

Two new species of Trichoptera (Psychomyiidae, Beraeidae) from Turkey

Dos nuevas especies de Trichoptera (Psychomyiidae, Beraeidae) de Turquía

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Abstract

Two new species of Trichoptera are described and illustrated: *Tinodes akyarma* sp. n. (Psychomyiidae) and *Beraea yucelaslani* sp. n. (Beraeidae).

Keywords: Trichoptera, description, new species, *Tinodes*, *Beraea*, Turkey.

Resumen

Se describen e ilustran dos nuevas especies de Trichoptera de Turquía: *Tinodes akyarma* sp. n. (Psychomyiidae) y *Beraea yucelaslani* sp. n. (Beraeidae).

Palabras clave: Trichoptera, descripción, nuevas especies, *Tinodes*, *Beraea*, Turquía.

INTRODUCTION

The genus *Tinodes* Curtis, 1834 is one of the richest genus in the east Mediterranean region with high rate of endemics. In Turkey 32 species are known, 16 of which are endemics (50%). The *pallidulus* species group of this genus is represented in Turkey by thirteen species, together with *Tinodes akyarma* sp. n. described herein (SİPAHİLER, 2014).

The known species of the genus *Beraea* Stephens, 1833 are 19, of these 16 species are found in Europe. The Caucasus, Morocco and Turkey each have one endemic species. In Turkey four species occur, including *Beraea yucelaslani* sp. n. described in the present study. Among them *B. walteri* Malicky, 1975, described from Cyprus,

has larger area in Turkey; the others have rather restricted area (MALICKY & SİPAHİLER, 1993) or found only in one locality (SİPAHİLER, 2008). The new species is found in Zonguldak province, in northwestern Turkey, and is closely related to *B. tschundra* Malicky, 1977 (MALICKY, 1977), described from Greece (Lesbos and Chios Islands, and Thrace) and also found in Strantzha Mountains in Bulgaria (MALICKY, 2005).

MATERIALS AND METHODS

Specimens were collected during the day time using a hand entomological net. The material was preserved in 75% ethyl alcohol and deposited in the

author collection in Hacettepe University (Beytepe, Ankara, Turkey). The figures were drawn using a Zeiss Stemi SV 6 microscope.

DESCRIPTIONS

Tinodes akyarma sp. n. (Figs. 1-5)

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79E9A057-3C3B-4FFE-B234-FE-73732F4E61

Material. Holotype male: Turkey, Ankara, Kızılcahamam, Akyarma, Avşarlar Village, 40° 50' N, 32° 43' E, 1200 m, 22.9.2005, leg. and coll. Sipahiler.

Antennae, maxillary palps and legs pale brown, wings brown. Length of the anterior wing of male is 4.5 mm.

Male genitalia (Figs. 1-5). In lateral view, sternite IX is broadly rounded on the anterior margin; in dorsal view, tergite IX is almost triangular, the sides and the apical prolongation are sclerotized; the membranous part narrow. The preanal appendages are long and apically narrow. The posterior prolongations of the inner basal appendage gradually curved towards the ventral; the longer spine pair is located on the posterior edge of the basal portion; the second spine pair is very short, found near the base of the long spine and directed on the sides. The coxopodite of the inferior appendage is broad at the base; the apical portion is long and narrow. The harpago is narrow at the base and apically with two long and large lobes, of which the dorsal one is longer than the ventral lobe. The parameres have numerous spines almost equal in length and each has dorsally three longer spines at the base and two long spines ventrally.

Remarks. *Tinodes akyarma* sp. n. is closely related to *T. devrekensis* Sipahiler, 2014 (SIPAHILER, 2014); the main differences are seen in the shape of the harpago, which in the related species is narrow apically, and the ventral lobe is very thin and close to the dorsal lobe, whereas it is broad and both apical lobes broadly diverge in *T. akyarma* sp. n. The basal projection of the new species is very small and very close to the posterior projection, which in *T. devrekensis* is longer and located medially.

Beraea yucelaslani sp. n. (Figs. 6-10)

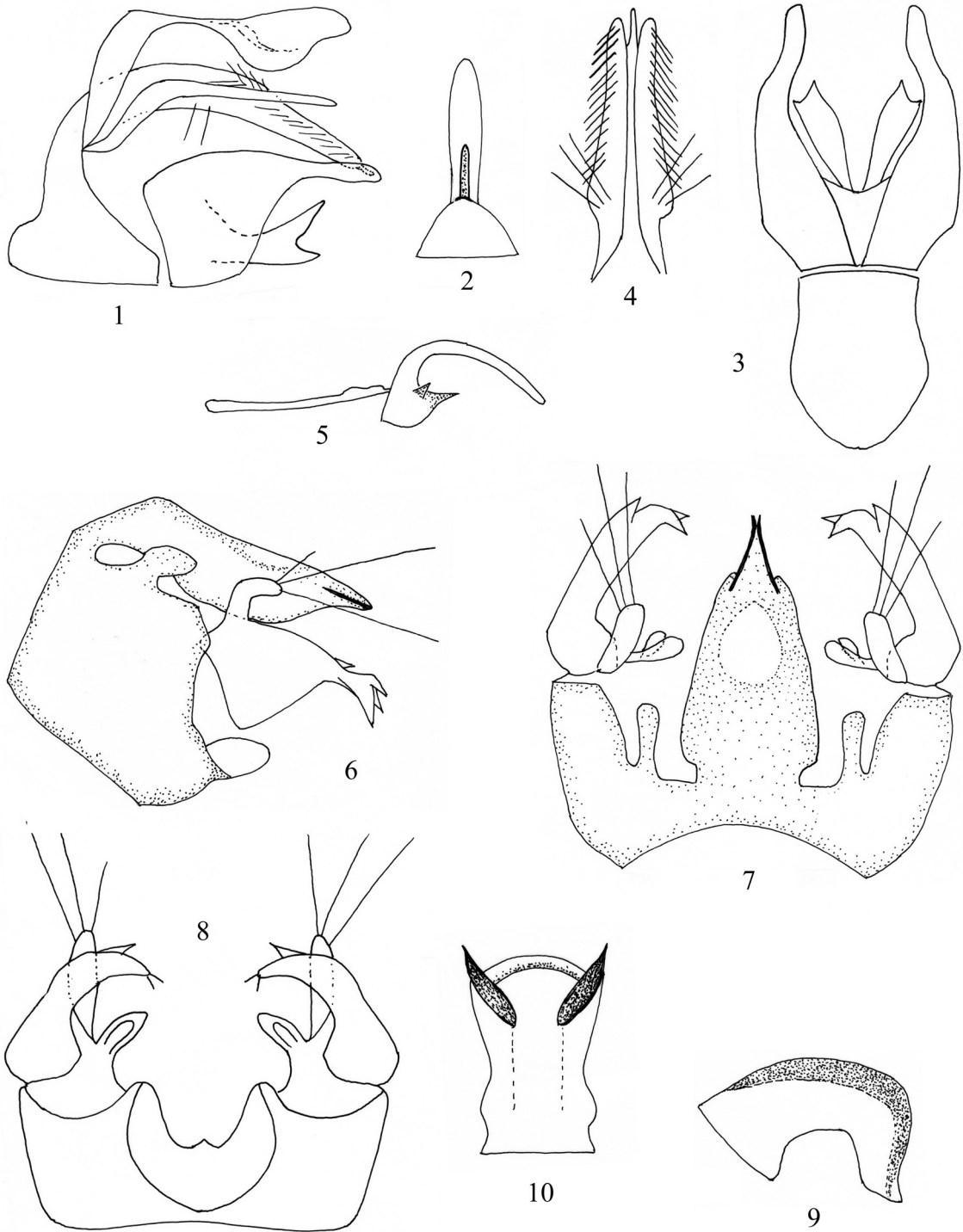
urn:lsid:zoobank.org:act:
D38724B3-46FF-45C6-B7DA-E7FD345C00F6

Material: Holotype and paratype male: Turkey, Zonguldak, Alaplı, Bölüklü, 41° 04' N, 31° 40' E, 775 m, 21.8.2011, leg. and coll. Sipahiler.

Antennae, maxillary palps pale brown; scapus with a bunch of black and long hairs on the apical part of the inner surface; head and thorax dorsally dark brown; the tubercle of the head abdomen and the wings are brown; forewings with a rounded cover at the base, possessing black scales, there is a rounded ball below it that has pale brown tubercles on the surface. The length of the forewing of males is 4.5-5 mm.

Male genitalia (Figs. 6-10): In lateral view, the anterior margin of segment IX is triangularly dilated on the sides; the ventral part expands towards the posterior on the sides; the preanal appendages are short, almost oval in lateral view and finger-shaped viewed dorsally. Segment X is long, the median portion with a rounded area, which is less sclerotized; in dorsal view the apex is triangular, only slightly excised in the middle possessing thin sclerotized bands on each side. The inferior appendage is laterally broad at the base, narrowed towards the apex, having a basal lobe on the dorsal edge, which is directed towards the posterior; the dorsal edge with a small pointed projection on the narrowed second half; the apex bears two pointed projections; there is a lobe on the inner side of the basal portion, which possesses an additional shorter lobe. The phallic apparatus is laterally curved in the middle towards the ventral, basally broad; the sides of the dorsal portion with sclerotized stripes, the median part somewhat membranous apically; in ventral view, the apical part is broad, medially rounded, the side stripes are seen as pointed projections on the dorsal portion.

Remarks. *Beraea yucelaslani* sp. n. is closely related to *B. tschundra* Malicky, 1977, found on the Greek islands of Lesbos and Chios (MALICKY, 1977) and Turkey (MALICKY & SIPAHILER, 1993; SIPAHILER, 2005). The following differences are seen in the male genitalia: in *B. tschundra* segment IX is laterally rounded, segment X dorsally triangular with a bilobed apex, whereas in *B. yucelaslani*



Figures 1-10. 1-5: *Tinodes akyarma* sp. n., male genitalia. 1, lateral view; 2, dorsal view; 3, ventral view; 4, phallic apparatus, dorsal view; 5, iner basal appendage, lateral view. 6-10: *Beraea yucelaslani* sp. n., male genitalia. 6, lateral view; 7, dorsal view; 8, caudal view; 9, phallic apparatus, lateral view; 10, phallic apparatus, ventral view.

Figuras 1-10. 1-5: *Tinodes akyarma* sp. n. genitalia masculina. 1, vista lateral; 2, vista dorsal; 3, vista ventral; 4, aparato fállico, vista dorsal; 5, apéndice basal interno, vista lateral. 6-10: *Beraea yucelaslani* sp. n., genitalia masculina. 6, vista lateral; 7, vista dorsal; 8, vista caudal; 9, aparato fállico, vista lateral; 10, aparato fállico, vista ventral.

sp. n. segment IX laterally expands triangularly, segment X triangular, possesses sclerotized bands apically, which are close to each other at the apex, between them only a minute excision is found; the inferior appendages of *B. tschundra* are narrow at the base, with two lobes, the dorsal lobe is broad, long, and directed towards the dorsal, without projections on the dorsal edge and the apex, while in the new species the dorsal edge and the apex with small projections, the basal lobe is thin and directed towards the posterior, bearing long setae, the second lobe located beneath the basal lobe in ventral view, possesses an additional smaller lobe in the middle. The lateral sclerotized bands of the phallic apparatus of *B. tschundra* are short and do not extend as pointed projections in ventral view, whereas in *B. yucelaslani* sp. n. the sclerotized bands protrude as pointed projections on each side.

Etymology. This new species is dedicated to Mr. Yücel Aslan, the son of Mr. İbrahim Aslan, retired technician at the Biology Department of Hacettepe University.

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