

CONFIRMATION OF *ENOCHRUS AFFINIS* IN TURKEY, SOME NOTES ON THE *ENOCHRUS POLITUS* (KÜSTER, 1849) (COLEOPTERA: HYDROPHILIDAE)

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[Bektaş, M., Polat, A., İncekara, Ü. & Taşar, G. E. 2014. Confirmation of *Enochrus affinis* in Turkey, some notes on the *Enochrus politus* (Küster, 1849) (Coleoptera: Hydrophilidae). Munis Entomology & Zoology, 9 (2): 770-773]

ABSTRACT: This article is intended to present both to confirm of *Enochrus affinis* Thunberg 1794 (Hydrophilidae: Coleoptera) and to inform more about distribution of *Enochrus politus* Küster 1849 (Hydrophilidae: Coleoptera) in Turkey. Specimens of *Enochrus* were collected from seven provinces of Turkey (Adana, Gaziantep, Hatay, Kahramanmaraş, Kilis, Mersin and Osmaniye) in different survey between 2012 and 2013 years (May-October) through in shallow areas of various lakes, rivers, watercourses, spring and ponds. Also, it has been added the examples which had been collected same places in 2011 year. *Enochrus affinis* Thunberg 1794 and *Enochrus politus* Küster 1849 are recorded from research area for first time.

KEY WORDS: Coleoptera, aquatic beetles, *Enochrus*, Turkey.

Enochrus is a large genus of Hydrophilid beetles containing abundant species in all zoogeographical regions. Most *Enochrus* species are common and occur in many kinds of vegetated, stagnant and slowly running water bodies. Although they are frequently collected and present in the largest beetle collections, both their taxonomy and phylogenetic relationships are still insufficiently known. The status on numerous taxa is unresolved and particularly for the Palearctic and Oriental Realms it is obvious that there are fewer valid species than have been described in the past (Hansen, 1991; Schödl, 1998).

MATERIAL AND METHODS

Specimens of aquatic Coleoptera were collected from seven province of Turkey (Adana, Gaziantep, Hatay, Kahramanmaraş, Kilis, Mersin and Osmaniye) in different survey between 2012 and 2013 years (May-October) through the vegetations in shallow areas of various lakes, rivers, watercourses, spring and ponds. Also, it has been added the samples which had been collected same places in 2011 year.

The beetles were killed using ethyl acetate or in 70% alcohol solution. Aedeagophores of the beetles cleaned with brushes were dissected under a stereo microscope and left in 10%KOH solution for 1-2 hours. The figure of the aedeagophore was taken photographed using a Nikon type 104 microscope.

The recorded species was described and photographs of important aedeagus showing diagnostic taxonomic characters were taken. Zoological Museum of Biology Department (Ataturk University / Science Faculty) is used for collections where material is located.

RESULTS

Enochrus affinis (Thunberg, 1794)

Material Examined: Adana: Ceyhan, 12♂♂, 4♀♀, 36°59'26N 35°49'44 E, 25 m, 25.IV.2012; Yumurtalık Road, 4♂♂, 2♀♀, 36°59'27N 35°49'44 E, 29 m, 29.V.2012; İmamoğlu, Koyuneri, 8♂♂, 6♀♀, 37°17'23N 35°42'16 E, 67 m, 16.V.2013; Karataş, 1♂, 36°08'20N 35°22'15 E, 76 m, 16.V.2013; Yumurtalık, 3♂♂, 2♀♀, 36°39'56N 35°30'17 E, 33 m, 15.V.2013; Bebeli, 6♂♂, 5♀♀, 36°39'01N 35°30'35 E, 4 m, 26.VI.2013; Deveciuşağı, 14♂♂, 14♀♀, 36°45'28N 35°37'33 E, 0 m, 26.VI.2013; Küçük Yumurtalık, 12♂♂, 11♀♀, 36°46'04N 35°43'47 E, 16 m, 18.IV.2013; Mehtap Housing, 6♂, 36°46'35N 36°45'01 E, 15 m, 25.IV.2012; Narlık, 1♂, 1♀, 36°54'11N 35°52'06 E, 78 m, 15.V.2013; Yumurtalık Lagoon (Rear Entrance), 6♂, 36°39'43N 35°33'49 E, 4 m, 25.IV.2012; Yumurtalık Lagoon, 5♂♂, 4♀♀, 36°46'04N 35°38'39 E, 15 m, 29.VI.2012; 4♂♂, 3♀♀, 36°40'31N 35°33'17 E, 0 m, 15.V.2013; ; 4♂♂, 5♀♀, 36°45'24N 35°38'05 E, 0 m, 26.VI.2013; Yumurtalık (Lagoon Exit), 13♂♂, 15♀♀, 36°46'36N 35°44'56 E, 11 m, 18.IV.2013; Yüreğir, Doğankent, 1♂, 1♀, 36°52'02N 35°20'59 E, 20 m, 29.VIII.2013. **Gaziantep:** Merkez, Yolbaşı, 5♂♂, 7♀♀, 36°50'42N 36°39'26 E, 385 m, 15.IV.2013; İslahiye, Çınarbaşı, 9♂♂, 2♀♀, 36°50'42N 36°39'25 E, 375 m, 27.V.2012; Hanağzı, 13♂♂, 2♀♀, 37°04'36N 36°37'33 E, 516 m, 14.V.2013. **Hatay:** Dörtiyol, 3♂, 36°48'06N 36°11'31 E, 0 m, 27.VI.2012; Erzin, Dörtiyol Road, 15♂♂, 26♀♀, 37°01'56N 36°08'19 E, 74 m, 24.IV.2012; Hassa, 1♂, 36°48'30N 36°32'02 E, 390 m, 15.IV.2013; Kumlu, Karaçamlık, 1♂, 36°22'25N 36°24'55 E, 81 m, 16.IV.2013; Güventaşı, 11♂♂, 10♀♀, 36°52'02N 36°24'17 E, 80 m, 16.IV.2013; Terzihüyük, 6♂♂, 4♀♀, 36°18'01N 36°24'38 E, 82 m, 16.IV.2013; Reyhanlı, Varışlı Village, 1♂, 1♀, 36°15'25N 36°23'07 E, 93 m, 01.IX.2013. **Kahramanmaraş:** Merkez, Avcılar Dam (Süleymanlı), 1♂, 37°49'38N 36°48'05 E, 668 m, 24.VI.2013; Andırın, Gökçeli, 1♂, 37°35'58N 36°22'20 E, 1115 m, 26.IV.2012; Ekinözü, Taşburun, 4♂♂, 6♀♀, 38°09'34N 37°12'20 E, 1238 m, 04.IX.2013; Nurhak: Barış Township, Ayçoşar, 5♂♂, 7♀♀, 38°02'38N 37°18'19 E, 1523 m, 27.IV.2012; Pazarcık, Bağlama Small Lake, 1♂, 37°17'35N 37°07'53 E, 535 m, 05.IX.2013. **Kilis:** Merkez, Hassa Road, 12♂♂, 5♀♀, 36°51'24N 36°37'44 E, 382 m, 01.IX.2013; Yolbaşı (Hassa Road), 9♂♂, 4♀♀, 36°50'42N 36°38'28 E, 382 m, 12.V.2013; Çınarbaşı, 1♂, 34°54'56N 36°03'09 E, 410 m, 24.IV.2012; Musabeyli, Üçpınar, 10♂, 36°52'29N 36°57'43 E, 618 m, 22.IV.2012. **Mersin:** Erdemli, Karakız Creek, 3♂♂, 4♀♀, 36°39'00N 34°23'00 E, 5 m, 15.IV.2012. **Osmaniye:** Merkez, Cevdediye, 1♂, 1♀, 37°07'27N 36°13'33 E, 99 m, 30.VIII.2013; Selimiye, 16♂♂, 12♀♀, 37°14'23N 36°02'25 E, 40 m, 19.IV.2013; Tecirli (Bird Sanctuary), 2♂♂, 3♀♀, 37°09'47N 36°07'19 E, 54 m, 16.V.2013; Tecirli, Kasabala Valley (Wetland Protection Area), 2♂♂, 3♀♀, 37°10'36N 36°08'42 E, 49 m, 30.VIII.2013; Hasanbeyli, Kayalı, 1♂, 37°10'13N 36°27'34 E, 624 m, 27.VII.2011; Kadirli, Yukarı Çiyanlı, 1♂, 37°21'26N 36°10'23 E, 417 m, 19.IV.2013.

Remark: A widespread Palaearctic species, more common especially in central and northern Europe but reaching as far as the Russian Far East (Hansen, 1999, 2004). According to Darılmaz and İncekara (2011), *Philhydrys marginellus* var. *minutus* F. was recorded from İçel by Peyron (1858), but his record is in need of confirmation.

Enochrus politus (Küster, 1849)

Material Examined: Adana: Ceyhan, Yumurtalık Road, 6♂♂, 3♀♀, 37°25'20N 36°15'26 E, 151 m, 26.IV.2012; Yumurtalık, Yumurtalık Lagoon, 1♂, 36°07'49N

35°36'48 E, 0 m, 25.IV.2012; 2♂♂, 36°44'51N 35°38'03 E, 1 m, 18.IV.2013; 1♂, 1♀, 36°44'50N 35°38'03 E, 0 m, 15.V.2013. **Gaziantep:** Islahiye, Çınarbaşı, 8♂♂, 11♀♀, 36°54'07N 36°34'12 E, 446 m, 14.V.2013; 1♂, 36°50'43N 36°38'16 E, 380 m, 15.IV.2013. **Hatay:** Dörtöyl, 1♂, 36°48'06N 36°11'31 E, 0 m, 27.VI.2012; Erzin, Yumurtalık Entrance, 7♂♂, 2♀♀, 36°56'14N 36°03'47 E, 10 m, 15.V.2013; Hassa, Sapanözü, 1♂, 36°50'42N 36°38'21 E, 379 m, 23.IV.2012. **Kahramanmaraş:** Afşin, Yazıbelen, 1♂, 2♀♀, 38°19'38N 36°57'55 E, 1173 m, 18.V.2013; Tanır, Altınelma, 1♂, 38°21'41N 36°54'37 E, 1216 m, 27.IV.2012; Andırın, Dereağzı (Gözdağı) village, 1♂, 37°53'21N 36°26'58 E, 1553 m, 26.VI.2012; Ekinözü, 1♂, 38°04'26N 37°12'47 E, 1310 m, 31.V.2012; Göksun, Andırın Road, 1♂, 1♀, 38°00'03N 36°29'27 E, 1341 m, 24.VI.2013; Fındıklıkoyak, 1♂, 37°56'20N 36°27'53 E, 1383 m, 26.VI.2012; Kireçköy, 1♂, 1♀, 37°58'46N 36°29'58 E, 1345 m, 30.V.2012; Değirmendere, 1♂, 37°55'06N 36°27'44 E, 1430 m, 26.VI.2012. **Kilis:** Elbeyi, Alahan, 1♂, 1♀, 36°40'22N 37°27'00 E, 520 m, 27.V.2012; Yağızköy, 1♂, 1♀, 36°39'58N 37°22'00 E, 500 m, 27.V.2012. **Osmaniye:** Hasanbeyli, Kayalı, 1♂, 37°10'13N 36°27'34 E, 624 m, 27.VII.2011. **Distribution in Turkey:** Bitlis, Muş, Uşak and Van (Darılmaz & Kıyak, 2009; Darılmaz & Incekara, 2011; Aydoğan, 2011; Türken, 2011). **Remark:** Afghanistan, Algeria, Canary Islands, Cyprus, Egypt, Fas, Israel, Italy, Lebanon, Madeira Islands, Portugal, Spain, Tunusia, Turkey (Bitlis, Muş, Uşak and Van) and Oman (Löbl & Smatana, 2004; Darılmaz & Kıyak, 2009; Darılmaz & Incekara, 2011). *E. politus* is here recorded from the region the first time.

DISCUSSION

In study, 404 samples (224♂, 180♀) of *Enochrus affinis* Thunberg 1794 and 63 samples (39♂, 24♀) of *Enochrus politus* Küster 1849 were collected and evaluated. Besides, two species are recorded from research area for first time.

Enochrus politus Küster 1849 was identify from Uşak, Bitlis ve Muş provinces (Incekara & Darılmaz, 2011) and have been determined for the second time from Turkey.

Even if the water beetle fauna of Turkey known, more studies are required to better understand the overall distribution. Because of different climate conditions and wide range geographical regions, the number of *Enochrus* species is indisputable much higher than that recorded so far. So, new studies should be conducted acutely on this group of insects.

ACKNOWLEDGEMENT

This research has been supported by Ataturk University's BAP project 2011/356.

LITERATURE CITED

- Aydoğan, Z.** 2011. Bitlis ve Muş İlleri Hydropholidae (Coleoptera) Faunasının Araştırılması. Yüksek Lisans Tezi. Atatürk Üniversitesi, Fen Bilimleri Enstitüsü.
- Hansen, M.** 1991. The Hydrophiloid Beetles. Phylogeny, Classification and A revision of the genera (Coleoptera, Hydrophiloidea), Biologiske Skrifter 40, The Royal Danish Academy of Science and Letters. Pp.: 368.
- Hansen, M.** 1999. World Catalogue of Insects. Hydrophiloidea (Coleoptera). Apollo Books, Stenstrup, Vol. 2. Pp.: 416.

- Hansen, M.** 2004. Family Hydrophilidae. In Löbl, I., Smetana, A., catalogue of palearctic coleoptera volume 2. Hydrophilidae-Histeroidea-Staphyloidea, Apollo Books, Stenstrup. Pp.: 24.
- Darılmaz, M. C. & Kıyak, S.** 2009. The genus *Enochrus* Thomson (Coleoptera: Hydrophilidae) from Turkey, checklist and new records. Archives of 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.
- Peyron, E.** 1858. Catalogue des Coléoptères des environs des Tarsous (Caramanie). Annales de la Société Entomologique de France, (3) 6: 353-434.
- Schödl, S.** 1998. Taxonomic revision of *Enochrus* (Coleoptera: Hydrophilidae) I. The *E. bicolor* species complex. Etomological Problems, 29 (2): 111-127.
- Tasar, E.** 2014. The occurrence of the subgenus *Methydrys* Rey, 1885 in Turkey (Coleoptera: Hydrophilidae, *Enochrus*) with taxonomic and distributional notes. Munis Entomology & Zoology, 9 (1): 478-482.
- Türker, H.** 2011. Van İli Hydrophilidae (Coleoptera) Faunasının Araştırılması. Yüksek Lisans Tezi. Atatürk Üniversitesi, Fen Bilimleri Enstitüsü.