

WILLIAM L. BROWN

NEW SPECIES OF AFRICAN HYMENOPTERA

No. 11

BY DR GEORGE ARNOLD

With reference to the descriptions of new species in the following pages it should be noted that N.M.S.R. = National Museum of Southern Rhodesia; T.M. = Transvaal Museum; J.G. = collection of Mr C. Jacot-Guillarmod. Also, that all measurements of curved surfaces are taken on the tangent of those parts. The least magnification, using a Leitz stereoscopic binocular microscope, required to resolve the sculpture is shown in brackets (. . . diameters). Many of the new species described herein were collected by Mr C. Jacot-Guillarmod in the Mamathes district, Basutoland, which has an altitude of about 6000 ft.

FORMICIDAE

Subfamily MYRMICINAE

Crematogaster (Orthocrema) litoralis n.sp. (Figs. 1, 1a)

♀. 2-2.2 mm. long. Head, thorax, petiole and post-petiole, the first abdominal segment excepting the extreme apex, legs and antennae ochreous, the head a little darker than the thorax or brownish ochreous, the apical margin of the first abdominal segment, and all the following segments, black. There is a very sparse decumbent and yellowish pubescence on the whole body and on the legs and antennae, with a few longer exserted hairs on the clypeus and apical margins of the third to sixth tergites. Neck of the pronotum reticulate, the cheeks and sides of the pro-mesonotum with traces of longitudinal rugae. Mesopleura and sides of the petiole reticulate and dull, the dorsum of the epinotum with four or five longitudinal rugae and shining, the rest of the body smooth and shining. Head, excluding the mandibles, as long as wide, slightly narrower in front of the eyes than behind them, the eyes fairly flat, placed behind the middle and occupying one quarter of the sides. Anterior margin of the clypeus straight, the frontal carinae very short, the frontal triangle not distinctly defined. Mandibles quadridentate. The scapes extend back beyond the eyes by about twice the width of the

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Cirapachys sylvicola n.sp.

see p. 761

scape. Second to sixth joints of the flagellum wider than long, the club 2-jointed and as long as the rest of the flagellum. Pro-mesonotum sharply marginate at the sides, a little longer, excluding the neck, than its greatest width, the pro-mesonotal suture nearly obsolete, the meso-epinotal suture distinct. Dorsum of the epinotum widened caudad, the epinotal spines directed upwards and outwards, a little shorter than half the distance between their bases. Petiole parallel-sided, slightly longer than wide, the posterior angles acute. Node of the postpetiole one-fifth wider than long, shallowly grooved down the middle.

Diani Beach, Kenya (*N. L. Krauss*). Types and two paratypes in N.M.S.R., other paratypes in the Museum of Comparative Zoology, Harvard University.

Related to *C. rectinota* Forel, from which it differs by the more convex-sided head, longer pro-mesonotum, much longer epinotal dorsum, longer epinotal spines and petiole. Also by the absence of a semi-erect and coarse pilosity on the abdomen.

***Monomorium (Monomorium) mirandum* n.sp. (Fig. 2)**

♀. 1.6 mm. long. Head, antennae, abdomen and legs ochreous, thorax, petiole and postpetiole pitch black. Smooth and very shining, entirely without sculpture. Antennae and legs with a fairly abundant and oblique pubescence, the head, thorax and dorsal surface of the abdomen with a sparse whitish pilosity. Mandibles tridentate. Median area of the clypeus subcarinate on each side, one and a half times longer than wide in front, the apical margin shallowly concave. Head nearly three-sevenths longer than wide in front of the eyes, slightly wider there than at the feebly concave hind margin. Eyes as long as the penultimate joint of the flagellum and situated at the end of the anterior third of the sides. The scapes extend back to the hind margin of the head. Second to seventh joints of the flagellum as long as wide, the club 3-jointed, the apical joint two and a third times longer than the pre-apical. Pro-mesonotum one-fifth longer than wide, much narrowed caudad, and at its widest three times wider than across the meso-epinotal suture. Dorsum of the epinotum strongly convex lengthwise and transversely, narrowed caudad, nearly twice as long as the declivity, which it joins in a wide curve. Node of the petiole higher than long, fully twice as long at the base as the peduncle, convex in front and nearly flat behind, its apex rounded. Postpetiole wider than the petiole, convex in front and behind.

Diani Beach Kenya (*N. L. Krauss*). A small series divided between the Museum of Comparative Zoology, Harvard University, and the National Museum, Southern Rhodesia, the type in the latter.

The strongly contrasted colours of the thorax and the rest of the body make this minute species unmistakable. Related to *M. arnoldi* Forel, from which it differs, *inter alia*, by the colour, and the shape of the epinotum.

Subfamily CAMPONOTINAE

Polyrachis (Myrma) hortulana n.sp. (Fig. 3)

♀. 8.2 mm. long. Black, the tibiae and basal fourth of the first tergite with a slightly reddish tint. The whole body, excepting the mandibles, and the legs with an exceedingly fine, decumbent, dense and grey pubescence, slightly obscuring the sculpture. Mandibles with five teeth, dully and closely striolate. Head and abdomen dull, microscopically and closely reticulate. Sides of pronotum and mesonotum closely striolate

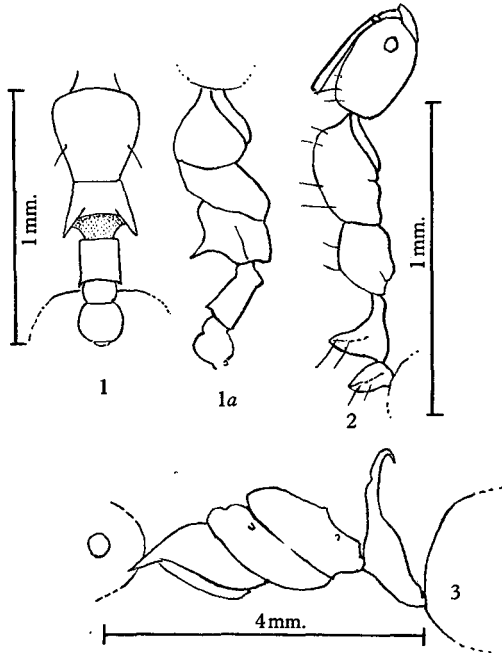


Fig. 1, 1a. *Crematogaster litoralis*.

Fig. 2. *Monomorium mirandum*.

Fig. 3. *Polyrachis hortulana*.

and dull. Dorsal surface of the pro-, meso- and epinotum dull, closely and longitudinally rugulose; the sculpture of the sides and declivity of the epinotum and of the petiole obscured by the pubescence, but apparently microscopically reticulate. Head, excluding the mandibles, two-fifths longer than it is wide just behind the hemispherical eyes, the sides subparallel in front of the latter, convex behind. Clypeus subcarinate, the anterior margin convex, and without the two denticles in the middle which are present in *P. maynei* Forel. The scapes extend back as far as the meso-epinotal suture. Frontal carinae slightly divergent in front of the antennal sockets, strongly so behind them. The dorsum of the pronotum a little wider behind than long including the neck, the humeral spines acute, divergent and twice as long as wide at their

base. Pro-mesonotal suture deep. Mesonotum three-tenths wider in front than long, slightly narrowed caudad, the lateral margins somewhat raised and shallowly emarginate in the middle. Meso-epinotal suture deep, the dorsum of the epinotum fully one and a half times longer than wide, strongly convex lengthwise, raised anteriorly much above the level of the mesonotum, its lateral margins subparallel, the hind margin with a blunt tooth on each side. Declivity of the epinotum concave lengthwise, about two-thirds as long as the dorsum. Petiole convex in front and behind, bispinose, a little longer below than the straight dorsal edge between the spines. The spines are long, moderately divergent, and hooked backwards at the apex. Seen in profile, the spines are slightly constricted above the middle. Base of the abdomen convex, without a submarginate concavity such as is present in *P. maynei* Forel.

Entebbe Botanical Garden, Uganda. One specimen found running on the ground. Holotype N.M.S.R.

This species differs from *maynei* by the characters indicated above, and by the greater size, the deep meso-epinotal suture and the epinotum, which is much higher than the mesonotum. From *laboriosa* Smith it differs by the colour of the abdominal pubescence, the much more convex occipital margin of the head, and the shorter epinotal dorsum.

Family POMPILIDAE

Subfamily PEPSINAE

Priocnemis implacabilis basuto n.subsp.

P. implacabilis Arn. 1948, *Occ. Papers N.M.S.R.* XIV, 241, ♀.

♀. 11 mm. long. Black. Wings flavo-hyaline, the apex of the forewing, the distal two-thirds of the radial cell, the upper distal corner of the second discoidal cell and the extreme apex of the hindwing, pale fuscous. This subspecies differs from the type of the species as follows. The infuscation of the forewing is more extensive. Clypeus shorter, three times wider than long. Interocular distance on the vertex equal to the length of the second joint of the flagellum. Epinotum much more coarsely rugose, the rugae strongest in the declivity, the dorsum shorter, or twice as wide as long. Posterior tibiae with a dorsal row of nine spines. Third abscissa of the radius one-tenth longer than the second, the second recurrent vein meets the third cubital cell a little beyond the end of its basal third.

Mamathes, Basutoland, November, 1 ♀ (*C. Jacot-Guillarmod*). Holotype N.M.S.R.

Subfamily CTENOCERATINAE

Paraclavelia caffer Kohl (Fig. 4)

1886, *Zool. Bot. Ges. Wien*, xxxvi, 327.

♂. 12-18 mm. long (hitherto undescribed).

Black. Wings dark fuscous. Labrum and apical half of the mandibles smooth and shining, the face and vertex nitidulous and with large

piligerous punctures, the rest of the body dull, very closely and microscopically punctured. Abdomen with an adpressed and fine, black pubescence, the epinotum with a dense, erect and black pubescence, the rest of the thorax, the head, underside of the scapes and the coxae with a long, erect and black pilosity, very dense on the head. Clypeus two-thirds wider at the base than long, the apical margin feebly convex. Inner orbits slightly convergent below, the face in the middle fully three times wider than one eye. Interocular distance on the vertex equal to the length of the first three joints of the flagellum. Posterior ocelli twice as far from the eyes as from each other. Joints of the flagellum slightly separated below, but not as much as in *P. punctipleura* Arn.; the second joint is a little shorter than the third and a little more than twice as long as wide. Pronotal dorsum one-eighth wider behind than in front and three and a half times wider behind than long in the middle. Metanotum gibbous and a little longer than the postnotum which is deeply sulcate in the middle. Dorsum of the epinotum three-fifths wider than long, two-thirds longer than the declivity, the junction of the two faces widely rounded. First tergite one-fourth longer than wide behind. Apical margin of the seventh tergite straight. Basal two-fifths of the anterior basitarsi arcuately excised below. Claws of the fore and middle tarsi bifid, of the hind tarsi unarmed and rectangularly bent.

Mamathes, Basutoland, December, 6 ♂♂, 2 ♀♀ (*C. Jacot-Guillarmod*). Allotype N.M.S.R., paratypes J.G.

Genus *Micragenia* Arn.

Arnold, 1934, *Ann. Trans. Mus.* xv, 285-6.

Haupt, 1950, *Explor. Parc Nat. Albert*, LXVIII, 28.

In erecting this genus I expressed the opinion that it was to be excluded from the Pepsinae and the Pseudogeniinae (Macromerinae) and was not, as stated by Haupt, a member of the latter subfamily and of the tribe Pseudogeniini. Haupt thereupon transferred it to the Ctenoceratiinae (Claveliinae Haupt) and to the tribe Calicurgini Haupt, and for no better reason than that the clypeus is as wide as the bottom of the face, the pronotum short and parallel-sided, with the hind margin arcuate and without a depressed line before it, and the bifid claws. These are characters which can be found in a number of genera in the lissoscelid and trachyscelid Pompilinae. He has entirely ignored the following characters; the shape of the clypeus which is unlike that of the Claveline genera, the postnotum which is very large and not linear or nearly so as in the Claveliinae, the evenly convex epinotum which has no distinctly separated dorsal and declivous faces, the absence of a transverse groove on the second sternite, and the venation which is like that of *Pseudagenia*. Furthermore, the genitalia are constructed on an entirely different pattern from that of the Claveliinae, but resemble those of the genus *Poecilagenia*. It is unfortunate that only a few of the males of the Claveline species are known, but the genitalia of *Paraclavelia katbergensis* (1948, *Occ. Papers N.M.S.R.* xiv, 249, fig. 23b) and also those of

Paraclavelia caffer figured here can be compared with the figure of the genitalia of *Micragenia calcarata* Arn.

The following is another species of the genus.

***Micragenia longipalpis* n.sp. (Figs. 5, 5a)**

♀. 8.3 mm. long. Black. Palpi and labrum yellowish brown. Fore and middle tibiae and tarsi brown. Apical third of the mandibles ferruginous. Wings hyaline, bifasciated, the fasciae pale brown; the outer fascia covers the radial, second and third cubital cells and outer half of the second discoidal cell and extends beyond them distad; the inner one, wider below than above, covers the inner half of the first

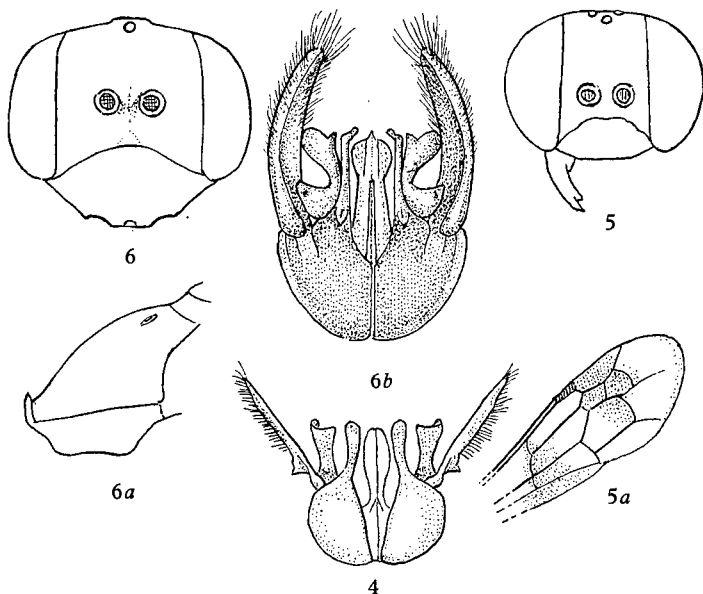


Fig. 4. *Paraclavelia caffer*, genitalia, $\times 12$.

Fig. 5. *Micragenia longipalpis*, ♀, $\times 14$.

Fig. 5a. *M. longipalpis*, forewing, $\times ca. 6$.

Fig. 6. *Pseudagenia impavida*, ♀, $\times 10$.

Fig. 6a. *P. impavida*, ♀, epinotum, $\times 10$.

Fig. 6b. *P. impavida*, ♂, genitalia, $\times 26$.

discoidal cell, proximal two-thirds of the second submedial and distal half of the anal cell. A microscopic greyish silvery and decumbent pubescence on the whole body excepting the mesonotum, scutellum, disk of the metanotum and the postnotum. Dull, microscopically and closely punctulate, the abdomen nitidulous and smooth. Mentum with a few very fine hairs on each side of the anterior margin. Mandibles with one tooth on the inner margin near the acute apex. Third joint of the labial palpi flat and triangularly dilated, the fourth curved; the last three joints of the maxillary palpi united distinctly longer than the first three

joints of the flagellum. Clypeus two and a half times wider than long, the apical margin straight. Inner orbits slightly divergent over their lower half. Face narrow, in the middle one and a half times wider than one eye. Second joint of the flagellum four times longer than wide, as long as the third joint. Posterior ocelli as far from the eyes as from each other. Interocular distance on the vertex equal to the length of the second joint of the flagellum. Thorax like that of *M. calcarata* Arn. but the hind margin of the postnotum is not so deeply bisinuate as in that species. Claws of the tarsi subbifid, as in *M. calcarata*.

Foot of Mt. Mlanje, Nyasaland, 1 ♀. Holotype N.M.S.R.

Larger than the other two species of the genus, *calcarata* and *nubilipennis* Arn., and differing from them, *inter alia*, by the narrower face, vertex and clypeus and the more extensive inner fascia of the forewing.

Subfamily PSEUDAGENIINAE

***Pseudagenia impavida* n.sp. (Figs. 6, 6a, b)**

♀. 12–14 mm. long. Black. Palpi, mandibles, clypeus lower half of the face, antennae and the legs, not including the coxae and trochanters, ferruginous. Temples and occiput fusco-ferruginous. Wings fuscous, with a slight violaceous lustre. Mandibles with a few blackish hairs, the clypeus with a transverse line of long black hairs below the middle. Head and pro-mesothorax dull, microscopically and very closely punctured, the postnotum slightly shining, closely and transversely striate. Epinotum dull, very finely, closely and transversely rugulose. Abdomen dull, with a microscopic pubescence, the sixth tergite fusco-ferruginous in its apical half, shallowly punctured and with a few black bristles. Clypeus two-thirds wider than long, very convex, the apical margin straight in the middle and feebly concave on each side. Inner orbits parallel over their lower two-thirds. Flagellum slender, the second joint nearly four and a half times longer than wide at the apex and one-sixth longer than the third joint. Interocular distance on the vertex equal to the length of the second joint of the flagellum. Posterior ocelli twice as far from the eyes as from each other. Pronotum two and a half times wider behind than long in the middle. Postnotum nearly as long as the metanotum. The whole epinotum is one-sixth longer than wide, its dorsum and declivity forming a low and unbroken arc, and having a wide and very shallow longitudinal depression in the middle. First tergite barely wider behind than long. The second abscissa of the radius is as long as the third and two and a half times longer than the first. The first recurrent vein meets the second cubital cell a little beyond the middle, and the second recurrent meets the third cubital cell a little before the middle. Middle and hind tibiae with four rows of short spines on the upper and outer side, the metatarsi densely spinose below.

♂. 9–14.3 mm. long. Anterior margin of the clypeus convex in the middle, the lateral fourth straight on each side. Interocular distance on the vertex nearly equal to the length of the first two joints of the flagellum. The flagellum is less slender than in the ♀, the second joint not quite four

times longer than wide, and as long as the third. Epinotum as long as wide. First tergite three-elevenths longer than wide at the apex. On the upper and outer sides of the middle and hind tibiae there are only three rows of spines, and the metatarsi are less densely spinose than in the ♀. Otherwise like the ♀.

Mamathes, Basutoland, November–January, 8 ♀♀, 16 ♂♂ (*C. Jacot-Guillarmod*). Holotype and allotype N.M.S.R., paratypes J.G.

Related to *P. spinosipes* Arn., from which it differs by the colour of the face, the shape of the clypeus, the longer third joint of the flagellum and the much finer sculpture of the less convex epinotum.

***Pseudagenia basutorum* n.sp. (Figs. 7, 7a)**

♀. 6.5–6.8 mm. long. Black. Mandibles except at the base, and the extreme anterior margin of the clypeus, ferruginous. The beard fusco-ferruginous. The underside of the anterior tibiae yellowish brown. Wings hyaline, the forewing with two fuscous fasciae, the apical margin faintly fuscous.

Covered with an inconspicuous cinereous pile. Dull, the postnotum shining and transversely striate, the rest of the thorax and the head with a very close and microscopic puncturation, the metapleura feebly striate, the epinotum with a close transverse rugulosity superimposed on the puncturation. Clypeus two-thirds wider than long, its apical margin convex. Inner orbits distinctly convergent below. Interocular distance on the vertex equal to the length of the first two joints of the flagellum plus one-seventh of the third joint. Posterior ocelli two-fifths farther from the eyes than from each other. Second joint of the flagellum three and a half times longer than wide at the apex and as long as the third. Pronotum, excluding the neck, twice as wide behind as long. Postnotum as long as the metanotum. The whole epinotum is barely longer than wide, and very feebly convex lengthwise. First tergite a little wider behind than long. Sixth tergite brownish yellow, the basal third blackish, shining and feebly punctured. The proportions of the first three abscissae of the radius are as 4 : 9 : 7. The first recurrent vein meets the second cubital cell in the middle, and the second recurrent meets the third cubital cell at its proximal third. Nervulus postfurcal, and vein of the hind-wing prefurcal.

Mamathes, Basutoland, December, 5 ♀♀ (*C. Jacot-Guillarmod*). Holotype N.M.S.R., paratype J.G.

Related to *P. egena* Kohl, from which it differs by the colour, shape of the clypeus and the rugulose epinotum.

***Pseudagenia gibbosula* n.sp. (Figs. 8, 8a)**

♀. 7.2 mm. long. Black. Mandibles, clypeus and legs, excluding the coxae and trochanters, ferruginous. Antennae fusco-ferruginous. Wings clear hyaline, not iridescent, the veins black, the second cubital cell with a pale brown cloud in its distal half and extending a short distance into

the second discoidal cell. Thorax and tergites with an adpressed, microscopic and dense whitish pubescence, longer and silvery on the metapleura and epinotum. Head and thorax, excepting the postnotum, dull, microscopically reticulate-punctate (30 diameters). Sides of the metanotum transversely and sharply striate, the postnotum transversely striate, longest in the middle and with a round pit in front of the convex hind margin, the epinotum with some widely spaced, thin and transverse rugae on the declivity. Abdomen dull, the extreme apical margins of the third and following tergites slightly yellowish, the apical tergite yellowish brown, shining and broad at the apex. The mental beard is composed of about six yellowish bristles. Clypeus nearly twice as wide as long,

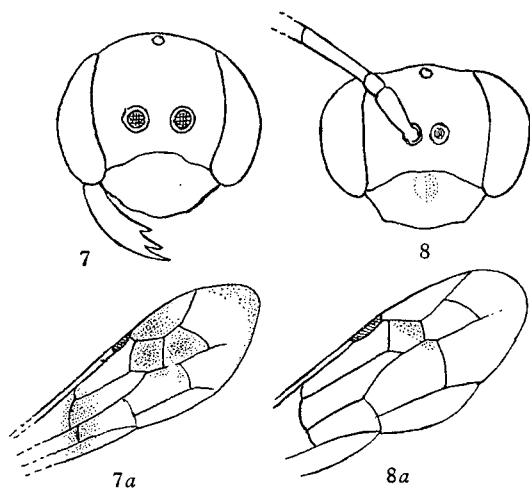


Fig. 7. *Pseudagenia basutorum*, ♀, × 16.
 Fig. 7a. *P. basutorum*, forewing, ♀, × 12.
 Fig. 8. *P. gibbosula*, ♀, × 12.
 Fig. 8a. *P. gibbosula*, ♀, forewing, × 12.

distinctly swollen in the middle at the base, the apical margin convex. Interocular distance on the vertex equal to the length of the first two joints of the flagellum. Posterior ocelli slightly farther from the eyes than from each other. Inner orbits parallel. Flagellum long and slender, the second joint five times longer than wide at the apex and one-fourth longer than the third. Thorax rather broad in proportion to its length; the pronotum is fully seven times wider behind than long in the middle, the scutellum wide and a little more than half as long as the mesonotum. The declivity of the epinotum steep, about one-third longer than the dorsum, which is three and a third times wider than long, the two parts forming a high arc in profile. First tergite about one-fifth longer than wide behind, subpetiolate at the base. The proportions of the first three abscissae of the radius are as 4 : 10 : 13. The first recurrent vein meets the second cubital cell in the middle, and the second meets the third

cubital cell a little before its proximal fourth. Nervulus interstitial; transverse anal vein of the hindwing prefurcal.

Bulo Burti, Italian Somaliland. August, 1 ♀ (*J. H. C. Godfrey*). Holotype N.M.S.R.

This species belongs to the section having hyaline wings without fasciae. It differs from *P. hyalinata* Bisch. by the colour of the mandibles, clypeus and antennae, and by the much more slender antennae, the absence of long pilosity on the head and thorax and by the more convex epinotum.

***Pseudagenia perplexa* n.sp. (Fig. 9)**

♀. 14 mm. long. Black. Palpi, mandibles, head and legs, excepting the coxae, pale ferruginous or yellowish red. On the vertex there is a large trapeziform black macula enclosing the ocellar area and extending down to the median tubercle. The shoulders of the pronotum have a fusco-ferruginous spot. Wings pale brownish yellow, the veins brown. On the mandibles, head, prosternum, dorsum of the thorax, coxae and sixth abdominal segment there is a scanty, erect and black pilosity. Postnotum and abdomen nitidulous, the sixth tergite sparsely and shallowly punctured over the basal part, but the apical fourth more closely and very finely so, the rest of the body microscopically punctured and dull. Last three joints of the maxillary palpi united as long as the second joint of the flagellum. Clypeus nearly one and a half times wider than long, gibbous in the middle, the apical margin obtusely angular in the middle. Inner orbits slightly convergent below. Interocular distance on the vertex equal to the length of the second joint of the flagellum. Posterior ocelli nearly twice as far from the eyes as from each other. Flagellum long and slender, all the joints, excepting the first, at least five times longer than wide, the second joint very nearly six times longer and nearly one-third longer than the third joint. Pronotum a little more than three times wider behind than long. Scutellum and metanotal disk gibbous. Postnotum not quite as long as the metanotum. Epinotum slightly narrowed caudad, as long as wide at the base, shallowly grooved lengthwise in the middle, the dorsum and declivity forming a low and unbroken arc in profile. First tergite subpetiolate, fully one-fourth wider behind than long. The proportions of the first three abscissae of the radius are as 4 : 14 : 17. The first recurrent vein meets the second cubital cell at its middle, the second meets the third cubital cell a little before the middle. Nervulus very oblique and postfurcal.

Malonje, Tanganyika Territory, August, 1 ♀ (*H. J. Bredo*). Holotype N.M.S.R.

Closely related to *P. spilocephala* Cam. from which it differs by the shape of the clypeus, the longer and more slender antennae, the much more convex scutellum and metanotum and the much paler wings.

***Pseudagenia pygidialis* n.sp. (Figs. 10, 10a)**

♀. 14 mm. long. Black. Head, antennae, pro-mesonotum, scutellum, disk of the metanotum and its posterior lateral margins, tegulae and the legs, excepting the coxae, pale ferruginous. The sides of the pronotum blackish in the middle. The head and ferruginous parts of the thorax with a dense, decumbent and fine, golden pubescence. Wings fuscous, the forewing with a purplish metallic lustre, the veins black, the first discoidal cell slightly paler at its proximal end. Mental beard brown.

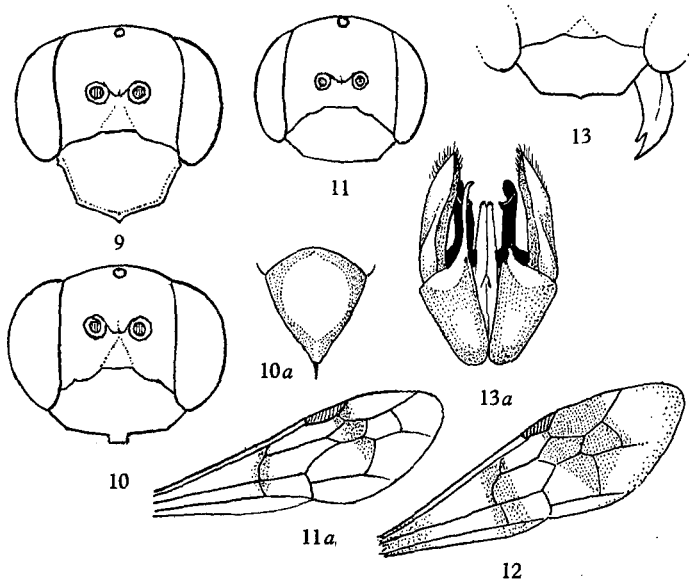


Fig. 9. *Pseudagenia perplexa*, ♀, × 10.

Fig. 10. *P. pygidialis*, ♀, × ca. 10.

Fig. 10a. *P. pygidialis*, ♀, sixth tergite, × ca. 10.

Fig. 11. *P. semimitida*, ♀, ca. 15.

Fig. 11a. *P. semimitida*, ♀, forewing, × 6.

Fig. 12. *Deutragenia ochraceipes*, ♀, forewing, × 12.

Fig. 13. *Cyemagenia kloofensis monticola*, ♀, clypeus, × 16.

Fig. 13a. *C. kloofensis monticola*, ♂, genitalia, × 35 (upper ramus of right paramere removed, to show the inner paramere, black).

Mandibles and clypeus with a few long yellowish hairs. Dull, excepting the pygidial area of the sixth tergite. Postnotum transversely striate. Epinotum transversely striato-rugose, the rugae thinner in the middle and narrower than the spaces between them; there is a wide median longitudinal groove from the base to the apex. Clypeus one and a half times wider than long, the apical margin produced in the middle into a rectangular lobe which is a little wider than long. Interocular distance on the vertex equal to very nearly three-fourths of the length of the second joint of the flagellum. Posterior ocelli nearly twice as far from the eyes as from each other. Second joint of the flagellum six and a quarter

times longer than wide at the apex and almost half as long again as the third joint. Dorsum of the pronotum fully six times wider behind than long in the middle. Scutellum fairly convex, as long as wide in front. Postnotum a little longer than the metanotum. Epinotum one-seventh wider at the base than long. Sixth tergite with a non-marginate, flat and pyriform pygidial area, smooth and shining and with a few small punctures at the sides. The proportions of the first three abscissae of the radius are as 5 : 12 : 17. The first recurrent vein meets the second cubital cell a little beyond its middle, and the second recurrent meets the third cubital cell at the second fifth of its length from the inner angle. Nervulus postfurcal, its distance from the basal vein equal to its own length.

Bulawayo. November, 1 ♀. Holotype N.M.S.R.

The shape of the clypeus is the same as in *P. picticornis* Arn., but the colour of the antennae, head, pro-mesonotum and of the pubescence is quite different, and the sixth tergite in *picticornis* is without a pygidial area.

***Pseudagenia seminitida* n.sp. (Figs. 11, 11a)**

♀. 7.5 mm. long. Black. Mandibles, and apical half of the clypeus, brownish yellow. Antennae, forelegs and tarsi of the middle legs, brown. Wings hyaline, bifasciated, the inner fascia covering both sides of the basal vein and nervulus, the outer fascia covering the apex of the first cubital cell, the proximal corner of the radial cell, the whole of the second cubital and the outer two-fifths of the second discoidal cell. A very fine decumbent pubescence on the whole body, silvery on the posterior coxae and declivity of the epinotum, greyish white elsewhere. The clypeus, temples, dorsum of the thorax and the underside of the femora with a sparse greyish pilosity. Head dull, microscopically reticulate-punctate (30 diameters). Pronotum nitidulous, with piligerous punctures. Mesonotum, scutellum, meso- and metapleura dull, very finely and longitudinally rugulose, the metanotum dull and transversely rugulose, the postnotum shining and transversely striate. Epinotum dull, closely and microscopically punctured (35 diameters) and with traces of a transverse rugulosity, the sculpture somewhat obscured by the pubescence. Abdomen smooth and shining. Mentum with a beard of about seven black bristles. Clypeus twice as wide as long, convex, the apical margin feebly convex. Inner orbits parallel in their lower half, convergent above. The head is considerably narrowed behind the eyes. Interocular distance on the vertex equal to the length of the first two joints of the flagellum. Posterior ocelli two-fifths farther from the eyes than from each other. Flagellum slender, the second joint eight and a half times longer than wide and one-fifth longer than the third joint. Pronotal dorsum sloping steeply forwards, six times wider behind than long. Mesonotum one and a half times wider than long. Scutellum and metanotum only feebly convex transversely, the postnotum two-thirds as long as the metanotum. Epinotum about one-sixth longer than wide at the base, convex lengthwise, shallowly grooved down the middle. The proportions of the first three abscissae of the radius are as 3 : 10 : 14.

Nervulus interstitial, the first recurrent vein meets the second cubital cell a little before the middle, the second meets the third cubital cell at its proximal fourth.

Jinja, Uganda. 2 ♀♀, on leaves of aphid-infested beans. Holotype N.M.S.R.

More closely related to *P. pumilio* Arn. than any other of the species with bifasciated hyaline wings, but distinguished from it by the much more slender flagellum, the narrower vertex and the sculpture of the meso- and metathorax.

Deuteragenia ochraceipes n.sp. (Fig. 12)

♀. 5.2 mm. long. Black. Mandibles and apical third of the clypeus ferruginous. Antennae, all the tarsi, anterior tibiae and extreme apex of the anterior femora, ochreous. Middle and hind femora brown, middle tibiae yellowish brown. Wings hyaline, bifasciated, the fasciation as in *D. dregei* Arn. var. *ferrugineipes* Arn. but paler, and with inner fascia narrower. Sculpture, pilosity and pubescence as in the var. *ferrugineipes*. In addition to the smaller size it differs from that variety as follows. Interocular distance on the vertex equal to the length of the first two joints of the flagellum. Clypeus two and a third times wider than long. Second joint of the flagellum slightly more than three times longer than wide at the apex, shorter than the third joint. Face in the middle wider, being nearly three times wider than one eye (two and three-fifths wider in *ferrugineipes*). Pronotum narrower, two and two-fifths wider behind than long (three times wider in *dregei*). The abscissae of the radius differ from those of *dregei* (see Fig. 12), and the radial cell is shorter.

Khami, S. Rhodesia, September, 1 ♀. Holotype N.M.S.R.

Cyemagenia kloofensis monticola n.subsp. (Figs. 13, 13a, b)

Pseudagenia kloofensis Cameron, 1905, *Rec. Albany Mus.* p. 114.

Cyemagenia kloofensis Arn. 1934, *Ann. Trans. Mus.* xv, 381.

♀. 7-9.5 mm. long. This differs from the type of the species as follows. Mandibles and anterior fourth of the clypeus darker, or fusco-ferruginous. Anterior tibiae and tarsi dark brown or almost black. In some specimens the apex of the tibiae is brownish yellow. Clypeus shorter, two and two-sevenths wider than long, the apical margin less convex. Interocular distance on the vertex greater, being equal to the length of the first two joints of the flagellum.

♂. 6.2-7 mm. long. Black. The sides of the clypeus and a subtriangular area on each side of the face and contiguous with the clypeus, and a line on the underside of the scapes, pale yellow. The clypeus and yellow parts of the face covered with a white pubescence. Mandibles black at the base, reddish yellow in the middle and ferruginous at the apex. Palpi brownish yellow. The extreme apex of the anterior femora, the upper side of the anterior tibiae and the anterior tarsi, and the upperside of middle tibiae, dull yellow. Seventh tergite yellowish white in the

middle. The coxae have a silvery pubescence, as in the ♀. Apical margin of the clypeus straight. Lower half of the inner orbits parallel. Interocular distance on the vertex equal to the length of the first two joints of the flagellum plus one-fifth of the third. Posterior ocelli as far from the eyes as from each other. Second joint of the flagellum four times longer than wide and as long as the third joint. Epinotum one-fourth longer than wide. First tergite twice as wide at the hind margin as at the base, twice as long as wide and half as long again as the second tergite. Otherwise like the ♀.

Mamathes, Basutoland, December-January, 16 ♀♀, 4 ♂♂ (*C. Jacot-Guillarmod*). Holotype and allotype N.M.S.R., paratypes T.M., J.G.

Subfamily POMPILINAE

Genus **Schistonyx** Sauss.

Subgenus **Megactenus** n.subgen.

CHARACTERS. ♀. Clypeus clearly narrower than the bottom of the face. The face is distinctly wider than long, and the vertex is not convex transversely as in *Schistonyx* but moderately concave. Anterior tarsi with a comb composed of teeth which are very long, flat and tricarinate lengthwise. Three similar teeth are also on the underside of the anterior tibiae. Face, temples, sides of the pronotum, pleura, epinotum and base of the first tergite with a long, dense and erect pilosity. Claws of all the tarsi short and bifid. The pulvillus short and with about ten thick cilia. Otherwise the characters of the genus.

Type of the subgenus *S. (Megactenus) aterrimus* Arn. As in *Schistonyx* and the related genera *Dicyrtomellus* and *Atopopompilus* the median vein of the hindwing is angularly bent near its apex.

Schistonyx (Megactenus) aterrimus n.sp. (Figs. 14, 14a)

♀. 12-19 mm. long. Matt black. The wings dark fuscous, the apical portion beyond the cells in both wings even darker. The dense pilosity is black. Abdomen with a microscopic, adpressed and black pubescence. Labrum entire, its apical margin strongly convex. Mandibles long, with a small tooth near the apex. Clypeus nearly three times wider than long, the apical margin feebly concave. Face in the middle three and a half times wider than one eye, the inner orbits slightly divergent above and below. Interocular distance on the vertex equal to the length of the first two joints of the flagellum plus a quarter of the third joint. Ocelli three-eighths farther from the eyes than from each other. Second joint of the flagellum fully five times longer than wide at the apex and half as long again as the third. Pronotum two and a half times wider behind than long in the middle, the hind margin angular. Scutellum as long as wide at the base, narrowed caudad, the apex transverse. Metanotum three times longer than the postnotum in the middle and slightly overhanging it. The hind margin of the postnotum is arcuately dilated on each side of

the middle. Dorsum of the epinotum clearly convex transversely, twice as wide as long and fully twice as long as the declivity, which it joins in a short curve. The declivity is slightly concave in the middle. Anterior tarsi with a comb of eight lanceolate, flat and longitudinally tricarinate teeth, which are longer than the basal joint of the tarsus. There are three teeth on the basal joint, two each on the second and third and one on the fourth joint. The underside of the anterior tibiae near the apex also has three similar teeth. Middle and posterior tibiae with two rows of long spines on the upper surface; all the tarsal joints, excepting the last, with several long spines at the apex. Venation similar to that of *S. umbrosus* Klug; the transverse cubital veins strongly curved, the second and third meet the radius close together, so that the third cubital cell is subtriangular. The proportions of the first three abscissae of the radius are as 10 : 15 : 3. The first recurrent vein meets the second cubital cell at the beginning of its apical fourth, the second meets the third cubital cell at the middle.

Brandkaross, Richtersveld, Cape Province, October, 5 ♀♀ (*C. Koch* and *G. van Son*). Holotype T.M.

Not to be confused with *S. sinuatus* Bischoff, also found in S.W. Africa, which is a smaller insect with a differently shaped head and much smaller tarsal comb.

***Pompilus tripartitus* n.sp.**

♀. 5.7 mm. long. Head, scapes, mandibles, pro-mesonotum, scutellum, abdomen, femora and tibiae flavo-ferruginous, the tarsi fusco-ferruginous, the lower half of the sides of the pronotum, the meso- and metapleura, metanotum, postnotum, epinotum and all the coxae and trochanters black. Flagellum brown. Wings hyaline, slightly smoky, the veins black. Clypeus nitidulous, the rest of the head and the thorax dull, microscopically reticulate-punctate (50 diameters), the abdomen smooth and shining. Clypeus two and two-thirds wider than long, the apical margin straight. Face three times wider than one eye, the inner orbits parallel in their lower half. Interocular distance on the vertex equal to the length of the first two joints of the flagellum. Ocelli as far from the eyes as from each other. Second joint of the flagellum nearly four and a half times longer than wide and two-ninths longer than the third joint. Pronotum about four times wider behind than long, the hind margin arcuate. Disk of the metanotum quadrate, a little shorter than the transversely striate postnotum. Dorsum of the epinotum about half as wide again as long, a little shorter than the declivity, which it joins in a wide arc. First tergite with a black macula at the base and one-third wider behind than long. The proportions of the first three abscissae of the radius are as 2 : 5 : 3. The first transverse cubital vein strongly curved inwards. Nervulus interstitial. Claws of all the tarsi with a tooth at the middle.

Teyateyaneng, Basutoland, February, 1 ♀ (*A. Jacot-Guillarmod*). Holotype N.M.S.R.

Easily distinguished from all the other African species of the genus by the sharply contrasted colour of the posterior half of the thorax with that of the rest of the body.

Subfamily CEROPALINAE

Ceropales latifasciatus montivagus n.subsp. (Fig. 15)

C. latifasciatus Arn. 1937, *Ann. Trans. Mus.* XIX, 92.

♀. 6–10.7 mm. long. Last four joints of the flagellum black, the other joints ferruginous. Labrum, mandibles, clypeus, sides of the face, middle of the scutellum, the epinotum excepting the anterior corners and the lower margin of the sides, and the legs including the coxae and trochanters, ferruginous. Disk of the metanotum and the pale bands on the abdomen, pale yellow. Interocular distance on the vertex equal to the length of the first three joints of the flagellum and one-third greater than the least distance between the eyes below the antennal sockets. Ocelli one-fifth farther from the eyes than from each other. The proportions of the first three abscissae of the radius are as 3 : 12 : 3. Otherwise like the type of the species.

♂. 6.2–8.5 mm. long. Third, fourth and fifth tergites entirely black, otherwise like the ♀ in colour, but in the smaller specimens the ferruginous colour is paler, almost flavo-ferruginous. In one of the three specimens from Mamathes the sides of the face below the middle are pale yellow, and in the smallest specimen from Leribe the whole of the sides of the face and two spots on the clypeus are yellowish white. Clypeus two and a half times wider than long in the middle, the apical margin more concave than in the ♀. Otherwise like the ♀.

Mamathes, Basutoland, December, 4 ♀♀, 1 ♂; Leribe, 4 ♀♀, 1 ♂; Tebetebeng Mill, Basutoland, 1 ♀, 1 ♂. Holotype and allotype N.M.S.R., paratypes J.G.

The genitalia differ from the type form in having the outer paramera, which are more or less semi-cylindrical, much wider in the free part, and in the longer truncate tooth on the inner upper margin. It should be noted that my figure, 59c, *loc. cit. supra*, p. 93 of the genitalia of the type form is from the ventral aspect and not from the dorsal as in the accompanying Fig. 15.

Family SPHECIDAE

Subfamily PISONINAE

The genus *Pison* Jurine has been placed by several authors, including myself, in the subfamily Trypoxyloniinae Rohwer for apparently no better reason than that it has, like the genus *Trypoxylon*, reniform eyes and mandibles without an excision on the lower margin. The differences are, however, far more numerous. Not only is the shape of the face, epinotum and abdominal segments altogether different, but the genitalia and the eighth ventral plate of the abdomen are of an entirely different pattern. The genus should therefore be placed in a separate subfamily, Pisoninae.

Pison scruposum n.sp. (Fig. 16)

♂. 7.5 mm. long. Black. Mandibles fusco-ferruginous. Tarsi pale brown. The underside of the apical joint of the flagellum pale ferruginous. Wings hyaline, the veins and pterostigma black, the apex of the forewing slightly smoky. Clypeus and lower half of the face with a dense silvery pubescence, the apical margins of the first six tergites with a fringe of silvery pubescence, the temples and thorax with a sparse, erect and whitish pilosity. The whole body, excepting the closely and

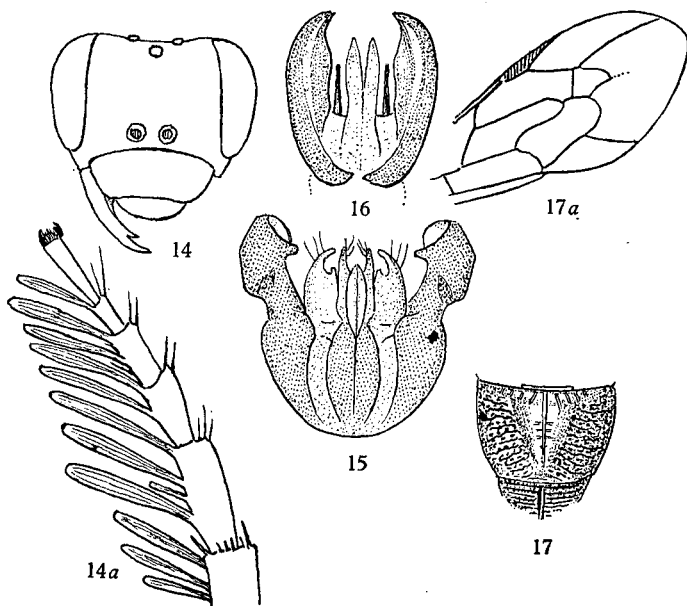


Fig. 14. *Schistonyx (Megactenus) aterrimus*, ♀, × 6.

Fig. 14a. *S. (Megactenus) aterrimus*, left anterior tarsus, × ca. 10.

Fig. 15. *Ceropales latifasciatus montivagus*, ♂ × 30.

Fig. 16. *Pison scruposum*, ♂, genitalia, × ca. 24.,

Fig. 17. *P. ugandensis*, ♀, epinotum, × 12.

Fig. 17a. *P. ugandensis*, ♀, forewing, × ca. 14.

finely punctured clypeus and lower third of the face, shining. Face and vertex with a large puncturation, the interspaces on the face about as wide as the punctures, intermixed with smaller punctures in the ocular sinus and ocellar area; behind the ocelli the puncturation is larger and with interspaces fully twice as wide as the punctures. Pronotal dorsum with a close puncturation about half as large as that of the face. Mesonotum and the middle of the scutellum with punctures a little larger and less close than those on the face. The sides of the mesonotum and the mesopleura more finely punctured. Metanotum with a few small punctures. The punctures on the epinotum are a little smaller and closer than those on the middle of the mesonotum. The puncturation of the tergites

is close and becomes progressively finer on each succeeding segment, with the interspaces about twice as wide as the punctures, the punctures on the first tergite about half as large as those on the epinotal dorsum. Clypeus nearly twice as wide as long, the apical margin concave on each side of the middle, which is produced into an acute tooth as long as wide at the base. Interocular distance on the vertex nearly twice as great as across the base of the clypeus and equal to the length of the first four joints of the flagellum. Posterior ocelli separated from the eyes by a distance equal to one and a half times the diameter of the ocelli. First joint of the flagellum as long as wide, the second two and two-thirds longer than wide and one-third longer than the third joint. Mesonotum one-third wider than long. Dorsum of the epinotum two and two-thirds wider than long, with a deep carinate and transversely costate longitudinal groove. Dorsum of the first tergite twice as wide as long, the declivous anterior face fairly flat. Forewing with three cubital cells, the second one petiolate, the petiole a little shorter than the base of the cell on the cubitus.

Melsetter, S. Rhodesia, October, 2 ♂♂. Holotype N.M.S.R.

Possibly related to *P. clypeatum* Cam. which also has a tooth on the clypeus, but distinguished from it by the coarse puncturation of the head and thorax. From *P. inaequale* Turner it differs, *inter alia*, by not having the second cubital cell obliterated, and the median groove of the epinotum which is not forked at the base.

***Pison ugandensis* n.sp. (Figs. 17, 17a)**

♀. 7.2 mm. long. Black. Tarsi brown, the underside of the anterior tibiae brownish yellow. Wings hyaline, with only two cubital cells, the pterostigma and veins black. Clypeus and lower third of the face, temples and pronotum with silvery pubescence, the pleura and epinotum with a sparse, erect and white pilosity, the tergites with a decumbent and white pubescence. The whole body, excepting the face, fairly shining. Clypeus and ocular sinuses finely and closely punctured, the face reticulate-punctate, the punctures about one-fifth as wide as the ocelli. Pronotum and metanotum finely and sparsely punctured. The puncturation of the mesonotum and mesopleura is as large as on the face, but not so close. Scutellum with slightly smaller punctures than those of the mesonotum. Sides of the epinotum very finely, shallowly and sparsely punctured, the dorsum obliquely rugose and punctured between the rugae, the declivity transversely striate. The dorsum of the epinotum has a median triangular groove, widest cephalad, carinate in the middle and with four costae on each side. Tergites very sparsely and finely punctured. Clypeus two-thirds wider than long, tumid at the base but not carinate, the apical margin convex. Interocular distance on the vertex equal to the length of the first two joints of the flagellum. Posterior ocelli separated from the eyes by a distance equal to half their own diameter. There is a transverse groove behind them. First joint of the flagellum longer than wide, second joint a little longer than the third and

four times longer than wide at the apex. Dorsum of the epinotum twice as wide at the base as long. First tergite one-seventh longer than wide at the apex. The first two abscissae of the radius are as 1 : 5, and the second cubital cell is five times longer on the cubitus than on the radius.

Zika Forest, Entebbe, Uganda, June, 1 ♀. Holotype N.M.S.R.

This species differs from *P. testaceipes* Turner, which also has only two cubital cells, by the much coarser puncturation of the head and thorax, by the less triangular second cubital cell, and by the abdomen, which is entirely black.

Subfamily CERCERINAE

***Cerceris sumptuosa nigrifemur* n.subsp.**

C. sumptuosa Arn. 1931, *Ann. Trans. Mus.* XIV, 160, ♀, ♂.

C. sumptuosa Arn. 1942, *J. Ent. Soc. S. Afr.* v, ♂, plate 1, fig. 17.

♀. 10 mm. long. This differs from the type form (form B) as follows. Clypeus black, excepting an ochreous white lunulate macula in the middle. The streaks of the same colour at the sides of the face are narrower and parallel-sided, not dilated inwards below the middle as in the type. The pale band on the fifth tergite is larger, covering the apical half of the segment. Femora black. The puncturation of the mesonotum and epinotum is not so close as in the type, the interspaces being for the greater part wider than the punctures. The triangular area of the epinotum is strongly and transversely rugose.

♂. 10 mm. long. The colour pattern of the thorax and abdomen as in the ♀ and ochreous white, not lemon yellow as in the ♂ of the type. The clypeus and sides of the face also ochreous white, but the pale areas on the side of the face are angularly dilated in the middle. The second tergite lacks the wide basal yellow macula which is present in the type form. Femora black, the tibiae are ochreous white above, brownish below. As in the ♀, the scapes and first joint of the flagellum are entirely black. The genitalia differ from those of *sumptuosa* i.sp. in having the apical part of the outer paramera, beyond the tooth on the inner margin, distinctly shorter, and the apical portion of the sagittae is much broader.

No locality, the label is printed 'Capland, Krebs S.' 1 ♀, 2 ♂♂. Holotype and allotype in T.M.

In one of the ♂♂ the transverse rugae on the triangular area of the epinotum are almost obsolete in the middle.

***Cerceris forticula* n.sp. (Figs. 18, 18a, b)**

♀. 9.5 mm. long. Mandibles excepting the piceous apex, clypeus, frontal carina and large triangular maculae on each side of the lower half of the face, very pale yellow. The rest of the head and the thorax black. Petiole fusco-ferruginous, darker in the middle. Second tergite black, the apical margin reddish. Third tergite black at the base, becoming fusco-ferruginous caudad, and with a pale yellow apical band moderately

dilated laterad, the fourth blackish at the base and ferruginous on the apical half, fifth tergite fusco-ferruginous at the base, pale yellow on the apical half, the sixth tergite fusco-ferruginous or nearly black. Sternites ferruginous, the third pale yellow. Antennae, tegulae, trochanters, femora and tibiae ferruginous, the hindlegs somewhat infuscated, the middle metatarsi pale yellow. Wings hyaline, the apex of the forewing slightly fuscous, the veins and pterostigma dark brown. Clypeus and pale areas of the face with a sparse silvery pubescence. Head and pygidium dull, the rest of the body nitidulous. Clypeus and pale areas of the face with a sparse and shallow puncturation. Upper part of the face, temples, mesopleura and epinotum reticulate-punctate, the pronotum with smaller and less close punctures, the vertex and mesonotum with a sparser but larger puncturation, the punctures nearly half as wide as one ocellus and with interspaces a little wider than the punctures. Scutellum and metanotum with a sparse and smaller puncturation. Triangular area of the epinotum smooth and shining, distinctly grooved down the middle and with three costae in the anterior corners. The puncturation of tergites 2-5 not much smaller than that of the mesonotum, but distinctly smaller on the petiole. Pygidial area dull, with a few large punctures at the base. Sternites very coarsely punctured on the basal half. Median area of the clypeus as long as wide, inflected close to the apical margin, the black pre-apical margin narrowly and arcuately excised in the middle, subrectangular at the corners. Interocular distance on the vertex equal to a little more than the length of the first seven joints of the flagellum. Pronotal dorsum as long in the middle as the third joint of the flagellum, the shoulders slightly raised. Petiole as long as wide. Second tergite two-fifths longer than the first and fully two and a half times wider at the hind margin than at the base. Pygidial area barrel-shaped, a little less than twice as long as wide. Posterior tibiae with six spiniferous serrations, the spines white.

Abercorn, N. Rhodesia, October, 2 ♀♀ (*H. J. Bredo*). Holotype N.M.S.R.

Related to *C. sumptuosa* Arn. from which it differs by the colour, sculpture and the pre-apical margin of the clypeus.

***Cerceris multicolor* Arn.**

Arnold, 1946, *Occ. Papers N.M.S.R.* XII, 85, ♀.

Since I described this insect Mr Jacot-Guillarmod has collected the ♂♂, from which it is evident that *multicolor* can only be considered another variety of *C. emeryana* Grib. The ♂♂ do not differ from those of the var. *varilineata* Cam., except in the yellow markings being paler and more extensive on the temples and metanotum. In both sexes the mandibles have the acute tooth on the inner margin.

Cerceris dissona n.sp. (Figs. 19, 19a, b)

♀. 12 mm. long. Clypeus, broad maculae on the sides of the face, frontal carina and a small spot on the top of the temples, pale yellow. Mandibles pale yellow in the basal half, dark red in the apical. Pronotum, the outer thirds of the scutellum, metanotum and tegulae dark ferruginous, the rest of the thorax black. Tergites dark ferruginous, the extreme base of the third, and the middle of the fourth and fifth, blackish, the sternites yellowish brown. Legs ferruginous, the middle

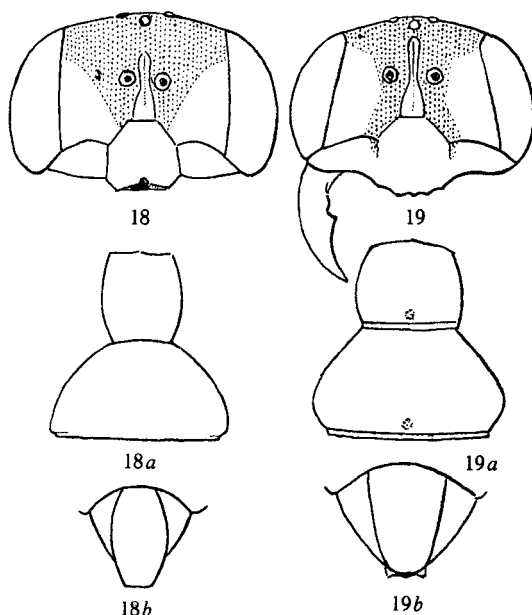


Fig. 18. *Cerceris forticula*, ♀, $\times 12$.

Fig. 18a. *C. forticula*, ♀ first two tergites, $\times 12$.

Fig. 18b. *C. forticula*, ♀ sixth tergite, $\times 12$.

Fig. 19. *C. dissona*, ♀, $\times ca. 10$.

Fig. 19a. *C. dissona*, ♀, first two tergites, $\times ca. 10$.

Fig. 19b. *C. dissona*, ♀, sixth tergite, $\times ca. 10$.

metatarsi ochreous. Scapes and first five joints of the flagellum ferruginous, the rest black. Wings yellowish hyaline, the pterostigma ochreous, the veins brown. Clypeus and yellow parts of the face sparsely and finely punctured, the occiput slightly shining and also finely punctured, the rest of the head and the thorax strongly reticulate-punctate, excepting the mesonotum, scutellum and metanotum where the punctures are wider apart, with interspaces as wide as the punctures. Mesopleura with two small and acute tubercles; the epimerum, below the tegulae is produced into a crest, plainly visible from above. Triangular area of the epinotum with seven oblique costae on each side of the middle. Tergites 1-4 with a puncturation as large as that of the mesonotum, but with

interspaces about twice as wide as the punctures. Fifth tergite shallowly and more finely punctured. Pygidial area dull, finely and closely punctured. Sternites shining, very sparsely punctured. Median area of the clypeus as long as wide, the apical margin feebly convex and crenulate. Inner orbits widely divergent below. Mandibles with a blunt tooth in the middle of the inner margin. Ocelli one and a half times farther from the eyes than from each other. Interocular distance on the vertex equal to the length of the first six joints of the flagellum. Tergites 1-4 with a fovea in the middle, close to the apical margin. The first tergite is one-third wider than long, the sides feebly convex, the second is four-fifths wider than long. Pygidial area broadly triangular, nearly half as long again as wide at the base. Hind tibiae with nine spiniferous serrations.

Cnambeke, S.W. Africa, 1 ♀ (*H. Brauns*). Holotype T.M.

This is not closely related to any other African species, the nearest is *C. Barnardi* Brauns, from which it differs by the colour, the puncturation, the shape of the clypeus, the divergent inner orbits and the strongly costate triangular area of the epinotum.

Subfamily NYSSONINAE

Tribe GORYTINI A. Costa

Gorytes eurynome n.sp. (Figs. 20, 20a, b)

♀. 9.5-10.5 mm. long. Black. The following parts are yellowish red; clypeus, pronotal dorsum and the posterior two-thirds of the scutellum. A narrow line margining the inner orbits and a very thin line on the temples contiguous with the eyes, pale ochreous. Tergites 1-3 with narrow pale yellow apical bands, the first tergite, apical third of the fourth tergite, the fifth and sixth ferruginous. Sternites 1-5 black, their apical margins narrowly ferruginous, the sixth sternite ferruginous. Scapes and legs ferruginous, the middle tibiae on the outside and the fore and middle metatarsi pale yellow, the last four joints of the hind tarsi black. Flagellum reddish brown. Wings hyaline, the radial cell, the second cubital cell except at the margins and the upper half of the third cubital cell, fuscous; the pterostigma ochreous, the veins black. On the whole body there is a fundamental and microscopic reticulation (50 diameters), on which is superimposed a puncturation. Upper half of the face and the vertex dull, punctured; the interspaces wider than the punctures, the temples slightly shining and with a sparse and shallow puncturation. Triangular area of the epinotum dull, with seven or eight oblique costae on each side. On the rest of the thorax the puncturation is larger and less close than on the face, the largest punctures are on the mesonotum, mesopleura and epinotum which are about one-third as wide as one of the posterior ocelli, the interspaces for the greater part twice as wide as the punctures, or three to four times as wide on the mesopleura and scutellum. Epicnemium impunctate, its hind margin carinate, the carina continued below to above the middle coxae and separating the mesopleura from the mesosternum. Abdomen dull,

sparsely and finely punctured, the pygidial area dull, triangular and with a few large punctures. The whole body with a microscopic, greyish pubescence, the clypeus with longer and white pubescence. Clypeus three times wider than long, the apical margin convex and with a very small median incision. Inner orbits slightly convergent below. Interocular distance on the vertex equal to the length of the first eight joints of the flagellum. Posterior ocelli a little farther from each other than from the eyes. Second joint of the flagellum twice as long as wide, and two-thirds longer than the third joint. Pronotal dorsum convex from front to back, in the middle about as long as the first joint of the flagellum. Lateral margins of the mesonotum ferruginous and elevated just behind the tegulae. Scutellum nearly three times wider than long and very little longer than the metanotum. Triangular area of the epinotum twice as wide at the base as long. Basal joint of the anterior tarsi with five white spines on the outer margin. First tergite as long as wide at the hind margin. The proportions of the first three abscissae of the radius are as 6 : 4 : 11. Cubitus of the hindwing emitted a little before the end of the submedial cell.

♂. 8–9 mm. long. The pale areas on the side of the face which are wider than in the ♀ and reach the antennal sockets, the labrum, clypeus and underside of the scapes, lemon yellow. The temples entirely black. The yellow bands on the first three tergites are wider than in the ♀. Last three tergites and the apical half of the fourth, ferruginous. The metatarsus of the fore and middle legs, yellowish white. Upperside of the scapes and flagellum blackish, the first joints reddish below. Triangular area of the epinotum with five to seven costae on each side. Otherwise like the ♀ in sculpture. Clypeus one and a quarter times wider than long. Interocular distance on the vertex equal to the length of the first eight joints of the flagellum plus half of the ninth. Second joint of the flagellum not quite twice as long as wide and twice as long as the third, the fourth to tenth joints wider than long, the ninth, eleventh and apical joints longitudinally excavated below, the fourth joint dilated in the apical half below. Seventh tergite triangular, the apex narrowly rounded. Otherwise like the ♀.

Mamathes, Basutoland, January, 3 ♀♀, 6 ♂♂. Holotype and allotype N.M.S.R., paratypes J.G.

This species bears a superficial resemblance to *G. thalia* Hndl., but the ♀ is larger and in both sexes the puncturation on the head and thorax is much larger and closer, and the triangular area of the epinotum is more strongly costate. In the ♂ the basal half of the flagellum is not ferruginous as in *thalia*. It is more closely related to *G. umtalicus* Arn., from which it differs by the colour, sculpture and much shorter joints of the flagellum.

***Ammatomus pretoriensis* Arn. (Fig. 21)**

1936, *Occ. Pap. Rhod. Mus.* v, 12, ♂.

♀. 9.5 mm. long (hitherto undescribed). Hind tibiae entirely ferruginous, the upper side with three rows of whitish spines. Pygidial area

black, covered with brownish yellow setae. The puncturation of the vertex larger and closer than in the ♂, the face below the antennal sockets a little wider than in the ♂, the interocular distance on the vertex being only two and a fifth times wider than it is below. Otherwise like the ♂.

Mahlatsa, Basutoland 1 ♀, Mamathes 2 ♂♂. Allotype N.M.S.R.

The two ♂♂, 8.2 mm. long, are a little smaller than the type of the species, and the yellow markings are paler, or almost yellowish white, but the genitalia are in no way different. In my monograph of the Ethiopian Sphecidae (1929, *Ann. Trans. Mus.* XIII) *Ammatomus* was placed as a subgenus of *Gorytes*. Subsequently in my 'Sphecidae of Madagascar', 1945, it was raised to generic rank in the tribe *Gorytini*. On further consideration I am now of the opinion that it should be placed in a separate tribe, Ammatomini. In the key to the genera in the Madagascar monograph, p. 48, the segregates 9 and 10 are as follows:

- (10) 9. Occiput flat, its upper margin close to the eyes. Flagellum strongly clavate. The facets of the lower inner half of the eyes greatly enlarged in the ♀ and sometimes also in the ♂. Hind tibiae irregularly serrate. Hind tarsi very long, the first three joints united much longer than the tibia. First abdominal segment petioliform, or at least much narrower than the second, as long as wide behind or longer. ***Ammatomus* A. Costa.**
- (9) 10. Occiput rounded, its upper margin not close to the eyes. Flagellum not clavate. The facets of the eyes normal. Hind tibiae not serrate, at the most with a few thin and widely separated spines. Hind tarsi not unusually long. First abdominal segment not much narrower behind than the second, rarely as long as wide behind. In the ♂ only six ventral segments are visible. ***Gorytes* Latr.**

It will be seen that the only character which it has in common with *Gorytes* is in the venation. Furthermore, the structure of the male genitalia is noticeably different (see Figs. 20*b* and 21).

Subfamily STIZINAE

***Stizus distinctus* n.sp. (Figs. 22, 22*a*)**

♂. 7 mm. long. Black. The following parts are pale lemon yellow; labrum, clypeus, a parallel-sided line on each side of the face, frontal triangle and carina and the underside of the scape and flagellum. The following parts are yellowish white; the hind margin of the pronotum and the pronotal tubercles, pre-apical bands on the first four tergites which are slightly dilated at the sides and in the middle, and a median streak on the fifth tergite. The extreme apical margin of the tergites and sternites 1-4, testaceous. Legs pale ferruginous. Wings hyaline, the veins black. Clypeus and lower half of the face with a dense silvery pubescence, the upper part of the face at the sides and the vertex with a sparse pubescence. The rest of the body with a sparse and very fine white pubescence. Face and vertex nitidulous, the vertex with a very shallow and sparse puncturation. Dorsum of the epinotum and the

abdomen with a shallow, sparse and oblique puncturation, the declivity of the epinotum with about five oblique rugae on each side of the middle line; the rest of the body moderately shining and with only a microscopic puncturation. Clypeus two and a third times wider than long. Interocular distance on the vertex one and a half times greater than the distance at the hind margin of the clypeus, and equal to the length of the first seven joints of the flagellum. The second joint of the flagellum is one-fourth longer than wide and one-fourth longer than the third.

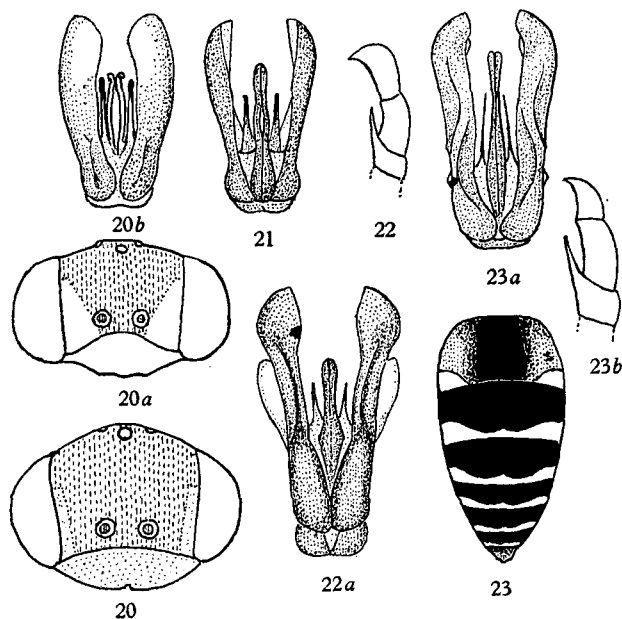


Fig. 20. *Gorytes eurynome*, ♀, \times ca. 10.
 Fig. 20a. *G. eurynome*, ♂, \times ca. 10.
 Fig. 20b. *G. eurynome*, ♂, genitalia, \times 20.
 Fig. 21. *Ammatomus pretoriensis*, ♂, genitalia, \times 28.
 Fig. 22. *Stizus distinctus*, ♂, apical joints of flagellum, \times 24.
 Fig. 22a. *S. distinctus*, ♂, genitalia, \times 24.
 Fig. 23. *S. jacksoni*, ♂, abdomen, \times 6.
 Fig. 23a. *S. jacksoni*, ♂, genitalia, \times 16.
 Fig. 23b. *S. jacksoni*, ♂, apical joints of flagellum, \times 24.

Tenth joint of the flagellum produced at the apex into a spine which is almost as long as the eleventh joint, the latter as long as the apical joint which is rostrate and broad at the apex. Lateral margins of the epinotal declivity shallowly excised, the lower angle of the excision acute. Apical margin of the seventh tergite convex and entire, the seventh sternite fringed with long hairs. Second cubital cell not petiolate, receiving both recurrent veins. The outer paramera of the genitalia have a membranous and subpyriform expansion on the outer margin.

♀. 7 mm. long. Only the apical half of the clypeus is yellow, and the yellow streaks at the sides of the face are narrower, the posterior angles

of the mesonotum are ferruginous. Otherwise like the ♂ in colour, but the yellow bands on the tergites are a little wider. Lower part of the face a little wider than in the ♂. Tarsal comb composed of white cilia, of which there are four on the basal joint. Otherwise, apart from the usual sexual differences, like the ♂.

Brandkaross, Richtersveld, S.W.A., September, 11 ♂♂, 2 ♀♀ (*G. van Son*). Holotype T.M., paratypes N.M.S.R.

This species belongs to the *tridens* group and is easily distinguished from all the other Ethiopian species of that group by the membraneous expansions of the outer paramera.

***Stizus jacksoni* n.sp. (Figs. 23, 23a, b)**

♂. 10.2 mm. long. Black. Labrum and apical margin of the clypeus ferruginous, the frontal triangle dull yellow. Antennae black above, ferruginous below. Extreme posterior angles of the mesonotum ferruginous. First tergite black in the middle, ferruginous at the sides and with a pale yellow triangular macula on each side close to the apical margin; tergites 2-5 black, with pale yellow apical bands, dilated at the sides and slightly so in the middle. Sixth tergite ochreous, black at the base, seventh tergite pale red. Legs ferruginous, the femora and tibiae on the outside more or less blackish, the apical joint of the anterior tarsi ochreous. Wings hyaline, the radial cell brownish yellow, the first cubital and subcostal cells infuscated. Clypeus with a dense, decumbent and silvery pubescence, and also with some longer and erect white hairs. The rest of the body with a sparse, decumbent and grey pubescence, somewhat longer and oblique on the epinotum; on the seventh tergite the pubescence is black. Vertex with a fine, shallow and sparse puncturation, upper third of the mesopleura reticulate-punctate. Scutellum, metanotum and epinotum with an oblique puncturation; the largest punctures, about one-third as wide as the posterior ocellus, are on the triangular area of the epinotum, with interspaces about twice as wide at the punctures. Head dull, thorax nitidulous, abdomen shining and with a piligerous puncturation a little smaller than that of the epinotum. Head and mesonotum with only a microscopic puncturation. Clypeus twice as wide as long, the apical margin concave. Interocular distance on the vertex twice as great as the least distance between the eyes below the antennal sockets, and equal to the length of the first five joints of the flagellum plus half of the sixth. Posterior ocelli nearly one-fifth farther from the eyes than from each other. Second joint of the flagellum twice as long as wide at the apex and one-fourth longer than the third joint. The last two joints of the flagellum excavated on the underside, the pre-apical joint nearly half as long again as the rostrate apical. Thorax distinctly wide, the mesonotum twice as wide behind as long. Lateral margins of the epinotal declivity semicircularly excised below. Seventh tergite broad, its apical margin obtusely angular.

Kacheliba, Suk, Kenya, 1 ♂, June (*T. H. E. Jackson*). Holotype in N.M.S.R.

Taken on a flowering bush. This species belongs to the *tridens* group and differs from all the other Ethiopian species of that group by the colour of the head and first tergite and by the shape of the genitalia.

Subfamily LARRINAE

***Gastrosericus decipiens* n.sp. (Figs. 24, 24a)**

♀. 5.5 mm. long. In this sex this species is very much like *G. simplex* Arn. from which it differs as follows. Anterior tibiae and tarsi flavo-ferruginous. Middle tibiae and tarsi reddish brown, hind tibiae dark brown and with a dirty white streak on the upperside at the base. Flagellum entirely black. Tergites without pale apical margins, entirely black.

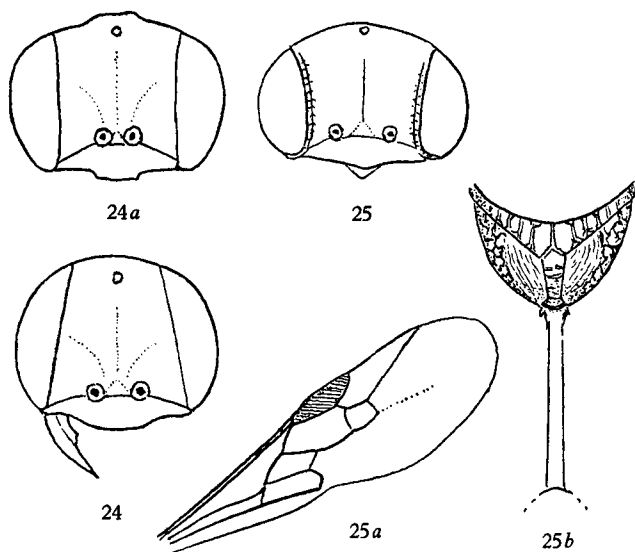


Fig. 24. *Gastrosericus decipiens*, ♀, \times ca. 18.

Fig. 24a. *G. decipiens*, ♂, \times ca. 22.

Fig. 25. *Stigmus guillarmodi*, ♀, \times 30.

Fig. 25a. *S. guillarmodi*, ♀, \times 30.

Fig. 25b. *S. guillarmodi*, ♀, epinotum and petiole, \times 30.

Puncturation of the head and thorax smaller and closer, almost reticulate-punctate. Pubescence as in *simplex*. Inner orbits less divergent below, the interocular distance at the base of the eyes only two-thirds greater than on the vertex (very nearly twice as great in *simplex*). Second joint of the flagellum one-fourth longer than wide at the apex (twice as long as wide in *simplex*).

♂. 4.5 mm. long. Underside of the flagellum, excepting the first two joints, ochreous. Anterior tibiae and tarsi flavo-ferruginous, the middle tibiae also of that colour below but yellowish white above, the middle tarsi flavo-ferruginous. Hind tibiae yellowish white above, brown below, the tarsi reddish brown, excepting the basal joint which is black.

Pronotal tubercles entirely black. Otherwise like the ♀ in colour, sculpture and pubescence. The pubescence on the head is not so dense as in *simplex* and on the thorax is shorter and less silvery than in that species. Mandibles with a tooth on the inner margin near the base. Clypeus two and a half times wider than long in the middle, the median area produced forwards into a short lobe which is rectangular at the corners. In *simplex* ♂ the clypeus is evenly convex. Interocular distance on the vertex equal to a little more than the length of the first two joints of the flagellum and equal to about two-thirds of the inferior interocular distance. Second joint of the flagellum barely longer than wide, and as long as the third. Dorsum of the epinotum more narrowed caudad than in *simplex* ♂, one-fifth wider at the base than at the apex and two and a half times wider at the base than long. Seventh tergite bluntly triangular, coarsely punctured. The venation differs from that of *simplex* in that the second abscissa of the radius is one-fifth as long as the first, whereas in *simplex* it is half as long. In *simplex* the recurrent veins meet on the cubitus, whereas in this species there is short stalk to the discoidal cell, about half as long as the second abscissa of the radius.

Mamathes, Basutoland, December and January, 2 ♂♂; Leribe, December, 1 ♀. Holotype and allotype N.M.S.R.

Subfamily PEMPHREDONINAE

Stigmus guillarmodi n.sp. (Figs. 25, 25a, b)

♀. 4.6 mm. long. Black. Mandibles yellowish white, black at the base. Underside of the scapes and of the first joint of the flagellum reddish yellow. Pronotal tubercles ivory white. Fore and middle tibiae and tarsi reddish yellow. Wings hyaline, the veins and pterostigma black. Lateral areas of the epinotal dorsum dull, the rest of the body shining. Mandibles and apical margin of the clypeus with some white hairs, the rest of the body glabrous. Face very finely and obliquely striate (50 diameters), its lateral margins with a strong carina ending above at the level of the anterior ocellus, the narrow space between the carina and the inner orbits costate. Temples longitudinally, vertex transversely and closely, striate. There is a median carina, not reaching the anterior ocellus, which ends below in a small tubercle. Pronotum rugose, more strongly at the sides than on the dorsum. Mesonotum and scutellum with a few very shallow punctures, the mesopleura obliquely striate (35 diameters). Episternal suture and the longitudinal one emitted from it transversely and closely costate. Epinotal dorsum with a median triangular area which has ten longitudinal costae at the base and four or five transverse ones in the apical angle; the lateral areas of the dorsum microscopically striolate, the sides of the epinotum coarsely reticulate-rugose except in the lower anterior corner which is only striate. Abdomen smooth and impunctate. Labrum triangular. Clypeus three times wider than long in the middle. Inner orbits parallel. Interocular distance on the vertex equal to very little more than the length of the first four joints of the flagellum. Posterior ocelli nearly twice as far from the eyes as from each

other. Second joint of the flagellum about five times longer than wide and as long as the first or third joints. The length of the vertex from the posterior ocelli to the occipital margin is twice as great as the length of the pronotal dorsum in the middle. Temples distinctly wider in the middle than the eyes. Pronotal dorsum nearly three times wider in front than long in the middle, the anterior margin raised and the lateral angles dentiform. Petiole as long as the first two tergites plus half of the third. The proportions of the first three abscissae of the radius are as 2 : 3 : 12.

♂. 3.7 mm. long. Mandibles ivory white, black at the base. Fore and middle tibiae and tarsi paler than in the ♀. Dorsum of the pronotum twice as wide in front as long in the middle, finely and transversely striate, and with a small tubercle in the middle near the hind margin. Lateral areas of the epinotal dorsum coarsely reticulate. The striation on the head and the mesopleura exceedingly fine, almost obsolete. Otherwise like the ♀ in sculpture. Apical margin of the median area of the clypeus obtusely angular. The length of the vertex from the posterior ocelli to the occipital margin is one-third greater than the length of the pronotal dorsum in the middle. Inner orbits moderately divergent above and below. Second joint of the flagellum four times longer than wide, as long as the first joint and a little shorter than the third, the seventh and eighth joints slightly dilated below. The proportions of the first three abscissae of the radius are as 1 : 2 : 10. The spine of the eighth sternite is fringed with a few long hairs on the underside. Otherwise like the ♀.

Mamathes, Basutoland, July, 1 ♀, 1 ♂ (*C. Jacot-Guillarmod*). Types in N.M.S.R.

Differs from *gueinzius* Turner by its larger size, longer vertex and longer petiole, and also by the sculpture of the epinotal dorsum.

ADDENDUM

FORMICIDAE

Subfamily CERAPACHYINAE

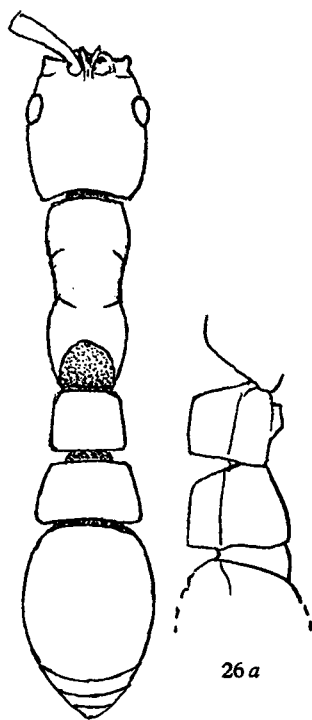
***Cerapachys sylvicola* n.sp. (Figs. 26, 26a)**

♀. 3.9–4 mm. long. Black. Apical joint of the flagellum pale ferruginous, the rest of the antennae, the femora and tibiae fusco-ferruginous, the tarsi ferruginous. A greyish pubescence on the whole body, exserted on the sternites and apical tergite, oblique elsewhere. Mandibles sparsely punctured and edentate. Clypeus flat and vertical, narrowed above, marginate at the sides, the margins continued into the short frontal carinae which converge behind. Sides of the head moderately convex, below the eyes very shining and almost impunctate, the dorsal face of the head slightly shining, shallowly reticulate rugose, and with shallow and round punctures in between. The head, excluding the mandibles, is not quite one-third longer than wide, feebly concave on the occipital margin, the posterior angles rounded. Antennae 12-jointed,

the scapes strongly punctured and incrassate, extending back to the level of the hind margin of the eyes. The first joint of the flagellum as wide as long, the remaining joints, excepting the apical, wider than long, the apical joint or club nearly three times longer than wide, convex, and as long as the nine preceding joints united. Eyes large, convex and with numerous facets, separated from the genal carinae by a distance equal to their length. Genal carinae tuberculate at their junction with the lateral sclerites of the clypeus. Thorax slightly widened caudad, the dorsum moderately shining, covered with large shallow punctures, the interspaces about half as wide as the punctures, except in the middle of the mesonotum, where they are wider; each puncture emits a pubescent hair. Sides of the thorax very shining and with a few elongate punctures. The pronotal and mesonotal sutures are faintly indicated by slight depressions. Declivity of the epinotum smooth, flat and shining, marginate at the sides. Petiole and first abdominal segment, (post-petiole) coarsely rugoso-punctate on the dorsum and on the sides, the anterior and posterior faces smooth. Second abdominal segment shining and sparsely punctured, the third and fourth segments finely punctured on the posterior margins, the apical segment more closely and more coarsely punctured all over. Petiole one-fourth wider than long, moderately convex above, very slightly widened caudad, the underside with a lamella in front. Postpetiole slightly shorter than the petiole, two-fifths wider behind than in front, the dorsal face convex transversely. Second abdominal segment a little wider than the first, and nearly one-sixth wider than long.

Vumba Mts., S. Rhodesia. 5000 ft. In moist leaf mould, under a layer of dead leaves in a sun-lit clearing in the forest. Numerous ♂♂ with a few pupae. Holotype N.M.S.R., paratypes in the British and South African museums.

Related to *C. lamborni* Crawley from which it differs, *inter alia*, by its smaller size, edentate mandibles, different sculpture of the head and thorax and the different proportions of the petiole and postpetiole.



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Fig. 26. *Cerapachys sylvicola*, ♀, × 22.

Fig. 26a. *C. sylvicola*, ♀, × 22, lateral view of petiole and postpetiole.