

THE MALE OF *PHYLLOGOMPHOIDES IMPERATOR* BELLE, 1976
(ANISOPTERA: GOMPHIDAE)

C. COOK

Box 16, Highway 218, Center, Kentucky 42214, United States

Received and Accepted July 19, 1985

Up to the present time only two specimens of *P. imperator* are known, both collected in Territorio Federal Amazonas, Venezuela. The holotype is a female. The allotype male is described here and figures of caudal appendages and secondary genitalia are given.

INTRODUCTION

The neotropical gomphines accumulate slowly in collections. Many species are inhabitants of wild streams in remote forest areas where dragonfly hunters infrequently have an opportunity to search for them. They can also be very difficult to capture, sometimes collecting them is more a matter of good fortune than design. BELLE (1976) described *Phyllogomphoides imperator* from only a single specimen, a female collected many years ago by the preeminent Venezuelan odonatologist J. Racenis. Twenty two years were to pass before another specimen was collected, the male described herein. That this is indeed a difficult species to capture is attested by the note written on the envelope holding this specimen: "These fly far out over deep water. This one taken when it alighted on boat".

The closest relatives of *P. imperator* are *audax* (Hagen in Selys), *fuliginosus* (Hagen in Selys), *major* Belle, *praedatrix* Belle and *selysi* (Navas). These six congeners from the rather compact "*fuliginosus*-group" (cf. BELLE, 1984) of the otherwise somewhat heterogeneous genus *Phyllogomphoides*.

DESCRIPTION OF MALE

Material examined. — Allotype ♂: Venezuela: Territorio Federal Amazonas, El Inferno, VI-1979, J. Martinez leg., deposited in Cook Collection.

Dimensions. — Total length 73 mm; — forewing 46 mm; hindwing 44 mm; abdomen (including terminalia) 57 mm; pterostigma (forewing) 7.2 mm; — cerci 4.1 mm; hind femur 9 mm. Width of lamellate expansion eighth abdominal segment 1.3 mm.

Colors. — This is a mature individual. The pale colors of head, thorax and abdomen are yellow; legs greenish yellow. The dark colors range from medium reddish brown on thorax, through dark brown and black on abdomen, to black on tibia and tarsus.

Head. — Median lobe of labium yellow with brown border, lateral lobes mostly yellow with black tips and teeth. Maxillae and mandibles yellow with black teeth. Labrum black bordered, the internal yellow divided into two triangular spots by a wide median brown bar. Anteclypeus all yellow. Postclypeus brown with yellow lateral triangular spots. A narrow yellow band in fronto-clypeal suture. Frons widely concave in middle of superior surface, widely bordered with brown, a broad yellow band along frontal ridge. Antennae brown, a distal yellow annulus on scape and pedicel. Vertex brown, a pair of mound-like prominences laterally, pruinosed in the depressions around ocelli and between mounds. Occiput brown, a large median yellow spot slightly elevated, posterior ridge fringed with black hairs. Rear of head dull yellow.

Prothorax. — Anterior and median lobes reddish brown, a narrow yellow border on crest of anterior lobe. Posterior lobe black, lightly pruinosed.

Pterothorax. — Dorsum dark brown, striped with bright chrome yellow as follows — widely on mesothoracic half-collar but interrupted at median; an antehumeral stripe, widely separated below from mesothoracic half-collar and less widely so from the ante-alar ridge above. Dorsum pruinosed between antehumeral stripes. Humerals without the usual pale stripe, dark brown, thickly set with minute denticles and appearing velvety. Two very wide and conspicuous lateral yellow stripes, the first occupying most of mesepimeron, the second most of metepimeron. Metepisternum all reddish brown, metinfraepisternum and mesinfraepisternum velvety. Coxae dull yellow femora reddish brown on superior surface, greenish yellow underneath; tibiae and tarsi black.

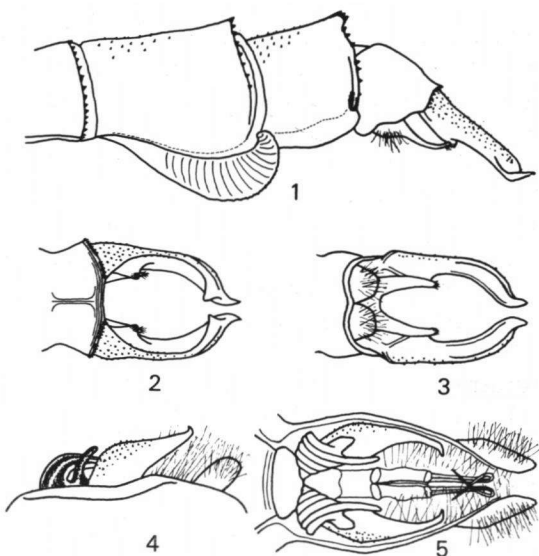
Wings. — Hyaline (except brown at extreme base — cubito-anal, median and antenodal interspaces to level of 3rd crossvein). Venation black. Pterostigma brown, surmounting 8-8½ cells. Brace vein present. Basal subcostal cross-vein present in all wings. Antenodal and postnodal cross-veins of first series: 24 : 23 — 15 : 16 / 16 : 18 — 16 : 15 in front and hind wings respectively. Second primary antenodal cross vein is seventh in right front and left hind wings, eighth in left front and right hind wings. Bridge cross veins nine in all wings. Supratrangles three-celled. Discoidal triangle and subtriangle of front wings four-celled, of hind wings three-celled. Anal loop three-celled. Anal triangle four-celled.

Abdomen. — Segment 1 dark brown on dorsum and dorso-laterally, yellow on lower third laterally. Segment 2 brown, darker ventrad, except auricle and an anteriorly extended surrounding spot yellow. Segment 3 dark brown, with a

single dorso-basal and a pair of latero-basal yellow spots. Segments 4-5 with the dorsal and lateral yellow conjoined into one basal spot. Segment 6 all dark brown. Segment 7 dark brown on distal 2/3, a yellow ring around basal 1/3. The latero-ventral carinae of segments 3-7 yellow. Segments 8-10 brown laterally, dorsum and lamellate expansions of 8-9 black. Lamellate expansion of 8 very wide, the posterolateral margin produced beyond segment's posterior carina as a semicircle.

Caudal appendages (Figs 1-3). — Cerci forcipiform; mostly dark brown, the upturned apices and internally on the distal 1/3 yellow; with a robust tooth projecting inward and downward from inferior margin at 2/5 length; from superior margin another stout tooth directed inward just before the upturned apice. Epiproct black in color; deeply cleft; the rami widely separated at base, moderately divergent and upcurved, reaching to basal tooth of cercus.

Secondary genitalia (Figs 4-5). — Typical of "fuliginosus-group". Anterior hamuli bulbous at base, then thinned, down-curved and directed backward to a rounded point; a transverse ramus, auricle like, is directed laterally from about the middle of each inner branch. Posterior hamuli very long, the "shoulder" weakly angulated, produced distal portion rather long, hooked apices short, turned inward.



Figs 1-5. Male of *Phyllogomphoides imperator* Belle: (1) lateral view of apical segments of abdomen and caudal appendages; — (2) dorsal view of caudal appendages; — (3) ventral view of caudal appendages; — (4) lateral view of accessory genitalia; — (5) ventral view of accessory genitalia.

ACKNOWLEDGEMENTS

I am indebted to Dr J. BELLE (Velp) for both his invaluable advice and for specimens; to Dr T.W. DONNELLY (Binghamton), Dr S.W. DUNKLE (Gainesville), Dr R.W. GARRISON (Azusa) and Dr M.J. WESTFALL, Jr, (Gainesville) for specimens from their respective collections. My thanks are due to Sr J. MARTINEZ (Caracas) for collecting the specimen described here.

REFERENCES

- BELLE, J., 1970. Studies on South American Gomphidae (Odonata) with special reference to the species of Surinam. *Stud. Fauna Suriname* 11: 1-158, pls 1-21.
- BELLE, J., 1976. Three new gomphine species from Venezuela (Anisoptera: Gomphidae). *Odonatologica* 5: 197-206.
- BELLE, J., 1982. Some new and interesting South American species of Phyllogomphoides in the Museum of Zoology, University of Michigan, Ann Arbor, Michigan (Insecta: Odonata: Gomphidae). *Occ. Pap. Mus. Zool. Univ. Mich.* 701: 1-14.
- BELLE J., 1984. A synopsis of the South American species of Phyllogomphoides, with a key and descriptions of three new taxa (Odonata: Gomphidae). *Tijdschr. Ent.* 127: 79-100.
- GLOYD, L.K., 1973. The status of the generic names Gomphoides, Negomphoides, Progomphus, and Ammogomphus (Odonata: Gomphidae). *Occ. Pap. Mus. Zool. Univ. Mich.* 668: 1-7.
- NAVAS, L., 1924. Odonatos nuevos o interesantes. *Mems R. Acad. Cienc. Artes Barcelona* 18: 315-332.
- SELYS LONGCHAMPS, E. de & H.A. HAGEN, 1858. Monographie des Gomphines. *Mém. Soc. r. Sci. Liège* 11: 257-720. [VIII + 460 pp. sep.], 23 pls, 5 tabs.