

A NEW SPECIES OF *PHYLLOGOMPHUS* SELYS, 1854, AND DESCRIPTION
OF THE MALE OF *P. OCCIDENTALIS* FRASER, 1957 (ANISOPTERA:
GOMPHIDAE)

ROGER P. LINDLEY

Barham Court, Barham, Canterbury, Kent, England

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Male and female of *Phyllogomphus pseudoccidentalis* sp. n., from the Bandama River, north of Kothogo, Ivory Coast, are described and illustrated.

By thoracic stripes, the abdominal pattern and by the shortness of the ovipositor the new species seems closest to *P. occidentalis* Fraser. The male of the latter is also described and figured for the first time.

INTRODUCTION

The African species of *Phyllogomphus* were comprehensively revised by FRASER (1957), who recognized three as valid, and described five new ones, among them *occidentalis* from a single female from 'Bwake', Ivory Coast. In 1960 he added *moundi* to the list. Since Fraser's work two more species have been described, *latifasciae* Pinhey 1961, and *symoensi* Lieftinck 1969.

From collecting in the north of the Ivory Coast I have three specimens of the genus, a male agreeing closely with the type female of *occidentalis*, which is described here as the male of that species, and a pair of a pale species, smaller than any yet described except *schoutedeni*, from which it differs by being paler and by having five thoracic stripes. By this latter feature and the abdominal pattern, as well as the shortness of the ovipositor, it seems closest to *occidentalis*, and is described here as *P. pseudoccidentalis* sp. nov.

PHYLLOGOMPHUS OCCIDENTALIS FRASER

Figures 1 c, 2 a, b, 3 b, d

Male (allotype)

Head.-Face pale yellow, patterned with black as in the female. Labium pale. Labrum edged with black and with a black linear extension into the centre from above. Clypeus with two small brown flecks in front. Frons dark along junction with vertex, otherwise pale. Vertex black, a small yellow area immediately behind it. Occiput pale yellow, narrowly black along anterior margin; posterior margin slightly bilobed, without hairs, spiny along its entire length, not as in the female, where the spines are larger and confined to the centre, which is raised.

Thorax.-Prothorax black. Pterothorax very dark brown, with five bright yellow stripes on each side, as in the female. Anterior half of middorsal crest yellow, confluent with mesothoracic collar, as are the inner antehumerals. These narrowly confluent posterodorsally with the narrower outer antehumerals. Laterally three separate and parallel stripes, all expanded above, the first and third bright and of full length, the second paler and not extending ventral to the metastigma. Legs black, paler on the underside.

Abdomen.- (Fig. 1c) Segment I dark; posterior margin very hairy. II with anterior half yellow; oreillets pale centrally; black posteriorly, a yellow wedge-shaped mark confluent with the anterior yellow dividing the black into two square-ended spots, which in the female are more rounded. III with posterior third black; anterior two thirds with a black central longitudinal stripe and black lateral stripes, leaving a bright yellow dorso-lateral stripe on each side, finely divided by black at the jugal suture; a narrow black annulus at the anterior margin of the segment. IV-VI similar but the yellow stripes narrower. VII with anterior half almost entirely yellow, the central black stripe not extending anteriorly; two isolated fine black jugal marks. VIII with anterior quarter yellow, except for jugal marks; this area much reduced in the female; the remainder black dorsally, becoming ferruginous laterally. Large black foliations extending half-way along IX. IX and X considerably shorter than VIII, ferruginous; IX with keel along posterior half of dorsal carina. Appendages pale with black apices; superiors apically hooked outwards and upwards but not strongly so; inferiors hooked upwards at apices. (Fig. 2 b).

Accessory genitalia.-Glossy black; hamule prominent in lateral view, hooked apically, with straight anterior margin; lateral surface slightly hollowed in the centre. (Fig. IIIb).

Wings.-Hyaline; veins black, except costa which is bright yellow up to Pt. Pt dark brown.

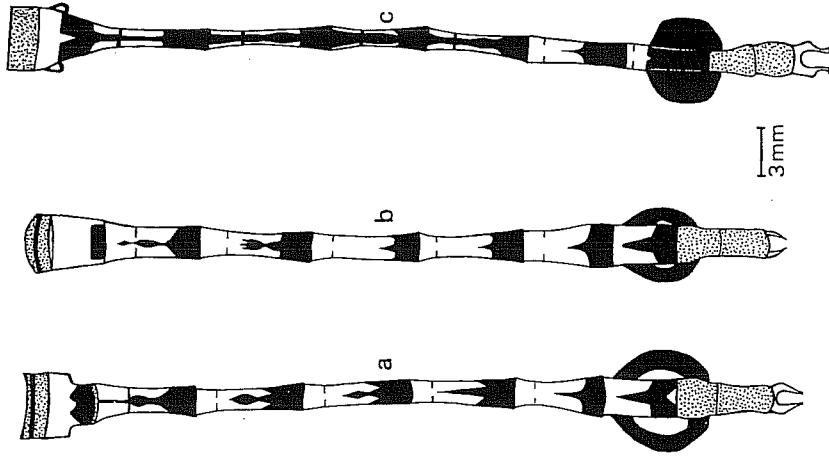


Fig. 1. Abdominal patterns: (a) *Phyllogomphus pseudoccidentalis* sp. nov., male; - (b) the same, female; - (c) *P. occidentalis* Fraser, male.

	11	17	16	11
		16	14	
Nodal index.	12	12	12	12
		11	14	

First and 5th Ax strengthened. Discoidal field commencing 3 rows in left forewing, and fluctuating between 2 and 3 rows before widening. 1 Cuq in all Wings. Anal loop 4 cells. Anal triangle 3 cells. Anal margin of hindwing strongly excavate before tornus. (Fig. 3 d).

Hw 37mm Abd (without appendages) 50mm Pt 3mm. Slightly teneral with

abdomen now in poor condition. Taken immediately after its arrival at a stream near Korhogo, Ivory Coast (9 degrees N, 6 degrees W, 500m above sea level), April 7, 1969.

This species bears a close superficial resemblance to *moundi*, but is separated by the teeth on the occiput in both sexes, and the short flat ovipositor in the female as well as the differences mentioned by Fraser, the yellow costa, paler face, and greater extent of abdominal yellow.

PHYLLOGOMPHUS PSEUDOCCIDENTALIS SPEC. NOV.

Figures 1 a, b, 2 c, d, 3 a, c

Male (holotype)

Head.-Labium, labrum, and clypeus pale. Frons narrowly black at junction with vertex, otherwise pale. Vertex dark anteriorly, pale above. Occiput pale; posterior margin straight, without hairs but with small teeth.

Thorax.-Prothorax dark, with hindlobe narrowly pale; this pale ring expanding laterally. Pterothorax: this species resembles *aethiops*, *moundi*, and *occidentalis* in having five pale stripes. These are straw-yellow as follows: a short and discrete first antehumeral stripe, enclosed within a light brown triangular area; this stripe is much less well defined than the others, and is not confluent with the mesothoracic collar, unlike the inner antehumeral of *occidentalis*. Second antehumeral and three lateral stripes very broad, separated only by narrow black along the humeral, 1st lateral, and 2nd lateral sutures. The 1st and 2nd lateral stripes confluent ventral to the metastigma. Legs pale, streaked with black in front.

Abdomen.- (Fig. 1a) Segment I dark above, pale below, with anterior transverse black stripe. II pale yellow anteriorly, black posteriorly; anterior margin of black bilobed in shape; oreillets small. III pale yellow anteriorly, black on posterior third; laterally a black stripe reaching anteriorly half-way up the segment; dorsally a black longitudinal stripe, dilated briefly in the centre of the segment, confluent with a fine brown ring at the jugal suture. IV-VII similar, the dorsal black stripe decreasing in length; on IV not extending anterior to the central dilation; on V the central dilation scarcely present; on VI no central dilation; VII similar to VI. VIII ferruginous, with black similar in extent to that on VII, but on this shorter segment the dorsal stripe almost reaches the anterior margin; a discrete yellow triangle at the posterior margin. Large almost semi-circular foliations, reaching nearly to the posterior margin of IX; pale centrally, bordered with black; similarly patterned beneath. IX ferruginous, much shorter than VIII, with raised dorsal keel posteriorly. X ferruginous, as long as VIII. Superior appendages pale yellow, rather straight; apices blunt, directed slightly upwards but not hooked; inferiors brown, with apical hook directed upwards;

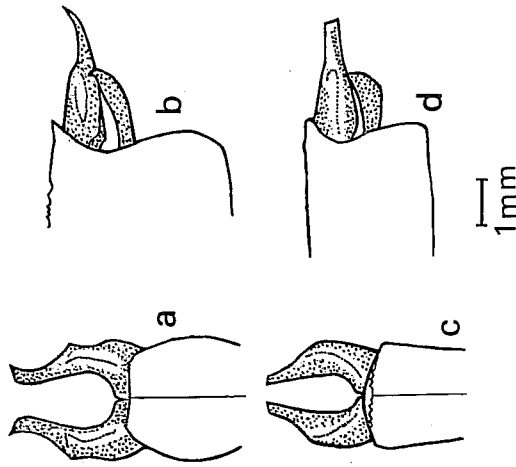


Fig. 2. Male anal appendages: (a-b) *Phyllogomphus occidentalis* Fraser, dorsal view (a), and left lateral (b); - (c-d) *P. pseudoccidentalis* sp. nov., dorsal view (c), and left lateral (d).

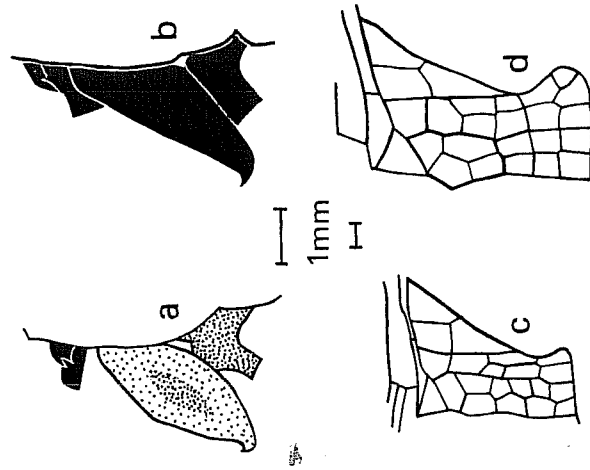


Fig. 3. Accessory genitalia, left lateral view (a-b), and anal margin of the male left hindwing (c-d): (a, c) *Phyllogomphus pseudoccidentalis* sp. nov.; - (b, d) *P. occidentalis* Fraser.

wide at base in lateral view. (Fig. 2, d).

Accessory genitalia.—Hamule pale yellow, prominent in lateral view, with apical hook; anterior margin curved; lateral surface slightly hollowed in the centre. Projecting part of vesicle of penis ferruginous. (Fig. 3, a).

Wings.—Suffused slightly with yellow. Costa and veins of cellules brown, other main veins and Pt black.

14	15	16	14
	14	17	
16	12	12	15
	13	13	

Nodal index.

1st and 5th Ax strengthened. Discoidal field commencing 3 rows, alternating sporadically with two before widening. 2 Cuq in forewing, 1 in hindwing. Anal loop not clearly defined. Anal triangle 3 cells. Anal margin of hindwing excavated before tornus, but less so than in *occidentalis*. (Fig. 3, c).

Hw 33mm Abd (without appendages) 44mm Pt 3mm. Adult specimen taken flying in tall dry grass on the bank of the Bandama river, 40 km due north of Korhogo, Ivory Coast, December 25, 1970.

Female (allotype)

Similar to the male with the following exceptions:

Abdomen.—(Fig. 1b) On II anterior margin of black on posterior half straight, transverse; laterally less black than in the male. On III-VII dorsal black stripe in each case reduced anteriorly in comparison with the male, except on IV, where it is as long, but the anterior margin of the black, on this segment at the central dilation, is three-pronged rather than rounded. On VIII the dorsal black stripe more rounded anteriorly than in the male; no triangular pale area on the posterior margin. Ovipositor flat, not produced, scarcely overlapping X. Cerci pale yellow.

Wings.—

11	15	15	12
	16	17	
12	11	11	12
	12	11	11

Nodal index.

1 Cuq in all wings.

Hw 34mm Abd 44mm.

Taken at the same time as the male.

The new species differs from all others except *aethiops*, *moundi*, and *occidentalis* in having five yellow stripes to the thorax instead of three. From these three

species it is distinguished by its smaller size; the greater amount of yellow on both thorax and abdomen; on the thorax the yellow stripes, except for the first antehumeral, are very broad, giving an impression of narrow black stripes on yellow rather than the reverse; by the almost semicircular foliations on VIII, pale with a conspicuous dark border; and, in the male, by the colour and shape of the hamules, and the shape of the anal appendages.

OCCURRENCE

Both the localities mentioned above have been visited several times; on the day when the two specimens of *P. pseudoccidentalis* were taken, two or three other Gomphids were seen in the grass, but escaped capture. The specimen of *P. occidentalis* arrived singly at a small stream where it was at once netted. Neither species has been seen on any other occasion.

TYPE SPECIMENS

The male allotype of *P. occidentalis* and the male holotype of *P. pseudoccidentalis* will be presented to the British Museum (Nat.Hist.). The female allotype of the latter species will be retained in the author's collection.

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