MAYFLIES OF WEST AFRICA. *THRAULOBAETODES*, AN ATYPICAL NEW GENUS OF CRAWLING BAETIDAE

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ABSTRACT

A curious nymph of crawling Baetidae has been recorded in a small stream in a mountain area of Guinea. The general shape of the body and the mouthparts are typical of crawling baetids and the gills are in a ventral position as in the genus *Afrobaetodes*. Further, the shape of the gills is unusual for the baetid family, because they are fringed as the gills of the genus *Thraulus* (Leptophlebiidae). The imagos are unknown.

***Thraulobaetodes* gen. nov.**

Generic diagnosis.

Nymphs. Head: Ocelli not prominent and medium sized (fig. 1a); two of them lateral to epicranial fork, the third, less developed, below this fork. Mouthparts as follows: mandibles: right mandible with incisors composed of two processes, prostheca well developed and close to incisors, shaped like a staff, covered with several bristles (fig. 2 a & 2 b). One large tooth before molar surface, large tuff of bristles situated between incisor and molar process at base of lacinia, another small tuff of bristles at base of premolar tooth. Left mandible with an unique incisor process, prostheca well developped comb-shaped, one tuff of bristles at base of lacinia (fig. 2 c & 2 d). Premolar tooth thumb-shape. Maxillae terminated with four teeth (fig. 2 e & 2 f). Maxillary palps three segmented, terminal segment with short setae at apex (fig. 2 e). Thin sharp bristles over all three segments. Labium: glossae merged along base half, paraglossae little developed, terminated with long setae, palps three segmented, third small and rounded.

Thorax: Fore wings with a typical baetid venation (fig. 3 b) (wings prepared from the wing pads of the nymphs and we do not know if there is one or two intercalary veins between the main veins). Small round setae over all the cuticle (fig. 3 d). Presence of small hind wings with two veins (fig. 3 c).

Legs thick-set, femora fringed with long setae on external margin, and with short and thin setae on inner margin, tibiae worn with some stout setae on inner side (fig. 3 e). Length of tarsi reaching the 2/3 length of the tibiae, worn with blunt spines on inner side; claws stout, with numerous prominent denticles aligned in two rows and with subapical pair of bristles (fig. 3 f).

Abdomen: Metanotum and tergites I-IX with center of apical margin produced into a raised, backwardly-directed spine (fig. 1 a et b).

Gills white, on abdominal terga 2 to 7, ventral as in *Afrobaetodes*, fringed (fig.3 a) as in *Thraulus*. Cerci with short and scattered setae, terminal filament very reduced.

Type species: *Thraulobaetodes cumminsorum* sp. n.

GENERIC DISCUSSION

The ventral position of the gills is already known in the African baetid genus *Afrobaetodes* Demoulin (1970) and in the Neotropical *Baetodes* Needham & Murphy (1924). But the fringed shape of the gills is absolutely unusual for this family. The shape of the mouthparts (mandibles, maxillae, labium) is usual for the baetids except the fusion of the base of the glossae. The abdominal tubercles of *Thraulobaetodes* are highly developed, and more so than in other baetids such as *Jubabaetis* Müller-Liebenau (1980), *Neobaetiella* Müller-Liebenau (1985), and *Baetodes* Needham & Murphy (1924), but less than in the African genus *Acanthiops* Waltz and McCafferty (1987). The near lack of a terminal filament of the nymph is known in many baetid genera as such *Afrobaetodes*, *Baetodes*, and *Baetis*. The venation of the fore wings is typical for the family.

Thraulobaetodes cumminsorum sp. n.

Nymph: The shape of the body, mouth parts, and gills are given in the general diagnosis. The general coloration is brown patched with some yellowish maculations (fig. 1). The coxae are brown and the legs are yellowish except a brown maculation at the middle of the tibiae. The sixth and seventh abdominal tergites have a pair of white spots as in some *Afrobaetodes*. Length of the body 3.7 mm, cerci 2.3 mm.

The life cycle as well as the adults are unknown. The nymphs were collected in a small brook of East Guinea, in the Beyla area. They were exposed to a medium current speed (0,60 m s-1), on rocks covered with some Podostemacae.

This species is dedicated to Drs. K. and M. Cummins.

Holotype: nymph V, M'bôo river, tributary of the Férédougouba, Sassandra basin, near Fameudougou, Beyla area, East Guinea (9 March 1988). Deposited at the Museum National d'Histoire Naturel de Paris, France.

Paratypes: Three nymphs, same locality and date. One in the personnal collection of the authors, two in the Cummins' collection (Pymatuning labo-

ratory of Ecology, University of Pittsburgh, Pittsburgh, PA 15260, USA).

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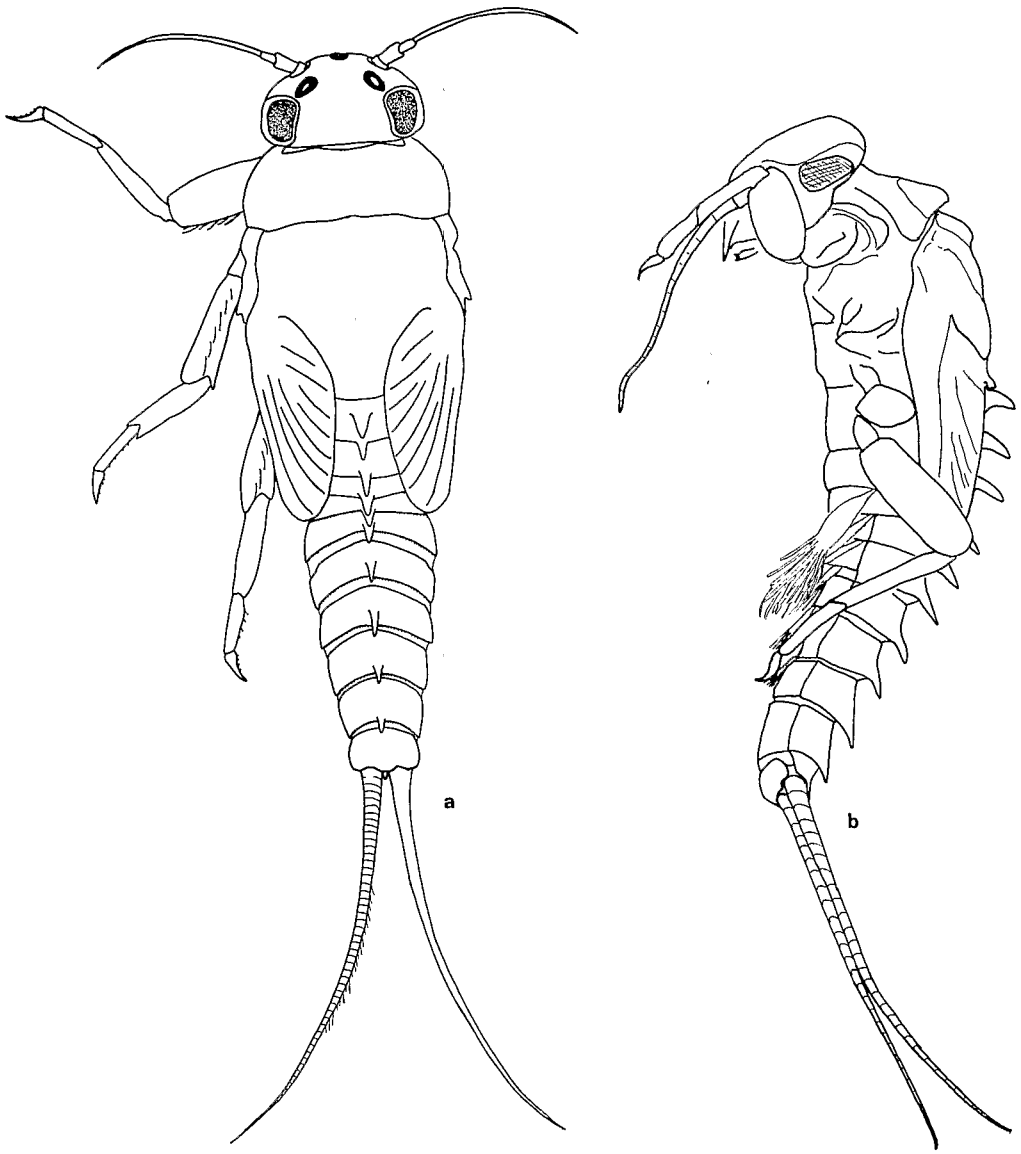

Plate 1: Nymph of *Thraulobaetodes cuminsorum*. a: dorsal view, b: lateral view.

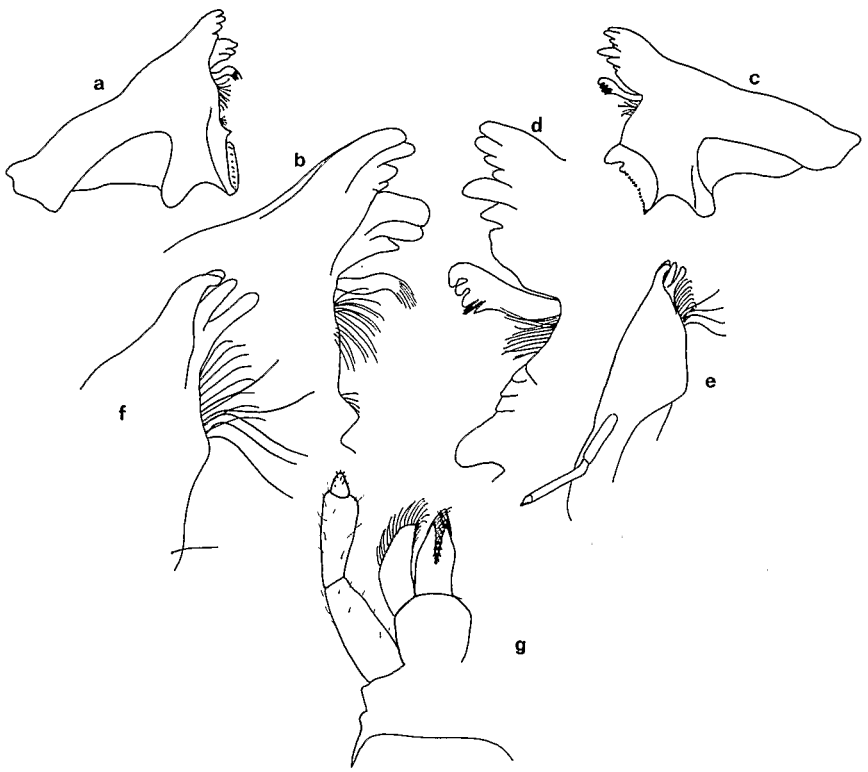

Plate 2: Mouthparts of *Thraulobaetodes cumminsorum* nymph. a & b: right mandible, c & d: left mandible, e & f: maxilla, g: labium.

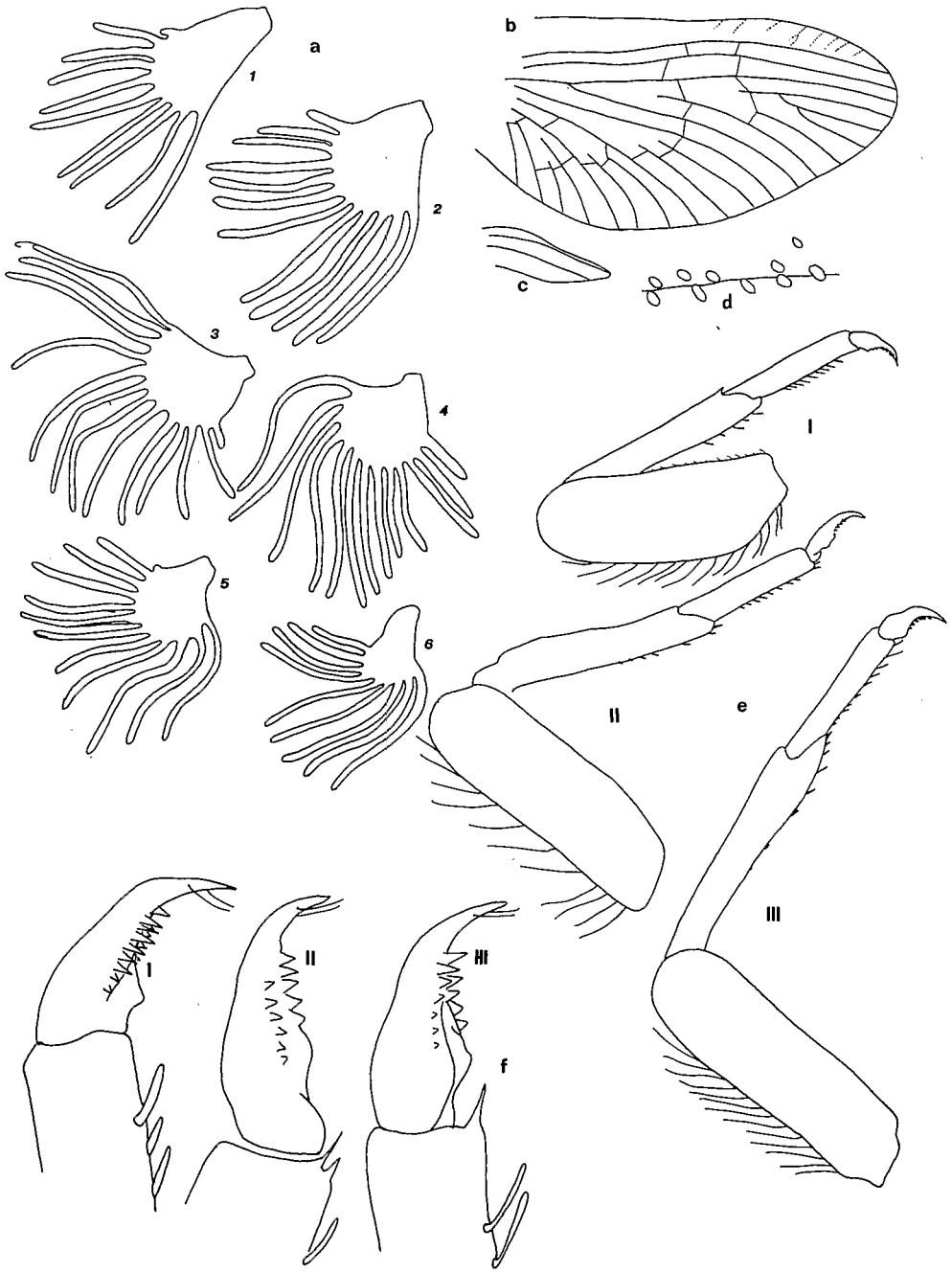

Plate 3: *Thraulobaetodes cumminsorum*. a: gills 1-6, b: fore wing bud, c: hind wing bud, d: detail of the cuticle of fore wing, e: legs I-III, f: claws I-III.

OVERVIEW AND STRATEGIES OF EPHEMEROPTERA AND PLECOPTERA

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