

Idiogomphoides, a new genus from Brazil (Odonata: Gomphidae)

by

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ABSTRACT. — *Idiogomphoides* gen. nov. is described from Brazil; type-species *Gomphoides demoulini* St. Quentin; allied to *Gomphoides* Selys and *Phyllogomphoides* Belle; including also *Gomphoides ictinia* Selys. Additional notes are given concerning the male holotype of the type-species, and illustrations of some of its structures are added. A key to the genera of the Gomphoidinae is constructed.

Introduction

In 1973, Gloyd provisionally placed the two species *Gomphoides demoulini* St. Quentin and its near ally *Gomphoides ictinia* Selys in the genus *Phyllogomphoides*. However, in attempting to prepare keys for the determination of the Neotropical Gomphidae, I found that the two species do not fit the characters typical of this genus. Superficially, the two species seem large-sized members of *Phyllogomphoides* but they disagree with the venational (Gloyd, 1973) character for this genus: in the hind wing of the male, the distal portion of vein A2, or a branch of it, is convergent with vein A3 towards the margin. But, moreover, the form of the sexual organs transgresses far the boundaries of this genus. The male of *demoulini* (that of *ictinia* is unknown) agrees with the last mentioned character for the genus *Gomphoides* listed by Gloyd, 1973, viz.: in the hind wing of the male, vein A2 extends almost in a straight line from the anal loop to the lower margin of the wing. But here the similarity with this genus ends; the sexual organs as well as the abdominal terminalia are built according to a quite different plan. In my opinion, there is no doubt about the necessity of establishing a new genus for these two notable dragonflies.

Idiogomphoides gen. nov. (feminine)

Generic diagnosis. — Allied to *Gomphoides* and *Phyllogomphoides* but differing from them by a number of venational and morphological characters enumerated below.

In the male: Hind wing with distal portion of A2 diverging from A3 towards the margin. Anal triangle in hind wing consisting of six to eight cells; in *Gomphoides* and *Phyllogomphoides*, normally made up of four cells. Abdomen non-foliate; in *Gomphoides* and *Phyllogomphoides*, with side margins of abdominal segments 8 and 9 distinctly dilated, although the dilations are sometimes narrow. Anterior genital hamules very low and not visible in lateral view of abdomen, each anterior hamule with a strong, acute, recurved postero-internal hook (not visible in ventral view); in *Gomphoides* and *Phyllogomphoides*, more prominent and visible in lateral view of abdomen, being of different shape. Posterior genital hamules well-developed, each posterior hamule with numerous, minute black denticles at tip, and with two subapical internal teeth; in *Gomphoides* and *Phyllogomphoides*, each posterior hamule without minute black denticles and ending in a hook.

In the female: Vulvar lamina of large size and cleft for nearly its entire length, the strong divisions divaricate and reaching to apex of ninth sternum; in *Gomphoides* and *Phyllogomphoides*, much smaller and not reaching beyond basal half of ninth sternum.

Larva unknown.

Type-species: *Gomphoides demoulini* St. Quentin, 1967.

Distribution: Eastern (coastal) regions of the South American highland.

Position of *Idiogomphoides* within the Gomphidae

The genus *Idiogomphoides* belongs to the Gomphoidinae as it fits the venational characters typical of this subfamily, viz.: radial sector unforked, numerous intermedian cross-veins in fore and hind wings, and discoidal triangles and subtriangles traversed by cross-veins (here the subtriangle of the hind wing is sometimes open). The genera pertaining to this subfamily may be separated by the following key:

1. Supratrangles normally open, by way of exception a cross-vein in one of the supratrangles; male anal triangle of hind wing not reaching backwards to anal angle of wing *Progomphus* Selys
- Supratrangles normally crossed, by way of exception no cross-vein in one of the supratrangles; male anal triangle of hind wing reaching backwards to anal angle of wing 2
2. Tenth abdominal segment with dorsal apical rim 3
- Tenth abdominal segment without dorsal apical rim 4
3. Third femur with numerous spines in distal half of outer row, these spines about as long as one-sixth the diameter of femur; distal segment of penis without flagellae; abdomen of female more or less widened at segment 8 *Aphylla* Selys
- Generally not numerous spines in distal half of outer row of third femur, these spines longer than a quarter the diameter of femur; distal segment of penis with two long flagellae, the outer side of each flagellum finely serrate; abdomen of female not widened at segment 8 *Phyllocycla* Calvert
4. Abdominal segment 10 conspicuously stout and longer than segment 9; inferior caudal appendage of male robust and cleft into two very strong branches, each branch with a submedian tooth or spur on dorsal surface *Gomphoides* Selys
- Abdominal segment 10 not conspicuously stout and shorter than segment 9; inferior caudal appendage of male not robust, its divisions without submedian tooth or spur on dorsal surface 5
5. In hind wing of male, the distal portion of A2 diverging from A3 towards the margin; vulvar lamina large and cleft for nearly its entire length, the strong divisions divaricate and reaching to apex of ninth sternum *Idiogomphoides* gen. nov.
- In hind wing of male, the distal portion of A2, or a branch of it, convergent with A3 towards the margin; vulvar lamina not reaching to beyond basal half of ninth sternum *Phyllogomphoides* Belle

The species of *Idiogomphoides*

The species of *Idiogomphoides* are apparently rare. Only three specimens referable to this genus have hitherto been collected. They belong to the two species *demoulini* and *ictinia* which are at a glance distinguished by the golden coastal band on the wings of the former species.

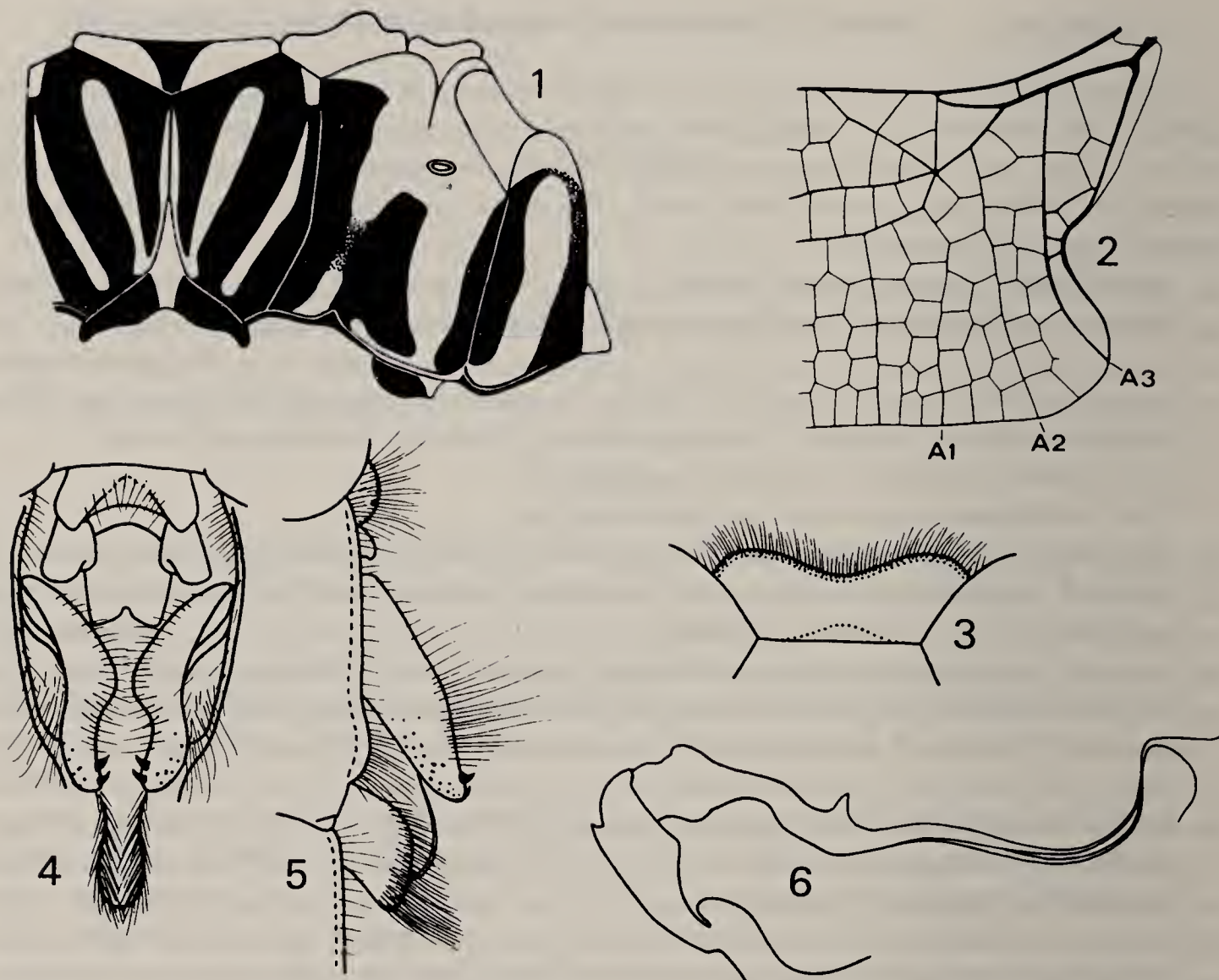
Idiogomphoides demoulini (St. Quentin) comb. nov.
(figs 1-6)

Gomphoides demoulini St. Quentin, 1967: 136-137, 139 (♂ genit., app. & wing detail; ♀ genit.); 1973: 344.

Negomphoides demoulini; Belle, 1970: 138.

Phyllogomphoides demoulini; Gloyd, 1973: 6.

This species is known only from a very teneral pair taken in Neu-Bremen, Santa Catarina, Brazil. Thanks to Dr Kaltenbach, of the Naturhistorisches Museum Wien at Vienna, I have been able to study the male holotype of this species. The very teneral type is preserved dry and pinned. The labels attached to the pin are: a white label "Santa Catharina Neu-Bremen Fr.



Figs 1-6. *Idiogomphoides demoulini* (St. Quentin), male holotype: 1, thoracic colour pattern; 2, base of left hind wing; 3, occipital plate, dorsal view; 4, accessory genitalia, ventral view (penis not drawn); 5, the same, right lateral view; 6, penis, right lateral view.

Hoffmann" (printed) with "11.11.37" (written) on the reverse side, an identification label "Gomphoides demoulini St. Quentin ♂ det St. Quentin 67" (in St. Quentin's writing), and two museum labels „Typus" (red) and "Coll. Nat.-Mus. Wien" (yellow). I have added the pin label „*Idiogomphoides demoulini* (St. Quentin) comb. nov. Rev. J. Belle, 1983". The occiput is distinctive; its rear is strongly vaulted and its posterior margin notably undulate. The terminal segments of the abdomen are badly flattened. The apical three-quarters of the superior caudal appendages are broken off and lost, and the slender upcurved branches of the U-shaped inferior caudal appendage are folded and partly applied against the basal parts of the superior appendages. The reticulation of the wings is rather dense although the subtriangle in the hind wings is open. The cubito-anal interspace of each fore wing has an extra cross-vein at the level of the supratriangle. The anal triangle of the left hind wing consists of eight cells, that of the right hind wing has six cells but here there is an undeveloped cross-vein. Thus it seems that the male anal triangle in this species is normally made up of seven cells.

The drawings of the accessory genitalia have been made with the aid of a camera lucida (details completed by free hand). A diagram of the thoracic colour pattern is also offered but caution must be made regarding the extent of some pectoral markings since the type is less pigmented.

The features mentioned here and those enumerated antea, along with the illustrations presented, may further characterize the male of the type-species.

Idiogomphoides ictinia (Selys) comb. nov.

Gomphoides ictinia Selys, 1878: 664 (72 sep.) (♀). Calvert, 1948: 66. Navás, 1916: 70-71. St. Quentin, 1967: 133-134 (♀ genit., thorax & detail wing); 1973: 334.

Negomphoides ictinia; Belle 1970: 2, 136-138 (♀ genit.).

Phyllogomphoides ictinius; Gloyd, 1973: 6.

This species was described from Pernambuco, Brazil. It is still represented in the collection of Edm. de Selys Longchamps at Brussels by a single female. The specimen was already commented and figured by St. Quentin (1967) and Belle (1970). In addition to the lack of golden bands on the wings, this species differs from *demoulini* in the form of the occiput in having the hind margin nearly straight, and in the coloration of the pterothorax in having the dorsum with two pale 7-marks and the lateral sides with two pale stripes.

Acknowledgement

I am extremely grateful to Dr A. Kaltenbach, Naturhistorisches Museum Wien, Vienna, who generously sent me the male holotype of *Gomphoides demoulini* St. Quentin for examination.

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PERSONALIA

Op 8 april 1984 overleed op de leeftijd van 74 jaar ons lid dr. D. Hille Ris Lambers te Bennekom. De heer Hille Ris Lambers, die sinds 1954 lid was van onze vereniging, genoot grote internationale bekendheid als kenner van de Aphididae.

Op 28 april 1984 overleed, op de leeftijd van 52 jaar, ons lid de heer J. Kleinhout te Deventer. Hij was sinds 1976 lid van onze vereniging. Zijn speciale interesse gold de gedragsstudie van insecten en spinnen.