

On the Ceutorhynchinae (Coleoptera: Curculionidae) Fauna of Turkish Thrace, with Additional Records for Turkey

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ABSTRACT

This study is based on specimens of the subfamily Ceutorhynchinae Gistel, 1848 collected in Turkish Thrace by the first author in 2016 and 2017. *Amalorrhynchus melanarius* (Stephens, 1831) and *Parethelcus pollinarius* (Forster, 1771) are new records as genera and species for the Ceutorhynchinae fauna of Turkey. *Ceutorhynchus duvali* C. Brisout de Barneville, 1883 and *Nedyus quadrimaculatus* (Linnaeus, 1758), both already indicated from Anatolia, are recorded for the first time from Turkish Thrace. A list of all ceutorhynchines occurring in European Turkey is included. The synonymy: *Microplontus rugulosus* (Herbst, 1795) [= *M. melanostigma* (Marsham, 1802); syn. rev.] is re-established.

Key words: Curculionidae, Ceutorhynchinae, Turkey, new records.

INTRODUCTION

Turkish Thrace is the region of Turkey situated in Europe. It includes the entire provincial borders of Edirne, Kırklareli and Tekirdağ, and partly those of İstanbul and Çanakkale. The fauna of the region is relatively poorly known due to the presence of only few mountains with their highest points between 1000 and 700 m in contrast to the high mountains in Anatolia. These include the Istranca Mountains in the north of the region with Mahya peak at 1031 m of elevation and the Ganos and Koru Mountains in the south, with Uçakbaşı peak at 920 m of elevation and with Kızılpınar peak at 725 m of elevation, respectively (Dönmez, 1990). Therefore, the region has not been paid special attention by entomologists who visited mostly Anatolian Turkey in the past.

Evaluating the suprageneric rank, given the continuous debate and the different conclusions about the higher systematic of Curculionoidea, is beyond the scope of this paper. However, in this paper, we have not followed the hyper-lumping so-called phylogenetic arrangement of Curculionoidea proposed by Oberprieler, Anderson, & Marvaldi (2013) and accepted by Alonso-Zarazaga et al (2017). We have considered here Ceutorhynchinae Gistel, 1848 in its traditional subfamilial rank, in the deep belief that phylogeny-focused taxonomy is weakly supported by supposed relationships, which change according to the ongoing accumulation and evaluation of data, and are based on past historical events that are difficult to trace.

Ceutorhynchinae is currently represented in Turkey by 262 species belonging to five tribes (Gültekin, 2014; Aydın & Hacet, 2016a; Alonso-Zarazaga et al, 2017; Korotyaev, Gültekin, & Colonnelli, 2017). Of these, 35 species are known only from Turkey (Gültekin, 2014; Alonso-Zarazaga et al, 2017; Korotyaev et al, 2017). The majority, namely 247 species in 37 genera, belong to the tribe Ceutorhynchini Gistel, 1848; while Phytobiini Gistel, 1848 contains 11 species in five genera, Mononychini LeConte, 1876 contains two species of *Mononychus* Germar, 1823, and Hypurini A. Schultze, 1902 and Scleropterini A. Schultze, 1902 include a single species of *Anthypurinus* Colonnelli, 1979 and *Tapinotus* Schoenherr, 1826, respectively (Alonso-Zarazaga et al, 2017).

Alongside new data from Turkish Thrace, it is reported for the first time the occurrence in Turkey of two species, one of *Amalorrhynchus* Reitter, 1913 and the other of *Parethelcus* Wagner, 1943, both genera previously unknown from Turkey.

MATERIAL AND METHODS

Adults were collected from plants using a sweeping net and an aspirator during fieldwork in Turkish Thrace in 2016 and 2017. Collected specimens were killed with ethyl acetate and then stuck dry at the tip of triangular labels. Labelled specimens have been preserved in the Zoological Museum of the Biology Department of Trakya University, Edirne, Turkey.

Locality data, including place, date, coordinates and elevation for each species are given below, and localities are shown in Fig. 1. In the result section, the distribution of species recorded for the first time in the Turkish Thrace region and in Turkey are given in alphabetical order according to country.

Collecting localities

1. Çanakkale province: between Behramlı and Alçıtepe, 137 m, 40°06'19"N, 26°14'05"E, 12.05.2016. 2. Edirne province: Süloğlu-Demirhanlı, 123 m, 41°41'45"N, 26°43'34"E, 15.05.2016. 3. Edirne province: Uzunköprü-Ömerbey, 50 m, 41°15'40"N, 26°50'13"E, 16.05.2016. 4. Edirne province: Meriç-Kadıdondurma, 46 m, 41°10'39"N, 26°21'38"E, 18.05.2016. 5. Edirne province: between Lalapaşa and Hacıdanişment, 224 m, 41°51'01"N, 26°45'09"E, 7.06.2016. 6. Edirne province: Trakya University, Balkan Campus, 43 m, 41°38'44"N, 26°37'21"E, 16.05.2017. 7. Edirne province: Doğanköy, 333 m, 41°56'39"N, 26°42'02"E, 7.06.2017. 8. Edirne province: Lalapaşa (Demirköy-Doğanköy road), exit of Demirköy, 297 m, 41°55'06"N, 26°40'41"E, 7.06.2016. 9. Edirne province: Hıdırağa, 80 m, 41°44'22"N, 26°40'02"E, 7.06.2017. 10. İstanbul province: Çatalca, between Danamandıra and İhsaniye, 224 m, 41°18'26"N, 28°19'26"E, 11.06.2016. 11. İstanbul province: Arnavutköy-Durusu (Durusu lake), 7 m, 41°19'06"N, 28°40'33"E, 12.06.2016. 12. İstanbul province: Çatalca-Hisarbeyli (Durusu lake), 6 m, 41°22'37"N, 28°27'37"E, 12.06.2016. 13. İstanbul province: Silivri-Küçüksinekli, 237 m, 41°13'56"N, 28°09'55"E, 13.06.2016. 14. Kırklareli province: Çukurpınar, 509 m, 41°49'00"N, 27°28'01"E, 19.05.2016. 15. Kırklareli province: Center-Beypınar, 567 m, 41°47'47"N, 27°30'34"E, 6.06.2016. 16. Kırklareli province: Babaeski, 78 m, 41°25'27"N, 27°07'23"E, 9.06.2016. 17. Tekirdağ province: Malkara-Doğanköy, 286 m, 41°04'27"N, 26°49'05"E, 14.07.2016. 18. Tekirdağ province: Muratlı-Hanoğlu, 93 m, 41°11'56"N, 27°21'36"E, 17.07.2016.



Fig. 1. Sampling localities of the study material in Turkish Thrace. The numbers correspond to the localities (see above).

RESULTS

MONONYCHINI LeConte, 1876

Mononychus punctumalbum (Herbst, 1784)

Material examined: Kırklareli province: Çukurpınar, 509 m, 41°49'00"N 27°28'01"E, 19.05.2016, 1 ♀.

CEUTORHYNCHINI Gistel, 1848***Amalorrhynchus melanarius* (Stephens, 1831)**

Distribution: Armenia, Austria, Belarus, Belgium, Bulgaria, northwestern territory of China, the Czech Republic, Denmark, France, Germany, Great Britain, Hungary, Italy, Kazakhstan, Lithuania, Luxembourg, Moldavia, the Netherlands, Poland, Romania, Russia (European Russia and Far East), eastern and western Siberia, Slovakia, Spain, Sweden, Switzerland, Ukraine. Nearctic Region (Alonso-Zarazaga et al, 2017; Tamutis, Tamutė, & Ferenca, 2011). New record for Turkey.

Material examined: İstanbul province: Arnavutköy-Durusu (Durusu lake), 7 m, 41°19'06"N, 28°40'33"E, 12.06.2016, 3 ♂♂, 2 ♀♀.

Short description: Length of body 1.8- 2.5 mm, integument black. Pronotum with small, shortly oval greyish scales. Similar scales present on elytra, and condensed in the form of a sutural stripe. Antennal funiculus six-segmented. Tarsal claws and femora edentate (Morris, 2008).

Note: *Amalorrhynchus* is currently composed of only two Palearctic species. *Amalorrhynchus lukjanovitshi* Korotyaev, 1980 has a relatively narrow range in western Siberia and Far East of Russia, whereas the other species, *A. melanarius*, has a wide Holarctic distribution (Alonso-Zarazaga et al, 2017). To date, this species has never been recorded in Turkey. The above-mentioned Turkish specimens of *A. melanarius* were collected at the shore of a lake. The host plants of *A. melanarius* are the Brassicaceae *Nasturtium officinale* R. Br. and *Rorippa amphibia* (L.) Bess. (Colonnelli, 2004). Of these, *N. officinale* is known from Edirne, İstanbul, Kırklareli and Tekirdağ, while *R. amphibia* is known from Edirne and Tekirdağ in Turkish Thrace (Anonymous, 2014a, 2014b; TÜBİVES, 2018).

***Ceutorhynchus duvali* C. Brisout de Barneville, 1883**

Distribution: Albania, Bosnia Herzegovina, France, Greece, Iran, Italy, Spain, Asiatic Turkey (Alonso-Zarazaga et al, 2017). New record for Turkish Thrace.

Material examined: Edirne province: Lalapaşa (Demirköy-Doğanköy road), exit of Demirköy, 297 m, 41°55'06"N, 26°40'41"E, 07.06.2016, 1 ♀.

Note: In addition to being a new record for Turkish Thrace, the finding of this species in the region is the easternmost record in Europe, although the range of *C. duvali* extends into Anatolian Turkey and Iran. According to Colonnelli (2004), host plants of this species are the Brassicaceae *Bunias erucago* L. and *Cakile maritima* Scop., both plants observed in Edirne (Anonymous, 2014a).

***Ceutorhynchus obstrictus* (Marsham, 1802)**

Material examined: İstanbul province: Çatalca between Danamandıra and İhsaniye, 224 m, 41°18'26"N, 28°19'26"E, 11.06.2016, 3 ♂♂, 2 ♀♀; Arnavutköy-Durusu (Durusu lake), 7 m, 41°19'06"N, 28°40'33"E, 12.06.2016, 1 ♀.

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***Ceutorhynchus pallidactylus* (Marsham, 1802)**

Material examined: Edirne province: Doğanköy, 333 m, 41°56'39"N, 26°42'02"E, 07.06.2017, 2 ♂♂, 4 ♀♀. İstanbul province: Çatalca between Danamandıra and İhsaniye, 224 m, 41°18'26"N, 28°19'26"E, 11.06.2016, 1 ♀; Silivri-Küçüksinekli, 237 m, 41°13'56"N, 28°09'55"E, 13.06.2016, 1 ♀. Kırklareli province: Babaeski, 78 m, 41°25'27"N, 27°07'23"E, 9.06.2016, 1 ♀.

***Ceutorhynchus picitarsis* Gyllenhal, 1837**

Material examined: İstanbul province: Çatalca between Danamandıra and İhsaniye, 224 m, 41°18'26"N, 28°19'26"E, 11.06.2016, 1 ♂.

***Ceutorhynchus sulcicollis* (Paykull, 1800)**

Material examined: Edirne province: Doğanköy, 333 m, 41°56'39"N, 26°42'02"E, 07.06.2017, 1 ♀.

***Ceutorhynchus viridipennis* C. Brisout de Barneville, 1869**

Material examined: Çanakkale province: between Behramlı and Alçitepe, 137 m, 40°06'19"N, 26°14'05"E, 12.05.2016, 1 ♀. Edirne province: between Lalapaşa and Hacıdanışment, 224 m, 41°51'01"N, 26°45'09"E, 07.06.2016, 1 ♂.

***Glocianus distinctus* (C. Brisout de Barneville, 1870)**

Material examined: İstanbul province: Çatalca-Hisarbeyli (Durusu lake), 6 m, 41°22'37"N, 28°27'37"E, 12.06.2016, 1 ♂. Tekirdağ province: Malkara-Doğanköy, 286 m, 41°04'27"N, 26°49'05"E, 14.07.2016, 1 ♂; Muratlı-Hanoğlu, 93 m, 41°11'56"N, 27°21'36"E, 17.07.2016, 1 ♂.

***Hadroplontus trimaculatus* (Fabricius, 1775)**

Material examined: Edirne province: Meriç-Kadıondurma, 46 m, 41°10'39"N, 26°21'38"E, 18.05.2016, 1 ♂.

***Microplontus rugulosus* (Herbst, 1795)**

Material examined: Edirne province: Uzunköprü-Ömerbey, 50 m, 41°15'40"N, 26°50'13"E, 16.05.2016, 1 ♀; Trakya University, Balkan Campus, 43 m, 41°38'44"N, 26°37'21"E, 16.05.2017, 2 ♀♀. Kırklareli province: Center-Beypınar, 567 m, 41°47'47"N, 27°30'34"E, 06.06.2016, 1 ♀.

Note: Recently Wanat & Mokrzycki (2018), contrary to the opinions of Colonnelli (2004, 2013) and Alonso-Zarazaga et al (2017), resurrected the name *M. melanostigma* (Marsham, 1802) from its synonymy with *M. rugulosus* (Herbst, 1795), based on the possibility of morphologically distinguishing individuals collected on different plants in central Europe, following the opinion of Morris & Barclay (2015). The second author of this note studied approximately 5,000 specimens of the greatly variable and relatively polyphagous *M. rugulosus* collected over a span of around 180 years in several countries. It is seen that unequivocal separation of more than a morphological species in the observed specimens is impossible, although the form "melanostigma" is much more common (though mixed with the typical form) in North Africa, western Palaearctic Asia and in the southern regions of Europe than in central and northern regions. Central

and northern European authors may over-estimate tiny differences of widespread common phytophagous species by considering morphological and molecular variation to be results of evolution - see for example, the incorrect resurrection of *Phyllobius vespertinus* (Fabricius, 1792) from synonymy with *P. pyri* (Linnaeus, 1758) and of *Otiorhynchus smreczynskii* Cmoluch, 1968 from that of *O. rotundus* Marseul, 1872 by the same authors (Wanat & Mokrzycki, 2018). Hence, we re-establish the synonymy: *Microplontus rugulosus* (Herbst, 1795) [= *M. melanostigma* (Marsham, 1802); syn. rev.].

***Mogulones beckeri* (A. Schultze, 1900)**

Material examined: Edirne province: Trakya University, Balkan Campus, 43 m, 41°38'44"N, 26°37'21"E, 16.05.2017, 5 ♂♂, 3 ♀♀.

***Mogulones geographicus* (Goeze, 1777)**

Material examined: Edirne province: Süloğlu-Demirhanlı, 123 m, 41°41'45"N, 26°43'34"E, 15.05.2016, 2 ♂♂; Trakya University, Balkan Campus, 43 m, 41°38'44"N, 26°37'21"E, 16.05.2017, 8 ♂♂, 6 ♀♀; Lalapaşa (Demirköy-Doğanköy road), exit of Demirköy, 297 m, 41°55'06"N, 26°40'41"E, 07.06.2016, 6 ♂♂, 6 ♀♀.

***Nedyus quadrimaculatus* (Linnaeus, 1758)**

Distribution: Algeria, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Great Britain, Greece, Hungary, Iran, Ireland, Italy, Japan, Kazakhstan, Mongolia, Latvia, Lithuania, Luxembourg, Moldavia, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Asiatic Turkey, Ukraine (Alonso-Zarazaga et al, 2017). New record for Turkish Thrace.

Material examined: Edirne province: Doğanköy, 333 m, 41°56'39"N, 26°42'02"E, 07.06.2017, 3 ♂♂, 1 ♀.

Note: *Nedyus quadrimaculatus*, a common species found in many areas across of the Palaearctic region (Alonso-Zarazaga et al, 2017) and living on nettles, is the member with the widest distribution of this genus, represented by three species in the world in the present (Colonnelli, 2004). This species has been reported from Asian Turkey (Alonso-Zarazaga et al, 2017), and this is the first record of its presence in Turkish Thrace.

***Parethelcus pollinarius* (Forster, 1771)**

Distribution: Algeria, Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, Georgia, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Kazakhstan, Latvia, Luxembourg, Moldavia, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, European Russia and western Siberia, Serbia, Slovakia, Spain, Sweden, Ukraine (Alonso-Zarazaga et al, 2017). New record for Turkey.

Material examined: Edirne province: Hidırağa, 80 m, 41°44'22"N, 26°40'02"E, 07.06.2017, 1 ♂, 1 ♀.

Short description: Body length 3.0-4.0 mm, integument blackish, covered by small

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pale appressed scales. Antennae, except antennal club and tarsi, reddish, tibiae and femora black. Antenna in female inserted at about 2/5 of rostral length. Pronotum wider than long, with sharp lateral tubercles. Humeri quite strongly protruding, flat intervals tuberculate at the level of elytral declivity with a patch of white scales (Morris, 2008).

Note: *Parethelcus* is represented by two species worldwide (Alonso-Zarazaga et al, 2017), namely *P. dentipes* (Israelson, 1980) from the Canary Islands and *P. pollinarius* which has the Western Palaearctic distribution detailed above. Colonnelli (2004) reported that *Urtica pilulifera* L. and *U. dioica* L. are host plants of this last species. The second plant is known from the Edirne province (Anonymous, 2014a). Here, we give evidence of its presence in Anatolia, a region in which the species has never been reported before: Niğde province: Aladağlar, Sarımemetler, 1751 m, 37°46'04"N 35°05'41"E, 01.07.2016, 1 ♀. Note that *U. dioica* has also been observed in Niğde province (TÜBİVES, 2018). This is the first record from both European and Asian Turkey.

***Prisistus obsoletus* (Germar, 1823)**

Material examined: Edirne province: between Lalapaşa and Hacıdanışment, 224 m, 41°51'01"N, 26°45'09"E, 07.06.2016, 1 ♀.

PHYTOBIINI Gistel, 1848***Rhinoncus leucostigma* (Marsham, 1802)**

Material examined: Edirne province: Trakya University, Balkan Campus, 43 m, 41°38'44"N, 26°37'21"E, 16.05.2017, 1 ♀.

COMMENTS

The above records and also distributional data given by Lodos, Önder, Pehlivan, & Atalay (1978), Aydın & Hacet (2016a, 2016b), Alonso-Zarazaga et al (2017) and Alonso-Zarazaga (2018) showed that the number of Ceutorhynchinae recorded in European Turkey has reached 54 species in three tribes. These have been detailed in the following alphabetical list, where an asterisk indicates a new record for Turkish Thrace, and two asterisks mark new records for Turkey:

Amalorrhynchus melanarius (Stephens, 1831) **, *Amalus scortillum* (Herbst, 1795), *Calosirus terminatus* (Herbst, 1795), *Ceutorhynchus assimilis* (Paykull, 1792), *Ceutorhynchus atomus* Boheman, 1845, *Ceutorhynchus chalybaeus* Germar, 1823, *Ceutorhynchus chlorophanus* Rouget, 1858, *Ceutorhynchus contractus* (Marsham, 1802), *Ceutorhynchus duvali* C. Brisout de Barneville, 1869 *, *Ceutorhynchus erysimi* (Fabricius, 1787), *Ceutorhynchus fallax* Boheman, 1845, *Ceutorhynchus hirtulus* Germar, 1823, *Ceutorhynchus nanus* Gyllenhal, 1837, *Ceutorhynchus obstrictus* (Marsham, 1802), *Ceutorhynchus pallidactylus* (Marsham, 1802), *Ceutorhynchus pycitarsis* Gyllenhal, 1837, *Ceutorhynchus posthumus* Germar, 1823, *Ceutorhynchus pyrrhorhynchus* (Marsham, 1802), *Ceutorhynchus sulcicollis* (Paykull, 1800), *Ceutorhynchus turbatus* A. Schultze, 1903, *Ceutorhynchus typhae* (Herbst, 1795),

Ceutorhynchus viridipennis C. Brisout de Barneville, 1869, *Coeliastes lamii* (Fabricius, 1792), *Ethelcus denticulatus* (Schrank, 1781), *Glocianus albovittatus* (Germar, 1823), *Glocianus distinctus* (C. Brisout de Barneville, 1870), *Glocianus fennicus* (Faust, 1895), *Glocianus maculaalba* (Herbst, 1795), *Glocianus moelleri* (C. G. Thomson, 1868), *Glocianus ragusae* (C. Brisout de Barneville, 1884), *Hadroplontus trimaculatus* (Fabricius, 1775), *Microplontus rugulosus* (Herbst, 1795), *Mogulones beckeri* (A. Schultze, 1900), *Mogulones euphorbiae* (C. Brisout de Barneville, 1866), *Mogulones geographicus* (Goeze, 1777), *Mogulones korbi* (A. Schultze, 1901), *Mononychus punctumalbum* (Herbst, 1784), *Nedyus quadrimaculatus* (Linnaeus, 1758)*, *Oprohinus consputus* (Germar, 1823), *Oprohinus suturalis* (Fabricius, 1775), *Parethelcus pollinarius* (Forster, 1771)**, *Prisistus obsoletus* (Germar, 1823), *Ranunculiphilus italicus* (C. Brisout de Barneville, 1869), *Ranunculiphilus faeculentus* (Gyllenhal, 1837), *Rhinoncus leucostigma* (Marsham, 1802), *Rhinoncus perpendicularis* (Reich, 1797), *Sirocalodes depressicollis* (Gyllenhal, 1813), *Sirocalodes mixtus* (Mulsant & Rey, 1859), *Stenocarus cardui* (Herbst, 1784), *Trichosirocalus horridus* (Panzer, 1801), *Trichosirocalus troglodytes* (Fabricius, 1787), *Trichosirocalus urens* (Gyllenhal, 1837), *Zacladus asperatus* (Gyllenhal, 1837), *Zacladus exiguus* (Olivier, 1807).

All the above species but *Ceutorhynchus pyrrhorhynchus*, *Glocianus moelleri*, *Glocianus ragusae* and the newly recorded one in this study *Amalorrhynchus melanarius* are also known from Asian Turkey. This number is quite low, and surely future field surveys will increase our knowledge about the distribution of this weevil subfamily in Turkish Thrace.

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