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Three new species of African Apterogyninae from Kenya, Namibia and Senegal (Insecta, Hymenoptera, Bradynobaenidae)

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ABSTRACT - Three new species of African Apterogyninae are described: *Gynecaptera weneri* sp. n. from Kenya, *Micatagla haladai* sp. n. from Namibia and *Micatagla senegalense* sp. n. from Senegal. *Micatagla voltana* (INVREA, 1953) is a synonym of *Micatagla alluaudi* (Bischoff, 1920). New keys are reported for the new species.

Key words: new species, new synonymies, African Apterogyninae

RIASSUNTO - Tre nuove specie di Apterogyninae africane (Insecta, Hymenoptera, Bradynobaenidae) di Kenya, Namibia e Senegal Sono descritte 3 nuove specie di Apterogyninae africane: *Gynecaptera weneri* sp. n. del Kenya, *Micatagla haladai* sp. n. della Namibia e *Micatagla senegalense* sp. n. del Senegal. Dal confronto degli olotipi *Micatagla voltana* (Invrea, 1953) è posta in sinonimia di *Micatagla alluaudi* (Bischoff, 1920). Sulla base delle informazioni ricevute da Denis Brothers è posta in sinonimia *Micatagla guillarmodi* (Invrea, 1957) con *Micatagla globularis* (Fabricius, 1793). Si segnala la dispersione del paratipo di *Micatagla antropovi* della collezione Pagliano in quanto avendolo spedito in prestito non è mai arrivato a destinazione. Vengono riportate le chiavi dicotomiche aggiornate in riferimento alle nuove specie.

Parole chiave: nuove specie, nuovi sinonimi, Apterogyninae africane

Introduction

Three new species of African Apterogyninae from the authors' collections are described here. The first is *Gynecaptera weneri* sp. n. with five males specimens found from Kenya. The second is named *Micatagla haladai* sp. n. with one male found from Namibia. The third species is *Micatagla senegalense* with five females specimens from Senegal.

The keys of the African genera *Gynecaptera* and *Micatagla* are provided in

PAGLIANO (2002), and now include these three new species.

A comparison of the holotype of *Apterogyna voltana* Invrea, 1953 ♀ described from Chad and *Micatagla alluaudi* (Bischoff, 1920) ♀ described from Kenya has led us to conclude that the 2 species are **new. syn.** Following the rule of priority, the first is the synonym of the second.

In the morphological description the thorax and the gaster are named mesosoma and metasoma, respectively.

Description of new species

The taxonomic material described here is preserved in our personal collections in Sicily (MR) and Torino (PG). The terms used to describe the species follow PAGLIANO (2002). The key to genera of Apterogyninae present in Africa is also reported in PAGLIANO (2002).

Genus **Gynecaptera** Skorikov, 1935

Gynecaptera weneri sp. n. (habitus in fig. 1)



Figura 1 Habitus of *Gynecaptera weneri* ♂

Dimension of the holotype ♂

Body length: 8,5 mm; fore wing length: 5,7 mm.

Dimension of the paratypes ♂

Body length: 7 mm; fore wing length: 5 mm.

Description of the Holotype ♂

Colour and pubescence.

Tegument black excluding mouthpart apparatus, mandibles, antennal socket, antennae, legs I with respective tibial spurs, tegulae, fore wing with fore veins and hind wing with hind veins, apical medial up curved hook and tooth of last lateral sternum reddish. Tibial spur II and III white. Pubescence white, bristly and sparse, a little longer on the mesosoma than on the other body surfaces, wherever longer than the scape. Felt line of II metasomal tergum silvery white.

Morphology.

Head strong, with vertex, seen from the dorsal side, convergent posteriorly, narrower than the mesosoma; punctuation rough, the points are adherent, with some foveae on vertex; tubercles with callous little evident; clypeus transverse, without points, shiny, the anterior margin with large external bend; ocelli small, dislocated to obtuse-angled, with diameter equal to 1/3 of distal diameter of III antennal segment; minimum distance between the eyes equal to 2 times the length of III antennal segment. Ratio of antennal segments from base to extremity is: 12-4-22-17-17-17-16-15-15-15-14-14-16.

Mesosoma. Pronotum, seen from the dorsal side, becomes visible as a narrow lamina; mesoscutum, scutellum, metanotum and propodeum with adherent points larger than on the head, only the center of the posterior petiolar area of the propodeum is shiny, without markings; notauli superficial, and difficult to distinguish from the rest of the mesoscutum since this is also covered with punctuations; pleurae and ventral part of mesosoma punctuate as on the dorsum, with slightly smaller points; legs shinny with long sparse white hairs inserted into small pits; fore tarsi without a strong rake but with one bristle at the outer end of the first 4 tarsal segments, the bristle shorter than the length of following segments; wings hyaline, with reddish veins, without brachial cell closed.

Metasoma. Between the segments I, II and III there are 2 pronounced constrictions; end of terga I and II with a small tuft of hairs little differentiated from the remaining pubescence; terga III and IV with fasciae at distal end; segment

I a little larger than long (ratio 20:16); segment II transverse (ratio 30:20); segment III (ratio 38:25) about as long as the sum of the remaining distal segments; punctuation on terga I and II similar to that on mesoscutum; on tergum II the points at the center are extended as to create sub ellipsoidal areas; tergum III with rather evident striations, large as the points of previous segments and with some sub ellipsoidal areas; terga IV-VII with roughness intermingled with badly defined points, smaller than previous segments; sternum I striate with intermingled points; sternum II with large points spaced about the same distance as their diameter, the space between them shiny; sternum III with large points spaced more than their diameter, absent at the center of end margin, the space between them shiny; sterna IV-VII roughness punctuate as on respective terga; chitinous bristle absent on sternum VI; genitalia compact, median lobe slightly shorter than end of parameres, ending at the distance by them about as the width of the lobe; apical up curved hook bend maximum 45° toward high.

Distribution. Kenya.

Specimen examined. Holotype ♂ - **Kenya**: Taita Hills, near Wundanyi, 1 ♂ holotype 10.XII.1999 Snizek leg.; Kenya: Elmenteita lake, 00° 28' S – 36° 16' E.

Paratypes: **Kenya** 1 ♂ 15.IV.2006 E. Jendek leg. (in coll. Pagliano) and 3 ♂♂, stessee località e data (in coll. Romano).

Derivatio nominis. This species is dedicated posthumously to our dear colleague Karl Werner, a well-known specialist of Coleoptera Carabidae (Cicindela) and expert collector of African Mutillidae and Bradynobaenidae.

Female unknown.

Key to **Gynecaptera** from Africa



1. Fore wing with brachial cell closed 2
- Fore wing with brachial cell open 5
2. Body black (Namibia) **namibiana** Pagliano
- Body partly red 3
3. Mesosoma black; wing veins slightly brownish; tergum I red wider than long; tergum II black (Kenya) **voiana** Pagliano
- Mesosoma partly red; wing veins white, at most partly yellowish, stigma dark; tergum I red, about as long as wide; tergum II red or black 4

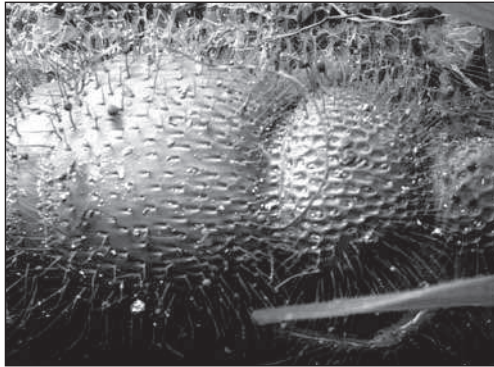


Figura 2 II and III terga of *G. alexandri* ♂



Figura 3 Habitus of *G. alexandri* ♂



Figura 4 Terga II-VII of *G. trimaculata* ♂

4. Length 5 mm; mesosoma red with at least pronotum and mesoscutum black; tergum II red; impressions of gastral segment III somewhat spaced not confluent into ridges (fig. 2); habitus in figure 3 (Egypt, Israel, Tunisia **alexandri** (Invrea)
 - Length 7 mm; mesosoma red; tergum II black; impressions on segment III closely spaced confluent into ridges (fig. 4) (Egypt, Iran) **trimaculata** (Skorikov)
5. Metasoma red (South Africa) **boschimana** (Péringuey)
 - Metasoma black or partly red 6
6. Metasoma all black (fig. 1) (Kenya) **weneri** sp. n.
 - Metasoma with at least one red segment 7
7. Metasoma with segments I and II red (Kenya) **kenyana** Pagliano
 - Metasoma with only segment I red 8
8. Head, antennae, thorax and legs reddish, usually with some areas brownish (Algeria) **poggii** Pagliano
 - Head and thorax black, at most on thorax slightly reddish 9
9. Length 5 mm; head lateral margins behind eyes only slightly convergent in dorsal view; hind ocelli spaced to occipital carina than each other; scutel-

lum with impunctate longitudinal area at middle; wing veins almost all hyaline (Algeria, Morocco, Spain, Tunisia) **bimaculata** (André)
 – Length 6-7 mm; head lateral margins behind eyes markedly convergent in dorsal view; hind ocelli equidistant from occipital carina as to each other; scutellum punctate throughout; wing veins hyaline, except costal, subcostal veins and stigma dark (Egypt) **alfierii** (Invrea)

Genus **Micatagla** Argaman, 1994

Micatagla haladai sp. n. (figg. 5 and 6)

Dimension of the holotype ♂

Body length ♂: 5 mm

Description of the Holotype ♂

Colour and pubescence

Tegument black excluding mouthpart apparatus, clypeus, mandibles, antennal socket and antennae red. Mesosoma with tegulae red; red also evident in fore wing, stigma, costal vein and in hind wing the hamuli; remaining veins are white and the membrane is hyaline; legs excluding the spurs of tibiae II and III white. Metasoma with segments I and II red, apical upcurved hook also red. Pubescence white, bristly, approximately as long as the eye diameter; felt line of tergum II colored silvery white.

Morphology

Head, seen from the dorsal side, much wider than long, ratio 2:1 and a little narrower than the mesosoma (fig. 5); frons with large points, broad about 0.5 times the diameter of the foreocellus, the points close together near the antennal sockets and then more widely spaced toward the frons, where are spaced more than their diameters on the vertex. Mandible with regularly arches at the outer margin and with 2 small teeth toward the distal end of inner margin; clypeus smooth with anterior margin linear; occipital carina very developed; malar space longer than the diameter of III segment of the antennae, with vertical striae near the marginal eyes, smooth in the remaining surface; hind ocelli closer to each other than the distance between the inner margin of the eyes; vertex with callous tu-

bercles very marked; distance between inner margin of eyes equal 2 times the length of III antennal segment. The right antenna lacks 8 segments, the left 9 segments.



Figura 5 Head and mesosoma of *Micatagla haladai* ♂

Mesosoma. The pronotum, seen from the dorsal side, is similar to *Gynecaptera* but it is the presence of the typical fore spur of trochanter III which faces anteriorly that assigns the species, without a doubt, to the genus *Micatagla*. Propleurae with large closely spaced foveae in the anterior half, longitudinal striae at centre ending in one smooth area near the hind margin. Mesoscutum with large points similar to that of head but farther apart; mesopleure with closely spaced foveae and intermingled points that on mesosternum are spaced about as far apart as their diameter; metapleure, at their centre smooth, with foveae in the dorsal half. Scutellum punctuate in their central area as on head, the points partly approached where they are a little longer than wide. Metanotum punctuate striate. Propodeum dull, densely punctuate with small striae between the points; petiolar area smooth and shining with transverse striae. Fore wing with brachial cell opened, hind wing with 5 hamuli. Legs with evident pointed spur on the trochanter II and one short but evident tooth facing anteriorly on the trochanter III, length about .0.3 times that of the diameter of the same.

Metasoma. Segment I scarcely larger than long (ratio 26:23) end, in dorsal side, the petiole is barely evident; segment II wider than long (ratio 38:26); terga I and II with foveae which are very close to each other and a little larger than mesoscutum punctuation. Sternum I with small irregular foveae, the II punctu-

ated, the points more spaced in the middle than laterally where they are spaced at a distance equal to their diameter. The segment III is the most voluminous and larger of metasoma (ratio 46:35) clearly punctate on the smooth area, the points a little longer than wide, spaced 2-3 times their width (fig. 6); sternum III clearly punctuated as the II but with a large smooth area near the distal margin. The remaining 4 segments are transversal and their length is inferior to the length of the segment III, and they are irregularly punctate with intermingled foveae; the surface of respective sterna is similar to that of the terga. Last sternum with a long apical up curved hook at distal third.

Distribution: Namibia.

Specimen examined. Holotype ♂ - Namibia Lower Ostrich Gorge, Swakopmund Distr., **Namibia**, 22° 30' S – 14° 58' E, 1 ♂ holotype 9.IV–6.V.1985 (in coll. Pagliano).

Derivatio nominis. The species is dedicated to M. Halada who, with his continuous detailed collections, has made an important contribution to the knowledge of entomological African fauna and provided a great number of rare specimens. Female unknown.



Figura 6 *Metasoma of Micatagla haladai* ♂

***Micatagla senegalense* sp. n. (habitus in fig. 7)**

Paratype: Senegal, S of Velingara, around Pakour, 25-28.VI.2004

Dimension of the holotype ♀

Body length ♀: 4 mm

Dimension of the paratypes ♀

Body length ♀: 4,2-6,2 mm

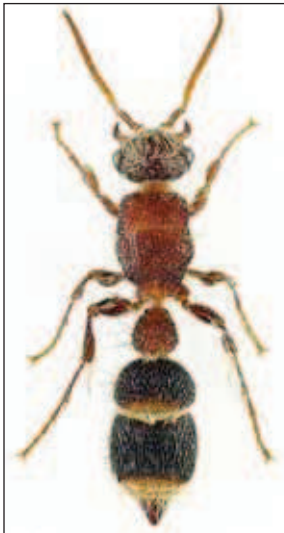


Figura 7 Habitus *Micatagla senegalense* ♀ seen from dorsal side

Micatagla senegalense differs from the analogous species *M. zavattarii* and *M. helenae* for its very slender body and the different colour of tegument as specified in the key.

Description of the Holotype ♀

Colour and pubescence

Head brown, on vertex a little lighter. Red mouth-part apparatus, base of mandible, clypeus, antennal sockets, antennae, which at their base from the segment IV to distal segment become darker. On metasoma segment I is red; tergum II is black with a red fascia at hind margin, at fore center expanded evenly at half segment; tergum III black with a red fascia on the hind margin of uniform width; terga IV-V uniformly red a little lighter where there is white pubescence; tergum VI red. Sterna II-VI red and darker at marginal lateral area.

Pubescence sparse, silvery white, length 2-3 times the diameter of an eye; distal end of terga II-V with fasciae of silvery white pubescence; fore tibiae with yellow spurs, spurs of tibiae II and III white.

Morphology

Head. The head has its maximum width at the level of the eyes that are little protruding; head as wide as the mesosoma; clypeus smooth, shiny, from the dorsal side, the frons appear to protrude, the fore margin linear; genae long about 1.5 times the eye diameter; surface of the frons and vertex with large points spaced 0.5-1 times their diameter, on the genae more spaced, the space shiny; mandible with one tooth.

Mesosoma. Pronotum wide but narrower than mesoscutum, much wider than long (ratio 34:15) with impressions in the shape of fovea as wide as the diameter of the points on the head, laterally there are short perpendicular striae at fore margin, and longitudinal striae at hind double the length of those on the fore margin. Mesoscutum with large impressions as on pronotum but longer so that they result in dorsal striation; mesopleuron and metapleuron with pronounced striae especially in the lower 2/3; mesosternum punctuate striate, metasternum

smooth and shining; petiolar area of propodeum with small longitudinal carinae in the upper half and carinae distributed in a semi-circle with a concavity facing up in the lower half. Legs usual.

Metasoma. Tergum I of metasoma subcircular, the ratio length width is one; the tergum is connected at propodeum by a peduncle that from the dorsal side is scarcely seen; dorsal area with superficial points, not perfectly round, adherent, a little larger than on head; sternum I with superficial points and striae; tergum II with foveae subellipsoidal, and with a length twice their width resulting in longitudinal striation, on the hind margin there is a fascia of silver pubescence; sternum II with points and striae, between them the space is smooth and a distal narrow fascia is smooth and shiny. Tergum III with more pronounced striae than on II, the carinae a little closer together than on tergum II; distal end with silver fascia as on terga IV and V, these latter segments striate punctate. Sterna IV and V striate punctate as on corresponding terga. Tergum VI with small teeth on lateral margins that are continuously smaller from base to apical end; dorsal surface with evident longitudinal carinae, large as that on tergum III but without transversal carinae; end of the sternum is smooth and shiny with some large punctuation at the lateral margins.

Variability of paratypes.

Length 4,2-6,2 mm. The paratype has a small tuft of silvery hairs on the distal margin of tergum I, while the tuft in the holotype is made by just a few bristles; one ♀ has an almost red head, except the eyes and the distal 2/ of the mandible that are black as in the holotype; femora and tibiae II and III red like the mesosoma.

Distribution. Senegal.

Specimens examined. Holotype ♀ - **Senegal**: Tambacounda, 1 ♀ 15.VII.1991, A. Mochi leg. e 2 paratype stes localit  e data (in coll. Pagliano); Senegal, S of Velingara, around Pakour, 1 ♀ paratypus 25-28.VI.2004, A. Kudrna jr. leg. e Senegal S, 10 km E Medina Gaunas, 13° 08,05' N – 13° 42,03' E, 1 ♀ paratypus 25.VI.2004, M. halada leg. (in coll. Romano)

Derivatio nominis. The species is dedicated to Senegal, the country where this species was first described.

New synonymies.

Micatagla voltana (INVREA, 1953), **new synonym** of *Micatagla alluaudi* (BISCHOFF, 1920)

During the year 2010 one of us (GP) had the possibility to compare the holotype of *Micatagla alluaudi* ♀ from Kenya, dislocated in the Museum für Naturkunde from Berlin, with the holotype of *Micatagla voltana* ♀ from Chad (Haute Volta, Botou), dislocated in the Museum National d'Histoire Naturelle, Paris.

This comparison leads us to conclude that there are no significant morphological differences between the two holotypes. Consequently we propose the following synonymy *Micatagla alluaudi* (BISCHOFF, 1920) = *Micatagla voltana* (INVREA, 1953).

Micatagla guillarmodi (INVREA, 1957), **new synonym** of *Micatagla globularis* (Fabricius, 1793) – see Introduction.

New key of African species of *Micatagla*

♂ ♂

(*M. braunsi*, *M. cylindrica* and *M. henkriesa* are not included)

1. Body with long, dense red setae, on gaster and mesopleuron longer than scape; integument as red as setae; spurs of tibiae II and III reddish; genitalia: fig. 8 (Namibia) **schultzei** (André)
 - Body with white setae; gaster at least partly black; spurs of tibiae II and III white 2

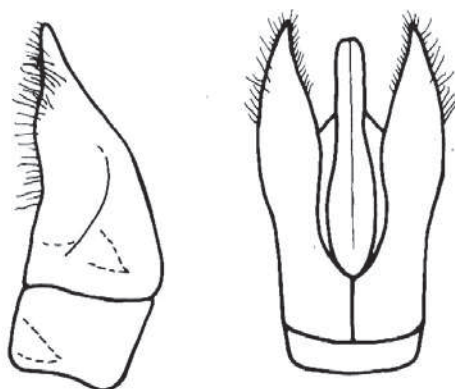


Figura 8 Genitalia of *M. schultzei* ♂

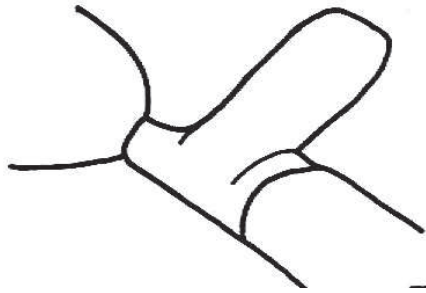


Figura 9 Trochanter II with conspicuous tooth of *M. cybele* ♂

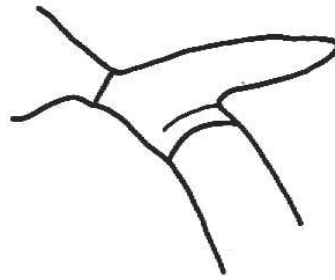


Figura 10 Trochanter II with inconspicuous tooth of *M. casevitzae* ♂

2. Metasoma completely black 4
 - At least metasomal segment I red 3
3. Metasomal segment I red, remainder black; forewing with brachial cell open (Namibia) **noorti** Pagliano
 - Metasoma with first two segments red; forewing with brachial cell closed, open in specimens long less than 4 mm 7
4. Antennae, tegulae and legs red; forewing with large, dark, well-defined spot next to apical margin 5
 - Tegulae and legs black; antennae black or red; forewing without well-defined spot 6
5. Trochanter II with conspicuous tooth, clearly truncated at apex (fig. 9); brachial cell rectangular (Namibia, South Africa) **cybele** (Péringuey)
 - Trochanter II with inconspicuous tooth, pointed at apex (fig. 10); brachial cell square (Namibia) **casevitzae** Pagliano
6. Length 11-18 mm; antenna black; wing markedly brown with darkened veins; tergum II with wide central longitudinal hollow (fig. 11); genitalia in figure 12 (South Africa) (= *guillarmodi* (Invrea) **syn. n.**) **globularis** (Fabricius)
 - Length 6-9 mm; antennae reddish; wing hyaline with white veins except costal, subcostal and stigma dark; propodeum and metasoma in figure 13; tergum

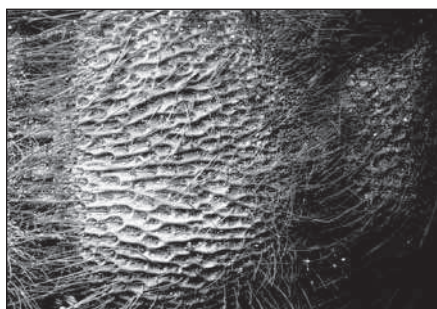


Figura 11 Tergum II of *M. globularis* ♂

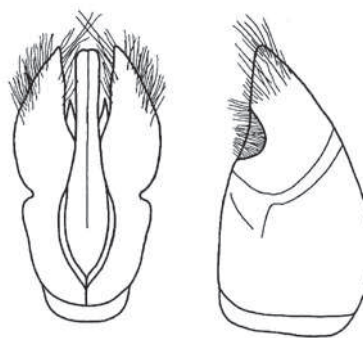


Figura 12 Genitalia of *M. globularis* ♂

II without longitudinal hollow (Botswana, Mozambico, South Africa, Zambia, Zimbabwe) **bulawayona** (Péringuey)

7. Forewing with brachial cell open; trochanter III with inconspicuous tooth, length maximum 1/3 the diameter of the same; tergum III of metasoma smooth with large roundish points spaced about 2-3 times their diameter

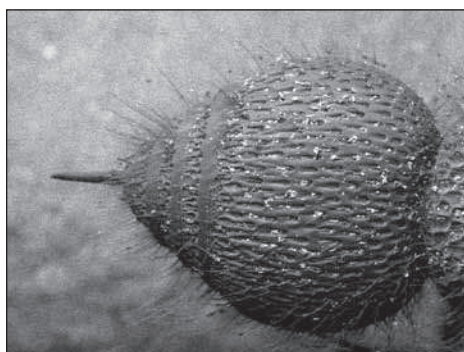


Figura 13 Propodeum and metasoma of *M. bulawayona* ♂

(Namibia) **haladai** sp. n.
 – Forewing with brachial cell closed; trochanter III with conspicuous tooth, at least as long as its diameter; tergum III of metasoma striate or with large adherent points 8

8. Length 15 mm; forewing with yellowish spot adjacent to anterior margin, between stigma and wing apex; legs red; trochanter II with long, conspicuous apophysis of rectangular section; terga I and II longitudinally concave (fig. 14); tergum III with large shiny areas between impressions; genitalia: fig. 15 (Namibia, South Africa) **mnemosina** (Péringuey)

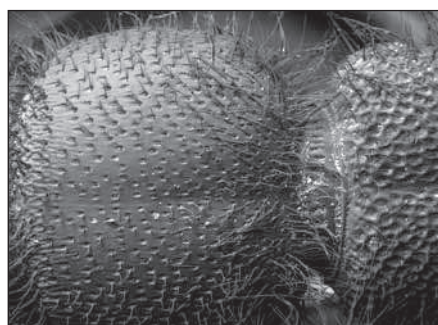


Figura 14 Terga I and II of *M. mnemosina* ♂

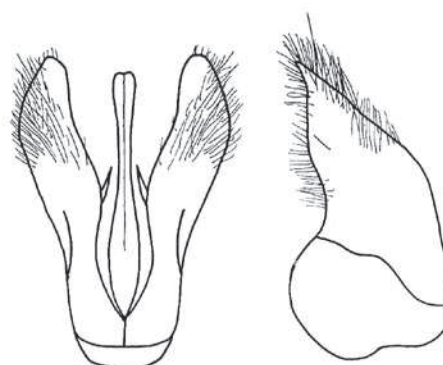


Figura 15 Genitalia of *M. mnemosina* ♂

– Length 5.5-8 mm; forewing hyaline; legs black or reddish; trochanter II with short, pointed tooth; terga I and II not concave; tergum III with various impressions 8

9. Notauli barely convergent posterad; hindwing with 3-5 hamuli; tergum III with regular striae (fig. 16) (Namibia) **giachinoi** Pagliano

– Notauli convergent posterad almost V-shaped; hindwing with 4-6 hamuli; tergum III with impressions confluent into striae on posterior surface (fig. 17) (Kenya) **pesarinii** Pagliano

♀ ♀

(*M. nyasana*, *M. braunsi* and *M. cylindrica* are not included)

1. Head and metasoma black; tergum II (fig. 18) inconspicuously silvery fasciate apically (Namibia) **maraisi** Pagliano

– At least tergum I red; tergum II with or without apical silvery fascia 2

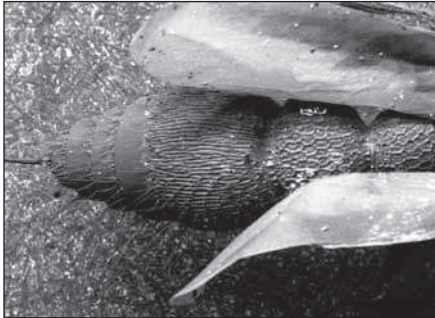


Figura 16 *Metasoma of M. giachinoi* ♂

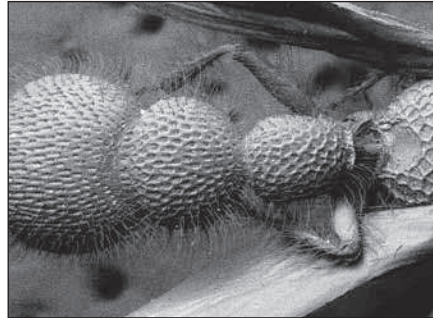


Figura 17 *Propodeum and terga I-III of metasoma of M. pesarinii* ♂

2. Body with long red setae that on metasoma and mesopleuron are longer than scape; integument red (Namibia) **schultzei** (André)
 – Integument and setae not coloured as above; setae on gaster shorter than scape 3

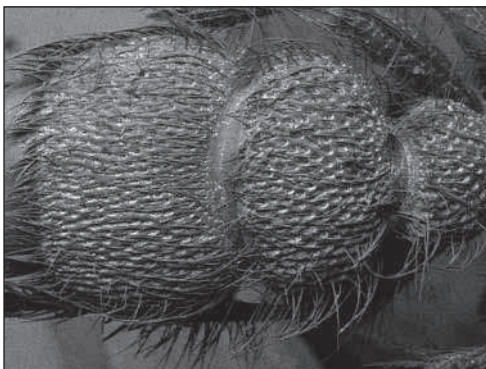


Figura 18 *Terga I-III of metasoma of Figura 9*

3. Integument red except in some specimens tergum VI black or tergum III with dark apical spot; setae white 4
 – Tergum III black in particular, other characters not as above 6
4. Middle-transversal axis of eyes placed on middle line between ventral apex of clypeus and vertex (cfr. fig. 43); head transversal (fig. 19); tergum I with tuft apicomesally and terga II-VI with apical fasciae of thin, dense, long setae; terga

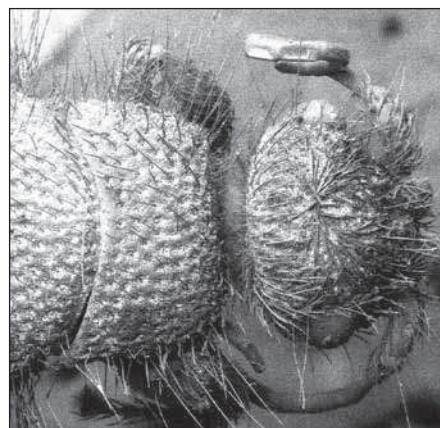


Figura 19 Head and pronotum of *M. pavesii* ♀

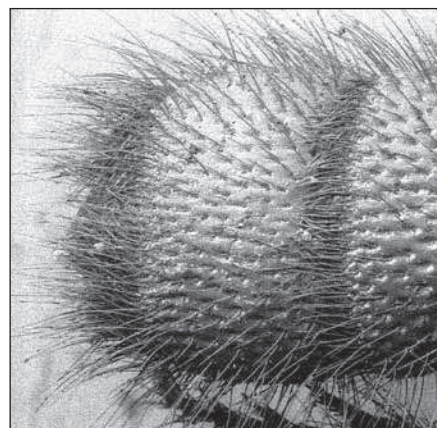


Figura 20 Last terga of *M. pavesii* ♀

II and III with not contiguous punctures confluent into inconspicuous median ridges (fig. 20) (Abd-al-Kuri) **pavesii** Pagliano

– Middle-transversal axis of eyes placed above middle line between ventral apex of clypeus and vertex (cfr. fig. 43); tergum I with tuft apicomesally and terga II-VI with apical fasciae of strong, somewhat dense, short silvery setae; terga II and III with elongate punctures confluent into conspicuous ridges 5

5. Vertex punctures 1-3 diameters apart (fig. 21); pronotal angles almost angular; tergum I with conspicuous tuft of setae; tergum III with dark, evanescent spot; tergum VI yellow with small, uniform, lateral teeth (Somalia) **confusa** (Invrea)

– Vertex punctures 2-5 diameters apart; pronotal angles rounded; tergum I with inconspicuous tuft of setae; tergum III red; tergum VI black, lateral teeth further apart at middle than at apex (fig. 22) (Namibia) **eadleyi** Pagliano

6. Length 9-13.5 mm; integument shiny; terga II and III with elongate impressions separated by unsculptured interspaces; tergum III with impressions reduced at apex of number and size (as in fig. 42) 33

– Size variable; integument dull; terga II and III without smooth interspaces between impressions that are uniform; if body shiny then body size less than 8 mm ... 7

7. Tergum VI black or reddish-brown or, in some specimens less than 8 mm long, only longitudinal ridges dark; lateral teeth of tergum VI further apart at middle

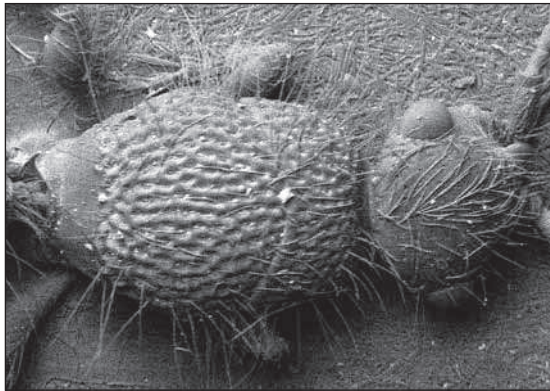


Figura 21 Head and mesosoma of *M. confusa* ♀

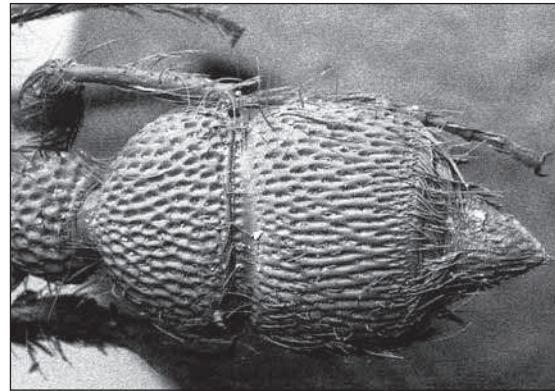


Figura 22 Metasoma of *M. eardleyi* ♀

- than at apex, usually pointed, large 8
 – Tergum VI coloured as above or differently; lateral teeth of tergum VI very small, either slightly further apart at middle than at apex or of uniform width, apex rounded, almost totally reduced in some specimens 21
8. Terga I and II red 9
 – Tergum I red, II black 11
9. Length 8–11 mm; antennal article III longer than IV; terga I and II without apical tuft or silvery setal fasciae (South Africa) **caplandica** (Invrea)
 – Length 3.5–6.0 mm; antennal article III as long as IV; tergum I with apical tuft that in some specimens is ill-defined, and II with silvery setal fascia apically 10
10. Length 5.0–6.0 mm; head and pronotum mesally with silvery appressed setae; tergum I with apical tuft of conspicuous setae, II with apical fascia of conspicuous silvery setae; striae of tergum III as wide as impressions above mesosoma (fig. 23) (Botswana, Namibia, South Africa) **schwarzi** Pagliano
 – Length 3.5–4.5 mm; only head with silvery appressed setae; tergum I with apicomesal tuft of scarce setae, II with apical fascia of inconspicuous silvery setae; striae of tergum III uniform (fig. 118) narrower than impressions above thorax (Namibia) **rainerii** Pagliano

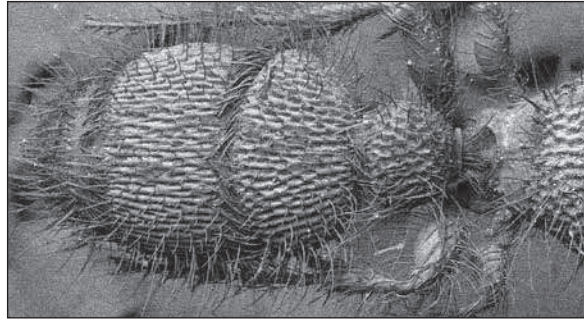


Figura 23 Metasoma of *M. schwarzi* ♀

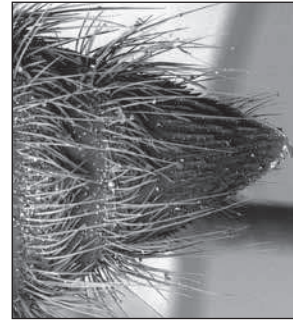


Figura 24 Ultimo tergum of *M. alluaudi* ♀

- 11. Head and legs darkened 12
 - Head and legs red or light brownish 14

- 12. Length 6-11 mm; length of pronotum 1.7-1.9 x width; apical tuft of setae on tergum I less than 0.5 of tergal width; lateral teeth of tergum VI further apart at midlength than at apex, with middle 3-4 teeth longest and most conspicuous (Angola, Botswana, Kenya, Namibia, South Africa, Zaire, Zimbabwe)..... **rhodesia** (Péringuey)
 - Length 10 mm; length of pronotum at most 1.6 x width; apical tuft of setae on tergum I more than 0.5 times tergal width; lateral teeth of tergum VI either as in *rhodesia* or differently spaced 13

- 13. Vertex with punctures that average 0.5 diameters apart; foveae of thoracic dorsum not confluent into longitudinal ridges; lateral teeth on tergum VI conspicuous but gradually reduced from middle to sides (fig. 24) (Ghana, Kenya, Tanzania) (= *voltana* (Invrea) **syn. n.**) **alluaudi** (Bischoff)
 - Vertex with confluent foveae; foveae of thoracic dorsum confluent into conspicuous longitudinal ridges; terga I and II: figure 25; lateral teeth of tergum VI further apart at midlength than at apex, with middle 3-4 teeth longest and most conspicuous (Botswana, Kenya, Mozambico, Zambia, Zimbabwe) **obscura** (Bischoff)

- 14. Terga I and II without apical tufts or conspicuous setal fasciae (fig. 26) Namibia, South Africa) **cybele** (Péringuey)
 - At least tergum I or II with apical tuft or conspicuous setal fascia 15

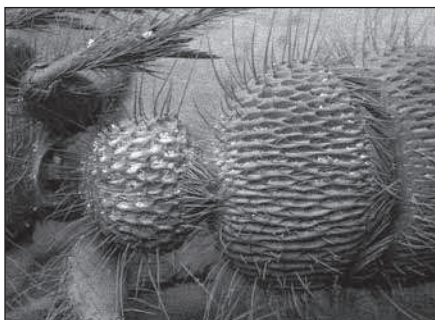


Figura 25 Terga I and II of *M. obscura* ♀



Figura 26 Propodeum and terga I-IV of *M. cybele* ♀

15. Length 9-10 mm; terga II and III each with apical yellow fascia 16
 – Length 5-8 mm; terga II and III either with or without apical fascia 17
16. Vertex lightly brown; length of pronotum about 2.1 x width; maximum width of tergum I 1.6 x length; tergum II whitish basomedially (Niger) **chopardi** (Invrea)
 – Vertex with dark spots; length of pronotum about 1.7 x width; maximum width of tergum I 1.1 x length; tergum II without basomedian whitish area (Etiopia) **suarezi** (Invrea)
17. Head, thorax and legs brownish; tergum III with ridges closer to each other than on II (fig. 27) (Angola, Namibia, South Africa, Zambia, Zimbabwe) **fodinae** (Péringuey)
 – Head, thorax and legs red or brownish; tergum III with ridges as far apart as those on II (fig. 28) 18
18. Terga II and III each with conspicuous yellow apical fascia; tergum VI with teeth very close together 19
 – Terga II and III without conspicuous yellow apical fasciae or fasciae present but narrow and covered of silvery setae; furthermore teeth of tergum VI widely spaced 20
19. Occipital carina about as high as diameter of apical antennal article; vertex markedly convex in frontal view, with punctures spaced apart less than 1.0 diameter; tergum III with elongate striae that are separated by about their own width (fig. 29) (Kenya) **pulawskii** Pagliano



Figura 27 Metasoma of *M. fodinae* ♀

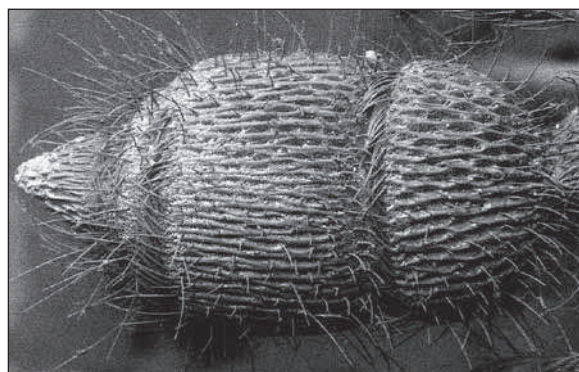


Figura 28 Terga II-VI of *M. climene kalaharica* ♀

– Height of occipital carina less than 0.5 diameter of apical antennal article; vertex flat in frontal view, with punctures that are 1.0-1.5 diameters apart; tergum III with impressions confluent into striae that are spaced apart less than 0.5 width (Algeria) **villemantae** Pagliano

20. Legs red; tergum VI with lateral teeth of medium size, evenly spaced (fig. 30) Namibia, South Africa) **climene** ssp. **climene** (Péringuey)

– Legs light brownish; tergum VI with large lateral teeth, much farther apart in the middle than at the extremities (Botswana, Namibia, Zimbabwe) **climene** ssp. **kalaharica** (Hesse)

Figura 29 Terga II-III of *M. pulawskii* ♀

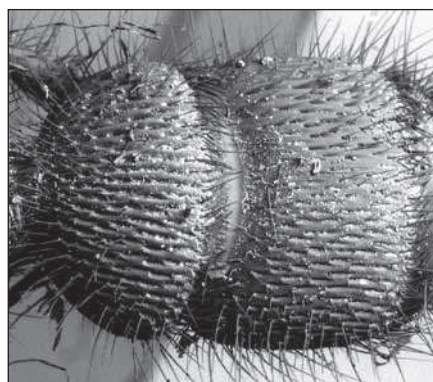


Figura 30 Last terga of *M. climene climene* ♀



21. First two terga red (in uncommon specimens tergum II dark with distal yellow fascia) 22
 – Tergum I red, II black 26
22. Tergum III punctate in basal fourth, the points of different dimensions, remainder closely striate, the striae posteriorly attenuate (Namibia) **leleji** Pagliano
 – Tergum III all with uniform striae or impression 23
23. Vertex punctures less than 1.0 diameter apart; tergum III with close, well-defined, regular striae, clearly narrower than on II (fig. 31), with yellow apical fascia (Botswana, Namibia, South Africa) **andrei** (Bischoff)
 – Vertex punctures 2-3 diameters apart; tergum III not striate as above; if striae present, then similar on terga II and III; tergum III apically with or without yellow fascia 24
24. Head circular in frontal view (fig. 32); tergum III with superficial impressions (fig. 32) that are 2-3 width apart, apical margin black; terga IV and V black, VI yellow (Kenya) **brevilineata** Pagliano

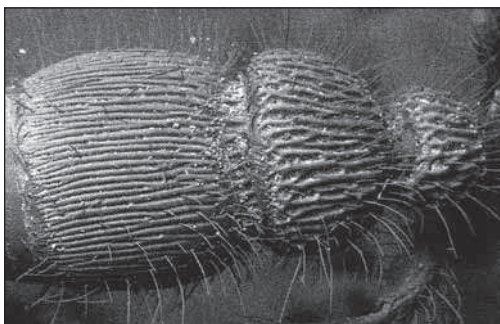


Figura 31 Terga I-III of *M. andrei* ♀

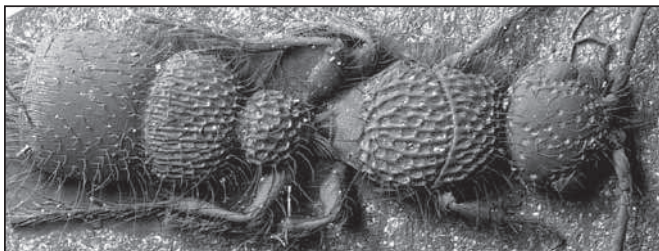


Figura 32 Habitus of *M. brevilineata* ♀

– Head wider than long in frontal view (as in fig. 33); tergum III with uniform, parallel impressions of medium depth, as distant from each other as those on tergum II, apical margin yellow; terga IV and V yellow; tergum VI yellow or black 25

25. Head and legs partly black; thorax with erect setae only, striated; striae of terga II and III close together, regular equal to those on thorax (fig. 33); tergum VI yellow (Egitto) **klugi** (André)

– Head and legs red; thorax with appressed setae between erect setae, foveate; striae of terga II and III as distant from each other as width foveae on thorax (fig. 34); tergum VI black (Etiopia) **maurae** Pagliano

26. Tergum I transverse in dorsal view, width at least 1.2 times its length 27

– Tergum I pear-shaped, about as wide as long or at most width 1.1 times its length 29

Figura 33 Habitus of *M. klugi* ♀



Figura 34 Head and mesosoma of *M. murae* ♀

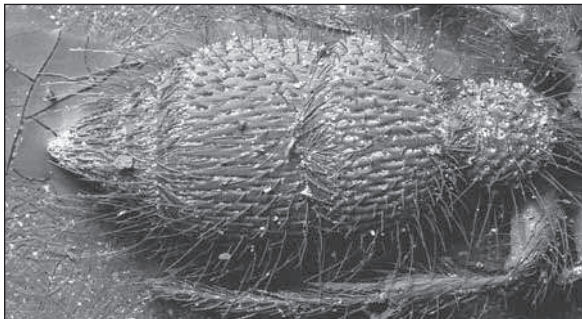
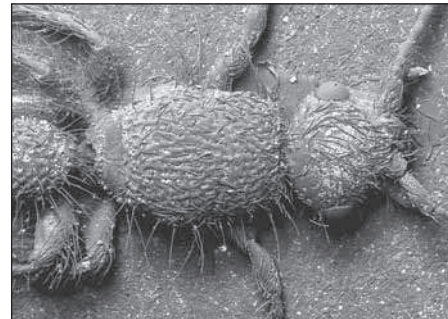


Figura 35 Metasoma of *M. murae* ♀

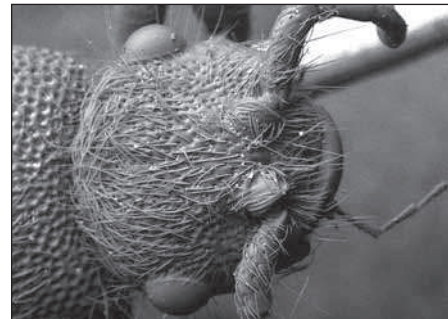


Figura 36 Mandibles of *M. aureolimbata* ♀

27. Mandibular outer margin evenly curved (fig. 36); terga II and III each with yellow apical fascia that is longer than setal fascia; apical tergum yellow or brownish (Somalia) **aureolimbata** (Invrea)
 – Mandibular outer margin curved almost 90° (fig. 38); terga II and III without yellow apical fasciae, or with fasciae as wide as apical setal fasciae; apical tergum black or reddish 28
28. Thorax without appressed setae between erect setae; terga II and III apically without yellow fasciae; constriction between terga II and III conspicuous (fig. 37); tergum III with well-defined striae (Tanzania) **kilimandjarica** (Bischoff)
 – Head and mesosoma with appressed setae between erect setae; mandibular outer margin curved 90° (as in fig. 38); terga II and III apically with narrow yellow fascia; constriction between terga II and III inconspicuous; tergum III with evanescent striae (Ethiopia, Kenya, Somalia) **somalica** (Invrea)
29. Head partly darkened; tergum III with thin, dense, regular longitudinal striae 30
 – Head red as thorax or partly dark; tergum III with ellipsoidal impressions at least in basal 2/3, remainder striated 31
30. Middle-transversal axis of eyes placed above middle line between ventral apex of clypeus and vertex (cfr. fig. 43); malar space red, vertex black; mandible red; yellow fasciae on terga II and III evanescent; lateral teeth of tergum VI visible at 40x (fig. 39) (South Africa, Zimbabwe) **bembesia** (Péringuey)

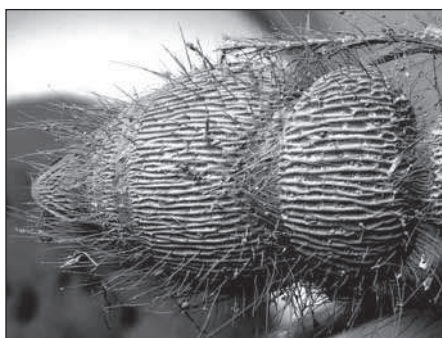


Figura 37 Terga II-VI of *M. kilimandjarica* ♀



Figura 38 Mandible of *M. gestroi* ♀

– Middle-transversal axis of eyes placed on middle line between ventral apex of clypeus and vertex (cfr. fig. 43); vertex partly red; mandible black in distal half; yellow fasciae on terga II and III larger than eye diameter; lateral teeth of tergum VI visible at 50x (fig. 40) (Etiopia, Kenya, Somalia) **striatissima** (Invrea)

31. Terga II and III black apically; tergum VI yellowish (South Africa) **ellipsigera** (Invrea)

–Terga II and III with yellow area as wide as eye diameter; tergum VI darkened 32

32. Length 5-8 mm; head and legs darker than mesosoma and tergum I; terga I-III in figure 41; segments IV-V black **helenae** (Invrea)

– Length 4-6 mm; head and legs as red as mesosoma and tergum I of metasoma; terga I-III in figure 46; segments IV-V red 35

33. Head including antennae, and thorax including legs, reddish yellow; middle-transversal axis of eyes placed above middle line between ventral apex of clypeus and vertex (cfr. fig. 43); mandibular outer margin curved almost 90° (fig. 38); terga II and III with elongate, superficial impressions that are barely longer than wide (fig. 42) Etiopia, Kenya) **gestroi** (Bischoff)

– Head black; antennae variously coloured; eyes lateral seen dislocated in various positions; legs black; terga II and III with deep impressions 34

34. Antennal article III longer than IV; punctures of head and thorax partly elongate, almost confluent; tuft of setae on tergum I and fascia on II inconspicuous;

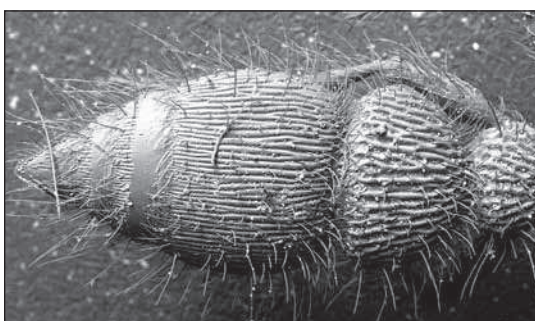


Figura 39 Terga II-VI of *M. bembesia* ♀



Figura 40 Metasoma of *M. striatissima* ♀



Figura 41 Terga I-III of *M. helenae* ♀

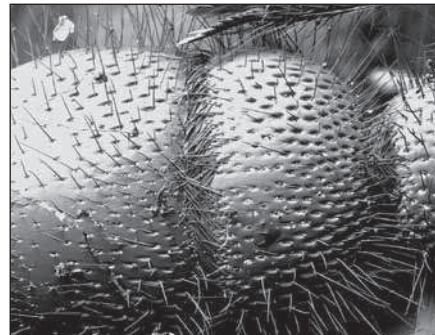


Figura 42 Terga II-III of *M. gestroi* ♀

tergum II with rough striae; medial distal area of tergum III either without punctation or with small punctures (fig. 44); tergum VI with conspicuous and further apart teeth (South Africa) **procera** (Péringuey)
 – Antennal article III as long as IV; punctures of head and thorax 1-2 diameters apart; apical tuft of setae on tergum I and fascia on II conspicuous; tergum II not striate; tergum III with apicomesal area with punctures barely more apart than on remainder surface (fig. 45); teeth of tergum VI barely marked, contiguous (Tanzania) **glabra** (Bischoff)

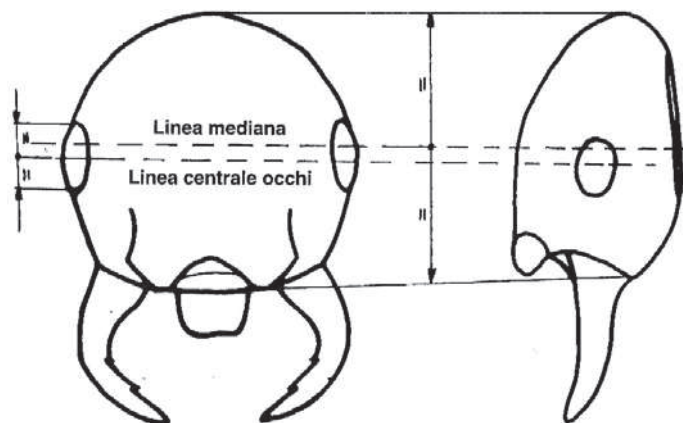


Figura 43 Head in frontal and lateral seen of *M. gestroi* ♀

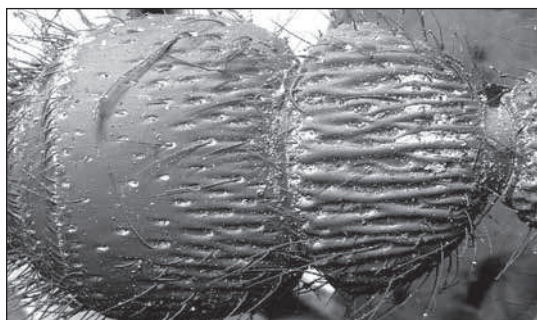


Figura 44 Terga II-III of *M. procera* ♀

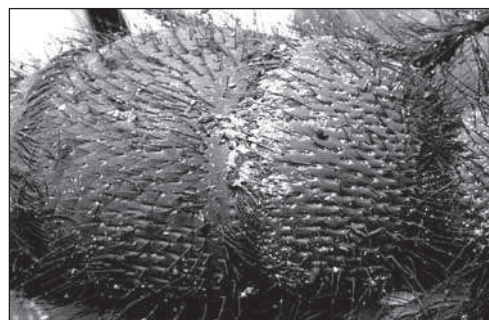


Figura 45 Terga I-III of *M. glabra* ♀

35. Length 4,5-6 mm; body stout, head a little flattened on vertex; middle-transversal axis of eyes placed above middle line between ventral apex of clypeus and vertex (cfr. fig. 43); antennae and legs red; tergum II with distal fascia linear, little expanded at centre; metasomal terga in figure 46; pigidium in figure 47; last sternum smooth, without punctuation (Algeria, Etiopia, Senegal, Somalia)..... **zavattarii** (Invrea)

– Length 4-6 mm; body very slender (fig. 7); head regularly rounded on vertex; middle-transversal axis of eyes placed to middle line between ventral apex of clypeus and vertex (cfr. fig. 43); legs red with femurs and tibiae some time a little darkened; tergum II with distal fascia expanded at centre, large about as half segment; last sternum smooth with large punctures latero-anterior margin (Senegal) **senegalense** sp. n.

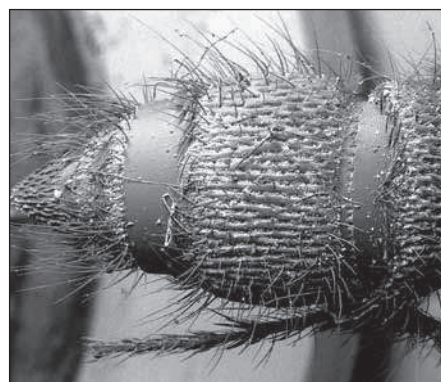


Figura 46 Metasomal terga of *M. zavattarii* ♀

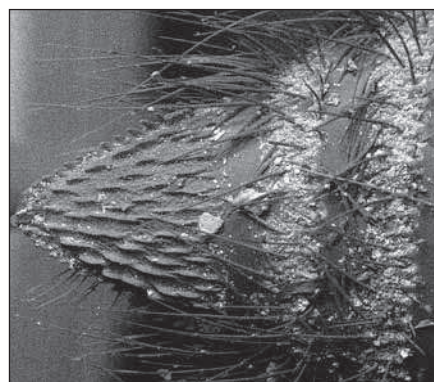


Figura 47 Pigidium of *M. zavattarii* ♀

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