

THE OCCURRENCE OF THE SUBGENUS *METHYDRUS* REY, 1885 IN TURKEY (COLEOPTERA: HYDROPHILIDAE), WITH TAXONOMIC AND DISTRIBUTIONAL NOTES

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ABSTRACT: The species of the subgenus *Methydrus* Rey, 1885 (Coleoptera: Hydrophilidae, *Enochrus*) that known from Turkey is presented. The first precise locality data of *Enochrus affinis*, (Thunberg) is given from the country. *Enochrus coarctatus*, (Gredler) is recorded for the first time from the South-eastern Anatolian Region. Diagnostic characters of some species as well as the photographs of their aedeagophores are provided. Distributional data of Turkey and also world of these species are presented.

KEY WORDS: Coleoptera, Hydrophilidae, *Enochrus*, *Methydrus*, distribution, Turkey.

27 species belonging to the subgenus *Methydrus* Rey (Coleoptera: Hydrophilidae, *Enochrus*) are known from The Palaearctic Region Hansen (2004). And only four species known belonging to this subgenus from Turkey Darılmaz & İncekara (2011). *E. affinis* was reported by Peyron in 1858. *E. nigrinus* was recorded by Schödl (1997), *E. tetraspilus* was recorded by Hebaour & Ryndevich (2005) and *E. coarctatus* was recorded by Mart et al. (2009) from Turkey for the first time. The aim of this study was to make a contribution to the knowledge of the subgenus, including the first precise locality data of *E. affinis* and the first record of *E. coarctatus* from South-eastern Anatolian Region, Turkey.

MATERIALS AND METHODS

The specimens were collected from freshwater habitats with sieves that having 3,15x1 mm mesh size. The beetles were killed with ethyl acetate and were stored in small bottles until identification. Specimens were cleaned with brush before identification. Aedeagophore of collected specimens were dissected under a stereo microscope in the laboratory. The identified species have been converted into museum material. Maps that including distributional data of each species are presented (Fig. 4).

RESULTS AND DISCUSSION

Subgenus *Methydrus* Rey, 1885

Diagnosis: The genus *Enochrus* Thomson has 14 species belonging to three subgenus (*Enochrus*, *Lumetus*, *Methydrus*) in Turkey Darılmaz & İncekara (2011). In subgenus *Methydrus*, Rey; the last segment of maxillary palpi distinctly shorter than penultimate (Fig. 2) and posterior margin of last visible abdominal sternite has a small semicircular emarginate in middle with a fringe of stiff golden bristles in the emargination (Fig. 1) Gundersen (1978).

***Enochrus (Methydrus) affinis* (Thunberg, 1794)**

Synonyms: *Hydrophilus affinis* Thunberg, 1794; *Hydrophilus marginellus* var. *affinis* Thunberg, 1794; *Hydrophilus minutus* Fabricius, 1801; *Philhydrus marginellus* var. *minutus* Fabricius, 1801

Diagnosis: The body is 3,4-4,4 mm length and oval. Head is black. Pronotum and elytra are yellow-brownish or dark-brownish in colour, lighter on the sides and apex. The middle of the pronotum is widely dark. Maxillary palpi are yellow-brownish or dark-brownish in colour; second segment widely darkened in middle; last segment almost orderly dark, brownish to black, much darker than penultimate (Fig. 2). The whole dorsal side of the body is rather finely and densely punctuate. The elytra are without stronger point-rows. Legs are brownish. Posterior margin of last visible abdominal sternite has a small semicircular emarginate (Fig. 1). Aedeagophore has a long narrow median lobe, apex of parameres sharply pointed and evidently bending outwards (Fig. 3).

Remarks: A synonym of *E. affinis* is *Philhydrus marginellus*. This synonym was reported by Peyron (1858) from Tarsous, İçel, Turkey. After this first report in 1858, no researchers found this species again. Whereas many researchers have been studied in İçel and Adana province until this year. According to the last checklist of Hydrophiloidea of Turkey by Darılmaz & İncekara (2011); his record is in need of confirmation. Consequently, this study is giving the first precise locality data of *E. affinis* from Turkey.

Ecology: They populates at the edges of stagnant, usually well vegetated fresh water.

Material examined: Turkey, South-eastern Anatolia, Adıyaman, Gölbaşı, Azaplı Lake, 37°43'37N 37°30'25E, 880m, 20.06.2013, 29 males; 37°45'34N 37°33'22E, 880m, 24.06.2013, 3 males; 37°43'37N 37°30'26E, 881m, 24.06.2013, 2 males 2 females; 37°43'35N 37°30'18E, 881m, 24.06.2013, 10 males 10 females; 37°45'34N 37°33'30E, 880m, 18.08.2013, 3 males.

Distribution in Turkey: İçel Peyron (1858) (Fig. 4).

Note: The above mentioned localities are the first precise distributional data for Turkey (Fig. 4).

Distribution in World: Armenia, Austria, Belarus, Belgium, Britain, Bosnia-Herzegovina, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Germany, Italy, Kazakhstan, Latvia, Lithuania, Netherlands, Norway, Poland, Russia, Sweden, Switzerland and Ukraine Hansen (2004).

***Enochrus (Methydrus) coarctatus* (Gredler, 1863)**

Synonyms: *Philhydrus coarctatus* Gredler, 1863; *Philhydrus marginellus* Schwarz, 1872; *Philhydrus suturalis* Sharp, 1872; *Philhydrus coarctatus* var. *fulvipennis* Westhoff, 1881; *Philhydrus labiatus* Kuwert, 1888.

Diagnosis: Body is 3.9 mm length. Head is black, pronotum is dark brownish colour. Elytra are dark brownish and black colour in the middle. Maxillary palpi are yellowish-light brown. Median lobe of aedeagus is wide and parameres are arched inwards (Fig. 3.3).

Remarks: *E. coarctatus* is known from two province (Afyon and Ordu) in Turkey. With this study, third province (Adıyaman) was given for the country. And also this species is new to the South-eastern Anatolian Region.

Ecology: They populates at the edges of stagnant, usually well vegetated fresh water.

Material examined: Turkey, South-eastern Anatolia, Adıyaman, Gölbaşı, Azaplı Lake, 37°43'37N 37°30'26E, 881m, 24.06.2013, 1 male.

Distribution in Turkey: Afyon and Ordu (Fig. 4) Darılmaz & İncekara (2011).

Note: Newly recorded from South-eastern Anatolian Region.

Distribution in World: Austria, Belarus, Belgium, Britain, Bosnia-Herzegovina, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Russia, Sweden, Switzerland and Turkey Hansen (2004); Darılmaz & İncekara (2011).

***Enochrus (Methydrus) nigrinus* (Sharp, 1872)**

Synonyms: *Philhydrus nigrinus* Sharp, 1872; *Enochrus isotae* Hebauer, 1981.

Remarks: *Enochrus affinis* is similar to *E. nigrinus*. The aedeagophore of both species has a long narrow median lobe, but the apex of the parameres is more bluntly rounded in *E. nigrinus* (Fig. 3.2) and characteristically bending outwards in *E. affinis* (Fig. 3.1).

Distribution in Turkey: Afyon, İstanbul and Kırklareli (Fig. 4) Darılmaz & İncekara (2011).

Distribution in World: Albania, Armenia, Azerbaijan, Belgium, Britain, Bulgaria, Croatia, France, Greece, Iran, Italy, Kazakhstan, Macedonia, Morocco, Netherlands, Portugal, Romania, Russia, Spain and Turkey Hansen (2004).

***Enochrus (Methydrus) tetraspilus* (Régimbart, 1903)**

Synonyms: *Philhydrus tetraspilus* Régimbart, 1903.

Remarks: According to Hebauer & Ryndevich (2005), *E. tetraspilus* was recorded for the first time from The Palaearctic Region and in Turkey. But this species has already been recorded from The Palaearctic Region in Egypt in 1976 Yano et al. (1983).

Distribution in Turkey: Adana, Antalya and Gaziantep (Fig. 4) Darılmaz & İncekara (2011).

Distribution in World: Bhutan, Egypt, Nepal, Saudi Arabia, Thailand, Turkey and Yemen Hansen (2004); Fikacek et al. (2010); Hebauer & Ryndevich (2005); Sites & Vitheepradit (2010); Yano et al. (1983).

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LITERATURE CITED

Darılmaz, M. C. & Kıyak, S. 2009. The genus *Enochrus* (Coleoptera: Hydrophilidae) from Turkey, checklist and new records. Archives Biological Sciences Belgrade, 61 (4): 762-772.

Darılmaz, M. C. & İncekara, Ü. 2011. Checklist of Hydrophiloidea of Turkey (Coleoptera: Polyphaga). Journal of Natural History, 45: 11-12, 685-735.

Gundersen, R. 1978. Nearctic *Enochrus*: Biology, Keys, Descriptions and Distribution (Coleoptera: Hydrophilidae). St. Cloud State University, St. Cloud, Minnesota. 55 pp.

Hansen, M. 2004. Hydrophiloidea. pp. 36-68. In: Löbl I, Smetana A. editors. Catalogue of Palaearctic Coleoptera, Vol. 2. Stenstrup: Apollo Books; 942 pp.

Hebauer, F. & Ryndevich, S. K. 2005. New data on the Distribution of Old World Hydrophilidae (Coleoptera). *Acta Coleopterologica* XXI, 43-51.

Fikacek, M., Gentili, E. & Short, A. E. Z. 2010. Order Coleoptera, family Hydrophilidae. *Arthropod fauna of the UAE*, 3: 135-165.

Mart, A., İncekara, Ü., Polat, A. & Karaca, H. 2009. New Genera and Species of the Family Hydrophilidae (Coleoptera) from Turkey. *Turkish Journal of Zoology*, 33: 237-240.

Peyron, E. 1858. Catalogue des coléoptères des environs de Tarsous (Caramanie). *Annales de la Société Entomologique de France*, (3) 6: 353-434.

Schödl, S. 1997. Taxonomic studies on the genus *Enochrus* (Coleoptera: Hydrophilidae). *Entomological Problems*, 28: 61-66.

Sites, R. W. & Vithepradit, A. 2010. Recovery of the freshwater lentic insect fauna in Thailand following the tsunami of 2004. *The Raffles Bulletin of Zoology*, 58 (2): 329-348.

Yano, K., Chu, Y. I. & Sato, M. 1983. Faunal and biological studies on the insects of paddy fields in asia. XI. records on aquatic coleoptera from paddy water in the world. *Chinese Journal of Entomology*, 3: 15-31.



Figure 1. *E. affinis*, last visible abdominal sternite.



Figure 2. *E. affinis*, maxillary palpus.

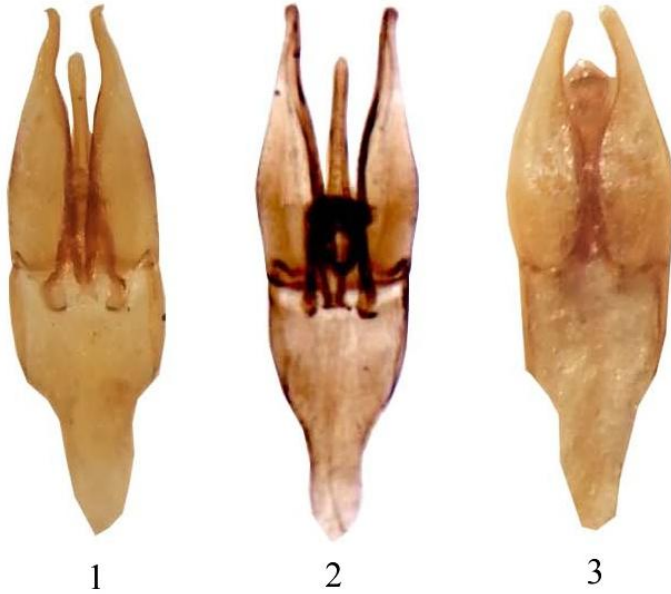


Figure 3. *Enochrus* spp. 1, 2 and 3, aedeagus dorsal view. 1, *E. affinis*; 2, *E. nigrinus* Darılmaz & Kıyak (2009); 3, *E. coarctatus*.

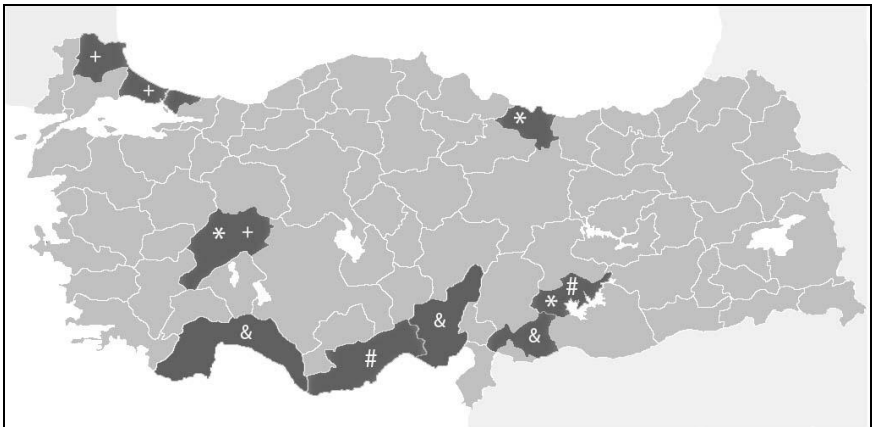


Figure 4. Distributional map of the species of subgenus *Methydrus* Rey in Turkey. #; *E. affinis*, *; *E. coarctatus*, +; *E. nigrinus*, &; *E. Tetraspilus*.