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A NEW SPECIES OF *STYLURUS* FROM MEXICO
(ODONATA: GOMPHINAE)

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AMONG the specimens of dragonflies collected in Mexico by H. Devlin Thomas and Louis J. Lipovsky during the summer and early fall of 1938 is a unique male *Stylurus* which is of particular interest because it represents a new species and is apparently the first of this genus to be taken in Mexico. It comes from the vicinity of Cojumatlán, a small village on Lake Chapala, in the state of Michoacán.

Stylurus falcatus, new species

HOLOTYPE MALE.—The light areas of the face and top of head (Pl. I, Fig. 5) are a pale grayish yellow. Labrum, labium, genae, anteclypeus, and postclypeus, pale. Frons predominantly pale; the median portion of the frontodorsal ridge and the posterior third of the dorsal surface, dark brown. Vertex entirely brownish black except for an indistinct pale spot laterally on the postocellary ridge. Occiput pale; hind margin slightly concave, fringed posteriorly with long medium brown hairs. Rear of head pale yellow with a dorsal band adjacent to eye margin and a large area on each side of the occipital foramen, dark brown.

Prothorax brownish black with pale yellow as follows: on front lobe a small median spot; on middle lobe a median

geminate spot near posterior margin, a large dorsolateral spot, and lateral margin; on hind lobe near anterior margin a small median spot.

Pterothorax (Pl. I, Fig. 6) with light areas pale grayish blue above becoming yellow near lateral margin and ventrally; dark areas brownish black. Mesothoracic half collar and mid-dorsal carina to its angulation at mid-length, pale. Dorsal mesepisternal pale stripes convergent above, almost touching the antealar carina, separated from each other middorsally by slightly more than the apical width of one stripe, and broadly joined to the pale mesothoracic half collar below. Antealar sinus entirely dark. Pale antehumeral stripe about half as wide as the pale mesepisternal stripe, expanded above and at base, where it is confluent with the broad yellow band across the mesinfraepisternum. The dark humeral stripe wider than the pale antehumeral, half as broad at base as at apex, where it is confluent with the black on the lateroalar carina. Dark stripes on first and second lateral sutures narrow and of about equal width; the first incomplete, its upper third represented by an oval dot which barely touches the lateroalar carina.

Coxae pale dull yellow. Trochanters of first and third pair of legs pale yellow, the second segment of the former with the anterolateral and of the latter with the anterior surface, dark brown; of the second pair largely brownish black, the first segment pale yellow posteriorly. Femora brownish black: first pair of legs with a pale basal mesad spot confluent with the pale ventral surface; third pair of legs with a posterior lanceolate pale area extending from base to half the length of each femur. Tibiae, tarsi, and claws entirely black. Spines and spicules short and black; hair on coxae and trochanters golden yellow.

Costa yellow anteriorly except above pterostigma, brown posteriorly, setae black; pterostigma light brown, bordering veins brownish black; venation otherwise dark brown or black. Antenodal crossveins: front wing, 11-11; hind wing, 9-8. Postnodal crossveins: front wing, 8-9; hind wing, 10-9. Anal triangle 3-celled in left wing, 4-celled in right wing. Pterostigma about five times as long as broad.

Abdomen slender, dilation of segment 7 apically and of 8 and 9 slight (Pl. I, Fig. 3), about the same as in *notatus*. Segments 1 and 2 largely dull pale yellow with a broad dorso-lateral dark brown bar extending from base to apex, on segment 2 broadened and darker at apex and connected with a narrow apical ring which extends to lateral margin; a diffuse dark brown spot behind the auricle. Segments 3-6 almost black with a middorsal lanceolate spot, constricted postbasally and narrow to a hairline apically, not quite reaching the apex of each segment; a lateroventral pale yellow area on 3 from base to two-thirds the length of the segment; on 4-6 a similar pale area divided postbasally, the posterior portion small and somewhat obscured on 4 and 5. Segments 7 and 8 with a middorsal yellow spot, on the former triangular and extending from base to two-thirds the length of the segment, on the latter semielliptical and reaching less than half the length of the segment; the large lateral yellow area broad at base, constricted subapically, somewhat obscured in apical third on 7. Segment 9 dark brown dorsally, the yellow of the basal fourth broadly joined to the lateral yellow. Ventral margin of tergum on 7-9 dark brown, connected apically with the middorsal brown. Segment 10 brownish black dorsally, dull, yellow lateroventrally and ventrally. Urosternites of segments 3-6 and basal half of 7 black, remainder of 7, and 8 and 9 bright yellow.

The hamules and enlarged spermatic vesicle (Pl. I, Fig. 4) are a very dark brown. First hamules are short, very slender, almost straight, directed ventrad and caudad, the apices in lateral view concealed by the second hamules. Second hamules directed ventrad and distinctly inclined cephalad and mesad, the anterior margin slightly concave with just a suggestion of a swelling before the apex, the posterior margin convex uniformly curved to the acute cephalad directed apex. The shape of these hamules suggested the name *falcatius*, meaning furnished with scythes.

Abdominal appendages (Pl. I, Figs. 1-3) very dark brown, almost black, of typical *Stylurus* form. Superior appendages

in normal position about 0.5 mm. longer than the inferior, and in dorsal view about as long as segment 10.

MEASUREMENTS (in mm.).—Length of abdomen, including appendages, 36.2; superior appendages (laterally), 1.5, inferior, 1.1; segment 7, 4.0; segment 8, 3.4; segment 9, 3.5. Length of hind wing, 29.0; pterostigma of front wing, 2.75, hind wing, 3.1. Length of third femur along dorsal surface, 6.5.

Holotype male, Cojumatlán,¹ Michoacán, Mexico, September 9, 1938, Louis J. Lipovsky, in the Williamson collection of the Museum of Zoology, University of Michigan.

Female unknown.

On the basis of characters set forth in a key by Williamson² *Stylurus falcatus* belongs with the *notatus* group of species—*notatus*, *olivaceus*, *plagiatus*, and *spiniceps*. In size and proportions the new species is similar to *notatus* and also somewhat resembles it in coloration. It can be easily separated from this species as follows (characters for *notatus* are placed in parentheses). Anterior face of frons with narrow band medially only (dark in upper half all the way across); postocellary ridge low posterior to lateral ocelli, absent medially (well developed and entire); occiput pale (dark); pale stripe on dorsum of thorax connected to mesothoracic half-collar (not connected); dark humeral stripe about half as wide as pale stripe below it (humeral broader than pale stripe); first lateral dark stripe incomplete (complete); pale markings of abdominal segments 8–9 distinct and confluent with broad basal band (indistinct and not confluent with a basal band); posterior hamules in lateral view with the anterior margin concave and posterior convex, the two asymmetrically tapered (both margins slightly convex and symmetrically tapered for four-fifths the length).

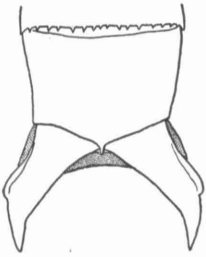
¹ Located on the east shore of Lake Chapala, about 137 miles northwest of Morelia, Michoacán, and 86 miles southeast of Guadalajara, Jalisco.

² E. B. Williamson, "Two New Species of *Stylurus* (Odonata-Gomphinae)," *Occ. Papers Mus. Zool. Univ. Mich.*, 247 (1932): 3.

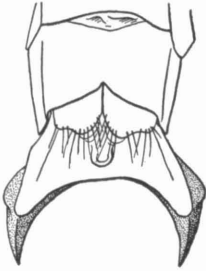
PLATE I

Stylurus falcatus, new species, type male

- FIG. 1. Abdominal appendages in dorsal view.
- FIG. 2. Abdominal appendages in ventral view.
- FIG. 3. Abdominal appendages and segments 7-10 in lateral view.
- FIG. 4. Ventral part of second abdominal segment (right side) in lateral view showing hamules and other structures.
- FIG. 5. Head, front view.
- FIG. 6. Color pattern of the thorax.



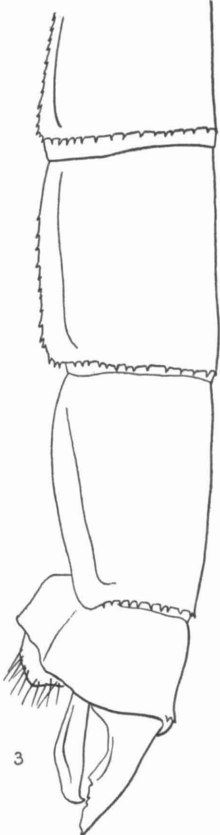
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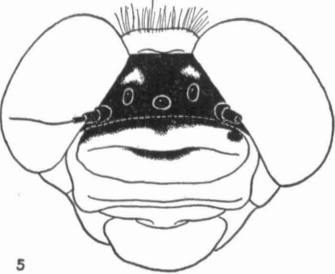
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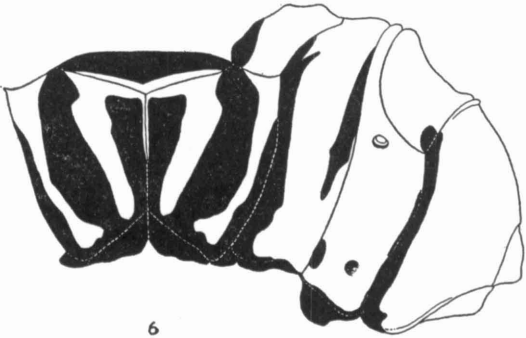
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