* (GEBIEN).]

(Pl. VIII, fig. 4; Fig. 116.)

*1914, *Selinus edentatus* GEBIEN, p. 47. — 1938-1942, GEBIEN, p. 417, n° 5587.

Original description. — «Oval, schwarz, matt, ♂ vorne flachgedrückt, ♀ kräftig convex. Kopf flach, fein und dicht, tief und gleichmässig punktiert, jeder Punkt mit einem mikroskopischen, silberweissen Härchen; Clypealsutur kaum angedeutet, Fühler ziemlich kurz, gegen die Spitze kräftig compress, die angegebenen Maasse von der Breitseite genommen: Glied 3 etwas kürzer als 4 und 5, 4 ist fast $1\frac{1}{2}$ mal so lang wie 5, noch ganz cylindrisch, 5 erweitert sich schon gegen die Spitze, vom 4. ab nehmen die Glieder allmählich an Länge ab, an Breite zu, das vierte ist viel länger als breit, das 8. so lang wie breit, 9.-11. quer, das letzte mit schräger Endkante und nach aussen gerichteter Spitze. Mentum wie bei *planus*, *convexipennis*, *plicicollis*, trapezisch, Seiten ganz gerade, Vorderecken sehr spitz, etwas nach vorne gerichtet, die Mittellinie ist von der Basis bis zum ersten Drittel stark erhöht, aber nicht gekielt, vorn ist eine starke,

umgekehrt trapezische Erhabenheit, deren hohe Kanten nach der Mitte der Seiten laufen, und deren starker, vorderer Absturz fast gerade ist, die vorderen Flügel des Mentums sind flach, die Basis jederseits der Mitte mit länglicher Grube. Der Kehleinsatz ist höchst fein querverieft, er bildet ein Stridulationsorgan. Auch am toten Tier lässt sich durch Auf- und Niederneigen des Kopfes der zirpende Ton erzeugen. Das Organ in beiden Geschlechtern vorhanden. Halsschild stark quer, fast doppelt so breit als in der Mittellinie lang, die Winkel stark und spitz nach vorn, resp. hinten gezogen, die Seiten stark gerundet, vor der Mitte oder etwas dahinter am breitesten, auch nach hinten verengt, und mehr oder weniger deutlich ausgeschweift, Basis $1 \frac{1}{2}$ mal so breit wie die Spitze, die Basis ist vollständig, die Spitze nur in den seitlichen Dritteln fein gerandet. Die Seitenrandung ist etwas dicker, wulstiger, die Randlinie ist aber im letzten Drittel undeutlich oder ganz erloschen; Punktierung fein, tief, dicht, seitlich wenig gröber, die Hinterecken treten sehr viel weiter nach hinten als die Mitte der Basis. Schildchen halbkreisförmig, glänzend, fein punktiert. Flügeldecken mit abgeschrägten Schultern, die aber, schwach vortretend, gut prononciert sind, die Punkte der Streifen sind sehr fein. Die sehr fein und wenig dicht punktierten Interstitien sind auf der Scheibe wenig, seitlich stark konvex, der Grund ist, wie der des Pronotums, mikroskopisch fein lederrunzlig und in den Punkten mit äusserst kurzen, nur bei starker Vergrößerung sichtbaren Haaren versehen. Prosternum waagrecht, mit senkrechtem Absturz, undeutlich oder nicht gefurcht. Alle Schenkel und Schienen einfach, die Hinterschenkel nicht ausgerandet, die Vorderschienen auch beim ♂ gerade. Die Vordertarsen der ♂♂ nur schwach, Mitteltarsen nicht erweitert. Länge : $13 \frac{1}{2}$ - $16 \frac{1}{2}$ mm — Von weitaus den meisten westafrikanischen Arten *angulatipes*, *crenatus*, *convexipennis*, *planus*, *striatus*, *plicicollis*, *calcaripes*, *curtulus*, durch ungezähnte Beine der ♂♂ verschieden; bei *laevistriatus* sind die Vordertibien innen winklig erweitert. Es bleibt der mir unbekannt *S. punctatoistriatus* GERSTAECKER, über dessen sexuellen Dimorphismus der Autor nichts sagt, aber der hinten parallele Halsschild, die etwas glänzende Oberseite und die andere Gestalt des Hinterkörpers lassen eine Vereinigung der beiden Arten nicht zu. »

Remarks. — GEBIEN describes the dilation of anterior tarsi in the ♂ as being weak. This relative observation results from his comparison of *edentatus* with only West African species which, however, belong all to the selinoid *Platynotina*, usually exhibiting very strongly dilated anterior tarsi in the ♂. On account of the same wrong opinion, he attributed a great importance to the non-dimorphism of tibiae and femora, as in the selinoid *Platynotina* these parts of

body usually are dimorphic. In actual fact, *Phallocentrion edentatum*, is a typical representative of the anchophthalmoid *Platynotina*, as a such displaying an only weak dimorphism of legs, but relatively strongly dilated anterior tarsi in the ♂, if compared with the other anchophthalmoid *Platynotina*. However, GEBIEN's misinterpretation of the systematic position is quite understandable, as his species is the only existing West African member of the generally East African group of anchophthalmoid genera.

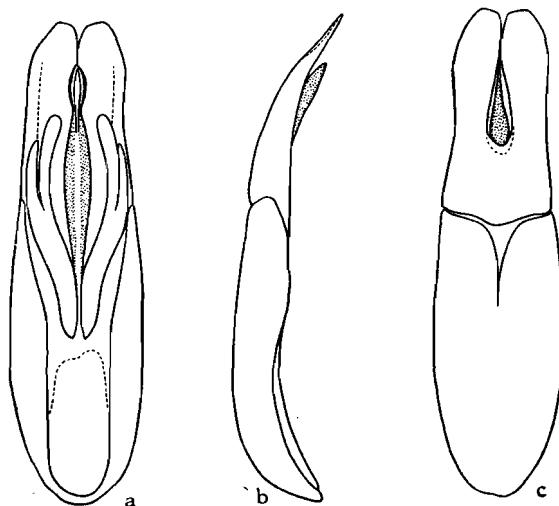


FIG. 116. — Aedeagus of *Phallocentrion edentatum* (GEBIEN).

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

In the ♂ the underside of anterior tibiae is provided with a longitudinal sulcus, densely filled with a subtomentose, yellowish pilosity.

Aedeagus (fig. 116). — Of quite peculiar construction. The apicale entirely complanate and laminiform, in this respect similar only to *Oncotiphallops*; the parameres strongly divided, broadly gaping, with the sides practically subparallel from base to apical quarter, the latter constricted, with straight and broadly truncate apices. Ventral groove entirely open; the penis slender, subparallel, sharply pointed apically, extending to the apical quarter of parameres; the lacinia subcylindrical, but compressed, rather strongly curved, considerably shorter than penis, inserted at about beginning of the median third of length of tegmen, with obtuse apices. Basale with

slightly rounded sides, very little broader than apicale and only moderately broader than the parameres are apically, less than twice as long as the apicale.

Dimensions. — Length $13\frac{1}{2}$ to 15 mm, width $6\frac{1}{2}$ to $7\frac{1}{2}$ mm.

Type locality. — «Fort Crampel» (Ubangi-Chari territory of the French Congo). Type probably in Museum Berlin.

Distribution. — From Central French Equatorial Africa probably to the Gold Coast. — French Equatorial Africa: Fort Crampel (1♂ cotype ex Museum Frey); btwn. Fort Crampel and Fort Possel (teste GEBIEN); Fort Sibut (1♀, BCM.). — Gold Coast: Upper Sanga River (1♂, 2♀♀, T.M.).

- Pronotum strongly narrowed posteriorly, with the sides sensibly sinuate in front of posterior angles; integument covered with an extremely dense, coarse and partially rugose punctation, becoming aggregated on submarginal depression. Secondary intervals on elytra weakly convex laterally; the bristles of setiferous punctures very short, but well perceptible. Ædeagus with normal, apically converging parameres, convex dorsally and concave ventrally; lacinia extremely prolonged, strongly complanate and foliaceous on distal two-thirds, almost reaching the apex of parameres.

[**Phallocentrion prælacinatum** n. sp.]

(Pl. IX, fig. 1; Figs. 115, 117, 118.)

Externally almost identical with *Ph. edentatum* and clearly separable only by the above mentioned differences, but the ædeagus (figs. 117, 118) of quite different and very peculiar construction. The ædeagal tegmen is much more elongate than in *edentatum*; the parameres are not complanate and laminiform as is the case in *edentatum*, but convex, grooved and with narrow inflexed alæ ventrally, strongly gaping, with the sides practically subparallel on proximal two-thirds, converging on distal third, with obliquely cut and slender apices. The ventral groove is entirely open; the penis baculiform, very long, and, as are the lacinia, inserted at the end of the basal quarter of the length of tegmen; the lacinia of very peculiar shape, as long as the penis, almost extending to the apex of parameres, subcylindrical basally, but becoming strongly complanate and foliaceous on the subparallel, distal two-thirds, with broadly rounded apices. The basale slender, with almost subparallel sides, not broader than the base of apicale and considerably broader than the acuminate apex of parameres, but short and only one and a half times as long as apicale.

In the ♂ the maxillary palpi and legs as in *edentatus*, but the inner apical angle of all tibiæ very slightly, almost inconspicuously dilated (as is the case in many species of *Anchophthalmus*). Mentum fig. 115.

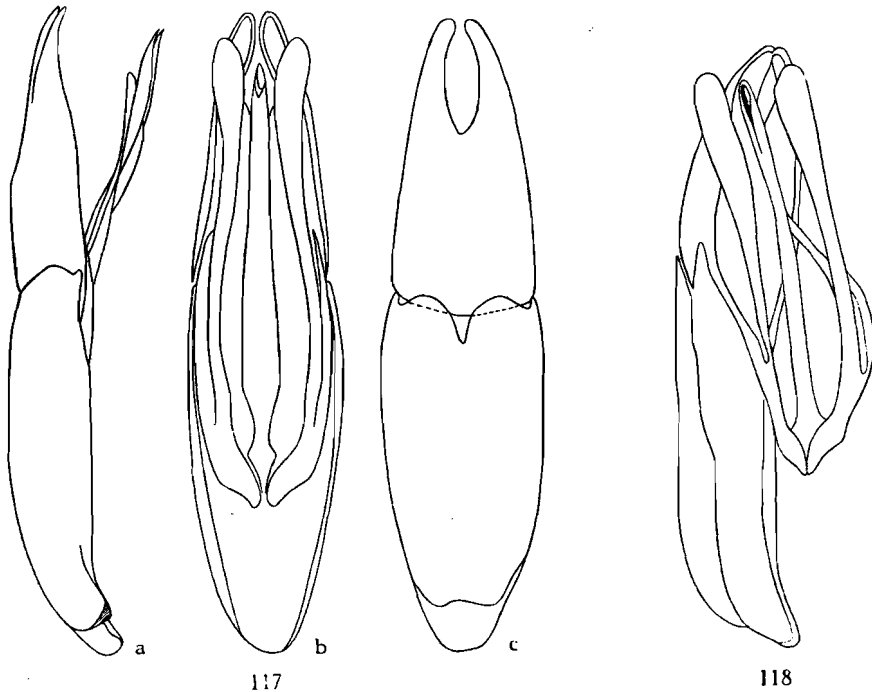


FIG. 117. — Ædeagus of *Phallocentrion prælacinatum* n. sp.
a : lateral aspect, with the ventral surface at right; b : ventral surface;
c : dorsal surface.

FIG. 118. — *Phallocentrion prælacinatum* n. sp.
Ædeagus in diagonal view, with lifted inner sclerites and inflexed alae
of parameres, at which the lacinia are fastened.

Dimensions. — Length $12 \frac{1}{2}$ to 18 mm, width 6 to $8 \frac{1}{4}$ mm.

Distribution (map 4). — Central-northern Belgian Congo. — Northern Oriental Province: Tukpwo, Uele, VII.1937, J. VRIJDAGH, L. LECONTE (a long series, types BCM.); Gwane, Bas Uele, 1930, J. WALKIERS (4 spec., BCM.); Bambesa, II.1939, J. VRIJDAGH (15 spec., BCM.); Sassa country, 1895-1896, COLMANT (5 spec., BCM.); Dungu-Nyangara-Doruma, V.1912, M^{me} HUTEREAU (2 spec., BCM.); Doruma-Sili, V. 1912, M^{me} HUTEREAU (2 spec., BCM.). — Northern Equatorial Province: Banzyville, IV.1897, HERMANS (2 spec., I.R.).