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*PROGOMPHUS DORSOPALLIDUS*, A NEW SPECIES  
FROM VENEZUELA (ODONATA-GOMPHINAE)<sup>1</sup>

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WHILE studying material of the genus *Progomphus* (*Gomphoides* of some authors) from the E. B. Williamson-University of Michigan collection, preparatory to the writing of a monograph on this group of Odonata, I encountered specimens of a hitherto undescribed species collected in Venezuela. A description of the new species follows.

*Progomphus dorsopallidus*, new species

(Plates I-II)

MALE.—Abdomen 32 mm.; hind wing 23 mm.

Rear of head dark brown to pale greenish brown below. Mouth parts pale greenish yellow to buff. Face pale greenish gray uniformly darker toward nasus and frons; lower edge of nasus, rhinarium, and lateral borders of the labrum lightest. No distinct stripes, bands, or spots on face. Frons above light greenish gray, with a median, posterior, ill-defined triangular, dark brown area. Vertex and antennae mainly dark brown or black. Ocellary ridge poorly developed or absent; the two

<sup>1</sup>A contribution from the Department of Biology, University of Florida.

postocellary ridges, one posterior to each lateral ocellus, meeting in median line at an angle of about  $150^\circ$ . Occiput dark dull greenish brown, darker at lateral edges adjoining compound eyes; deeply furrowed at base between projecting angles of compound eyes; posterior margin straight, hairs pale and fairly long, about as long as occiput from posterior border of vertex to posterior border of occiput midway between the projecting angles of compound eyes.

Prothorax dark brown with extended, pale, grayish green markings along sides and posterior border of middle lobe.

Thorax (Pl. II, Fig. 1) predominantly pale, color ranging in dried specimens from buff to light greenish gray. Dark brown areas along humeral and first and second lateral sutures. Dorsum of thorax almost entirely pale buff to greenish. Pale antehumeral stripe indicated and separated from enlarged central pale area (which includes the pale thoracic or humeral stripe characteristic of other species of *Progomphus*) by a secondary darker area of lighter brown. Two faint diagonal stripes of very pale brown on either side of mid-dorsal carina. Antealar ridge black. Mesothoracic collar pale yellow and directly confluent with other pale areas of thoracic dorsum. Coxae light brown, indefinitely marked with paler areas.

Abdomen slender, largely russet to dark brown; segment 1 light at base, darker brown apically; 2 generally dark brown, blackish along transverse carina, light brown spot on auricles, and latero-posterior angle of segment pale; 3-6 russet with apical dark brown ring occupying from a quarter to a third of the segment progressively from 3-6, transverse carina dark brown; 7 with a basal russet spot extending to transverse carina, remainder chiefly dark brown with a dorsal and lateral pale spot just distal to transverse carina; 8 dark brown on dorsum, a large pale yellow or buff spot covering apical two-thirds of sides and extending up toward mid-dorsal line along the transverse carina; 9-10 uniformly brown. No ventral tubercle or spine on segment 1. Accessory genitalia of second abdominal segment (Pl. I, Fig. 2) light brown or black.

Superior abdominal appendages (Pl. I, Fig. 1; Pl. II, Fig. 2) brown gradually extending to a lighter shade of brown or to yellow at apex. Inferior appendages and accessories (Pl. I, Fig. 1; Pl. II, Figs. 2-3) light brown or black.

Wings hyaline except at extreme base where there is a light brown or yellowish area extending at most to 1Anq and basal Scq, reduced to a mere basal tinge of half this area and extent between R+M and Cu+A. Costa yellowish brown as far as stigma where it becomes dark brown. Stigma yellowish brown, darker along upper edge; 4 mm. long in fore wing, 3.5 mm. in hind wing; covers 4.75-7 cells (average 6.25) in fore wing, 5.25-7 cells (average 5.90) in hind wing. Antenodals (Anq) fore wing 13-15; postnodals (Pnq) fore wing 5-8. Antenodals hind wing 9-10; postnodals 6-8. Basal antenodal of second series (Scq) present, 2 present in one fore wing (right of No. 65). Distal thickened antenodal the fifth; No. 65 has one extra Anq present before the first thickened one in one fore wing and both hind wings, in one of these hind wings it is not completed. Anal field of fore wing proximal to the triangle 2 cells wide for a distance of 4-5 cells, 5 seems to be normal; distal to the triangle the field is 2 cells wide for a distance of 2 or 3 cells, irregular in one specimen (No. 66). One basal Cuq present in all wings. One specimen (No. 65) has a crossvein between R+M and Cu+A proximal to the arculus in both hind wings and in the right fore wing. Triangle (T) and subtriangle (Ti) vary in the four males as follows:

$$T = \begin{array}{cccc} 2.3 & 3.3 & 3.2 & 3.3 \\ \hline 2.3 & 2.2 & 2.2 & 2.2 \end{array} \quad Ti = \begin{array}{cccc} 2.2 & 2.2 & 2.2 & 2.2 \\ \hline 2.2 & 2.2 & 2.2 & 1.2 \end{array}$$

Legs reddish brown; femora light on sides, first pair greenish gray beneath; tibia reddish brown; tarsi black; tarsal claws dark reddish brown, teeth and apices black. Hind tibia slightly longer (2.25 mm.) than the hind tarsi without claws (2 mm.).

FEMALE.—Unknown.

NYMPH.—Unknown.

MATERIAL STUDIED.—San Estéban, Venezuela, February 5 and 6, 1920, 4 males (Nos. 65, 66, 67, 68), collected by J. H. and E. B. Williamson and W. H. Ditzler, all in the collection of the Museum of Zoology, University of Michigan. Number 66 designated as type, others paratypes.

REMARKS.—*Progomphus dorsopallidus* was so named because of the extensive pale markings on the dorsum of the thorax (Pl. II, Fig. 1). This characteristic alone will serve to separate it from the other 23 named and 1 unnamed<sup>2</sup> species of this genus.

In size, *dorsopallidus* falls within the median range for the genus, being larger than the so-called "small group" (*perpusillus*, *pygmaeus*, *risi*, *longistigma*, and *lepidus*—♂ abdomen 18–28 mm.) and smaller than the larger members of the group (*borealis*, *obscurus*, *zonatus*, *clendoni*, *joergenseni*—♂ abdomen 37–45 mm.).

In Calvert's key to the Central American species of *Progomphus*,<sup>3</sup> two groups based on the presence or absence of a sternal process or tubercle on abdominal segment 1 are recognized. *P. pygmaeus* is the only species in the key lacking this process, which is also lacking in *dorsopallidus*. Differences between these two species are marked, and the two can be separated at a glance by the dorsal thoracic pattern. This difference also serves to separate *dorsopallidus* from the other species of *Progomphus* lacking this process or tubercle.

In Ris's key to the *Progomphus* of South Brazil and Argentina<sup>4</sup> *dorsopallidus* will fall into group B and subdivision (bbb) which includes *basistictus* and *joergenseni*. The abdominal appendages and thoracic pattern will separate it

<sup>2</sup> E. B. Williamson, "Results of the University of Michigan-Williamson Expedition to Colombia, 1916–1917, V. Notes on a Few Species of *Progomphus* (Odonata)." *Occ. Pap. Mus. Zool., Univ. Mich.*, No. 77, 1920: 1–18.

<sup>3</sup> "Odonata," *Biologia Centrali-Americana*. Insecta. London: Publ. for the editor by R. H. Porter and Dulau and Co., 1901–1908, i–viii, 17–420, 10 pls.

<sup>4</sup> "Ueber einige Gomphinen von Südbrasilien und Argentina," *Mem. Soc. Ent. Belg.*, 19 (1911): 101–119.

from *basistictus*. From *joergenseni*, which *dorsopallidus* most closely approaches in color pattern, it can be separated by reason of its smaller size, lack of brown spot on nodus of wing, and marked differences of terminal abdominal appendages.

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PLATE I

FIG. 1. Latero-ventral view of male abdominal appendages.

FIG. 2. Accessory genitalia of second abdominal segment, male.

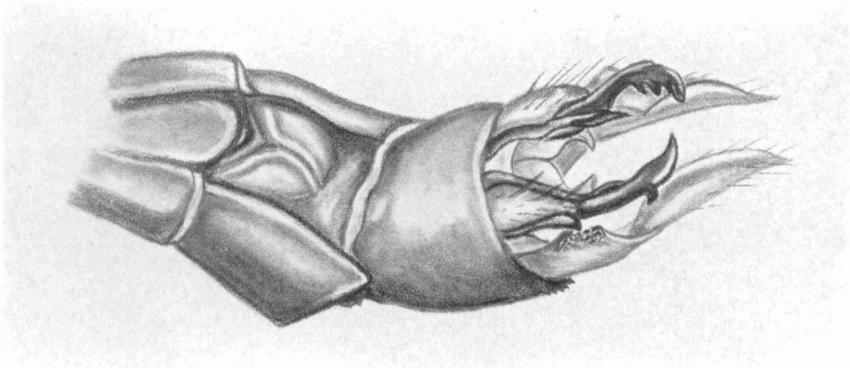


FIG. 1



FIG. 2

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PLATE II

- FIG. 1. Diagram of thoracic color pattern, male.  
FIG. 2. Lateral view of male abdominal appendages.  
FIG. 3. Enlarged latero-ventral view of male secondary inferior appendage showing number and arrangement of teeth.

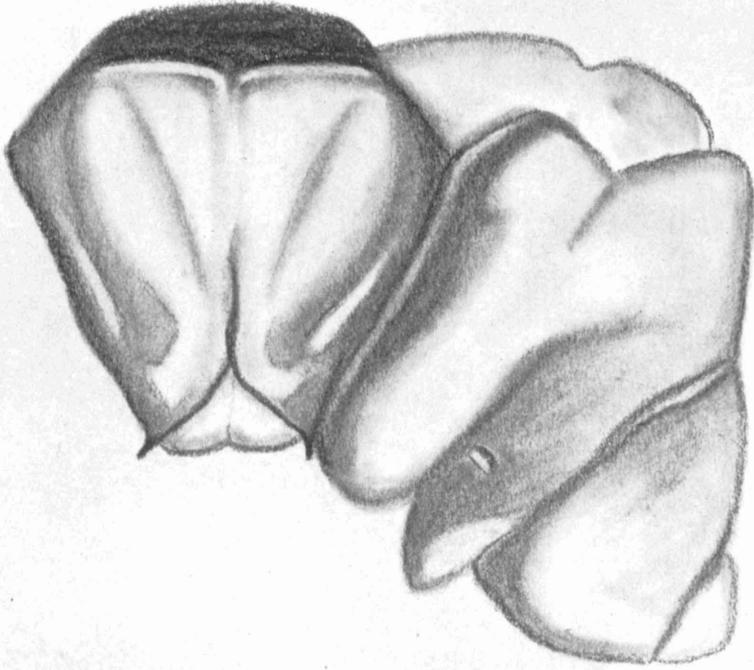


FIG. 1



FIG. 2



FIG. 3





