

A NEW *MISAGRIA* KIRBY, 1889 FROM SOUTHERN VENEZUELA (ANISOPTERA: LIBELLULIDAE)

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M. divergens sp.n. (♂ holotype, ♀ allotype: Tencua-Ventuari, T.F. Amazonas, Venezuela) is described and the male structural characteristics are illustrated. The new sp. is probably closely related to *M. calverti* Geijskes.

DESCRIPTION

MISAGRIA DIVERGENS SPEC. NOV.

Figures 1-5

Material. — 1 ♂ (holotype): Venezuela, Territorio Federal Amazonas, Tencua-Ventuari, 16.III.1957, Rácenis leg. (Nr. 6445) — 1 ♀ (allotype) ditto. (Nr. 6444). — The specimens belong to the collection of the late Dr. J. Rácenis, now property of the Facultad de Ciencias, Caracas, but deposited at the Instituto de Zoología Agrícola, Facultad de Agronomía, Universidad Central de Venezuela, Maracay.

Male. — Face yellow, free margin of labrum lined black, labium yellow with a median black stripe, tapering distally. Upper part of frons brown with metallic blue shining, vertex light brown, occipital triangle dark brown, rear of head brown, eye margin basally yellow.

Prothorax brown, anterior and posterior lobe yellow, the yellow colour somewhat extended in the middle, median lobe with a central yellow twin-spot. Laterobasal angle of pronotum with a yellow spot. Pterothorax brown with yellow stripes as follows: a broad dorsomedian stripe, a second stripe along the upper side of the humeral suture, running downwards over the mesokatepisternum and the middle coxa. The third stripe covers the distal

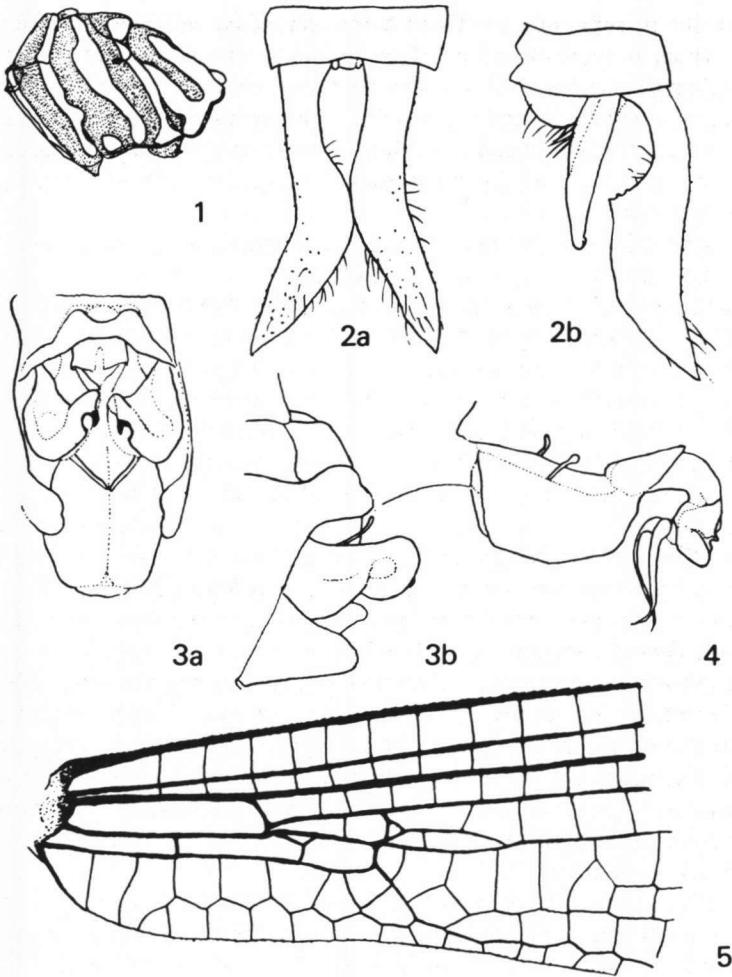
half of the mesepimeron, without being connected with the yellow antecular spot, which is lying between this stripe and the humeral suture. Stripe 4 runs along the metapleural suture down to the metakatepisternum, below the stigma. It is widely connected, at half-height, across the metapleural suture, with stripe 5. Stripe 5 broadly confluent on its dorsal part with stripe 6, which is extending widely along the posterior margin of metepimeron and the metaposternum.

Legs dark brown, the inner side of first tibiae, and the apical end of third tibiae and the adjoining tarsal joint, yellow.

Abdomen dark brown, marked on segments 1-7 with narrow yellow dorso-median spots, reaching on segments 4-7 from base to almost two thirds the segment length, but covering a larger part in the basal segments. On segment 7 the dorsomedian spot is somewhat enlarged. Segments 8-10 dorsally black. Segment 1 with one, segment 2 with two yellow lateral spots (a further one on the anterior lamina), segment 3 to 5 and segment 7 with a large yellow lateral spot, extending over both sides of the lateral longitudinal carina. Segment 6 with the yellow spot confined to the space between ventral and lateral carina and with only a minute point above the latter. Segment 8 with a yellow spot near the ventral carina, segments 9 and 10 black.

Anal appendages dark brown, blackish near the base; the superiors strongly curved ventrally, in the basal third; the tips, in dorsal view, strongly divergent after the middle and rather obtuse; on their ventral side a triangular projection at two fifths of the length, armed with three denticles and prolonged rearward, first almost parallel to dorsal margin, then tapering to apex. Inferior appendage reaching to slightly more than half the length of the superiors, and armed apically with an upward curved hooklet. The superiors 5 to 6 times as long as segment 10 (their inner and upper wall somewhat crushed in the apical third).

Wings hyaline, marked at their base with a small golden spot, reaching in hind wing to the first cubito-anal cross-vein and the first antenodal; less extended in front wing. Pterostigma very dark brown, membranula light brown. Antenodal and postnodal cross-veins of the first series 13:18-19:13/14:15-16:11 in front and hind wings, respectively. Arculus at third antenodal or slightly distally. Origin of CuP in hind wings not exactly at anal angle of triangle. The region of arculus and triangle in left fore wing abnormally developed (Fig. 5); this strange configuration may throw some light on the ontogeny of wing venation. Triangle in right fore wing and left hind wing two-celled, in right hind wing three-celled. Three cubito-anal cross-veins in hind wings. Anal loop well developed, its outer angle rectangular, projecting one cell beyond the apex of triangle and consisting of 16 (15) cells. Discoidal field in right fore wing starting with three cells against triangle (the upper one very small), followed by two cell rows, eight cells long; in hind



Figs. 1-5. Structural characters of *Misagria divergens* sp.n., holotype male: (1) diagram of pterothorax, right lateral view; — (2) anal appendages, dorsal (a) and left lateral (b) views; — (3) accessory genitalia on abdominal segment 2, ventral (a) and left lateral (b) views, showing also visible parts of penis with flagellum; — (4) penis, right lateral view; — (5) basal part of left front wing (transposed), showing abnormally developed arcus and triangle.

wing starting with two cells, going on in this way for three more cells.

Accessory genitalia as shown in Figure 3.

Total length 42 mm, abdomen 29.1 mm (always excluding appendages), hind wing 34.5 mm (without root), superior anal appendages 2.65 mm, pterostigma (costal edge in hind wing) 3.9 mm.

Female. — Similar to male, but yellow spot on mesepimeron confluent with yellow mesepimeral stripe. Metepisternal stripe interrupted on its upper fifth, leaving an isolated yellow antealar spot. Dilatated parts on abdominal segment 8 large, black. In left front wing and both hind wings arculus slightly distad of third antenodal, in right front wing definitely proximad. All triangles two-celled, subtriangles in fore wings three-celled. Discoidal field beginning with three cells in left and two cells in right fore wing, respectively, followed by a row of 6 double cells. In hind wings the discoidal field begins with two cells and goes on in the same way for four more cells. Anal loop consisting of 17 (18) cells, its outer angle projecting about two cells beyond the apex of triangle. Antenodal and postnodal cross-veins of the first series 14:20-19:13/13:15-16:13 in front and hind wings, respectively. Total length 45 mm, abdomen 31 mm, hind wing 36 mm (without root), pterostigma (costal side in hind wing) 4.1 mm, anal appendages 0.9 mm.

DISCUSSION

Misagria divergens sp.n. is very similar to *M. calverti* Geijskes, but differs from it by the broader outer lobe of the hamulus, as seen from below, and the long and divergent anal appendages (the comparisons being based on the figures given by GEIJSKES, 1951).

Nothing is known about the circumstances under which the specimens of *M. divergens* sp.n. have been caught. The region of the Ventuari River, however, is thought to have been an important Neotropical Quaternary forest refuge (cf. e.g. BROWN, 1975). The specific name has been chosen by the late Dr. J. Rácenis in 1957 and refers, I suppose, to the diverging superior anal appendages of the male.

ACKNOWLEDGEMENT

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REFERENCES

- BROWN, K.S., 1975. Geographical patterns of evolution in neotropical Lepidoptera. Systematics and derivation of known and new Heliconiini (Nymphalidae: Nymphalinae). *J. Ent.* (B) 44 (3): 201-242.
- GEIJSKES, D.C., 1951. Notes on Odonata of Surinam. V. A new species of *Misagria* with a redescription of the genus (Odonata: Libellulidae). *Ent. News* 62 (2): 70-76.
- KIMMINS, D.E., 1943. A new South American dragonfly. *Ann. Mag. nat. Hist.* (11) 10: 156-159.
- KIRBY, W.F., 1889. Revision of the subfamily Libellulinae, with descriptions of new genera and species. *Trans. zool. Soc. Lond.* 12 (9): 249-348, pls 51-57.