

## New Genus of Teloganodinae (Ephemeroptera : Pannota : Ephemerellidae) from Sri Lanka<sup>1</sup>

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### SUMMARY

Newly discovered mayflies from Sri Lanka have proven to represent a new genus and species of Ephemerellidae, subfamily Teloganodinae. *Macafertiella* Wang n. gen. is described in the larval stage, and compared with the Oriental genus *Teloganodes*. *Macafertiella* and *Teloganodes* appear to be sister genera based on the common possession of several apomorphies within the Teloganodinae, but can be easily separated on the basis of several diagnostic differences that are tabulated, including the presence in *Macafertiella* of gills on abdominal segment 6. *Macafertiella insignis* Wang & McCafferty n. sp. is described from material taken in tributaries of the Walawe-Ganga and Kelani-Ganga in Sri Lanka.

Keywords : Ephemerellidae, Teloganodinae, *Macafertiella*, new genus, Sri Lanka.

### RÉSUMÉ

#### Un genre nouveau de Teloganodinae (Ephemeroptera : Pannota : Ephemerellidae) de Ceylan

Des Ephéméroptères nouvellement découverts à Ceylan appartiennent à un genre nouveau et à une espèce nouvelle d'Ephemerellidae, de la sous-famille des Teloganodinae. *Macafertiella* Wang n. gen. est décrit à la phase larvaire, et est comparé au genre oriental *Teloganodes*. Au sein des Teloganodinae, *Macafertiella* et *Teloganodes* apparaissent comme des genres frères en raison de la possession en commun de plusieurs apomorphies, mais peuvent être aisément séparés sur la base de plusieurs différences dans la diagnose. Ces dernières, y compris la présence de branchies sur le segment 6 chez *Macafertiella*, sont présentées sous la forme d'un tableau. *Macafertiella insignis* Wang & McCafferty n.sp. est décrite de Ceylan, à partir de matériel provenant d'affluents du Walawe-Ganga et du Kelani-Ganga.

Mots clés : Ephemerellidae, Teloganodinae, *Macafertiella*, genre nouveau, Ceylan.

### 1. Introduction

The subfamily Teloganodinae of the family Ephemerellidae is primarily represented in the southern Afrotropics, with somewhat lesser diversity heretofore known in southeast Asia and Australia. *Teloganodes* Eaton had for some time been the only genus of Teloganodinae known from the Oriental region (EATON 1882; ULMER 1924, 1939; DUDGEON 1987). *Vietnamella* Tshernova, however, has recently proven to be another genus of Teloganodinae found in the Oriental region (Vietnam and China) (TSHERNOVA 1972, YOU and SU 1987, WANG and McCAFFERTY 1995). It was transferred from the Ephemerellinae to the Teloganodinae by EDMUNDS and MURVOSH (1995). In the meantime, WANG and McCAFFERTY (1995) demonstrated that the teloganodine genus *Ephemerellina* Lestage, once thought to occur in both the Orient and Afrotropical regions (ALLEN and EDMUNDS 1963), is in fact found only in southern Africa and that the Oriental distribution ascribed to

*Ephemerellina* actually is referable to *Vietnamella*.

In addition to *Teloganodes* and *Vietnamella*, we have discovered another new genus in the Teloganodinae from the Orient. Below we describe this genus and its type species from Sri Lanka, and we compare it with *Teloganodes*, to which it appears most closely related.

### 2. *Macafertiella* Wang n. gen. : description

#### Mature larva

Head capsule with long hairlike setae along lateral margins posterior to antennal bases. Lateral margins of abdomen with very short hairlike setae.

Labrum (Fig. 1) slightly emarginate anteromedially, with transverse row of long hairlike setae following curvature of labrum.

Mandibles (Fig. 2, 3) with outer margins slightly convex, each with large bristlelike seta at midlength of outer margin.

Maxillae (Fig. 4, 5) with galealacinae narrow-elongate, and lacking palpi.

Hypopharynx (Fig. 6) with superlinguae well developed laterally with most hairlike setae branched.

Labium (Fig. 7) with short, three-segmented palpi, with palpal segment 3 shorter than width of palpal segment 2; glossae and paraglossae very short, delineated only in extreme apices.

Legs (Fig. 8) with femora length more than 3.0 times width, and with hairlike setae along anterior and posterior margins; tibiae with dorsal row of setae originating near anterior margin, and row of shorter setae along posterior margin.

Abdomen with gills on segments 2-6, with gill of segment 2 (Fig. 9) entirely operculate, covering gills of segments 3-6 (Fig. 10-13); gills of segments 2-5 with ventral flabellate portion. Abdominal posterolateral projections poorly developed. Single row of median tubercles well developed on abdominal terga. Median caudal filament vestigial and minute, consisting of only one segment.

Alate stages and egg : Unknown.

### 3. Type species

*Macafertiella insignis* Wang and McCafferty n. sp.

### 4. Generic etymology

The generic nomen incorporates a Latin transliteration of McCafferty, the surname of Professor W.P. McCafferty, for whom TQW names the genus. The name is further given a feminine suffix consistent with that of many other genera of Ephemeroidea.

### 5. Diagnosis

Among the Teloganodinae, *Macafertiella* is most similar to the Oriental genus *Teloganodes*. The two genera, however, are easily told from each other in the larval stage by the

characters given in Table 1. The alate stages of *Macafertiella* remain unknown at this time.

### 6. *Macafertiella insignis* Wang and McCafferty n. sp. : description

Mature larva

Body 9.0-11.0 mm long. Cerci 14.0-16.0 mm long. General color yellowish brown.

Head lacking tubercles and projections. Antennae shorter than width of head capsule. Pedicels dark brown.

Mandibles (Fig. 2, 3) with 3-4 incisors, and with molar areas with 5-7 ridges.

Hypopharynx (Fig. 6) with apical margin of lingua slightly convex medially.

Labium (Fig. 7) with long, hairlike setae at apices of glossae and paraglossae.

Prothorax with pronotum width 2.0 times length, and with anterolateral corners pointed; prosternum width subequal to length.

Legs (Fig. 8) with setae of posterior rows shorter in length than width of corresponding leg segment. Claws with 4-5 denticles.

Hindwingpads minute.

Abdomen with posterior margins of terga with dark transverse bands. Operculate gills (Fig. 9) yellowish brown, and without marginal setae; gills on abdominal segments 3-6 with minute marginal setae. Cerci without intersegmental setae.

Alate stages and egg : Unknown.

### 7. Material examined

Holotype : Female larva, Ceylon (Sri Lanka), Belihuloya Region, Veli-Oya, Trib. of Walawe-Ganga, 700 m, 8-XII-

	<i>Macafertiella</i>	<i>Teloganodes</i>
Transverse row of setae on dorsal labrum (fig.1)	dense and long	sparse and short
Femora of forelegs (fig 8) (length : width ratio)	> 3.0	< 2.5
Abdominal gills 6 (fig. 13)	present	absent
Lengths of median tubercles on abdominal terga 3 ( $T_3$ ) and 10 ( $T_{10}$ )	$T_3 < T_{10}$	$T_3 > T_{10}$

Table 1. Characteristics comparison between *Macafertiella* and *Teloganodes*.  
Tableau 1. Caractères comparatifs opposant *Macafertiella* et *Teloganodes*.

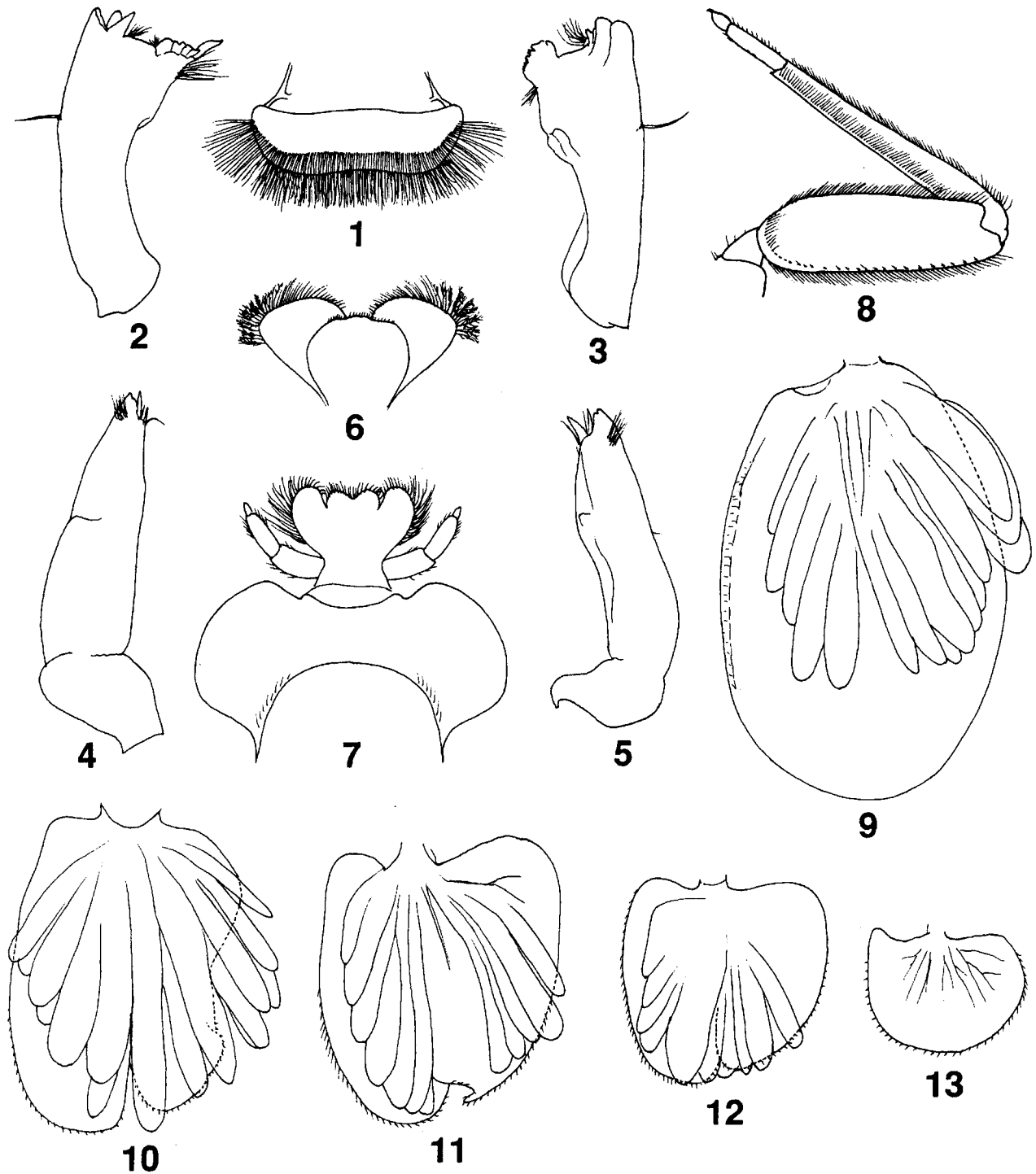


Fig. 1 to 13. Structures of *Macafertiella insignis* n.gen., n.sp., larvae. 1 : labrum. 2 : right mandible. 3 : left mandible. 4 : right maxilla. 5 : left maxilla. 6 : hypopharynx. 7 : labium. 8 : right foreleg (dorsal). 9 : gill of abdominal segment 2 (ventral). 10 : gill of segment 3 (ventral). 11 : gill of segment 4 (ventral). 12 : gill of segment 5 (ventral). 13 : gill of segment 6 (ventral).

Fig. 1 à 13. Structures larvaires de *Macafertiella insignis* n.gen., n.sp. 1 : labre. 2 : mandibule droite. 3 : mandibule gauche. 4 : maxille droite. 5 : maxille gauche. 6 : hypopharynx. 7 : labium. 8 : patte antérieure droite (vue dorsale). 9 : branchie du segment abdominal 2 (vue ventrale). 10 : Branchie du segment 3 (vue ventrale). 11 : branchie du segment 4 (vue ventrale). 12 : branchie du segment 5 (vue ventrale). 13 : branchie du segment 6 (vue ventrale).

1970, F. Starmühlner. Paratypes : 1 young larva, same collecting data as holotype; 1 female larva, Kitulgala Region, Rambukpoth-Oya, near Pitawela, trib. of Kelani-Ganga, 650 m, 27-XII-1970, F. Starmühlner. Type specimens are deposited in the Purdue Entomological Research Collection, West Lafayette, Indiana, USA.

### 8. Species etymology

The name is taken from the Latin, *insignis*, meaning notable.

### 9. Generic relationships

*Macafertiella* is most closely related to *Teloganodes*. The two appear to be sister genera on the basis of shared apomorphies involving well-developed setation of the head and leg margins; loss of developed maxillary palpi; loss of the first gill; and reduction of the medial caudal filament. The relationship of this lineage with other Teloganodinae will be treated elsewhere.

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