STUDIES ON THE FAUNA OF SURINAME
AND OTHER GUYANAS: No. 17.

THREE NEW SPECIES OF MICRATHYRIA

with a note on M. romani Sjöstedt

Notes on Odonata of Suriname VIII [1])

by

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In the following descriptions, three new species of *Micrathyria* are introduced. They have been collected during the last twenty-three years of field work carried out in Suriname from the country's northern Atlantic coast to its southern border with Brazil.

Micrathyria surinamensis n. sp. belongs to the *aequalis-longifasciata* group, *M. paruensis* n. sp. is a representative of the *ungulata*-complex and *M. coropinae* n. sp. shows a close relationship with *M. romani* Sjöstedt. I am much indebted to Dr. RENÉ MALAISE, Curator of the Naturhistoriska Riksmuseum, Stockholm, for the loan of the type specimen of *M. romani*, from which supplementary notes and figures could be made.

The work done in recent years by Professor NEWTON DIAS DOS SANTOS and Professor PH. P. CALVERT, together with these new descriptions, shows that the genus *Micrathyria* is much richer in

[1]) I. Rimanella arcana Needham and its nymph. *Rev. ent. Brasil 2*, June 1940, p. 173–179, 8 figs.

II. Six mostly new Zygopterous nymphs from the coastland waters. *Ann. Ent. Soc. Am. 34*, Dec. 1941, p. 719–734, 6 figs.

III. The genus Coryphaeschna, with descriptions of a new species and of the nymph of C. virens. *Ent. news 54*, March 1943, p. 61–72, 2 figs.

IV. Nine new or little known Zygopterous nymphs from the inland waters. *Ann. Ent. Soc. Am. 36*, June 1943, p. 165–184, 7 figs.

V. A new species of Misagria with a redescription of the genus. *Ent. news 62*, Feb. 1951, p. 70–76, fig.

VI. The nymph of Neoneura joana Will. *Ent. news 65*, June 1954, p. 141–144, fig.

VII. The Aeschnine genus Staurophlebia. *Studies fauna Suriname and other Guyanas III*, Dec. 1959, p. 147–172, 5 figs., 2 pls.

species than it was supposed to be after the revision of the genus by RIS in his monograph on the Libellulinae (1911, 1916). And I think we have still not come to the end of them.

Micrathyria surinamensis n. sp. Fig. 15

Male (holotype). — Mouth parts pale yellow, darkened along the inner side of the labial lobes and at the extreme margin of labrum. Face dull light blue, upper part of frons and vertex shiny dark metallic blue; antenna black; occipital triangle black, with two yellow spots at the swollen hind margin; rear of head black.

Prothorax black, hind lobe uplifted, narrowed at base, the hind margin with a fringe of long hairs.

Synthorax mostly black with yellow markings. In front, two narrow antehumeral stripes to $\frac{3}{4}$ of the way along the upper length of dorsum, prolonged to the underside into the upper third of meso-infra-episternum. The yellow stripe at the humeral suture divided into three parts, a lower, a middle and an upper part bending of to 90° under the frontal wing crest and not meeting the middorsal carina. There is a small yellow spot in the upper mesepimeron which is practically connected with the middle yellow spot of the first row. A larger yellow spot and a smaller one in the lower and upper half of the mesepimeron. Behind the black stripe in which the lateral stigma lies is an indistinct yellow spot, connected with the lateral suture in the lower half. At the end of the metepimeron a vague spot is visible. Underside and between the wing bases, grey pruinose.

Legs black, outer side of femur I with 6 spines, of femur II with 12 spines and of femur III with 15 small spines. Claws with a tooth at the underside at $\frac{2}{3}$ along their length.

Abdomen black, widened in the last three segments; segm. 2 with a basal dorsolateral green ring and the other segments with yellow side spots as follows: segm. 3 to $\frac{2}{3}$ segment length, segm. 4 to $\frac{1}{4}$ the length and segm. 5 and 6 just indicated at base; on segm. 7 a large spot reaching to $\frac{2}{3}$ the length of the segment; segm. 8, 9 and 10 and the appendices black.

Appendices not as long as segm. 9 + 10, the superiores divergent at base the tips bent together; underside angled at $\frac{3}{4}$ of their length

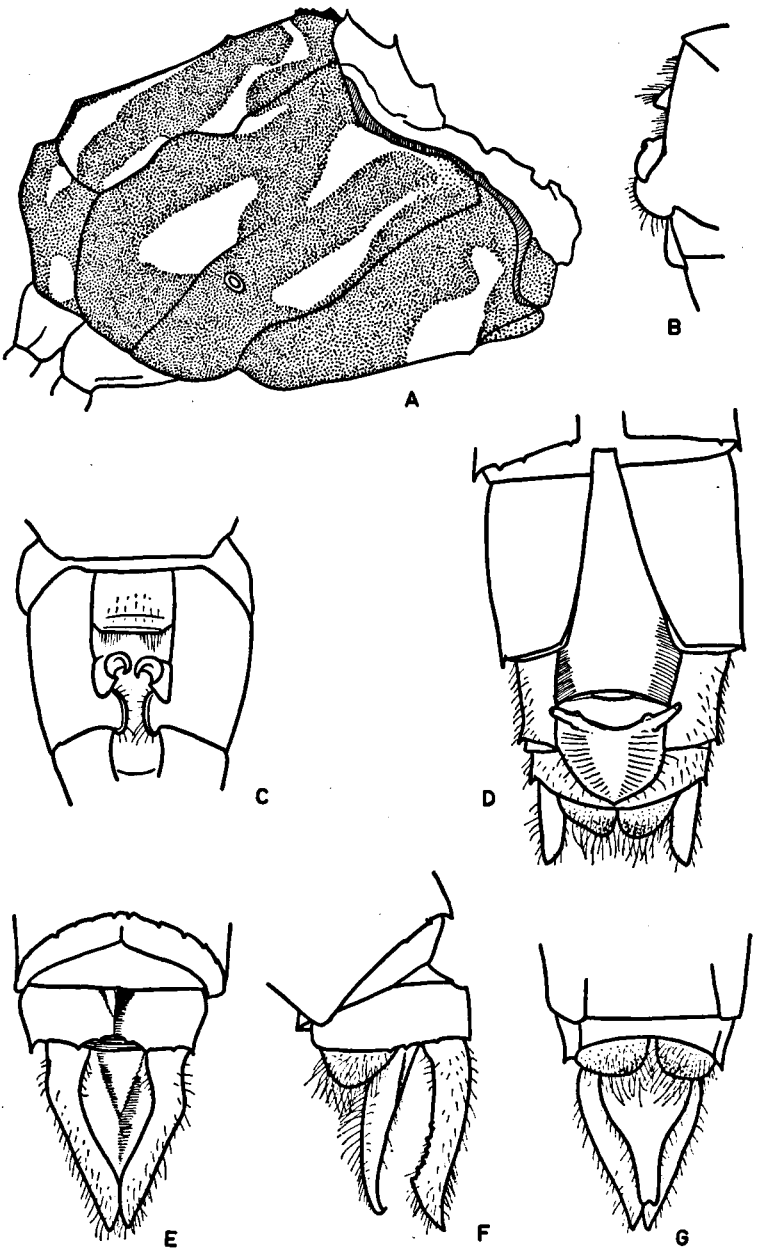

Fig. 15. *Micrathyria surinamensis* n. sp., from SURINAME. Holotype male: A, thorax lateral left side; B, genitalia second segment lateral left side; C, genitalia second segment ventral side; D, end of abdomen ventral side; E, appendices dorsal side; F, appendices lateral left side; G, appendices ventral side.

with a row of 5–6 teeth more proximad; the tips pointed. Appendix inferior triangular, nearly as long as superiores, reaching to halfway between the angle and the tips; the basal half broad, the upper half narrowed to a small two teethed point.

Genitalia abd. segm. 2: lamina anterior low, half as high as the others parts; hamules with the triangular outer branch partly covering the genital lobe, which is rounded and nearly as high as the hamules. Inner branch of hamules small, curved inward, the point directed caudad.

Wing venation: fore wing 8½ antenodals, 8 postnodals. Arculus between antenodals 1–2 near the second. Triangle free, subtriangle 2 celled; discoidal space with two rows of cells to the last marginal series containing four cells. One bridge cross vein and one cubital cross vein, Rspl 4–5 cells.

Hind wing 7 antenodals, 8 postnodals. Arculus proximad to the second antenodal, meeting inner side of triangle on the other side. Triangle and supratriangle free, Cu_1, arising from the lower half of outer side of triangle. One bridge cross vein and one cubital cross vein, Rspl 5 cells. One to two cells running through between M_4 and Cu_1. Anal loop with two rows of cells and one double cell in heel, altogether 11 cells. Two cell rows between anal loop and hind margin. Membrane very small, dark brown. Wing membrane hyaline with a trace of a yellow spot between Cu and A. Pterostigma dark brown.

Female (allotype). – Mostly as male. The metallic blue of frons and vertex less shiny, occipital triangle brown with two yellow spots.

Hind lobe of prothorax greenish. Synthorax chocolate brown with yellow stripes, these markings broader than in male, the first row along the humeral suture not divided into three pieces but continuous from upper end of meso-infra-episternum to the upper alar margin. Mesepimeron as in male, the yellow spots larger, metepimeron with a dark stripe over the middle, not reaching the upper end. Ventrum pruinose. Legs black, the bases brown, underside of femur I in the basal half pale.

Abdomen black, except for the following spots: segm. 2 with a greenish ring in the basal half before the transverse carina. Sides of

segm. 2 in the apical half starting with a green side stripe which runs over the segments to segm. 7 and is interrupted by an apical black ring in segm. 5, 6 and 7 to resp. $\frac{4}{5}$ and $\frac{3}{4}$ their length. Last three abd. segments black. Appendices simple, shorter than segm. 9 + 10, pointed, black. Vulvar lamina short with the hindmargin straight and thickened, reaching to halfway down segm. 9.

Total length male: 27–28 mm; abd. + app. 18–19 mm; hind wing 22–22.5 mm; stigma 2.5 mm.

Total length female: 26 mm; abd. 16.5 mm; hind wing 22 mm; stigma 2.5 mm.

SURINAME, in savanna pools and in temporary creeks in the interior. – Railway km 54, Apr. 20, 1949, 5 ♂♂ (Geijskes); near Sectie O, May 11, 1949, 1 ♂ holotype (Geijskes); De Jong Noord, June 10. 1953, 3 ♂♂ (Radin); Brownsweg, Sep. 20, 1938, 1 ♂ (Geijskes); Kabelstation, Sep. 23, 1938, 1 ♂; Nassau Mountains, small creek in the lowland bush, Feb. 15-21, 1949, 4 ♂♂ (Geijskes); Tapanahoni River, Tapatosso, Apr. 5, 1958, 1 ♂ (J. Belle); Sipaliwini savanna, Feb. 8, Mar. 11, 1961, 12 ♂♂, 1 ♀ allotype (Geijskes).

Male cotypes have been distributed to: Rijksmuseum van Natuurlijke Historie, Leiden; Naturhistoriska Riksmuseum, Stockholm; British Museum (N.H.), London; Museum of Zoology, Ann Arbor, Michigan; Professor M. J. Westfall, University of Gainesville, Florida; Professor Newton Dias dos Santos, Museu Nacional, Rio de Janeiro; Dr. J. Racenis, Universidad de Caracas.

The species is of moderate size and, according to the wing venation, belongs to the group of *M. aequalis*, from which it differs in possessing normal genitalia. The thorax pattern in the males is somewhat variable, but the best characteristics are found in the wing venation, the genitalia and the appendices.

Micrathyria paruensis n. sp. Fig. 16

Male (holotype). – Mouth parts light yellow, mentum black, inner margin of labial side lobes and extreme margin of labrum with a black stripe. Anteclypeus, postclypeus and lower half of frons grey blue; upper part of frons and vertex shiny dark metallic blue, antenna black, occipital triangle and rear of head pitch-black.

Prothorax dull dark brown to black, hindlobe rounded, narrowed at base with a fringe of long white hairs at the upper margin. Synthorax dull black, at dorsum blue metallic shining, dorsum

between the wings, sides and ventrum for the most part covered with a light grey pruinescence. Fine antehumeral stripes to halfway down the dorsum hardly visible; they may be connected with a brown area covering the lower mesepisternum and meso-infra-episternum. There is a trace of a lighter stripe before and after the black stripe over the lateral stigma, as well as along the ventral carina of metepimeron.

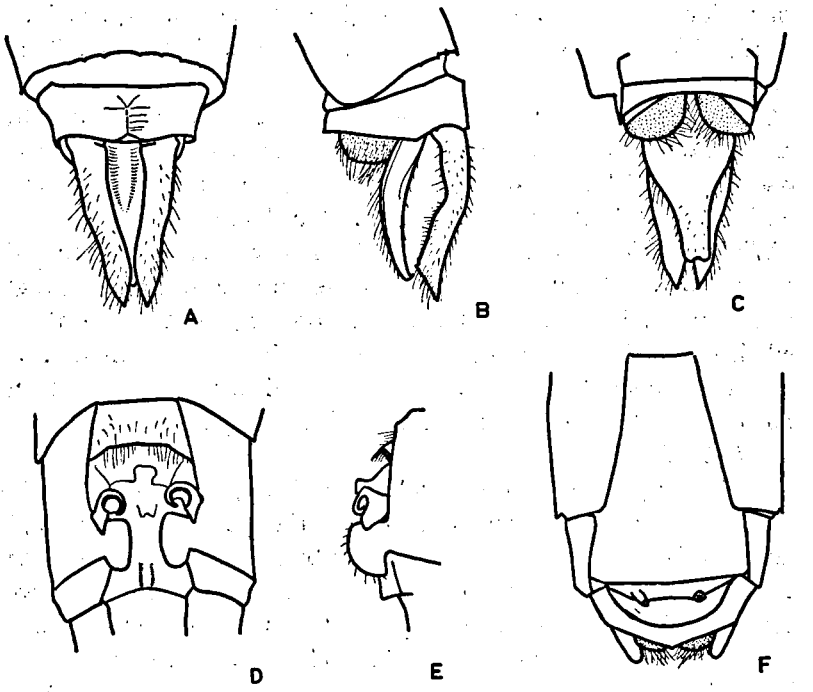

Fig. 16. *Micrathyria paruensis* n. sp., from BRAZIL, near the southern border of Suriname. Holotype male: A, appendices dorsal side; B, appendices lateral left side; C, appendices ventral side; D, genitalia second segm. ventral side; E, genitalia second segm. lateral left side. Allotype female: F, end of abdomen ventral side.

Legs black, underside of first pair of coxae and trochanter and the beginning of femur I pale, in the other pairs brown. Femur I with 6 spines, femur II with 15 spines and femur III with 20 spines, the last one long, the others very short. Underside of claws with a tooth $\frac{3}{4}$ down their length.

Abdomen black except for a small double dorso-lateral yellow spot at segm. 7, reaching halfway down the length of the segment. Abd. segm. 7–10 widened.

Appendices dark brown to black, nearly as long as segm. 9 + 10. App. superiores separated at base, the tips bent together, basal third curved down, middle part straight, somewhat swollen on the underside, hind part angled, the tips pointed. App. inferior long triangular, reaching to behind the angle of the superiores, basal half broad, apical half slender, the top notched with two small upstanding dents.

Genitalia segm. 2 very simple, lamina anterior low, straight; hamules with outer branch in a narrow triangular point lying over base of genital lobe, inner branch with the curved point directed caudad. Genital lobe rounded, higher than hamules.

Wing venation: 8½ and 9½ antenodal cross veins and 8 postnodals in fore wing. Arculus proximal to second antenodal. Triangle free, upper side in the outer corner broken, subtriangle three-celled. One bridge cross vein and one cubital cross vein at level of first antenodal. Two rows of cells in discoidal space, at the end one time three cells and at the wing margin four cells. Rspl with 5–6 cells.

Hind wing with 7 antenodals and 8–9 postnodals. Arculus proximad or at the second antenodal, triangle and supratriangle free. One bridge cross vein and one cubital cross vein, the latter proximal to the level of the first antenodal. Cu_1 arising in the lower fourth of the distal side of triangle, two to three cells running through between M_4 and Cu_1. Anal loop large, with a double cell in the heel not at triangle, containing 12 cells in all. Between A_3 of anal loop and wing margin, three rows of cells at most. Wing membrane black, pterostigma dark brown; a trace of a basal wing spot formed by a light-brown streak in subcostal space to halfway along first cross vein, and in cubital space to one fourth the distance to the cubital cross vein.

In two other more adult cotypes, the wings yellowish tinged, no yellow or brown markings on thorax and abdomen except for the two dorsolateral spots at abd. segm. 7.

Variation in wing venation: one specimen with 9–10 postnodals in

fore and hind wing, left triangle in fore wing with one cross vein in the upper half; 13 cells in anal loop.

Another specimen shows 7–9 postnodals in fore wing.

Female (allotype). – Adult similar to male, the blue on frons less intens, the synthorax discoloured brown, in the black dorsum the pale antehumeral stripes present to $\frac{3}{4}$ of the length and a yellow cross stripe under the antealar crest. The other markings not clearly visible.

Legs black, coxae and trochanters brown.

Abdomen black, the first three segments paler in the upper half, from which the lateral side stripes on segments 4–7 start, at segm. 3 and 4 over the whole length, at segm. 5 to $\frac{3}{4}$ of its length, at segm. 6 to halfway, and at segm. 7 to $\frac{3}{5}$ of its length. The last three segments and the appendices black. The appendices short, roll round the tips blunt.

Vulvar lamina large, pitch-black, reaching to the end of segm. 9, the hind margin straight.

Wing venation: $8\frac{1}{2}$–$9\frac{1}{2}$ antenodals and 7–8 postnodals in fore wings. Triangle free, subtriangle left side with two cells, right side with three. Hind wings with 7 antenodals and 8 postnodals, anal loop with 11 cells in each wing, the stalked cell at heel not present or with a very short stem. Otherwise as in male.

Total length males: 25.5–27 mm; abdomen 17–17.5 mm; hind wing 21–22 mm; pterostigma 2.1–2.25 mm.

Total length female: 23 mm; abdomen 14.5 mm; hind wing 20 mm pterostigma 2 mm.

BRAZIL. The specimens, 3 ♂♂ and 1 ♀, were found in a swampy creek in high forest, in northern Brazil near the southern border of Suriname, where a (Trio) Indian village called Apisiké was built in 1952. The creek is an affluent of the upper Paru River, and for this reason I have named the species *M. paruensis*. – April 19, 1952, 2 ♂♂ including holotype; Apr. 20, 1952, 1 ♀ allotype; Apr. 22, 1952, 1 ♂ (Geijskes coll.).

One ♂ paratype has been sent to Professor Newton Dias dos Santos for the collection of the Museu Nacional in Rio de Janeiro.

Judging by its wing venation, *M. paruensis* belongs to the *M. ungulata* complex, living in southern Brazil. This group was revised

in 1953 by NEWTON DIAS DOS SANTOS, who – in his "Revisao critica de *Micrathyria ungulata* Förster, 1907" (Boletim Museu Nac. Rio de Jan., Zool. (119), Sep. 29, 1953, p. 1–2, 20 figs) – introduced two new species (*M. pirassununga*e, *M. stawiarskii*) and gave a redescription of *M. ungulata* Förster and *M. athenais* Calvert. My species is related more closely to *M. stawiarskii* than to any of the other ones, but differs in its smaller size, the shape of the male appendices, and probably in some details of genitalia and in wing venation.

Since *Micrathyria paruensis* has never been found anywhere in Suriname, its occurrence in the northern Amazon region may be suspect. This is the first record of a representative of the *M. ungulata* group in that area.

Micrathyria coropinae n. sp. Fig. 17

Male (holotype). – Mouth parts pale yellow, face light-bluish, upper parts of frons and vertex dark metallic-blue, occipital triangle brown, the swollen part in the back yellow. Rear of head black, except for two yellow spots along the eye margin.

Hind lobe of prothorax well developed, rounded and somewhat concave with a row of long white hairs on its hind margin.

Synthorax dull grey-blue in the lighter parts and shiny dark metallic-blue in the remaining parts, as follows: a wide middorsal black band, interrupted by two small antehumeral stripes to $\frac{3}{4}$ the basal length; an undulating black stripe at the humeral suture, a branch of which runs over the lateral stigma from its upper end; a dark stripe over the lateral suture in the upper half; a longitudinal black stripe over the middle of epimeron.

The lighter parts in the meso- and meta-infra-episternum yellow. Sides and ventrum partly covered with pale bluish pruinescence.

Legs black, inner side of femur I white with the apical end darkened, of femur II only the proximal half of inner side white, whereas femur III is totally black, with a row of about 12 short spines and one apical long spine at its inner side. Claws with a tooth two thirds along their length.

Abdomen black, underside and sides of first two segments pruinose. Basal half of segm. 2 pale blue, the apical half with a small

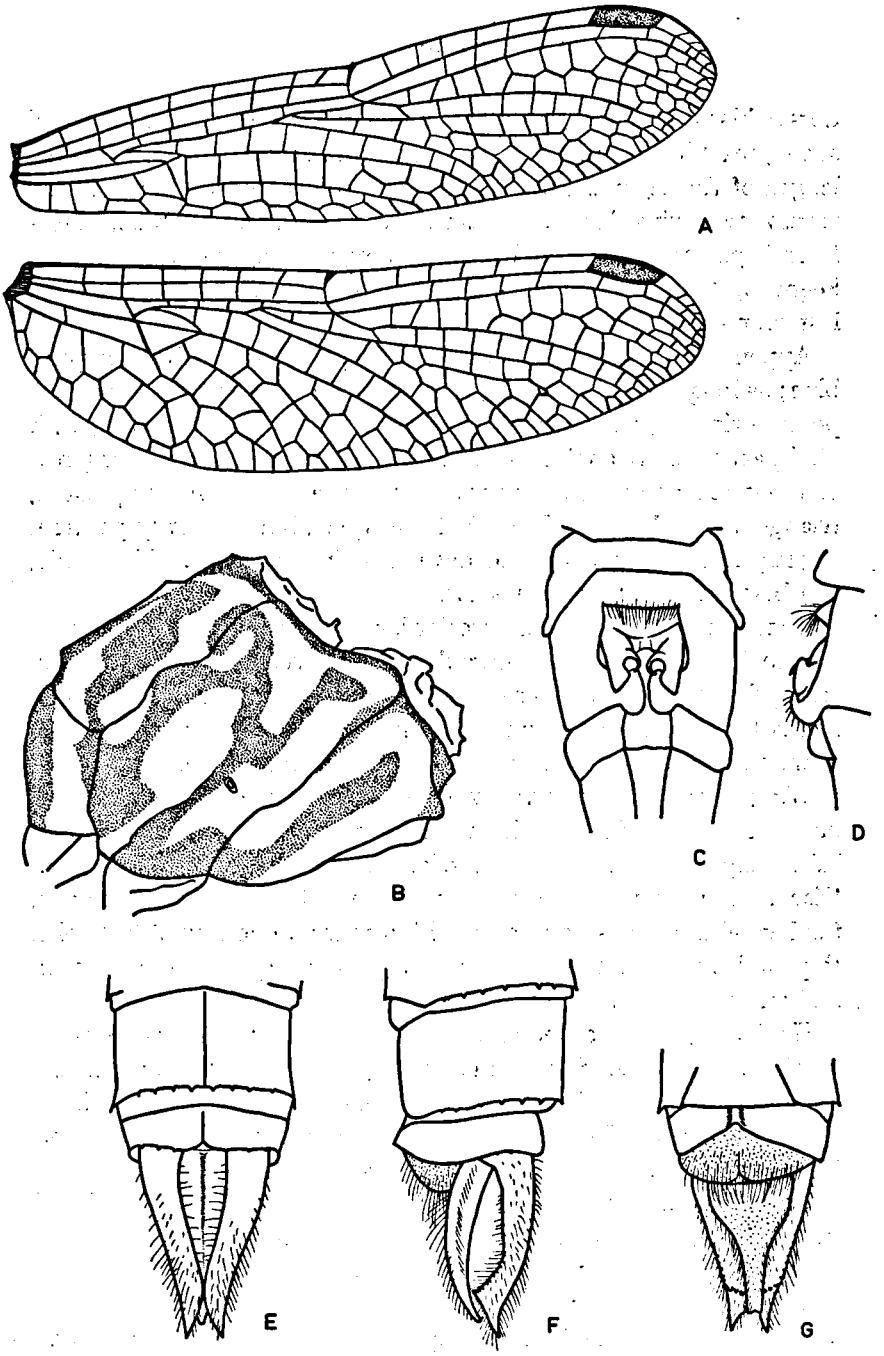

Fig. 17. *Micrathyria coropinae* n. sp., from SURINAME. Holotype male: A, wing pair right side; B, thorax lateral left side; C, genitalia second segm. ventral side; D, genitalia second segm. lateral left side; E, appendices dorsal side; F, appendices lateral left side; G, appendices ventral side.

dorsal black spot; segm. 3–6 each with a long, pale-blue lateral stripe, reaching from base to something more than halfway along the length of the segment, interrupted by a black cross line where the transverse carina descends. Segm. 7 with a large, pale-blue, dorso-lateral spot, reaching from base to ¾ along the length of the segment. Segm. 8, 9 and 10 black. Abdomen narrow, faintly widened in the last four segments.

Appendices superiores brown, in the apical half on dorsum grey-blue; as long as segm. 9 + 10, seen from above convergent with the pointed tips together, seen from the side arched over app. inf., with hind part strongly angled at the underside, forming the end of a row of about 10 small teeth. Appendix inferior nearly as long as app.sup., triangular, the basal half rounded, the apical half narrowly pointed, slightly notched at apex and developed into two spine-like teeth; top blackened, otherwise yellow.

Genitalia on abd.segm. 2 anterior lamina flattened, not extending to the level of hamules; hamules well developed, outer branch triangular, curved backward over hind lobe; inner branch of hamule a small, curved, sharp-pointed hook, directed caudad; hind lobe rounded and narrowed at base, not as high as hamule.

Wing venation: fore wing with 7½ antenodal cross veins and 6 postnodal cross veins. Arculus at the second antenodal. Triangle and subtriangle free, costal side of triangle broken in the distal third. Discoidal space with one row of cells to the level of the nodus, further on 2 cell rows and at the hind margin one row of 3–4 cells. Rspl well marked, 4–5 cells. One supplementary bridge cross vein and one cubital cross vein.

Hind wing with 6 antenodal and 6 postnodal cross veins. Arculus just behind the second antenodal. Triangle free, Cu_1 arising from the distal side of triangle in its upper half. Anal loop simple, enclosing 8 cells in two rows. Between A_3 and the hind margin one cell row. Pterostigma dark brown, wing membrane hyaline.

Female (allotype). – As male except for the following: occipital triangle with two small dents at the swollen part, thorax more chocolate-brown the yellow spots at meso-and meta-infra-episternum lighter. Abdomen lateral spots on segm. 3–7 wider, reaching backward to nearly as far as the apical margin in segm. 3 and 4 and

interrupted in segm. 5–7 by an apical black ring one fifth to one fourth the length of the segment. Last three segments black with a basal lateral brown spot at segm. 8. Appendices very short, pointed, black. Vulvar lamina simple and straight, hind margin thickened, not bilobed. Wing venation as in male holotype, the arculus distad of second antenodal cross vein in both wing pairs.

Total length male (holotype): 25 mm; abd. + app. 17 mm; hind wing 19 mm; stigma 2 mm. Very little variation in the cotypes.

Total length female (allotype) 24 mm; abd. + app. 15.5 mm; hind wing 19 mm; stigma 2 mm.

SURINAME. Found on the banks of Coropina Creek near the village of Vier Kinderen, Dec. 23, 1939, 6 ♂♂ (Geijskes leg.); same place, Jan. 26, 1947, 11 ♂♂, one of these holotype, and 1 ♀, allotype (Geijskes); near the village of Republiek, Mar. 26, 1959, 1 ♂ (J. Belle); and Zanderij Bosbivak, Feb. 1959, 1 ♂ (J. Belle). – The specimens were flying in grassland on the edge of a small open creek, often settling on dry twigs, as do other members of *Micrathyria*. It was rendered conspicuous by the light-blue colour pattern on thorax and abdomen.

Micrathyria coropinae is one of the smallest species of this genus. It is related to *M. romani* Sjöstedt, described from Manaos and Rio Negro in Amazonas as having one row of cells in the discoidal space in the fore wing. It differs from *M. romani* in some details of the wing venation such as the undivided first cell in the discoidal space of the fore wing and in having $7\frac{1}{2}$ antenodals on fore wing ($6\frac{1}{2}$ in *M. romani*), arculus at the second antenodal (in *M. romani*, halfway between antenodals 1–2), upper side of triangle in fore wing broken (not broken in *M. romani*). Abdominal segm. 7 has the normal large dorsolateral pale spots (whereas in *M. romani* these are lacking). Appendices sup. angled (not angled in *M. romani*).

Holotype and allotype in my collection. Male cotypes have been distributed to: Rijksmuseum van Natuurlijke Historie, Leiden; Naturhistoriska Riksmuseum, Stockholm; British Museum (N.H.), London; Museum of Zoology, Ann Arbor, Michigan; Professor M. J. Westfall, Univ. Gainesville, Florida; Professor N. Dias dos Santos, Museu Nacional, Rio de Janeiro; Dr. J. Racenis, University of Caracas.

Micrathyria romani Sjöstedt Fig. 18

Micrathyria Romani SJÖSTEDT 1918, Arkiv för Zoologi *11*, p. 42–45.

Through the courtesy of Dr. MALAISE, curator of Zoology at the State Museum of Natural History in Stockholm, Sweden, I was able

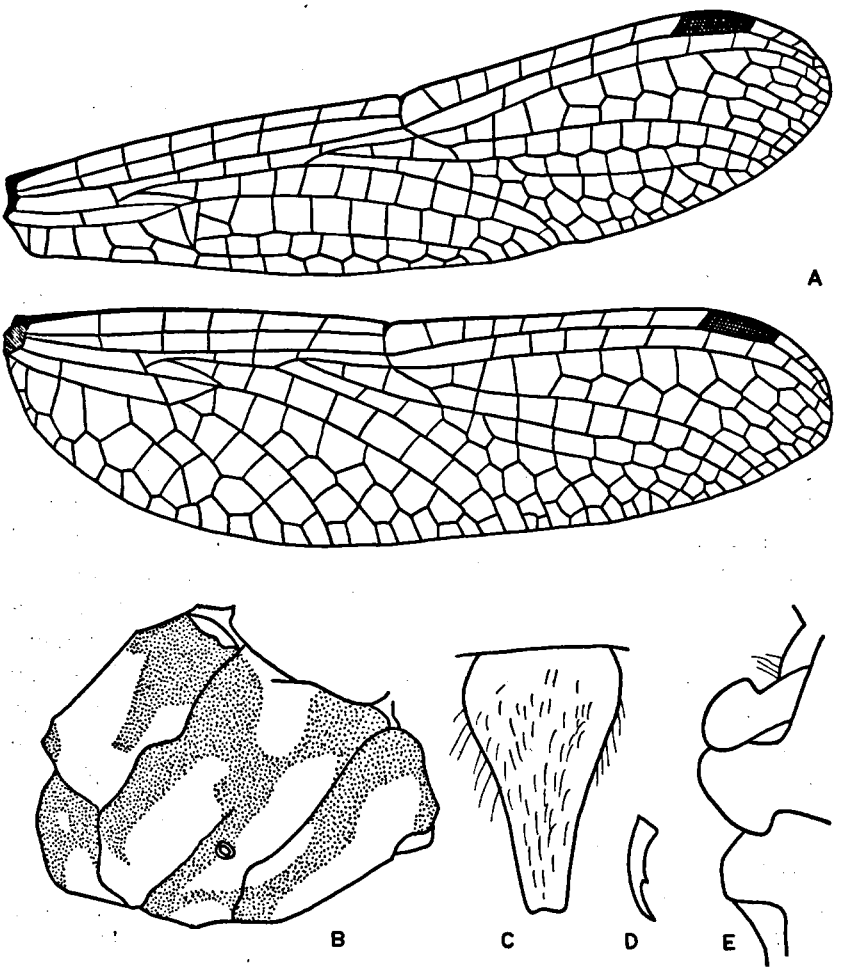

Fig. 18. *Micrathyria romani* Sjöstedt, from BRAZIL, Rio Negro. Holotype male: A, wing pair right side; B, thorax lateral left side; C, appendix inferior ventral side; D, claw of right leg exterior side; E, genitalia second segment lateral left side.

to study the male type of *Micrathyria romani*. This specimen was carefully compared with the description of SJÖSTEDT, and the following corrections and additions resulted:

Hind lobe of prothorax distinctly narrowed at base (instead of very slightly narrowed). Thorax with a large pale spot in front, covering most of the lower half; the meso-infra-episternum mainly dark. At the inner side of the humeral suture a broad black stripe, connected with the second black stripe, running over the lateral stigma. The dark stripe in the metepimeron connected in the upper half with the lateral suture, and in the lower half separated from it and descending over the middle of the metepimeron to the ventral carina.

Inner side of femur I with 7–8 black spines (8 in SJÖSTEDT) at the outer side with 10–13 (instead of 15) spines; tibia I inner side with 4 long spines followed by 12 smaller ones (not 8).

Wing venation: antenodals 7½ in left fore wing and 6½ in right fore wing. Anal loop in right hind wing with 7 cells in two rows. Cu_1 starting from the lower half of outer side of triangle. Arculus proximad from inner side of triangle.

Abdomen: segm. 3 with a large latero-basal spot; segm. 4 and 5 with a small narrow lateral stripe; segm. 6 with a large yellow laterodorsal spot, replacing the normally developed spots at segm. 7; segm. 7–10 black.

It is a pity that the appendices superiores are partly broken, but the under side seems to be not angled and thus in accordance with SJÖSTEDT's description. App. inferior triangular, broadly pointed, slightly notched at tip.

Genitalia at the second abd. segment: anterior lamina lower than hamules and genital lobe; hamules prominent, with the pointed inner branch directed caudad; genital lobe very prominent, its basal side extending the hamules.

For further details I would refer to the figures given here. The original description is not accompanied by any illustration.

Micrathyria romani seems to be a distinct species, different from my *M. coropinae*, to which it is related in possessing one row of cells

in the discoidal space in the fore wings. Apart from this pecularity, SJÖSTEDT suggests that it is related to *M. tibialis*, from which, however, it differs in many other respects (appendices genitalia, wing venation).

One male from Rio Negro and one female from Manaos, collected by Dr. A. ROMAN the months of March and May, 1915, respectively, are the only specimens of this species known, to date.