A new larval record of *Demicryptochironomus* Lenz, 1941 (Diptera, Chironomidae) for the Turkish fauna

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Abstract: *Demicryptochironomus* (*Demicryptochironomus*) *vulneratus* (Zetterstedt, 1838) was collected as a total of 4 individuals from the Garzan Brook, Batman Brook (Beşeri), and Tigris River (Hasankeyf) and recorded as a new chironomid larva species for the Turkish potamofauna. The species was identified morphologically under light microscope and photographed with a photomicroscope. In addition, the taxonomic features of the species were illustrated schematically with a scale.

Key words: Batman Brook, Chironomidae larvae, Diptera, Tigris River, Turkey

Seather reclassified the following genera from the tribe Chironomini: Cladopelma Kieffer, Cryptotendipes Lenz, Microchironomus Kieffer, Parachironomus Lenz, Acalcarella Shilova, Paracladopelma Harnischia, Harnischia Kieffer, Cryptochironomus Kieffer, Demicryptochironomus Lenz, Gillotia Kieffer, Cyphomella Seather, Beckidia Seather, Chernovskiia Seather, Robachia Seather, and Seatheria Jakson. These remained in the same tribe, and in the “Harnischia complex” (Şahin, 1984). Schadinia Lipina 1939 is being accepted as a junior synonym of *Demicryptochironomus* and it was entirely ignored in original descriptions (Yan et al., 2005).

It resembles the species of the genera *Cryptochironomus* and *Gillotia*, owing to the double coloration in the dentalium of the labium plate, and the concave structure of the mentum originating from the protruding position of the lateral teeth in comparison with the median teeth. The numbers of the teeth on the labium plate for *Cryptochironomus*, *Gillotia*, and *Demicryptochironomus* are 5, 6, and 7, respectively. The antennae have 5, 6, and 7 articulations in parallel. It is a transitional form between the genera *Gillotia*, *Cryptochironomus*, and *Demicryptochironomus* (Şahin, 1984).

Thirty-five species belonging to the genus *Demicryptochironomus* were described in the world, and among them, *Demicryptochironomus vulneratus* is a widely distributed taxon (http://gni.globalnames.org/data_sources/30?page=17&search_term=ns%3ADEM%2A). The species was recorded from Slovakia (Bituşik et al., 2007), France and Corsica (Serra-Tosio and Laville, 1991), the Pyrenees Mountains in the western Mediterranean, Italy, the Alps (on the slopes, the uppermost parts, and the surroundings of the western Alps), the Carpathian Mountains, the countries with low altitudes around the Baltic Sea (the Netherlands, Belgium, Ireland, England), the countries with high altitudes of the pole (northern Sweden, the cold and dry forests in Siberia, Russia), Caucasia, the surroundings of the Caspian Sea, Asian countries (Moller Pillot, 1978–1979), India (the Himalayas) (Dutta et al., 1996), the Far East (Makarchenko et al., 1997), and China (Yan et al., 2005).

Şahin (1991) reported that *Demicryptochironomus* sp. had a distribution in the Gediz River, Turkey. According to Şahin (1991), representatives of the genus *Demicryptochironomus* were not found in the Tigris River. So far no species in this genus has been reported by researchers from Turkey. With this study, *Demicryptochironomus vulneratus* is presented as the first representative of the genus in the Turkish fauna.

Specimens were collected as a total of 4 individuals from the Garzan Brook (37°54′57.74″N, 41°20′45.27″E) (n = 1) and Tigris River (Hasankeyf; 37°43′41.19″N, 41°30′15.77″E) (n = 3) and photographed with a photomicroscope.
The family Chironomidae Newman 1834 is a large taxon of insects; some estimates of the species numbers suggest well over 10,000 worldwide (Armitage et al., 1995). The family is divided into 11 subfamilies: Aphroteniinae, Buchonomyiinae, Chilenomyiinae, Chironominae, Diamesinae, Orthocladiinae, Podonominae, Prodiamesinae, Tanypodinae, Telmatogenotinae, and Usambomyiinae (Armitage et al., 1995; Epler, 2001). Most species belong to Chironominae, Orthocladiinae, and Tanypodinae. Diamesinae, Podonominae, Prodiamesinae, and Telmatogenotinae are medium-sized subfamilies with tens to hundreds of species. *Decimyctochironomus* is one of the 40 genera belonging to the subfamily Chironominae. Thirty-five species belonging to Decimyctochironomus were described and *Decimyctochironomus vulneratus* among them is a widely distributed taxon. The world distribution of *Decimyctochironomus vulneratus* is as follows: Sweden, Serbia (Milošević, 2011), the Netherlands, Germany, China (Yan, 2005), the United States, Norway, Brazil, Ireland, Finland, Romania, Italy (Rossaro et al., 2006), Bulgaria (Stoichev, 1996), and India (Dutta et al., 1996).

**Antenna:** The antennae have 7 articulations. The antennae are the synonyms *Chironomus*, *Chironomus ploenensis* Lenz, 1960; *Cryptochironomus vulneratus* Tshernovskij, 1949; and *Tendipes* (Parachironomus) atriforceps are the synonyms of *Decimyctochironomus vulneratus* (Zetterstedt, 1838) (Moller Pillot, 1978–1979). The description of the species, habitat, and distribution of *Decimyctochironomus vulneratus* are as follows:

**Description:**

*Decimyctochironomus vulneratus* (Zetterstedt, 1838) (Figures 1a–1h)

**Head capsule:** According to the body has a relatively small and light brown head capsule (Figure 1a).

**Labrum:** SI slender, seta-like; SII very long, blade-like, more than 2× as long as SI, SIII very small, seta-like; SIVA long, 3-segmented, with SIVB a separate peg. No chaetae. Labral lamellae absent. Pecten epipharyngis a serrate triangular scale divided into 3 lobes. Premandible with 4 strong teeth, brush absent.

**Labrum palp with 3 pieces (lobed)** (Figure 1b).

**Antenna:** The antennae have 7 articulations. The sixth and the seventh segments are very small and hardly distinguishable. The Ring organ is located on the upper part of the middle of the first antenna’s articulation. The antennal blade is derived from the articulation of the third antenna. Long blade arises on apex of segment 2, reaching subapex of flagellum, accessory blade absent. Lauterborn organs absent. Style on apex of 5th segment. Antennal seta absent (Figure 1c).

**Maxillary palp:** Maxillary palpus with a similar length in comparison with the articulation of the first antenna. The Ring organ is closer to the base (Figure 1d).

**Mentum:** Mentum with single numbers of teeth. The median tooth is wide and has a pale color. Seven lateral teeth are light brown. The lateral teeth of the mentum are strongly curved towards the median tooth. The paralabial plates extending to the lateral parts of the head capsule are wide and long and have grooves on them (Figures 1e and 1h).

**Mandible:** Its general coloration is yellowish light brown. With a long and slender apical tooth, and with 2 lighter brown-colored and sharp lateral teeth. Seta interna reduced to 2 lamellae. Pecten mandibularis comprising one broad lamella, the rest narrower (Figures 1f and 1h).

**Last abdominal segments:** The back feet located on the last segment of the body are not so long. There are fewer than 4 feet from the rear gills. The anal setae are derived from a base with a normal length (Figure 1g). General body coloration red and body slightly curved. The length of larvae varied from 9 to 12 mm.

**Habitat:** The Garzan Brook has clean and fast-flowing water. The river bed is sandy and occupied by big stones. The Tigris River’s structure is similar to that of Garzan Brook. Additionally, plants can be observed on the base of the river edge. *D. vulneratus* lives in the sublittoral zones of both lakes and rivers (Chernovskii, 1961). It is predatory, especially on oligochaetes.

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Figure 1. *Demicryptochironomus vulneratus* Zetterstedt, 1838: a) head capsule; b) labrum palp; c) antenna; d) maxillary palp; e) paralabial plates; f) mandible; g) last abdominal segments; h) mentum, mandible.
References


