

A new species of the genus *Platybaetis*
MÜLLER-LIEBENAU 1980,
P. bishopi sp. n., from Malaysia
(Insecta, Ephemeroptera).

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Abstract: The nymph of a new species of the genus *Platybaetis* is described in detail. A key is given for the three species of the genus.

The new species described herein of the genus *Platybaetis* is contained in Baetid material collected by Dr. J. E. BISHOP during 1968—1970 from the Gombak river system in Malaysia, N of Kuala Lumpur.

A new genus and species, *Platybaetis edmundsi*, was described by MÜLLER-LIEBENAU (1980) from the Philippines. Also in that paper a species was cited, described by UENO (1955) as „*Baetis* sp. 2“ from Nepal, in his paper dealing with the results of a Japanese scientific expedition to the Himalayas 1952—1953. This second species obviously belongs to the genus *Platybaetis*. Since UENO left this species unnamed it was named by MÜLLER-LIEBENAU (1980) as *P. uenoi*.

In the following, a third species of the genus *Platybaetis* is described from Malaysia.

In honour of the collector it is named *Platybaetis bishopi* sp. n.

Platybaetis bishopi sp. n.

Material: 91 nymphs, Malaysia, coll. J. E. BISHOP, Gombak river and tributary of Gombak river N of Kuala Lumpur.

Description: For morphological details see Fig. 1.—4.

Body length: ♂ ca. 6,1 mm, cerci ca. 5,2 mm; ♀ ca. 6,8—7,1 mm, cerci ca. 5,4 mm; terminal filament in both sexes reduced to 1 segment. Body of ♂ nymphs are slender, body of female nymphs are more flattened.

Head: barley wider than long with labrum comparatively small, as normal in this genus; a shallow indentation in the middle of hind margin. Specimens in alcohol have the labrum completely turned downwards, covering the tips of the other mouthparts. — Antennae short, reaching slightly beyond hind margin of head.

Colour pattern as in Fig. 3. The cerci are brownish, lighter at base.

Pronotum rounded laterally and on outer hind margin as typical for this genus (Fig. 3). Hind wing pads wanting.

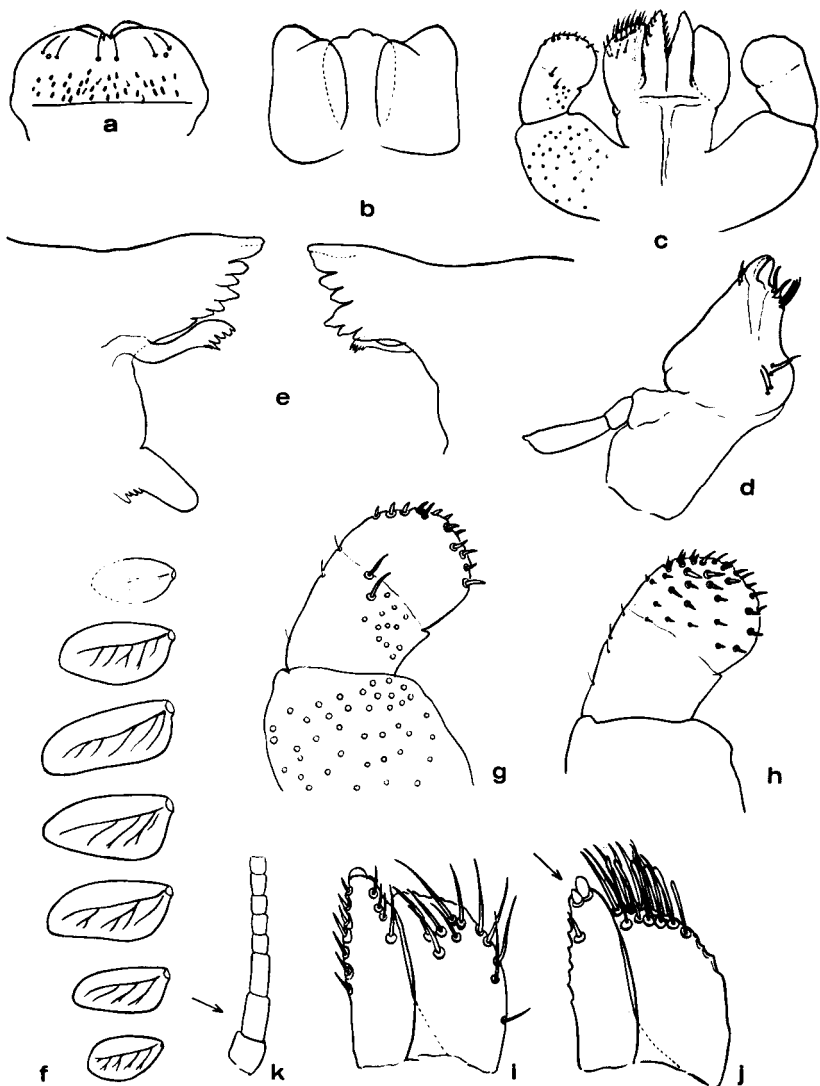


Fig. 1: Nymph of *Platybaetis bishopi* sp. n. a) labrum; b) hypopharynx; c) labium; d) maxilla; e) canini area of left and right mandible; f) gills I—VII; g) labial palpus dorsal; h) labial palpus ventral; i) right glossa and paraglossa dorsal; right glossa and paraglossa ventral; k) basal segments of antenna

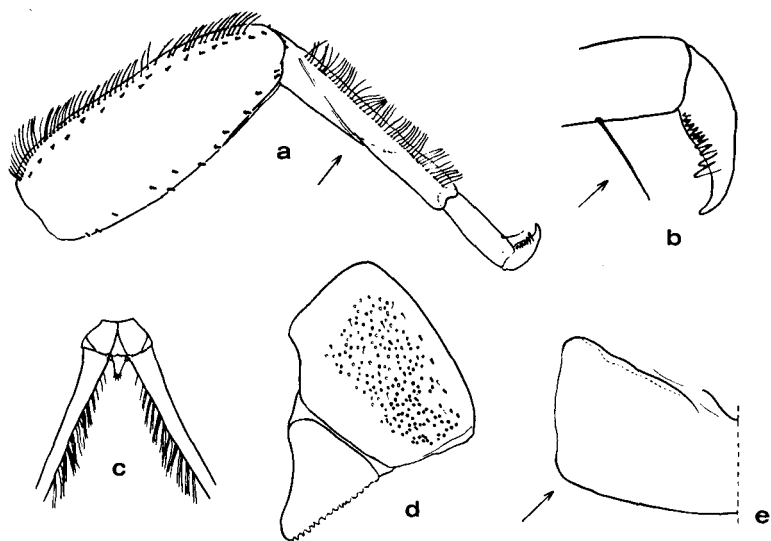


Fig. 2: Nymph of *Platybaetis bishopi* sp. n. a) leg; b) apex of leg with long bristle; c) base of caudal filaments; d) paraproct; e) left half of metatergum, without hind wing pads

Gills: on segment 1—7 present. Clearly tracheated; main trachea branched mostly toward hind margin of gill.

Legs: stout, tibia of front leg comparatively short, tibiae of middle and hind legs longer. All three segments with a dense row of long fine feathered bristles on outer margin as in Fig. 2a. This sort of finely feathered bristle occurs also in some species of other baetid genera which possess a dense row of bristles on the outer margin of the leg segments, e. g. species of the genus *Pseudocloeon* and the *Baetis lapponicus*-group. Longitudinal seam on tibia well developed. Inner margin of tarsus near apex with one long, fine bristle; claw with one row of teeth, tooth near apex longest. For dorsal surface and hind margin of terga see Fig. 4. Holotype: 1 nearly mature nymph in alcohol. — Malaysia: Gombak River, Univ. of Malaya Studies Center, 16 1/2 mi. N. of Kuala Lumpur on Bentong road. St. II. — 8-VIII-1969 — leg. J. E. BISHOP, det. I. MÜLLER-LIEBENAU 1980. — Zoologisches Staatsinstitut und Zoologisches Museum, Abt. Entomologie, Hamburg.

Paratypes: About 85 nymphs, in Coll. Dr. BISHOP, 2 slide preparations in my Coll. in Plön.

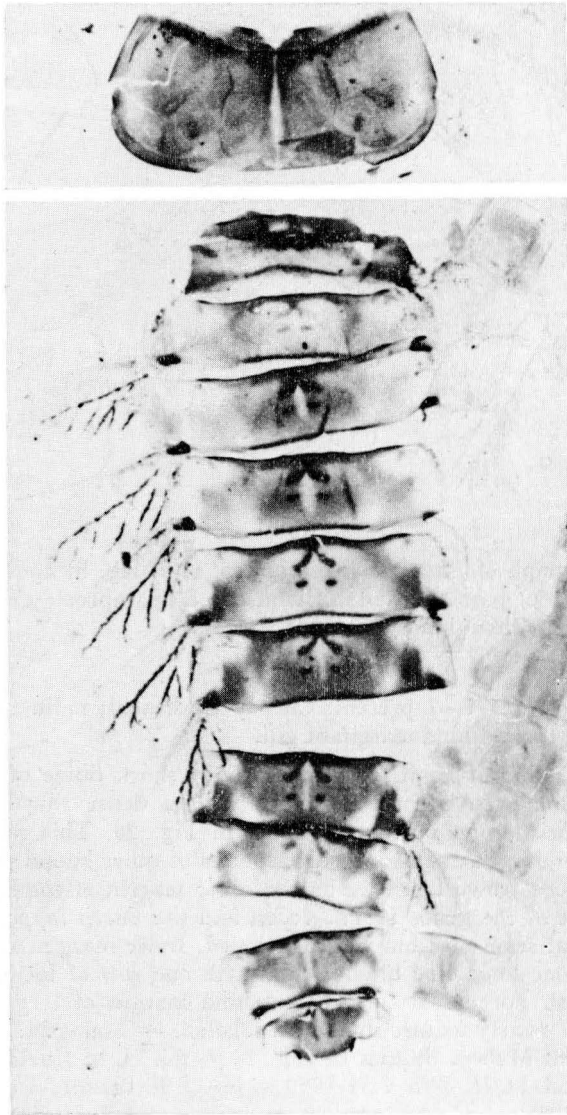


Fig. 3: *Platybaetis bishopi* sp. n. pronotum and abdomen (pronotum at higher magnification).

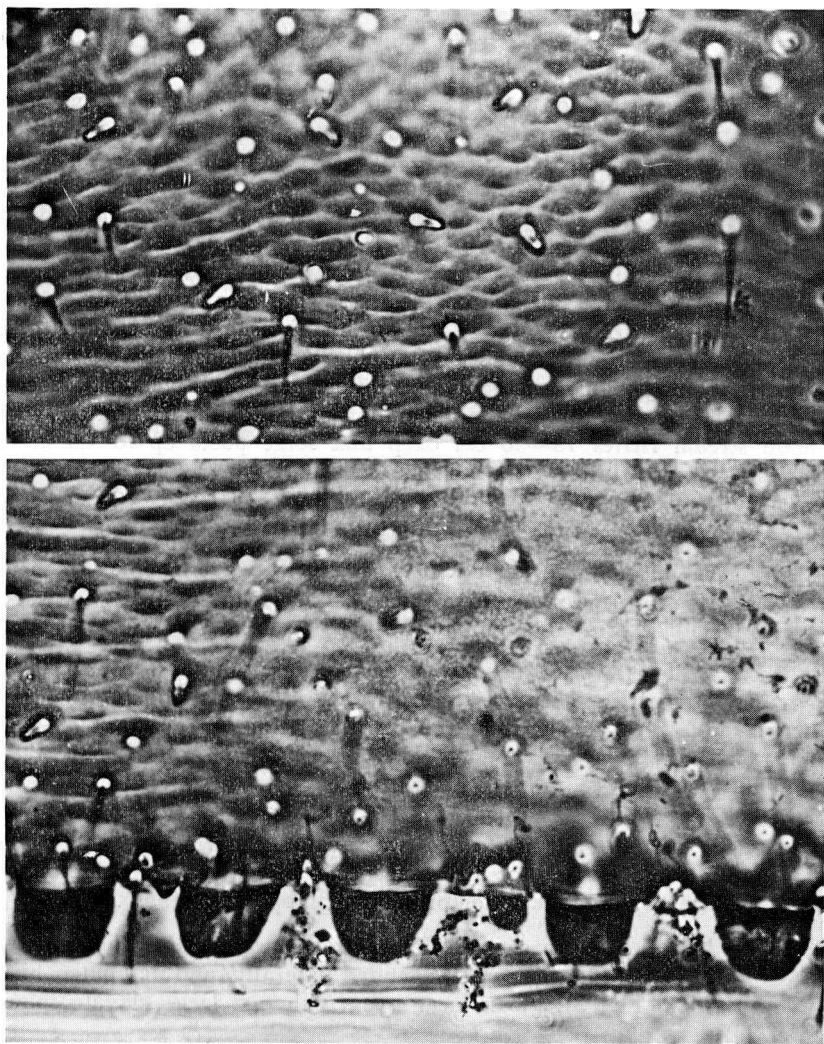


Fig. 4: *Platybaetis bishopi* sp. n. nymphal tergum and hind margin

Discussion

As mentioned before (MÜLLER-LIEBENAU, 1980), the genus *Platybaetis* seems to be widespread in the Orientalis, but restricted to this region.

The ecological situation at the collecting site for *P. bishopi* sp. n. is characterized by BISHOP (1973:23) as follows: „Station II was located on the main river as the representative station in the Upper Zone at 3°19'32"N, 101°45'16" E. The reach selected for study was immediately upstream from the University of Malaysia Field Studies Centre at an altitude of 220 m, 6.8 km from the source, draining an area of 27,7 sq km. Width at this station varied from 7—12 m with narrow (1—2 m) steep flood beaches of silt-sand and pebbles in some places . . . Large boulders grossly characterized the study location, but the substrate between these was sand, gravel and stones of variable dimensions. There were no aquatic cryptogams or emergents and lichen, moss and liverwort associations.“ — „Depth was variable depending on bottom configuration, with main stream riffles 15—30 cm deep and some pools up to 1,5 m in depth.“ For more information see BISHOP 1973.

The nymphs of *P. edmundsi* were collected on the highlands of North Luzon (Philippines) in a small, swift flowing, rock-bottom mountain stream at an approximate altitude between 1.600—2.200 m. The specimens were found in cracks of submerged logs on debris trapped between rocks (personal communication from Dr. M. L. PESCADOR).

The collecting site of *P. uenoi* was described by UENO (1955:301) as a stream running through paddy fields, wider than 10 m, about 700 metres above sea level, near Nawakot between Batar Bazar and a ford of Tadi Khola, Nepal.

Key to the nymphs of the three species of *Platybaetis*

Although no material of *P. uenoi* was available during this study it is possible to present a key for all three species of the genus because of the detail of the original description of the nymph by UENO (1955).

Most striking generic characters of the genus: large head with comparatively small labrum; pronotum rounded laterally and on outer hind margin (as in Fig. 3); glossa near apex with two large clavate spines (Fig. 1j).

- 1 head in the middle of hind margin with a clear incision; hind wing pads very small; terminal filament reduced to 6—7 segments; apical prolongation of the molar aerea of left mandible stout, about twice as long as wide; teeth on hind margin of terga pointed; body length about 11,5 mm; Philippines. *edmundsi*

- head in the middle of hind margin at most with a shallow indentation; hind wing pads absent or possibly present (this state is unknown in *P. uenoi*); apical prolongation of the molar aerea of left mandible longer and smaller, more than twice as long as broad; 2
- 2 terminal filament reduced to 1 segment; bristles at inner row near apical margin of paraglossa clavate; hind wing pads absent; teeth on hind margin of terga broad, rounded; body length about 7,1 mm; Malaysia *bishopi* sp. n.
- terminal filament with about five segments; bristles in inner row near apical margin of paraglossa pointed; hind wing pad condition and shape of teeth on hind margin of terga not known; body length ca. 6,0 mm; Nepal *uenoi*

Literature

- BISHOP, J. E., 1973: Limnology of a small Malayan River Sungai Gombak. — Dr. W. JUNK B. V., Publishers, The Hague. 1—485.
- MÜLLER-LIEBENAU, I., 1980: *Jubabaetis* gen. n. and *Platybaetis* gen. n.: two new genera of the family Baetidae from the Oriental Region. Advances in Ephemeroptera Biology, Ed. J. E. FLANNAGAN & K. E. MARSHALL, Plenum Press, New York and London: 103—114.
- UENO, M., 1955: Mayfly nymphs. In: Fauna and Flora of Nepal Himalaya. — Scientific Results of the Japanese Expedition to Nepal Himalaya 1952—1953. 1: 301—316, 10 pl. — Contribution No. 150 from the Otsu Hydrobiological Station, Kyoto University.