

**DESCRIPTIONS OF NEW SPECIES OF SPALANGIA LATR. (HYM., CHALC.)
FROM AFRICA AND SOUTH AMERICA, WITH NOTES ON SOME KNOWN
SPECIES**

by

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This contribution is a supplement to my recent paper on the genus *Spalangia* Latr. (Bouček, 1963). It brings descriptions of two new species from Africa, of *S. turneri* and *S. oviceps*, notes on some other previously known species, mainly new data on distribution, including a description of the so far unknown female of *S. longepetiolata* Bčk., and a description of *S. bethyloides* from South America. This paper is largely based on material put at my disposal by my colleagues in the British Museum (Natural History) in London, England.

I. African species***Spalangia longepetiolata* Bouček**

Spalangia longepetiolata Bouček, 1963, Acta ent. Mus. Natl. Pragae, 35: 487—488; ♂.

I described this species from several males but did not then know the female. In this sex *longepetiolata* is very similar to *cameroni* Perk., mainly in the sculpture of the pronotum, the rather long head and especially by the antennae which are almost of the same shape in the two species. In *longepetiolata* the compound eyes are much larger and the umbilicate punctures on the head are rather sparse, with interspaces on genae (except for the densely punctate antennal socket) at least as wide as the piliferous dots. In some respects, e. g. as to the large eyes, the fairly high and convex gaster pointed posteriorly (see Fig. 5), the female of *longepetiolata* is very similar also to *S. turneri*, n. sp. But the latter species differs mainly by the slenderer antennae, sculpture of head, the still larger eyes, rougher sculpture on the pronotum and the mesopleurae, etc., as given in the key below. In females of the three species the abdominal petiole does not show reliable differences, although its length seems to be quite abnormal in the male of *longepetiolata*.

F e m a l e. — Similar to male except for the following. Head in facial view (Fig. 2) distinctly longer than broad (35:29), in lateral view fully twice as long as thick; eyes large, their length in relation to length of malar space as $1:0.71 \pm 0.08$ (whereas in the closely allied *cameroni* $1:1.13 \pm 0.07$); lower half of face, genae and temples very sparsely beset with piliferous punctures, interspaces between them several times as wide

as punctures. Antennae (Fig. 1) long, slender, subfiliform, only very slightly thickened towards apex; scapus finely granulate-striate, slender, as long as five following segments combined; pedicellus only slightly longer than the first funicle segment, each of them almost 2.5 times as long as broad; funicle segments 2 to 7 gradually decreasing in length, the second about 1.6 times as long as broad, the seventh only hardly longer than wide; clava almost 3 times as long as broad, fully as long as 2.5 preceding segments combined.

Sculpture of pronotum more regular than in the male, transverse rugae anteriorly, if present, very vague, otherwise the sculpture here and on sides of collar reticulate-punctate; disc in front of the cross-line shiny, almost smooth, sublaterally with some umblicate punctures; collum dull, granulate-striate (transversely). Disc of mid lobe of mesoscutum almost always with a distinct median carina. Propodeum with double alveolate row posteriorly only half as broad as anteriorly. Forewing subhyaline, with basal fold and cubital fold bare.

Abdominal petiole not unusually longer than in the allied species, twice as long as broad, dorsally shallowly groove-like in anterior third, with sublateral keels raised here. Gaster almost twice as long as broad, second tergite rather deeply emarginate posteriorly, along middle barely half as long as the third tergite; surface polished. Length of body 2.8—4 mm.

Host still unknown.

Distribution: Yemen; East, Central and South Africa.

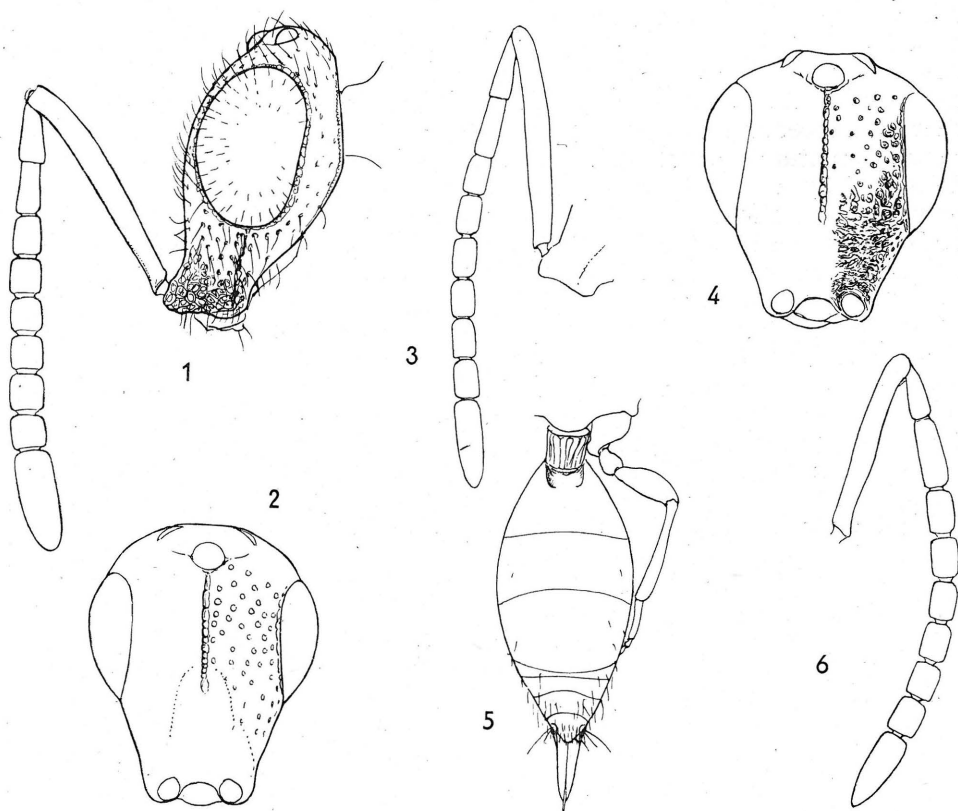
Additional material. — South Africa: Natal, Kloof, 1500 ft., IX. 1926 (R. E. Turner); Cape Province, Sommerset East, 1.—26. I. 1931 (R. E. Turner); Mossel Bay, VI., 1.—3. VII., VIII., X. XI. and XII. 1921, V. 1930 (R. E. Turner); Umtata, Transkei, 18. II.—18. III. 1923 (R. E. Turner); Pondoland, Port St. John, X. 1923 (R. E. Turner).

***Spalangia turneri*, sp. nova**

This species belongs to the vicinity of *S. cameroni* Perkins, together with *gemina* Bouček and *longepetiolata* Bouček. From all these species *turneri* differs by its short head with very large eyes, very slender antennae (in females), the coarse pronotal cross-line, the sculpture of the collar, the pointed and very convex abdomen in female, etc.

Female. — Head in facial view (Fig. 4) rounded-trapezoidal, only slightly longer than broad (37:34), frons feebly convex, on disc sparsely umbilicately punctate, but crowdedly rugoso-punctate on sides at eyes; this sculpture extending along the scrobes down to antennae, but here shallower; scrobes on bottom sparsely transversely rugose, shallow, extending as far as level of lower extremities of eyes; orbits distinctly carinaceous. Head in side view fully twice as long as thick (37:16); genae and vertex beset only with sparse individual dots; genal sulcus distinct, broad and crenate; eye almost twice as long as malar space (21:11); antennal socket hardly raised; back side of head between eye and the low occipital carina densely but obsoletely rugoso-punctate. Antenna (Fig. 3) long and very slender, filiform, flagellum plus pedicellus in relation to length of head as 55:37; scapus delicately longitudinally

striate, fairly shiny, slender, as long as 4.3 following segments combined; pedicellus fully three times as long as broad, almost as long as the first funicle segment, which is also almost three times as long as broad; the second to seventh funicle segments oblong, all subequal or very slightly decreasing in length, 1.3—1.7 times as long as broad; clava fully three times as long as broad, bluntly pointed at apex. Flagellum delicately



Figs. 1—2. *Spalangia longepetiolata* Bouček: Fig. 1. Head of female in side view, with antenna. Fig. 2. Head of female in facial view.

Figs. 3—6. *Spalangia turneri*, n. sp.: Fig. 3. Antenna of female. Fig. 4. Head of female in facial view. Fig. 5. Abdomen of female. Fig. 6. Antenna of male. — Figs. 1—4 and 6 drawn at same scale.

shortly pubescent, with tiny longitudinal sensillae, these on funicle segments 2 to 7 in two irregular rows.

Pronotal collar almost semiglobose, with deep subcaudal transverse crenate furrow and just in front of it in a narrow strip smooth and as if a little swollen; otherwise the surface dull, very coarsely and irregularly rugosely reticulate-punctate, sculpture anteriorly more transverse, posteriorly more longitudinal; no ridge anteriorly; collum dull, finely trans-

versely rugulose except for a transverse double groove at anterior margin deepened into a median pit. Hairs of collar (as well as on head) not very strong, fairly adpressed. Mid lobe of mesoscutum on disc irregularly rugoso-punctate, anteriorly transversely striate; side lobes smooth, with sparse small piliferous punctures. Scutellum convex, transversely triangular, smooth, without umbilicate dots, but the crenate frenal cross-line very deep and coarse; frenum about twice as broad as the belt of metanotum. Propodeum with median double alveolate row moderately narrowed posteriorly, median carina distinctly raised in anterior half and sharp; the arch-like plicae low and perceptible only in posterior half; spiracular groove narrow, only posteriorly broadened in front of the sharply projecting posterolateral corner; lateral callus dull, irregularly rugoso-punctate, lateral fimbriae short; nucha very short, low, anteriorly delimited by a crenate cross-impression, hind margin emarginate. Mesopleura shiny, almost smooth, above the short and broad episternal scrobe horizontally and behind it obliquely, finely striate; a triangular area with its base in the anterior oblique impression and with the top reaching the deep precoxal fovea, irregularly coarsely punctate. Trochanter of hind leg with a small tubercle dorsally. Forewing in basal third mainly bare, only the basal fold with several hairs; longest marginal ciliae about as long as width of the costal cell, at least twice shorter than the strongly curved stigmal vein; the latter hardly longer than the postmarginal vein, distinctly longer than the prestigma.

Abdominal petiole twice as long as broad, slightly expanded at both ends, without lateral hairs, its dorsal surface slightly flattened, longitudinal carinae dense and fairly regular. Gaster highly convex, long-ovate and fairly pointed (Fig. 5), polished, the second tergite broadly emarginate posteriorly, in the middle about 0.6–0.7 times as long as the third gastral tergite. Ovipositor slightly exerted, sheaths pointed.

Body black, in some specimens with a slight greenish lustre; tarsi of all legs testaceous, but distally more or less infusate. Wings brownish. Length (of stretched body) 3.4–4 mm. (holotype, with body not stretched, 3.6 mm.).

Male. — Very similar to female except for head, antennae and abdomen. Head in facial view only as long as broad, with genae more strongly converging toward mouth than in female, but malar space also only slightly longer than half the length of eye. Face only very slightly convex, almost flat. Scapus of the antenna (Fig. 6) slightly shorter than the following four segments combined; pedicellus slender, almost 2.5 times as long as broad at apex, only slightly shorter than the first funicle segment (7:8); the latter 2.5 times as long as broad, the second to seventh funicle segments oblong; subequal in shape and width, only very slightly decreasing in length: the second about 1.4 times, the seventh 1.3 times, as long as broad; clava fully as long as two preceding segments combined. Abdominal petiole three times as long as broad. Length of (stretched) body 2.9–3.2 mm.

Host unknown.

Distribution: South Africa.

Holotype (female): South Africa, Cape province, Mossel Bay, VIII. 1921 (R. E. Turner). Deposited in the British Museum (Natural History).

Further material (paratypes and allotype). — South Africa: Mossel Bay, IV., VII., X. and 1.—14. XI. 1921, VI.—VII. 1930 (all collected by R. E. Turner).

I see a flaw in my contribution in the fact that I could not trace the type material of two African species, namely of *S. afra* Silvestri, 1913, and of *S. melanogastra* Masi, 1940. The original material should be preserved in Perugia, but according to information from Dr. G. Viggiani it has not been possible to find it there. Anyway from these two species only *melanogastra* clearly belongs to species with a distinct cross-line on the pronotum and, as I said already in my paper of 1963, is most probably synonymous with *S. cameroni* Perkins.

The following is a revised key to the African species with a cross-line on pronotum.

- 1 Pronotal collar ridged anteriorly **nigroaenea** Curtis
- Pronotal collar anteriorly rounded, without any distinct ridge 2
- 2 Mid lobe of mesoscutum with distinct cross-line of punctures and a round fovea behind it **simplex** Perkins
- Mid lobe of mesoscutum without distinct cross-line, but more or less irregularly punctured or rugose on disc 3
- 3 Collar semiglobose, polished, almost regularly beset with large piliferous punctures; distal funicle segments in female slightly transverse, in male subquadrate **endius** Walker
- Collar at least anteriorly on sides crowdedly rugose to reticulate-punctate 4
- 4 Head densely umbilicately punctured, especially on genae 5
- Genae sparsely punctured 6
- 5 In female head distinctly oblong, genae fully as long as eyes, most funicle segments oblong; punctures on frons rather sparse **cameroni** Perkins
- In female head hardly longer than wide, genae much shorter than eyes, most funicle segments transverse; in male distal funicle segments hardly longer than broad **gemina** Bouček
- 6 Head everywhere beset sparsely with piliferous punctures; in female head distinctly oblong, with eyes only slightly longer than genae; in male pedicellus about twice shorter than the first funicle segment **longepetiolata** Bouček
- Head densely rugoso-punctate in a streak between inner orbit and antennal socket; in female head only slightly longer than broad, with eyes very large, almost twice as long as genae; in male pedicellus almost as long as the first funicle segment **turneri**, n. sp.

Spalangia cameroni Perkins

The relative length of malar space in this species varies from hardly to obviously longer than the longest eye diameter, in figures 1: 1.13 ± 0.07 .

The additional material in the British Museum comes from South Africa: Cape Province, Aliwal North, 4350 ft., XII. 1922 and 1.—13. I. 1923 (R. E. Turner); Cape Province, Mossel Bay, IV., VIII., IX. and X. 1921 (R. E. Turner); Natal, Kloof, 1500 ft., IX. 1926 (R. E. Turner); Pondoland, Port St. John, 12.—30. VI. 1923 (R. E. Turner); Tanganyika, 1917—1918 (Dr. W. A. Lamborn); Brazil, Nova Teutonia, VII. 1957 (F. Plau-mann).

***Spalangia simplex* Perkins**

Also of this species I examined further material from Africa. It seems to suggest that either there are two very close species involved or that the variation range of *S. simplex* is still wider than mentioned by Bouček, 1963 (pp. 489–491). Further information is much needed. In one male of 1.7 mm. length relative length of head is 18, width 17, while width at mouth makes 7.5. In another male of 1.7 mm. antennal funicle segments 2 to 7 are subquadrate and relative measurements of the mentioned parts of head are 17, 18 and 9, respectively. All the additional material comes from South Africa, Pondoland, Port St. John, 1.—5. IV. and 15.—31. V. 1923 and 1.—17. III. 1924 (R. E. Turner).

***Spalangia endius* Walker**

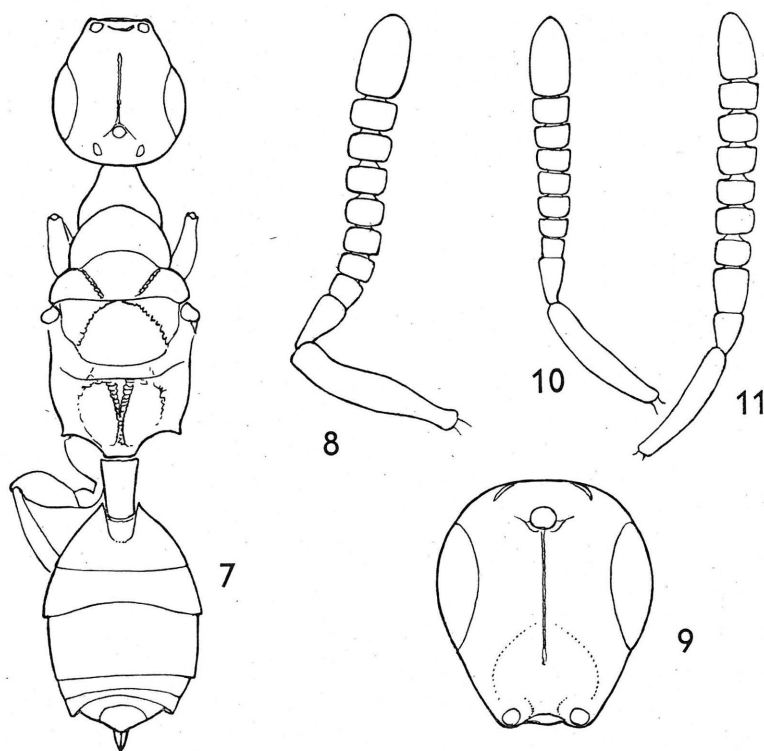
Further material of this species comes from: South Africa, Pondoland, Port St. John, V. 1924 (R. E. Turner); Cape Province, Mossel Bay, XII. 1921 (R. E. Turner). I saw also another specimen from Brazil, Nova Teutonia, 27°11' s. w. 52°23' w. l., 28. I. 1962 (F. Plaumann; Mus. Stockholm).

***Spalangia oviceps*, sp. nova**

This species seems to combine the characters of the *fuscipes*-group with the *erythromera*-group, in having both the cross-line on the scutellum effaced and a fairly depressed body, and the pronotum slightly depressed in a subcaudal cross-belt and here with distinct longitudinal rugosity. By the combination of these characters and the ovate, distinctly convex head the new species differs from all the known African species.

Female. — Head in facial view (Fig. 9) almost ovate, oblong (19.5:17), shiny and smooth, except for some very sparse and delicate punctures and some rugosity just at antennal sockets and on declining parts of the scrobes; scrobes shallow and very short; median groove very tiny, extending over two-thirds the distance between front ocellus and insertion of antennae, ending in the scrobes with a broader pit; frons distinctly convex; eyes not protruding, distinctly longer than the nearly smooth malar space (10:7), the latter with distinct sulcus. Head in lateral view only just twice as long as thick, 19:9; antennal socket clearly raised; temples smooth. Antennae rather stout (Fig. 10), subfiliform, flagellum slightly clavate and (without pedicel) as long as width of head. Scapus dull, minutely granulate-rugulose, not very slender, as long as 5.5 following segments combined; pedicellus about 2.2 times as long as broad at apex, almost as long as three following segments together; all funicle segments transverse, in basal half increasing in width, the first only very slightly transverse, the fifth almost twice as broad as long (not always), the seventh about 1.6 times as broad as long; clava stout, rounded at apex, fully as long as three preceding segments together, but itself only twice as long as wide.

Thorax flattened above, nearly 1.8 times as long as broad. Pronotal collar almost semiglobose, but dorsally a little depressed, without any



Figs. 7—8. *Spalangia bethyloides*, n. sp.: Fig. 7. Body of female. Fig. 8. Antenna of female.

Figs. 9—11. *Spalangia oviceps*, n. sp.: Fig. 9. Head of female in facial view. Fig. 10. Antenna of female. Fig. 11. Antenna of male.

ridge and without distinct cross-line; in place of the latter a broad cross-belt of irregular longitudinal rugae, in front of them only sparsely scattered small piliferous punctures. Mid lobe of mesoscutum on disc finely irregularly granulate-rugulose, in this sculpture a deeper distinct cross-line of larger dots and behind it a deeper rugose depression reminding one of the sculpture in *S. simplex* Perkins. Scutellum flat, transverse, frenal cross-row only laterally indicated, disc almost in one plane with metascutellum and propodeum. Propodeum with median alveolate row Y-shaped, central part between the branches low, polished; nucha only vaguely indicated, very short; plicae indistinct, merged in irregular ruguloso-punctured sculpture of lateral parts; posterolateral corner obtuse. Mesopleura almost smooth, except for sparse rugae in depressions; episternal scrobe represented by a broad rounded fovea; mesosternal face delicately granulate anteriorly. Legs very stout, hind femora only 2.5 times as long as broad, also hind tibiae very broad. Forewing rather narrow (16:42), longest marginal ciliae not longer than stigmal vein; basal fold and cubital fold with several hairs.

Abdominal petiole hardly 1.5 times as long as wide, convex except for a slight median depression anteriorly, with regular carinae converging backwards, grooves between them finely crenulate. Gaster ovate, shortly pointed, polished; hind margin of the second tergite only scarcely emarginate, this tergite in median line almost only half as long as the third tergite (5:9).

Body black, without metallic tint; tarsi pale; wings subhyaline. Length 1.8–1.9 mm.

Male. — Very similar to female, but differing in shape of head, antennae and abdomen. Head fully as broad as long, with eyes very large, longer than malar space as 9:5. Antenna (Fig. 11) except for scape stout-filiform; pedicellus pyriform, only slightly longer than broad, distinctly shorter than the following segment (2.6:3.4); first funicle segment about 1.4 times as long as broad, the following segments transverse, most of them about 1.4 times as broad as long, the seventh funicle segment only 1.1 to 1.3 times as broad as long; clava about twice as long as broad, as long as two preceding segments combined, as if composed of three fused segments, with three rows of whitish longitudinal sensillae (as is many species of the genus). Pronotum without rugosity, only with sparse punctures. Abdominal petiole about 1.6 times as long as broad. Length of body 1.4–1.6 mm.

Host unknown, but probably a Dipteron developing in rotten potatoes.

Distribution: Tanganyika, South Africa.

Holotype (female): Tanganyika, "Faule Kartoffel, German E. Africa, Dar-es-Salaam, 20. V. 15, A. Dampf L. A. 131". Deposited in the British Museum (Nat. Hist.).

Further material (allotype and paratypes, 1 ♀ and 3 ♂♂): Tanganyika, Dar-es-Salaam, 1 ♀ 2 ♂♂ (one of them allotype), with the holotype. — South Africa: Cape Province, Mossel Bay, 1 ♂, IV. 1921 (R. E. Turner).

Obviously the African fauna is much richer than is known so far. Among the material in the British Museum I left several further species unnamed, for they were represented by single specimens or only by males.

II. South American species

Spalangia nigroaenea Curtis

Prospalangia platensis Brèthes, 1915, An. Soc. cient. Argent., 79: 315–317; ♀♂. **N. syn.**

Already in my 1963 paper (p. 502) I suspected this species to be identical with *nigroaenea*. This has been confirmed recently when I received, thanks to the kindness of Prof. L. Desantis of La Plata one paratype of the Brèthes species.

Spalangia cameroni Perk. and *S. endius* Walker

For new data on these two species from Brazil see above.

***Spalangia bethyloides*, sp. nova**

This South American species belongs to the *fuscipes*-group and is especially characterized by its slender depressed body (Fig. 7) with short ovoid head and rather short antennae (in female, Fig. 8), the flat scutellum without distinct cross-line, by the long subhorizontal propodeum, only vaguely carinated abdominal petiole, etc. In my key to the South American species of 1963 (pp. 497—498) it would run to couplet 8, but is larger (it cannot be *tarsalis* Brèthes, nor *brasiliensis* Ashmead, because it has much sparser puncturation on head and thorax and practically no cross-line on scutellum). From *drosophilae* Ashm. it differs by umbilicate puncturation, longer antennal scapus, etc., from *impuncta* How. also by coarser puncturation and by a different shape of head and thorax.

F e m a l e . — Head in facial view ovate (Fig. 7), slightly longer than broad (23:20.5), with sparse piliferous punctures, interspaces between them generally twice as wide as individual punctures; frons convex as far as the level of lower ocular line; scrobes shallow and mostly smooth on bottom except for subtriangular area above either antennal socket which is more deeply depressed and densely granulate on bottom as well as space between antennae including the labrum; median crenate furrow on frons reaching down below lower ocular line. Head in lateral view fully twice as long as thick (23:11); eyes large, long-oval (12:7), twice as long as malar space; the latter with distinct sulcus, shiny, only sparsely beset with small piliferous punctures, as well as temples; occiput ridged at top by occipital carina. Pubescence of head (including eyes) dense, at most as long as width of scape. Antenna (Fig. 8) rather stout, distinctly hairy, hairs on scapus half as long as width of the latter, the longest semierect hairs on base of funicle (apart for the delicate and very dense ground pubescence) one-third as long as width of the involved segment. Scapus curved as in *drosophilae*, but not so short and a little slenderer, its surface dull, reticulately granulate; it is as long as five following segments together; pedicellus pyriform, twice as long as broad, fully as long as two following segments combined; first funicle segment hardly longer than broad, the second to seventh slightly increasing in width but very akin in shape, each of them about 1.3 to 1.5 times as broad as long, the second sometimes shorter than the third; clava rather broad, width to length as 4:7; it is shorter than three preceding segments combined.

Thorax flattened, fully twice as long as broad (Fig. 7). Pronotum without subcaudal cross-line, collar immargined, only very feebly convex, sparsely beset (except for a median stripe) with umbilicate punctures which are very shallow, but have distinctly raised piliferous centres; in place of subcaudal transverse groove a faintly indicated cross-depression; collum dull, granulate. Mid lobe of mesoscutum with a double crenulate median depression and sparse vague punctures outside of it. Scutellum roundedly subtriangular, transverse, flat, laterally in posterior third with indicated frenal cross-line, in a broad median belt completely smooth, but with a few punctures at axillar furrows. Metanotum narrow, in the middle still narrower than at sides, half as long as the undefined frenum.

Propodeum almost horizontal, its double alveolate median row strongly narrowed posteriorly, double only in anterior half where it is divided by a smooth stripe; nucha not distinct; plicae almost indistinct; posterolateral corners sharp, tooth-like. Mesopleura dull, densely striate, the engraved striae in posterior part transversely connecting. Propleurae smooth, but their depressed anterior part (beneath collum) dull, densely granulate. Legs rather strong. Forewing slender, fully twice as long as broad (63:24), densely haired, but in basal bare quarter only with several hairs under the submarginal vein on the cubital fold; longest marginal ciliae as long as stigmal vein.

Abdominal petiole twice as long as broad or nearly so, densely rugoso-reticulate, with longitudinal carinae irregular and mostly indistinct, only sublateral carinae in anterior half distinct, converging backwards. Gaster rather flat above, tergites except the first with a very delicate sculpture consisting of short minute commas scattered in all directions; second tergite with hind margin shallowly emarginate, in the middle only half as long as the third; ovipositor sheaths shortly protruding.

Body black; tarsi proximally pale. Length of stretched body 1.9—2.4 mm. (holotype 2.4 mm.).

Male. — Not known.

Host not known.

Distribution: Eastern Brazil.

Holotype (female): Brazil, Nova Teutonia, 27°11' s. w. 52°23' w. l., 16. VII. 1957 (Fritz Plaumann); two paratypes from the same locality, VII. 1957 (Plaumann). Deposited in the British Museum (Nat. Hist.).

REFERENCE

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