

The Second European Species of the Subgenus *Eurylophella* Tiensuu  
(*Ephemeroptera*, *Ephemerellidae*, *Ephemerella*)

by

Maria KEFFERMÜLLER and L. S. W. DA TERRA

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**Summary.** The authors present an illustrated description of an imago male and female and a nymph of *Ephemerella* (*Eurylophella*) *iberica* sp.n. Nymphs of the species were found in several rivers in Portugal, and imagines were reared in the laboratory. This new species differs from *E. (E.) karelica* Tiensuu by a smaller body size, and in coloration by a paler background and a different (usually more contrasted) pattern of spots. The differences in constitution apply to characteristic which Allen and Edmunds [1] appreciated as important in the taxonomy of this subgenus.

In 1972 Luis da Terra reported the finding in Portugal of nymphs of an unknown mayfly species from the genus *Ephemerella* Walsh. It later appeared that these nymphs belonged to the subgenus *Eurylophella* Tiensuu precisely characterized by Allen and Edmunds [1]. In 1975 L. da Terra reared imagines of both sexes in the laboratory. This species appeared to be different in both stages from *Ephemerella* (*Eurylophella*) *karelica* Tiensuu till now known only from the Karelian A. S. S. R. [7], Lithuanian S. S. R. [3], and from Poland [4, 5]. The present paper gives a description of this new species.

*Ephemerella* (*Eurylophella*) *iberica* Keff. et Terra, sp.n.

Material (leg. L. da Terra): 1. Rio Sanguinhedo—Tárrio, 1–14 July 1975—3 males, 3 females (reared from nymphs collected on 27 June 1975); 2. Rio Ave—Rossas, 20 May 1975—5 nymphs (Fig. 1). Holotype (imago ♂), allotype (imago ♀) and paratype (nymph) are deposited in the mayfly collection at the Institute of Systematic Zoology at the University of Poznań.

Imago male (in alcohol)

**Dimensions** (lengths). Body about 9 mm; forewing in holotype 8.2 mm, in paratype I 9.5 mm, in paratype II 9.0 mm; outer tails (only in paratype I) 12.5 mm.

**Genitalia** (Fig. 2). Median process of posterior edge of styliger broad and low, its hind margin indented: protuberant in holotype and paratype I, with only two teeth and medially excavated in paratype II. Second segment of genital forceps slenderer and near the end slightly less widened than in *E. (E.) karelica* Tiensuu (Fig. 3). Third segment about 1.5 times longer than broad, slightly narrower than

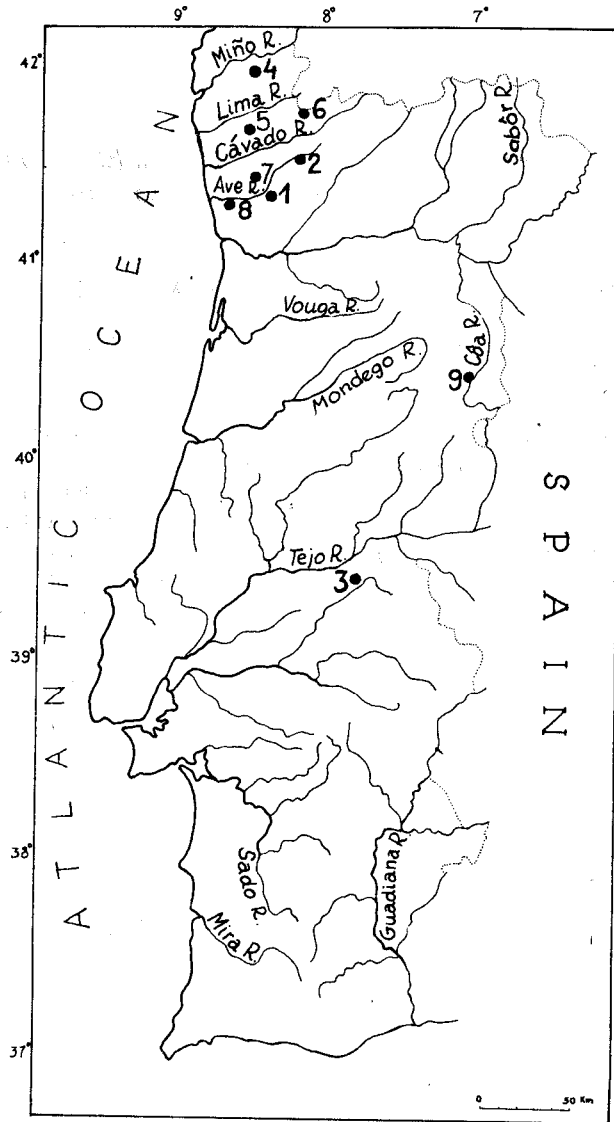


Fig. 1. Present distribution of *Ephemera (Eurylophella) iberica* sp.n. (numeration agrees with that in the text)

end segment II. Inner side of forceps with fine ovate spines relatively bigger than in *E. (E.) karelica* Tiensuu. Penis swelled slightly beyond the midway between base and apex.

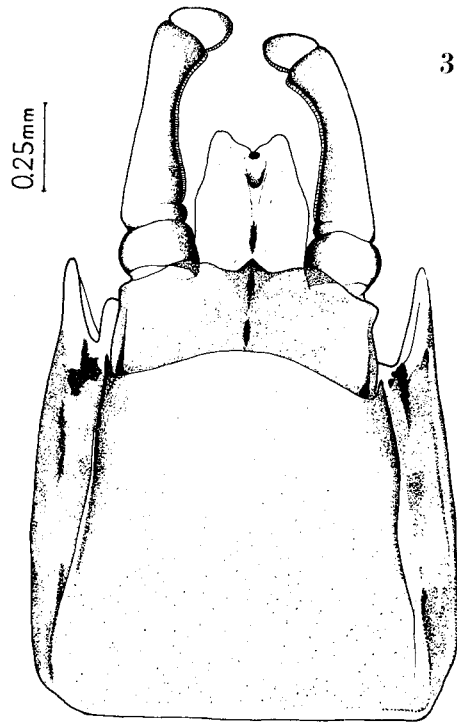
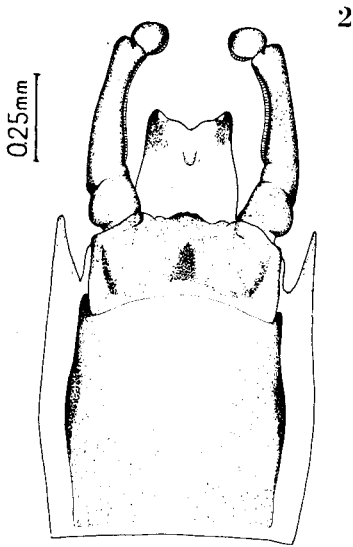


Fig. 2. *Ephemerella (Eurylophella) iberica* sp.n., imago male—ventral view of genitalia  
Fig. 3. *Ephemerella (Eurylophella) karelica* Tiensuu, imago male—ventral view of genitalia

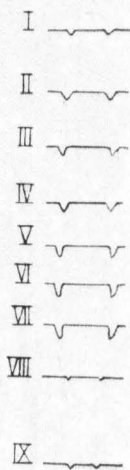
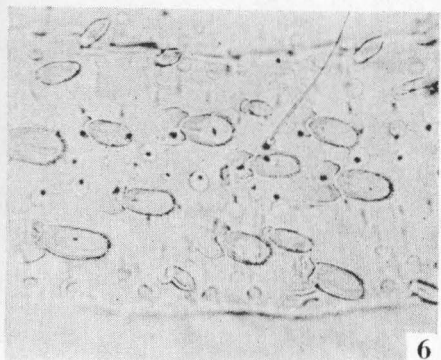
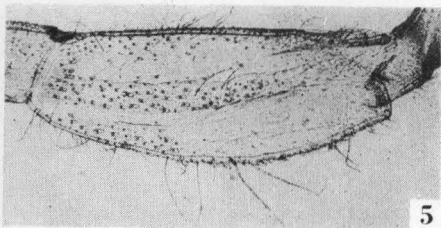
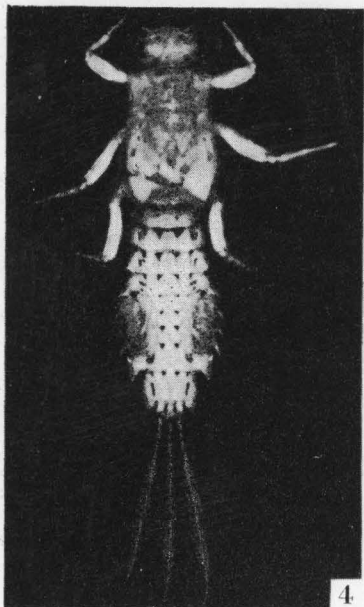


Fig. 4. *Ephemerella (Eurylophella) iberica* sp.n., nymph (photo J. Skibiński)

Fig. 5. *Ephemerella (Eurylophella) iberica* sp.n., nymph—femur of II leg (photo J. Skibiński)

Fig. 6. *Ephemerella (Eurylophella) iberica* sp.n., nymph—fragment of rib on upper side of femur of II leg (photo J. Skibiński)

Fig. 7. *Ephemerella (Eurylophella) iberica* sp.n., nymph—final processes of thoraxial tergites

*Coloration.* Body pale with dark pattern of variant intensity. Head light grey-brownish. Upper part of eye grey-ochre, grey-yellowish in paratype II. Lower part—grey-leadened with faintly marked darker horizontal line on its upper section. Thoraxial sclerites light brown. Median rib of prothorax pale, emarginated by dark line in its hind part which diverging frontward from mid-protergum. Mesotergum: front-medial part of scutum palest, sides of scutellum darkest. Thoraxial stitches dark brown, membranes yellowish. Membranes at edges of praescutum without blackish spot occurring there in *E. (E.) karelica* Tiensuu. Wing membrane colorless, veins dark brown, Sc and R paler and more yellowish. Legs yellowish; femora and bases of tibiae of first pair brownish; dark brown spot present underneath near ends of tibiae. In other legs only final parts of tarsi darker. Abdomen grey-yellowish, tergites with dark grey-brownish rear edges, and in holotype also light brownish in terminal half. Pair of triangle blackish spots (alike as in nymph—Fig. 4) present on the front of each abdominal tergite in paratype II; in holotype signs of their occurrence only on final tergites; in paratype I—only on segment X. Ventral ganglia slightly marked on abdominal sternites; in paratype II also a pair of oblique dark “commas” are present. Fore-parts and sides of sternite IX brown, its side edges and terminal truncate teeth dark brown, very distinct from pale side folds. Great pale spot based on whole rear edge of the sternite runs as narrow strip through dark spot and reaches front-edge of the sternite. In holotype and in paratype I the styli-ger—except its base—brown, darkest in the middle; edge of central process of its rear margin dark brown. Forceps grey-brown; side margins of segment I and II and ends of segment III dark brown. Penis yellowish and outer ends of both lobes brown. In paratype II genitals whole yellow except side margins of segment II and III of forceps which are brown, and ends of segment III and end-most parts of outer lobes of penis a little darker. Tails of paratype I grey-brownish with lighter joints; in paratype II (broke away) yellowish.

Imago female (in alcohol)

*Dimensions* (lengths). Body and forewing about 9 mm; tails (present only in paratype)—outer 10.5 mm, inner 11.0 mm.

Subanal plate and its rear edge transversely cut and with poorly developed three teeth. Rear margin of subgenital plate very chitinous, also three-toothed. Central tooth broadest, and in allotype slightly, but in both paratypes distinctively, longer than outer ones. Surface of the plate transversely ridged but less than in *E. (E.) karelica* Tiensuu.

*Coloration.* As in male but forelegs whole light brown and their tibiae without dark spots underneath. Tibiae of other legs whitish, tarsi grey-brown and darker near ends. In female paratypes base of R in forewing, and in hindwing common base of Sc and R, dark brown. Central rib of protergum whole dark brown (paratype II) or only slightly darkened at sides (allotype, paratype I).

Nymph (in alcohol)

*Dimensions* (lengths). Body of mature nymph (female) 10.5 mm; outer tails 7.3 mm (inner broke away).

Head protuberances low but distinctive. Upper side of femora with longitudinal, broad and oblique rib (Fig. 5) covered by ovate spines (Fig. 6); only on femora of forelegs they are more elongated. Short and broad spines together with shorter and sharper ones along rear margin of femora, and on legs of II and III pairs also on their upper side and paralelly to both edges. Long hairs present at both edges and on the rib. Teeth (usually about 8) on claws of the same length. Pleural teeth of abdominal segment II and III developed as in *E. (E.) karelica* Tien-suu. Fine, clavate spines and long hairs at frontal margins of pleural teeth. Geminate final processes of tergites (Fig. 7) on segment I short and obtuse but on next segments longer and sharper and situated slightly divergently; on segment VIII they are smallest and again more convergent; on segment IX they are situated similarly but they are broader.

*Coloration* (Fig. 4). Body pale, grey-yellowish. Antennae pale near base, further brown-grey. Ends of claws and 2-3 joints in basal parts of tails dark brown. In some specimens terminal abdominal tergites a little darkened with whitish spots alike as on membraneous final part of gill cover. Tails palely striped—two segments darker and two paler. Pattern of brown-black spots on pale body: on thoraxial tergites a pair of spots on both sides of protergum stitch, spots along edge of meso-tergal scutum and at the base of wings; on abdominal tergites this pattern very distinct: each tergite with a pair of triangle fore-median spots and several smaller marginal ones of which longitudinal strip is longest on segment IX. Each median abdominal sternite with a pair of spots and oblique lines.

Besides two type localities, nymphs of *E. (E.) iberica* sp.n. have been found also on the next localities: 3—Ribeira de Figueira—Nisa, 4—Rio Coura—Mantelães, 5—Rio Neiva—Sandiães, 6—Rio Homem—Vilarinho, 7—Rio Pele—Airão, 8—Ribeiro da Aldeia—Guidões, 9—Rio Coa—Sabugal (Fig. 1).

INSTITUTE OF SYSTEMATIC ZOOLOGY, ADAM MICKIEWICZ UNIVERSITY, FREDRY 10, 61-701 POZNAŃ

(ZAKŁAD ZOOLOGII SYSTEMATYCZNEJ, UNIwersYTET im. A. MICKIEWICZA)  
ESTACAO AQUICOLA—VILA DO CONDE, PORTUGAL

#### REFERENCES

- [1] K. Allen, G. Edmunds Jr., *A revision of the genus Ephemerella (Ephemeroptera: Ephemerellidae) VII. The Subgenus Eurylophella*, Canad Entomol., **95** (1963), 597-623.
- [2] O. A. Černova, *Otriad Ephemeroptera—Podenki*, Opred. nasekomykh Evrop. časti SSSR, **1** (1964), 110-136.
- [3] R. Kazlauskas, *Materialy po faune podenok (Ephemeroptera) Litovskoj SSSR s opisaniem novogo vida Eurylophella lithuanica sp.n. i imago Neoephemera maxima (Joly)*. Vilnius Valstybinio v. Kapsuko Vardo Univ. Moksl. Darb., **23**, Biol. Geogr. ir Geol., **6** (1959), 157-174.
- [4] M. Keffermüller, *Badania nad fauną jętek (Ephemeroptera) Wielkopolski*, Pr. Kom. mat. przyr. Pozn. TPN, **19** (1960), 57+XI tabl.
- [5] R. Sowa, *Nowe stanowisko jętki Ephemerella karelica (Tien-suu) (=Eurylophella karelica Tien-suu)—New stand of the Ephemerella karelica Tien-suu (=Eurylophella karelica Tien-suu)*, Acta Hydrobiol., **3** (1961), 59-62.

[6] L. Da Terra, *Alguns registos de efemerópteros, plecópteros e tricópteros de Portugal*, Secretaria de Estado da Agricultura—Estudos e Informacao, **261** (1972), 45.

[7] L. Tiensuu, *On the Ephemeroptera—fauna of Laatokan Karijala (Karelia Ladogensis)*, Ann. ent. fenn., **1** (1935), 3–23.

М. Кеффермюллер, Л. С. В. да Терра, **Второй европейский вид подрода *Eurylophella* Tiensuu (*Ephemeroptera*, *Ephemerellidae*, *Ephemerella*)**.

**Содержание.** Дается описание и рисунки взрослых особей обоих полов и личинок *E. (E.) iberica* sp.n. личинки этого вида были обнаружены в нескольких реках Португалии, а взрослые насекомые выведены из личинок в лаборатории.