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Three new species and new records of Trichoptera from Turkey and Spain (Philopotamidae, Beraeidae, Leptoceridae)

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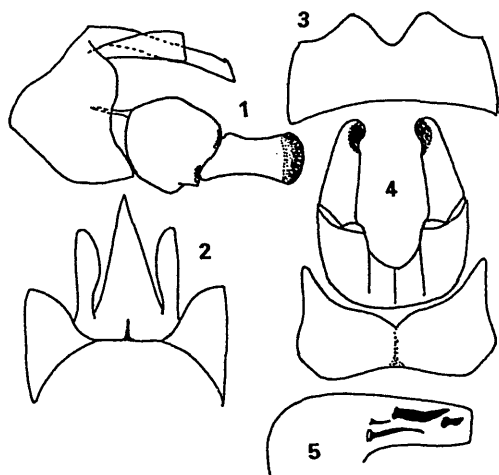
Abstract: In this study, the following new species are described and illustrated: *Wormaldia dizkiran* sp.n. from Turkey (Philopotamidae), *Ernodes malickyi* sp.n. from Spain and France (Beraeidae) and *Leptocerus savur* sp.n. from Turkey (Leptoceridae). The female of *Martynomyia ayderensis* is described. Three newly recorded species from Turkey are reported.

Key words: New species, new records, Trichoptera, Anatolia, Spain, France, systematics.

Wormaldia dizkiran sp.n. (Philopotamidae)

Antennae dark brown, proximal and apical ends of the segments with yellowish annulations; head and thorax dorsally blackish; wings dark brown-blackish; legs pale brown. The length of the anterior wing of males is 5-5.5 mm. Male genitalia (Figs. 1-5): Tergite 8 is deeply excised in the middle forming rounded lobes on the sides. In lateral view, segment 9 strongly expands on the anterior margin; posterior margin is sinuate. Preanal appendages are narrow at the base and dilated on the distal part; in lateral view, the posterior and the ventral margins are smooth. Dorsally, segment 10 is long, triangular in shape; in lateral view, almost equal in breadth with a minute projection at the apex of the dorsal edge. The proximal segment of the inferior appendages is broad; distal segment is almost as long as the proximal segment; in lateral view, it is dilated in the distal part; the apical edge is rounded and covered with black spines. The aedeagus has four spines of which the two are long, located in the middle and the other two small spines are short.

Holotype male and paratype male: Turkey, Artvin, Borçka, Camili, Lodivake Yaylası, direction Efeler Köyü, 1750 m, 12.8.2000, (41° 14' N, 42° 57' E); same place, Mereta Yaylası, direction Uğurköy, 1300 m, 6 males, 1 female, 4.8.1995; same place, Lodivake Yaylası, 1600 m, 3 males, 2 females, 29.8.1996, leg. and coll. Sipahiler.



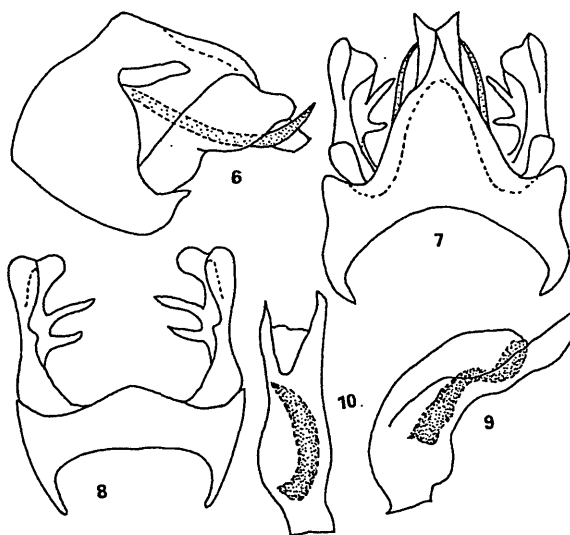
Figs. 1-5: *Wormaldia dizkiran* sp.n., male genitalia: 1 lateral, 2 dorsal, 3 tergite 8 dorsal, 4 ventral, 5 aedeagus lateral.

Wormaldia dizkiran sp.n. is closely related to *W. hemsinensis* SIPAHILER, 1987, which is an endemic species described from Province Rize (SIPAHILER, 1987). The new species is characterized by several parts of the genitalia, especially by the preanal appendages, with a smooth apical margin and the inferior appendages. The first segment of the inferior appendages of *W. dizkiran* sp.n. is short and broad, the second segment is also broad, dilating apically; in *W. hemsinensis* the first segment is long and narrower than that of the new species; the second segment is narrower towards the apex. The differences in the shape of the apical margin of tergite 8, the shape of segment 10 and the preanal appendages are evident.

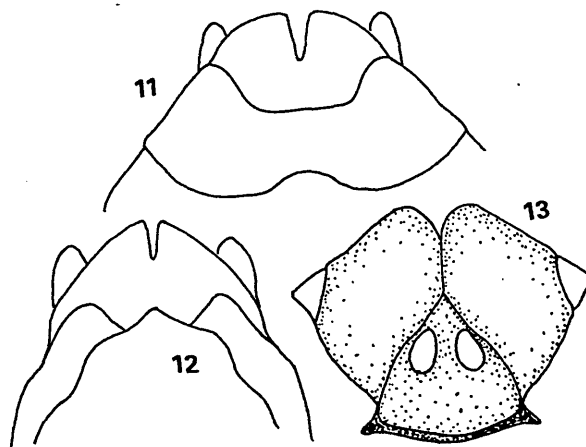
Ernodes malickyi sp.n. (Beraeidae)

The length of the anterior wing of males and females is 5-5.5 mm. Male genitalia (Figs. 6-10): Segment 9 is rounded on the anterior margin. The preanal appendages are rather long and broad. Segment 10 is long; in dorsal view, it is broad at the base and narrowed subdistally. On the subdistal part, it is bordered with sclerotized bands connecting in the middle of the apical margin; the apical margin is sharply V-shaped excised medially, so the sides are seen as distinct lobes, which are acute at the tips. Intermediate appendages are shorter than segment 10 and gradually curved dorsally. In ventral view, the inferior appendages are broad on the apical parts, having a large and short lobe subdistally; the other two lobes located on the inner surface are thin and long. The aedeagus has a curved spine. Female genitalia (Figs. 11-12): The side lobes of segment 9 are short. Segment 10 is broad and somewhat longer than the side lobes. Thorax of female as in Fig. 13.

Holotype male, allotype female and paratypes (3 males and 3 females): Spain, Cordillera Cantabrique, Sierra de Aralar, and ruisseau aff. du rio Oria, au-dessus du col Alto de Lizarusti, 1100 m, 29.7.1988; France, Pyrénées Atlantiques, affluent du ruisseau de Chousse, Pierre St. Martin, 1300 m, 30.6.1987 4 males, 2 females; Spain, Navarre, rio Luzane, Velcarlos, 4 males, 3 females; leg. Vinçon, coll. Sipahiler.



Figs. 6-10: *Ernodes malickyi* sp.n., male genitalia: 6 lateral, 7 dorsal, 8 ventral, 9 aedeagus lateral, 10 do. dorsal.



Figs. 11-13: *Ernodes malickyi* sp.n., female: 11 genitalia dorsal, 12 do. ventral, 13 Thorax dorsal.

Ernodes malickyi sp.n. is closely related to *E. articularis* PICTET, 1834, which is widely distributed in Europe. The main differences are as follows: In *E. articularis* segment 10 has sclerotized side lobes in the middle and the apical lobes are rounded (MALICKY, 1983:260); in *E. malickyi* sp.n. there are no side lobes and the sclerotized parts of

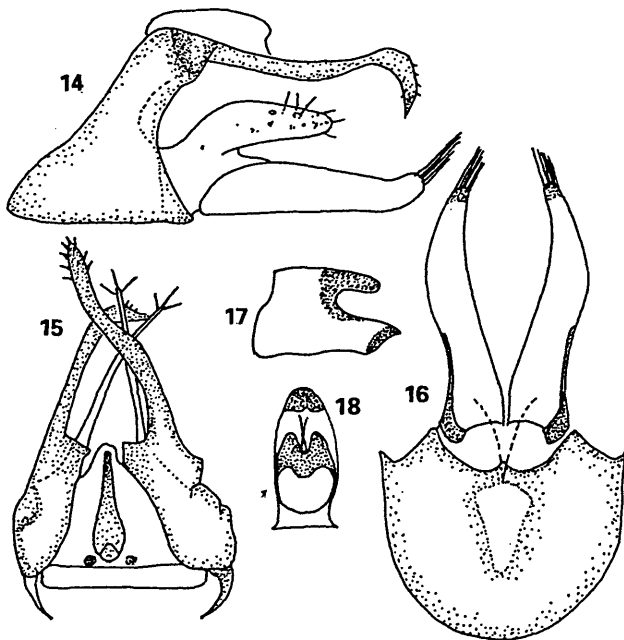
segment 10 reduce to thin bands connecting in the middle of the distal part; the apical lobes are pointed at the tips. In *E. articularis*, the inferior appendages are long, longer than segment 10 and curved on the subdistal part, while they are shorter than segment 10 and gradually curved in *E. malickyi* sp.n. The inferior appendages of *E. articularis* with rounded basal lobes have two thin lobes almost in the middle; in *E. malickyi* sp.n. the inferior appendages have no basal dilatations and possess large lobes on the subdistal part. This new species is dedicated to Dr. Hans Malicky.

Leptocerus savur sp.n. (Leptoceridae)

Antennae yellowish, scapus and pedicellus dark brown; wings dark brown-blackish; media with white spot on the anastomosis; thorax dark brown; legs brown; length of the anterior wings both males and females 5-5.5 mm. Male genitalia (Figs. 14-18): Segment 9 broad on the ventral part; dorsally narrower; in dorsal view, dorsal part between the sclerotized sides is membranous, almost triangular in shape; its median part is slightly sclerotized, almost triangular in shape and possesses two small rounded sclerites on each side of its base; a larger sclerite is located between them. Superior appendages are asymmetric, shorter than the inferior appendages; the left appendage is longer than the right one; in lateral view, the left appendage is straight, curved ventrally on the subdistal part, with a few setae distally; in dorsal view, the superior appendages are crossed. The intermediate appendages are thin, rather long, slightly sclerotized and each has three long spines at the tip. The inferior appendages are long and broad, with long setae at the tip; the upper branch is oval and broad. The aedeagus is as in the figures.

Female genitalia (Figs. 19-21): In dorsal view the sides of tergite 8 are sclerotized; the basal portion is curved inside; distal part is dilated on the sides. Sternite 9 protrudes on the ventral part of the anterior edge.

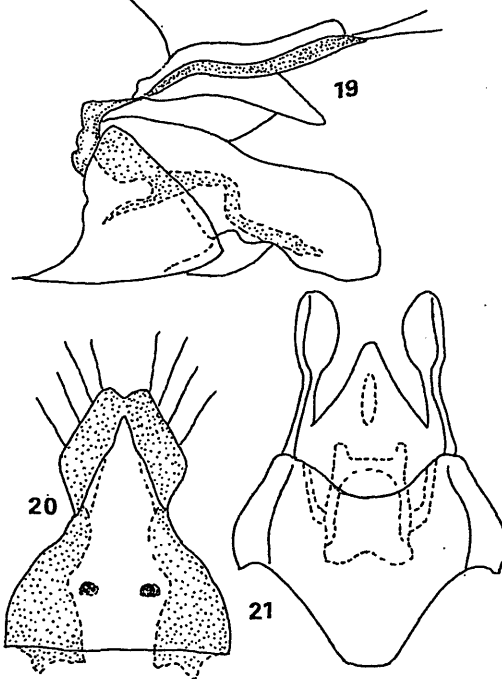
Holotype male and paratypes (16 males and 4 females): Turkey, Mardin, 5 km south of Savur, Savur Deresi, 700 m, (37° 30' N, 40° 54' E), 19.6.2000, leg. and coll. Sipahiler.



Figs. 14-18: *Leptocerus savur* sp.n., male genitalia: 14 lateral, 15 dorsal, 16 ventral, 17 aedeagus lateral, 18 do., dorsal.

Leptocerus savur sp.n. is closely related to *L. interruptus* (FABRICIUS, 1775) distributed in Europe and Turkey (BOTOSANEANU & MALICKY, 1978, SIPAHILER & MALICKY, 1987). It is characterized by the asymmetric superior appendages of the male genitalia, of which the right one is very short, acute at the tip and directed posteriorly. *L. savur* sp.n. also has asymmetric superior appendages, but the right appendage is rather long, much longer than that of the related species, curving inside. The other differences are as follows: the intermediate appendages of *L. interruptus* are long, as long as the left superior appendage; in the new species they are shorter than it.

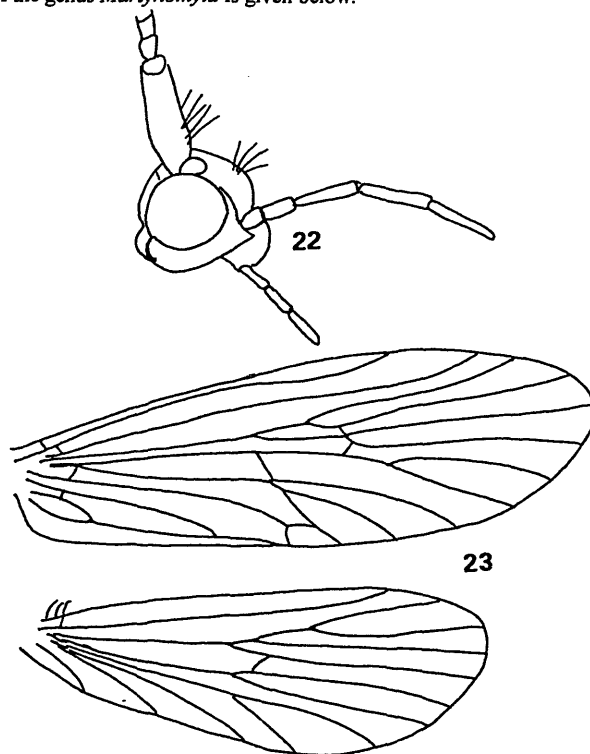
The inferior appendages of *L. savur* sp.n. are broader and shorter than those of *L. interruptus*.



Figs. 19-21: *Leptocerus savur* sp.n., female genitalia: 19 lateral, 20 dorsal, 21 ventral.

The female of *Martynomyia ayderensis* SIPAHILER, 1989 (Lepidostomatidae)

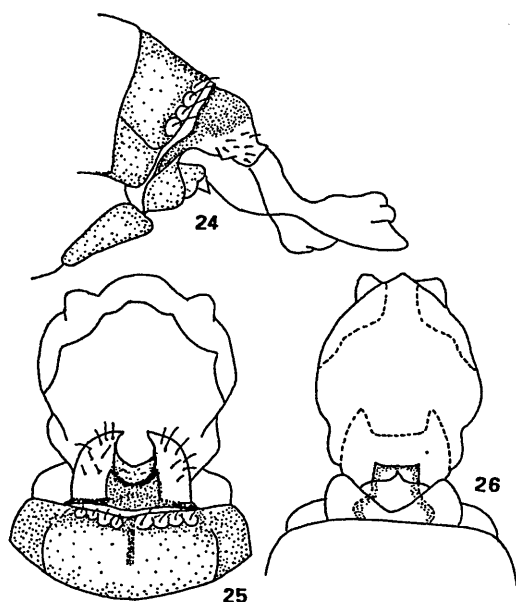
The genus *Martynomyia* FISCHER (formerly *Protomyia*) was described from the Caucasus based on the unique male specimen of *M. tripartita* (MARTYNOV, 1913). Later, two new species, *M. ayderensis* SIPAHILER and *M. martynovi* SIPAHILER (SIPAHILER, 1989, 1995) were described from northeastern Turkey. Last year I collected again some *M. ayderensis* from the Province Artvin, which included also one female. The first description of the unknown female of the genus *Martynomyia* is given below.



Figs. 22-23: *Martynomyia ayderensis* SIPAHILER female: 22 head lateral, 23 wings.

The scapus, is as long as the scapus of male (Fig. 22), scapus and the next four antennal segments are dark brown, being gradually paler towards the apex; maxillary palps are pale brown; covered with dark brown hairs; the first two segments and the other three segments are equal in length; legs are pale brown-yellowish; covered with short and dense hairs; spurs 2,4,4; the outer spur of the foreleg is long, the inner spur is short and thin. Wings (Fig. 23) brown; forewing with scarce small and white spots between the costa and the media; two larger spots are found on the media and on the apical end of A1; hindwing is covered with short black thickened hairs; tergites and the sternites of the abdomen dark brown; the pleural regions are pale yellowish; length of the anterior wing 5.5 mm. Sternite 7 without median projection on the apical margin. Female genitalia (Figs. 24-26): Tergite 8 with thin dorsomedian carina; tergite 9 short, anterior part sclerotized; dorsally, the apical margin with U-shaped excision in the middle; in ventral view, sternite 9 broadly excised, protruding oval lobes on the sides. Segment 10 is dilated dorsally, protruding almost rounded, very large and long sclerotized plate; in dorsal view, there are two lobes on the sides of the apical margin.

Material examined: Turkey, Artvin, Borçka, Camili, Lodivale, 1750 m, 12.8.2000, (5 males, 1 female), leg. and coll. Sipahiler.



Figs. 24-26: *Martynomyia ayderensis* SIPAHILER, female genitalia: 24 lateral, 25 dorsal, 26 ventral.

New records from Turkey:

Ecnomus gedrosicus SCHMID, 1959: Batman, Hasankeyf, 400 m, 17.6.2000, leg. & coll. Sipahiler.

Plectrocnemia intermedia MARTYNOV, 1917: Edremit, Güre-Zeytinli, Kazdağ, 7.8.1994, leg. & coll. Sipahiler.

Limnephilus extricatus MCLACHLAN, 1865: Ankara, Kızılcahamam, Akyarma Geçidi, 1200 m, 16.6.2000, leg. & coll. Sipahiler.

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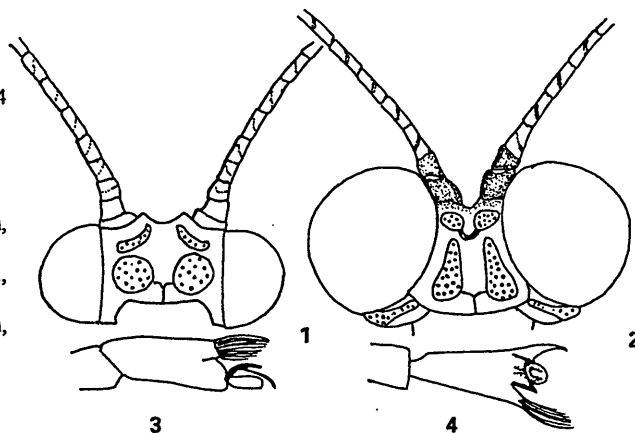
Discontinuous dimorphism in males of *Hydropsyche kinzelbachi* (Trichoptera, Hydropsychidae)

Füsün SIPAHILER

Abstract. A case of discontinuous dimorphism in males of *Hydropsyche kinzelbachi* MALICKY, 1980 is described.

Hydropsyche kinzelbachi MALICKY was described from Euphrates in Syria (MALICKY, 1980) and later recorded from Turkey (SIPAHILER, 1993). On 17.6.2000, I collected many specimens of *H. kinzelbachi*, which included 90 males and 25 females from Dicle (Tigris) River in southeastern Turkey. This population shows discontinuous dimorphism, composing two different types of males. 83 of the males and all the females have similar morphological features namely, the wings are almost uniform pale brown; tubercles on the head, thorax and the abdomen dark brown; the antennae and the palps are pale brown-yellowish. The length of the anterior wings of males is 5-6 mm, of females 7.5-8 mm. This type of individual has normal proportions of eyes and tubercles on the head (Fig 1). The last segment of the tarsi is also of normal type. - The second type of individual represented by only 7 males in the population, has very large eyes, close to each other in dorsal view, so the tubercles of the head and the antennae are pressed together (Fig. 2). The tubercles of the head are pear-shaped, rather than normally rounded. The wings and the veins of these specimens are brown, dark brown spotted and the length of the forewing is 7.5-8 mm. The pretarsi of the legs (Fig. 3, 4) have also aberrant features with asymmetrical claws and an apical lobe, which possesses a brush of black hairs. These lobes are located on the outside of the legs. - The genitalia of both types of males are similar in shape and size; the only difference is seen on the coxopodite. The coxopodite of the normal males has a large, dark brown spot on the dorsoapical part, while it is uniform brown in the mutant types. - The behaviour of both types of this species is similar, all the specimens were collected under the covers of the tables in a restaurant, located partly in the water of the river shore. The holotype and the paratypes of *H. kinzelbachi* are in normal type (MALICKY, in litt). Although polymorphism occurs frequently in insect orders (MAYR, 1967), this is the first case in Trichoptera.

Material examined: Turkey, Batman, Hasankeyf, 400 m, 17.6.2000, Dicle (Tigris) Nehri, 90 males, 25 females, leg. & coll. Sipahiler.



Figs. 1-4: *Hydropsyche kinzelbachi*: 1, head of normal male, dorsal; 2, head of mutant male, dorsal; 3, pretarsus of mutant male, lateral; 4, do., ventral.

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