

CONTRIBUTIONS TO THE KNOWLEDGE OF SCARABAEIDAE (COLEOPTERA) FAUNA OF THE MIDDLE AND EAST BLACK SEA REGION OF TURKEY

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ABSTRACT: Additional notes on 40 species belonging to Scarabaeidae from Middle and East Black Sea Region are given. New distributions are given for the taxa.

KEY WORDS: Scarabaeidae, Aphodiinae, Melolonthinae, Scarabaeinae, Dynastinae, new record.

The superfamily Scarabaeoidea comprises worldwide more than 35.000 species (Ratcliffe & Paulsen, 2008). Historically, the superfamily Scarabaeoidea was divided into two generalized groups based on the position of the abdominal spiracles; the Laparosticti and Pleurosticti. Laparostict scarabs, on the other hand, were characterized by having most of the abdominal spiracles located on the pleural membrane between the tergites and sternites and included taxa whose adults and larvae feed on dung, carrion, hides, and feathers (Ritcher, 1969; Arnett et al., 2002; Anlaş et al., 2011b). The family Scarabaeidae includes about 91% of all scarabaeoids and includes about 27,800 species worldwide. Within the Scarabaeidae, the Aphodiinae and Scarabaeinae include approximately 6,850 species worldwide (about 22% of scarabaeoids and 25% of Scarabaeidae) (Arnett et al., 2002). Nearly 700 species are reported from Turkey, 350 of them being Laparosticti (Carpaneto et al., 2000; Löbl & Smetana, 2006; Anlaş et al., 2011b).

After the researches and the publications of Rudolf Petrovitz along all the fifty, sixty and seventy years, it could be reasonable to suppose that the knowledge of the Coleoptera Scarabaeoidea of Turkey is near to be sufficiently thorough. Notwithstanding, the only downright summary on the Turkish fauna can be considered the paper by Carpaneto (1977), that mainly referenced to unpublished data of the same Petrovitz, and, to some extent, the checklist with no localities by Carpaneto et al. (2000) (Ziani & Sama, 2013).

The Scarabaeidae fauna of Middle and East Black Sea Region have been studied poorly. Some important studies on the Scarabaeidae of study area have been established by Lodos et al. (1999), Rozner & Rozner (2009).

The main aim of this study is to contribute to the knowledge of the Scarabaeidae Fauna of Middle and East Black Sea Region in Turkey.

MATERIAL AND METHODS

The materials were collected from different localities of Middle and East Black Sea Region of Turkey. Forceps and sweeping nets were used to collect samples. The specimens were killed by using killing jar and pinned according to taxonomic

rules and regulations. The specimens are deposited in the first author's private collection of Biology department at Dumlupınar University.

Identification, classification and Distribution of Scarabaeidae suggested by Balthasar (1963, 1964), Dellacasa & Dellacasa (2006), Dellacasa & Kırgız (2002), Kabakov (2006), Löbl & Smetana (2006), Lodos et al. (1978), Lodos et al. (1999), Rozner & Rozner (2009), Şenyüz & Şahin (2009), Şenyüz (2004), Tuatay et al. (1972) have been followed in this study.

RESULTS

In this study totally 40 species belonging to Scarabaeidae were identified. And new distributions are given for the taxa. The taxa are presented alphabetically.

It is expected that the number of scarab species will increase significantly by the future investigations of Turkey Scarabaeidae fauna.

FAMILY SCARABAEIDAE Latreille, 1802

SUBFAMILY Aphodiinae Leach, 1815

TRIBE Aphodiini Leach, 1815

GENUS *Aphodius* Illiger, 1798

SUBGENUS *Acanthobodilus* G. Dellacasa, 1983

SPECIES *Acanthobodilus immundus* (Creutzer, 1799)

Material examined: Ordu, Fatsa, Çömlekli, 05.VII.2010, 10 exx.

Records in Turkey: Adana, Ankara, Antalya, Bartın, Bolu, Burdur, Çorlu, Gaziantep, İçel, Kahramanmaraş, Kastamonu, Kayseri, Kırşehir, Konya, Kütahya, Nevşehir, Osmaniye, Sakarya, Samsun, Zonguldak (Lodos et al., 1999; Rozner & Rozner, 2009; Şenyüz & Şahin, 2009a).

Remark: New to Ordu province.

SUBGENUS *Acrossus* Mulsant, 1842

SPECIES *Acrossus depressus* (Kugelann, 1792)

Material examined: Ordu, Kabataş, 06.VII.2010, 6 exx.; Artvin, Kılıçkaya, 2388 m, 11.VII.2010, 1 ♂.

Records in Turkey: Adana, Artvin, Çorum, İçel, Sakarya (Lodos et al., 1999; Rozner & Rozner, 2009).

Remark: New to Ordu province and thereby Middle Black Sea Region.

SPECIES *Acrossus luridus* (Fabricius, 1775)

Material examined: Ordu, Nadipli, 05.VII.2010, 1 ♂; Rize, Tulumpınar, 1407 m, 12.VII.2010, 1 ♂; Artvin, Borçka, 587 m, 13.VII.2010, 1 ♂; Artvin, Yavuz village, 1789 m, 15.VII.2010, 2 ♂♂.

Records in Turkey: Adana, Adıyaman, Afyon, Ağrı, Ankara, Ankara, Antalya, Bartın, Bitlis, Bolu, Burdur, Çorlu, Çorum, Denizli, Diyarbakır, Erzurum, Eskişehir, Gaziantep, Gümüştane, İçel, İzmir, Kahramanmaraş, Kars, Kütahya, Manisa, Osmaniye, Siirt, Sivas, Tarsus (Lodos et al., 1999; Şenyüz, 2004; Bellmann, 2007; Rozner & Rozner, 2009; Şenyüz & Şahin, 2009a; Anlaş et al., 2011b).

Remark: New to Artvin, Rize and Ordu provinces.

SUBGENUS *Amidorus* Mulsant & Rey, 1870

SPECIES *Amidorus cribrarius* (Brullé, 1836)

Material examined: Samsun, Akgöl, 16.VII.2010, 1 ex; Giresun, Kümbet Yaylası, 1784 m, 08.VII.2010, 4 exx.; Artvin, Kılıçkaya, 2388 m, 11.VII.2010, 1 ex.; Rize, Ovıt mountain, 2292 m, 11.VII.2010, 14 exx.; Trabzon, Şekersu, 2237 m, 11.VII.2010, 12 exx.; Rize, Ovıt Geçidi, 2561 m, 12.VII.2010, 15 exx.

Records in Turkey: Erzincan, Erzurum, Giresun, İçel, Sivas, Tarsus (Lodos et al., 1999; Rozner & Rozner, 2009).

Remark: New to Artvin, Giresun, Rize, Samsun and Trabzon provinces, and thereby Middle Black Sea Region.

SPECIES *Amidorus obscurus* (Fabricius, 1792)

Material examined: Samsun, Akgöl, 16.VII.2010, 1 ♂; Rize, Ovit mountain, 2292 m, 11.VII.2010, 5 exx.; Trabzon, Şekersu, 2237 m, 11.VII.2010, 4 exx.; Artvin, Yavuz village, 1789 m, 15.VII.2010, 1 ex.

Records in Turkey: Adana, Artvin, Bartın, Erzincan, Erzurum, İçel, Kastamonu, Osmaniye, Rize (Lodos et al., 1999; Rozner & Rozner, 2009).

Remark: New to Samsun, Rize and Trabzon provinces and thereby Middle Black Sea Region.

SUBGENUS *Aphodius* Illiger, 1798

SPECIES *Aphodius fimetarius* (Linnaeus, 1758)

Material examined: Amasya, Ovasaray, 03.VII.2010, 1 ♂, 1 ♀; Ordu, Fatsa Çömlekli, 05.VII.2010, 1 ♀; Ordu, Kabataş, 06.VII.2010, 5 ♂♂, 4 ♀♀; Ordu, Gök köy, 07.VII.2010, 2 ♂♂, 3 ♀♀; Çorum, Çaybaşı, 16.VII.2010, 2 ♂♂; Giresun, Kümbet Yaylası, 1784 m, 08.VII.2010, 1 ♀; Artvin, Borçka, 587 m, 13.VII.2010, 1 ♂; Rize, Ayder Yaylası, 1670 m, 13.VII.2010, 3 ♂♂; Artvin, Yavuz village, 1789 m, 15.VII.2010, 1 ♂, 2 ♀♀.

Records in Turkey: Adana, Afyon, Ankara, Antalya, Artvin, Balıkesir, Bartın, Bolu, Burdur, Bursa, Çankırı, Çorlu, Çorum, Denizli, Edirne, Erzurum, Gaziantep, Giresun, Gümüşhane, Hatay, Isparta, İçel, İzmir, Kahramanmaraş, Kastamonu, Kayseri, Kırklareli, Kırşehir, Kütahya, Manisa, Mersin, Niğde, Osmaniye, Samsun, Zonguldak (Tuatay et al., 1970, 1972; Lodos et al., 1999; Dellacasa & Kırgız, 2002; Şenyüz, 2004; Bellmann, 2007; Rozner & Rozner, 2009; Şenyüz & Şahin, 2009a; Anlaş et al., 2011b).

Remark: New to Amasya, Ordu and Rize provinces.

SPECIES *Aphodius foetidus* (Herbst, 1783)

Material examined: Ordu, Fatsa, Çömlekli, 05.VII.2010, 1 ex.; Ordu, Kabataş, 06.VII.2010, 2 exx.; Ordu, Gök köy, 07.VII.2010, 2 exx.

Records in Turkey: Antalya, Aydın, Bursa, Çanakkale, Çorlu, Edirne (Bellmann, 2007; Rozner & Rozner, 2009).

Remark: New to Ordu province and thereby Black Sea Region.

SUBGENUS *Colobopterus* Mulsant, 1842

SPECIES *Colobopterus brignolii* Carpenato, 1973

Material examined: Samsun, Akgöl, 16.VII.2010, 1 ♀; Giresun, Kümbet Yaylası, 1784 m, 08.VII.2010, 1 ♂♂, 2 ♀♀; Trabzon, Şekersu, 2237 m, 11.VII.2010, 1 ♂, 12 ♀♀; Artvin, Kılıçkaya, 2388 m, 11.VII.2010, 7 ♀♀; Rize, Ovit mountain, 2292 m, 11.VII.2010, 2 ♂♂, 1 ♀; Artvin, Yavuz village, 1789 m, 15.VII.2010, 1 ♀; Artvin, Şafşat, Karaköy, 2032 m, 15.VII.2010, 1 ♀; Rize, Ovit Geçidi, 2561 m, 12.VII.2010, 1 ♂, 6 ♀♀.

Records in Turkey: Artvin (Carpenato, 1973).

Remark: New to Giresun, Rize, Samsun and Trabzon provinces and thereby Middle Black Sea Region.

SPECIES *Colobopterus erraticus* (Linnaeus, 1758)

Material examined: Çorum, Mecitözü, 03.VII.2010, 1 ♂; Amasya, Ovasaray, 03.VII.2010, 1 ♀; Amasya, Duracasu, 04.VII.2010, 1 ♂, 2 ♀♀; Tokat, Ustahasan, 04.VII.2010, 1 ♂; Ordu, Fatsa, Çömlekli, 05.VII.2010, 3 ♂♂, 2 ♀♀; Samsun, Akgöl, 16.VII.2010, 19 ♂♂, 16 ♀♀; Giresun, Kümbet Yaylası, 1784 m, 08.VII.2010, 1 ♂, 3 ♀♀; Rize, Ovit mountain, 2292 m, 11.VII.2010, 1 ♂, 1 ♀; Trabzon, Şekersu, 2237 m, 11.VII.2010, 1 ♂; Rize, Ovit Geçidi, 2561 m, 12.VII.2010, 1 ♂, 1 ♀; Artvin, Borçka, 587 m, 13.VII.2010, 1 ♂; Artvin, Kafkasör, 1263 m, 14.VII.2010, 4 ♂♂, 4 ♀♀; Artvin, Yavuz village, 1789 m, 15.VII.2010, 1 ♂, 1 ♀.

Records in Turkey: Adana, Adıyaman, Afyon, Amasya, Ankara, Antalya, Aydın, Balıkesir, Bartın, Bolu, Burdur, Çorlu, Çorum, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hatay, Isparta, İçel, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Keşan, Kırklareli, Kırşehir, Konya, Kütahya, Manisa, Mersin, Muğla, Nevşehir, Niğde, Osmaniye, Rize, Sakarya, Samsun, Siirt, Sinop, Sivas, Tekirdağ,

Tokat, Zonguldak (Tuatay et al., 1970, 1972; Carpaneto, 1973; Lodos et al., 1978, 1999; Dellacasa & Kırız, 2002; Şenyüz, 2004; Bellmann, 2007; Rozner & Rozner, 2009; Şenyüz & Şahin, 2009a; Anlaş et al., 2011b).

Remark: New to Artvin, Ordu and Trabzon provinces.

SUBGENUS *Coprimorphus* Mulsant, 1842

SPECIES *Coprimorphus scrutator* (Herbst, 1789)

Material examined: Giresun, Kümbet Yaylası, 1784 m, 08.VII.2010, 3 ♂♂, 2 ♀♀; Rize, Ovit mountain, 2292 m, 11.VII.2010, 1 ♀.

Records in Turkey: Edirne, Kırklareli, Kütahya (Dellacasa & Kırız, 2002; Şenyüz, 2004; Rozner & Rozner, 2009; Şenyüz, 2009; Şenyüz & Şahin, 2009a).

Remark: New to Giresun and Rize provinces and thereby Black Sea Region.

SUBGENUS *Euheptaulacus* G. Dellacasa, 1983

SPECIES *Euheptaulacus sus* (Herbst, 1783)

Material examined: Giresun, Kümbet Yaylası, 1784 m, 08.VII.2010, 25 exx.; Trabzon, Zigana, 2018 m, 09.VII.2010, 3 exx.; Trabzon, Zigana Mountain, 2120 m, 09.VII.2010, 30 exx.; Rize, Ovit mountain, 2292 m, 11.VII.2010, 1 ex.; Rize, Ovit mountain Geçidi, 2561 m, 12.VII.2010, 7 exx.

Records in Turkey: Ankara, Çankırı, Çorum, Erzincan, Eskişehir, Kastamonu, Kayseri, Kırşehir, Niğde (Lodos et al., 1999; Rozner and Rozner, 2009).

Remark: New to Giresun, Rize and Trabzon provinces and thereby Eastern Black Sea Region.

SUBGENUS *Eupleurus* Mulsant, 1842

SPECIES *Eupleurus subterraneus subterraneus* (Linnaeus, 1758)

SUBSPECIES *Eupleurus subterraneus subterraneus*

Material examined: Ordu, Kabataş, 06.VII.2010, 1 ex, Artvin, Kafkasör, 1263 m, 14.VII.2010, 3 exx.

Records in Turkey: Afyon, Amasya, Ankara, Antalya, Bolu, Burdur, Çorum, Erzincan, Eskişehir, İçel, Kahramanmaraş, Karaman, Kırşehir, Kütahya, Nevşehir, Niğde, Sakarya, Sivas, Uşak (Lodos et al., 1999; Şenyüz, 2004; Bellmann, 2007; Rozner & Rozner, 2009; Şenyüz & Şahin, 2009a).

Remark: New to Artvin, Ordu provinces and thereby Eastern Black Sea Region.

SUBGENUS *Otophorus* Mulsant, 1842

SPECIES *Otophorus haemorrhoidalis* (Linnaeus, 1758)

Material examined: Amasya, Duracasu, 04.VII.2010, 1 ex.; Ordu, Esentepe, 04.VII.2010, 3 exx.; Çorum, Çaybaşı, 16.VII.2010, 4 exx.; Samsun, Akgöl, 16.VII.2010, 9 exx.; Artvin-Hopa, Koyuncular Mevkii, 460 m, 13.VII.2010, 3 exx.; Rize, Ayder Yaylası, 1670 m, 13.VII.2010, 7 exx.

Records in Turkey: Balıkesir, Bartın, Bolu, Çorlu, Edirne, Hatay, İçel, Kahramanmaraş, Kastamonu, Kayseri, Kırklareli, Kütahya, Mersin, Osmaniye, Sakarya, Samsun, Sinop, Tekirdağ, Zonguldak (Lodos et al., 1978; 1999; Şenyüz, 2004; Rozner & Rozner, 2009).

Remark: New to Amasya, Artvin, Çorum, Ordu, Rize provinces and thereby Eastern Black Sea Region.

SUBGENUS *Teuchestes* Mulsant, 1842

SPECIES *Teuchestes fossor* (Linnaeus, 1758)

Material examined: Giresun, Kümbet Yaylası, 1784, 08.VII.2010, 12 ♂♂, 7 ♀; Artvin, Kılıçkaya, 2388 m, 11.VII.2010, 1 ♂; Trabzon, Şekersu, 2237 m, 11.VII.2010, 2 ♂♂; Rize, Tulumpınar, 1407 m, 12.VII.2010, 3 ♂♂, 2 ♀♀; Artvin-Hopa, Koyuncular Mevkii, 460 m, 13.VII.2010, 3 ♂, 1 ♀; Rize, Ayder Yaylası, 1670 m, 13.VII.2010, 4 ♂♂, 2 ♀♀; Artvin Karaköy, 2032 m, 15.VII.2010, 1 ♂, 1 ♀; Artvin Yavuz village, 1789 m, 15.VII.2010, 5 ♂♂, 2 ♀♀.

Records in Turkey: Artvin, Balıkesir (Rozner & Rozner, 2009).

Remark: New to Giresun, Rize and Trabzon provinces.

SUBFAMILY Melolonthinae Samouelle, 1819**TRIBE Melolonthini Samouelle, 1819****GENUS *Anoxia* Laporte, 1833****SUBGENUS *Protanoxia* S. I. Medvedev, 1951****SPECIES *Protanoxia orientalis* (Krynicky, 1832)**

Material examined: Ordu, Merkez, 06.VII.2010, 2 ♂♂.

Records in Turkey: Adana, Adıyaman, Erzincan, İçel, Karaman, Kayseri, Konya (Lodos et al., 1999; Rozner & Rozner, 2009).

Remark: New to Ordu province and thereby Black Sea Region.

GENUS *Polyphylla* Harris, 1841**SPECIES *Polyphylla fullo* (Linnaeus, 1758)****SUBSPECIES *Polyphylla fullo fullo* (Linnaeus, 1758)**

Material examined: Ordu, Merkez, 06.VII.2010, 4 ♂♂; Artvin, Yavuz village, 1789 m, 15.VII.2010, 1 ♂.

Records in Turkey: Adana, Balıkesir, Bartın, Çankırı, İzmir, Kayseri, Kırklareli, Kütahya, Muğla, Tekirdağ, Zonguldak (Lodos et al., 1999; Şenyüz & Şahin, 2009b).

Remark: New to Ordu, Artvin provinces and thereby Middle and Eastern Black Sea Region.

SUBFAMILY Scarabaeinae Latreille, 1802**TRIBE Coprini Leach, 1815****GENUS *Copris* Geoffroy, 1762****SPECIES *Copris lunaris* (Linnaeus, 1758)**

Material examined: Ordu, Fatsa, Çömlekli, 05.VII.2010, 1 ♂.

Records in Turkey: Adana, Afyon, Ankara, Antalya, Bartın, Bolu, Çorum, Edirne, Erzincan, Eskişehir, Giresun, Gümüşhane, İçel, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kırşehir, Kütahya, Manisa, Nevşehir, Osmaniye, Samsun, Sivas, Yozgat, Zonguldak (Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011a; 2011b).

Remark: New to fauna of Ordu province.

TRIBE Gymnopleurini Lacordairei, 1856**GENUS *Gymnopleurus* Illiger, 1803****SPECIES *Gymnopleurus geoffroyi geoffroyi* (Fuessly, 1775)****SUBSPECIES *Gymnopleurus geoffroyi geoffroyi***

Material examined: Amasya, Ovasaray, 03.VII.2010, 4 exx.; Çorum, Mecitözü, 03.VII.2010, 1 ex.; Tokat, Ustahasan, 04.VII.2010, 8 exx.; Samsun, Akgöl, 16.VII.2010, 8 exx.

Records in Turkey: Adana, Adıyaman, Afyon, Amasya, Ankara, Antalya, Balıkesir, Bartın, Bilecik, Bitlis, Bolu, Burdur, Bursa, Çorum, Çanakkale, Denizli, Diyarbakır, Edirne, Eskişehir, Gaziantep, Giresun, Hakkari, Hatay, Isparta, İçel, İzmir, Kahramanmaraş, Karabük, Kastamonu, Kayseri, Kırklareli, Kırşehir, Kocaeli, Kütahya, Manisa, Muğla, Osmaniye, Siirt, Tekirdağ, Uşak, Zonguldak (Tuatay et al., 1972; Pehlivan, 1988; Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Samsun and Tokat provinces.

SPECIES *Gymnopleurus mopsus* (Pallas, 1781)

Material examined: Tokat, Ustahasan, 04.VII.2010, 6 exx.

Records in Turkey: Adana, Afyon, Ağrı, Ankara, Antalya, Aydın, Balıkesir, Bolu, Burdur, Çankırı, Çorum, Denizli, Edirne, Eskişehir, Gaziantep, Hatay, Isparta, İçel, Kahramanmaraş, Karabük, Kastamonu, Kayseri, Kırklareli, Kırşehir, Manisa, Muğla, Nevşehir, Osmaniye, Sinop (Pehlivan, 1988; Lodos et al., 1999; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Tokat province.

TRIBE Oniticeellini H.J. Kolbe, 1905**GENUS *Euoniticellus* Janssens, 1953****SPECIES *Euoniticellus fulvus* (Goeze, 1977)**

Material examined: Amasya, Duracasu, 04.VII.2010, 2 ♂♂, 4 ♀♀; Amasya, Ovasaray, 03.VII.2010, 6 ♂♂; Çorum, Çaybaşı, 16.VII.2010, 2 ♂♂, 2 ♀♀; Çorum, Mecitözü, 03.VII.2010, 1 ♂; Ordu, Fatsa, Çömlekli, 05.VII.2010, 4 ♂♂, 1 ♀; Ordu, Kabataş, 06.VII.2010, 3 ♂♂, 4 ♀♀; Ordu, Nadipli, 05.VII.2010, 1 ♂; Samsun, Akgöl, 16.VII.2010, 1 ♀; Tokat, Ustahasan, 04.VII.2010, 4 ♀♀; Rize, Ayder Yaylası, 1670 m, 13.VII.2010, 1 ♀; Artvin, Kafkasör, 1263 m, 14.VII.2010, 3 ♂♂, 4 ♀♀; Artvin, Yavuzköy mountain pasture, 1789 m, 15.VII.2010, 1 ♂, 2 ♀♀.

Türkiye yayılışı : Adana, Afyon, Ankara, Antalya, Aydın, Balıkesir, Bartın, Bolu, Burdur, Bursa, Çankırı, Çorlu, Çorum, Denizli, Edirne, Eskişehir, Gaziantep, Giresun, Gümüşhane, Isparta, İçel, Karabük, Karaman, Kastamonu, Kayseri, Kırklareli, Kırşehir, Konya, Kütahya, Manisa, Muğla, Nevşehir, Niğde, Osmaniye, Sakarya, Samsun, Tekirdağ, Uşak, Zonguldak (Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Amasya, Artvin, Ordu and Rize provinces.

SPECIES *Euoniticellus pallipes* (Fabricius, 1798)

Material examined: Amasya, Ovasaray, 03.VII.2010, 1 ♂.

Records in Turkey: Adana, Afyon, Antalya, Aydın, Burdur, Çankırı, Denizli, Gaziantep, Hatay, Isparta, İçel, Kahramanmaraş, Kastamonu, Kayseri, Konya, Muğla, Osmaniye, Siirt (Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009).

Remark: New to Amasya province and thereby Middle Black Sea Region.

TRIBE Onthophagini Burmeister, 1846

GENUS *Caccobius* C.G. Thomson, 1859

SPECIES *Caccobius hysteroides* (Ménétriés, 1832)

Material examined: Ordu, Fatsa, Çömlekçi, 05.VII.2010, 2 ♂♂; Ordu, Esentepe, 04.VII.2010, 1 ♂; Ordu, Gölköy, 07.VII.2010, 2 ♂♂.

Records in Turkey: Adana, Adıyaman, Ağrı, Ankara, Antalya, Burdur, Bursa, Çankırı, Denizli, Edirne, Gaziantep, Hatay, İçel, Kahramanmaraş, Kırşehir, Konya, Manisa, Nevşehir, Uşak, Van (Lodos et al., 1999; Rozner & Rozner, 2009; Anlaş et al., 2011a,b).

Remark: New to Ordu province and thereby Middle Black Sea Region and Black Sea Region.

SPECIES *Caccobius schreberi* (Linnaeus, 1767)

Material examined: Amasya, Duracasu, 04.VII.2010, 1 ♂, 1 ♀; Amasya, Ovasaray, 03.VII.2010, 1 ♀; Çorum, Çaybaşı, 16.VII.2010, 1 ♂, 5 ♀♀; Çorum, Mecitözü, 03.VII.2010, 2 ♂♂, 6 ♀♀; Ordu, Gölköy, 07.VII.2010, 1 ♂; Ordu, Kabataş, 06.VII.2010, 1 ♂, 2 ♀♀; Ordu, Nadipli, 05.VII.2010, 1 ♂; Ordu, Fatsa, Çömlekli, 05.VII.2010, 2 ♂♂, 1 ♀; Artvin, Kafkasör, 1263 m, 14.VII.2010, 1 ♂; Artvin, Yavuz village, 1789 m, 15.VII.2010, 5 ♂♂.

Records in Turkey: Adana, Adıyaman, Ağrı, Ankara, Antalya, Aydın, Bolu, Burdur, Bursa, Çorlu, Çorum, Denizli, Erzincan, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hatay, Isparta, İçel, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Kırşehir, Konya, Manisa, Niğde, Osmaniye, Rize, Sakarya, Siirt, Sivas, Uşak, Yozgat, Zonguldak (Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Amasya, Artvin and Ordu provinces.

GENUS *Onthophagus* Latreille, 1802

SUBGENUS *Euonthophagus* Balthasar, 1959

SPECIES *Euonthophagus gibbosus* (Scriba, 1790)

Material examined: Tokat, Ustahasan, 04.VII.2010, 1 ♂; Artvin, Kılıçkaya, 2388 m, 11.VII.2010, 1 ♂; Rize, Ovit Geçidi, 2561 m, 12.VII.2010, 1 ♀.

Records in Turkey: Adana, Adıyaman, Ankara, Antalya, Burdur, Bursa, Çorum, Erzincan, Eskişehir, Gaziantep, Hatay, İçel, Kahramanmaraş, Kastamonu, Kayseri, Kırklareli, Kırşehir, Nevşehir, Niğde, Osmaniye, Rize, Siirt, Sivas (Pehlivan, 1989; Lodos et al., 1999; Rozner & Rozner, 2009).

Remark: New to Artvin and Tokat provinces.

SUBGENUS *Furconthophagus* Zunino, 1979

SPECIES *Furconthophagus furcatus* (Fabricius, 1781)

Material examined: Tokat, Ustahasan, 04.VII.2010, 1 ♂, 2 ♀♀; Artvin, Kılıçkaya, 2388 m, 11.VII.2010, 1 ♀.

Records in Turkey: Adana, Adıyaman, Afyon, Ağrı, Ankara, Antalya, Aydın, Balıkesir, Bartın, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorlu, Çorum, Denizli, Edirne, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hatay, İçel, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kırıkkale, Kırşehir, Kütahya, Manisa, Muğla, Nevşehir, Niğde, Osmaniye, Rize, Samsun, Siirt, Sinop, Sivas, Tarsus, Uşak, Van, Yozgat, Zonguldak (Tuatay et al., 1972; Lodos et al., 1978, 1999; Pehlivan, 1989; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011a,b).

Remark: New to Artvin and Tokat provinces.

SUBGENUS *Onthophagus* Latreille, 1802

SPECIES *Onthophagus illyricus* (Scopoli, 1763)

Material examined: Ordu, Esentepe, 04.VII.2010, 1 ♂; Tokat, Ustahasan, 04.VII.2010, 1 ♀; Ordu, Fatsa, Çömlekli, 05.VII.2010, 4 ♂♂, 6 ♀♀; Ordu, Kabataş, 06.VII.2010, 7 ♂♂, 6 ♀♀; Çorum, Çaybaşı, 16.VII.2010, 2 ♂♂, 3 ♀♀; Samsun, Akgöl, 16.VII.2010, 1 ♀; Artvin, Borçka, 587 m, 13.VII.2010, 1 ♂; Artvin-Hopa, Koyuncular Mevkii, 460 m, 13.VII.2010, 5 ♂♂, 5 ♀♀; Rize, Ayder Yaylası, 1670 m, 13.VII.2010, 3 ♂♂, 4 ♀♀.

Records in Turkey: Adana, Antalya, Aydın, Bartın, Gaziantep, Hakkari, Hatay, Isparta, İçel, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Kırşehir, Konya, Kütahya, Manisa, Muğla, Niğde, Osmaniye, Uşak, Zonguldak (Pehlivan, 1989; Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Artvin, Çorum, Ordu, Rize, Samsun, Tokat provinces and thereby Middle and Eastern Black Sea Region.

SPECIES *Onthophagus taurus* (Schreber, 1759)

Material examined: Çorum, Çaybaşı, 16.VII.2010, 1 ♂, 5 ♀♀; Çorum, Mecitözü, 03.VII.2010, 2 ♀♀; Ordu, Çömlekli, 05.VII.2010, 3 ♂♂, 11 ♀♀; Ordu, Gököy, 07.VII.2010, 1 ♀; Ordu, Kabataş, 06.VII.2010, 5 ♀♀; Ordu, Nadirli, 05.VII.2010, 1 ♂, 3 ♀♀; Tokat, Ustahasan, 04.VII.2010, 1 ♀; Artvin, Borçka, 587 m, 13.VII.2010, 4 ♀♀; Artvin-Hopa, Koyuncular Mevkii, 460 m, 13.VII.2010, 2 ♂♂; Rize, Ayder Yaylası, 1970 m, 13.VII.2010, 2 ♀♀; Artvin, Kafkasör, 1263 m, 14.VII.2010, 3 ♂♂, 5 ♀♀; Artvin, Yavuz village, 1789 m, 15.VII.2010, 3 ♀♀.

Records in Turkey: Adana, Afyon, Ankara, Antalya, Aydın, Balıkesir, Bartın, Bilecik, Bursa, Çorlu, Çorum, Diyarbakır, Edirne, Erzincan, Gaziantep, Giresun, Hatay, İçel, Isparta, İstanbul, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Kırklareli, Kırşehir, Konya, Kütahya, Manisa, Muğla, Niğde, Osmaniye, Sakarya, Sivas, Tekirdağ, Uşak, Zonguldak (Tuatay et al., 1972; Lodos et al., 1978, 1999; Pehlivan, 1989; Rozner & Rozner, 2009; Anlaş et al., 2011a,b).

Remark: New to Artvin, Ordu and Rize provinces.

SUBGENUS *Palaeonthophagus* Zunino, 1979

SPECIES *Palaeonthophagus ceonobita* (Herbst, 1783)

Material examined: Ordu, Kabataş, 06.VII.2010, 1 ♂, 1 ♀; Rize, Tulumpınar Mevkii, 1407 m, 12.VII.2010, 2 ♂♂; Artvin-Hopa, Koyuncular Mevkii, 460 m, 13.VII.2010, 1 ♀.

Records in Turkey: Erzurum (Rozner & Rozner, 2009).

Remark: New to Artvin, Ordu and Rize provinces and thereby Black Sea Region.

SPECIES *Palaeonthophagus fissicornis* (Steven, 1809)

Material examined: Artvin, Yavuz village Yaylası, 1789 m, 15.VII.2010, 1 ♀.

Records in Turkey: Adana, Adıyaman, Afyon, Ankara, Antalya, Balıkesir, Burdur, Bursa, Çanakkale, Çorlu, Denizli, Diyarbakır, Edirne, Eskişehir, Gaziantep, Gümüşhane, Hatay, Isparta, İçel, İzmir, Kahramanmaraş, Kars, Kastamonu, Kayseri, Kırşehir, Konya, Kütahya, Niğde, Osmaniye, Sivas, Tarsus, Tekirdağ, Uşak (Pehlivan, 1989; Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009).

Remark: New to Artvin province.

SPECIES *Palaeonthophagus fracticornis* (Preyssler, 1790)

Material examined: Ordu, Nadirli, 05.VII.2010, 1 ♀; Ordu, Kabataş, 06.VII.2010, 1 ♂; Rize, Kılıç village, 11.VII.2010, 2 ♂♂, 4 ♀♀.

Records in Turkey: Adana, Afyon, Ankara, Antalya, Balıkesir, Denizli, Erzincan, Eskişehir, Gaziantep, Hatay, Isparta, İçel, Kahramanmaraş, Kars, Manisa, Muğla, Osmaniye (Pehlivan, 1989; Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Ordu, Rize provinces and thereby Middle Black Sea Region and Black Sea Region.

SPECIES *Palaeonthophagus gibbulus* (Pallas, 1781)

Material examined: Artvin, Kılıçkaya, 2388 m, 11.VII.2010, 1 ♂, 2 ♀♀.

Records in Turkey: Giresun (Rozner & Rozner, 2009).

Remark: New to Artvin province.

SPECIES *Paleonthophagus medius* (Kugelann, 1792)

Material examined: Çorum, Çaybaşı, 16.VII.2010, 1 ♀.

Records in Turkey: Manisa (Anlaş et al., 2011b).

Remark: New to Çorum province and thereby Middle Black Sea Region and Black Sea Region.

SPECIES *Palaeonthophagus opacicollis* Reitter, 1893

Material examined: Tokat, Ustahasan, 04.VII.2010, 1 ♂; Ordu, Fatsa, Çömlekli, 05.VII.2010, 2 ♀♀; Ordu, Nadirli, 05.VII.2010, 1 ♂, 1 ♀; Ordu, Kabataş, 06.VII.2010, 1 ♂, 1 ♀.

Records in Turkey: Adana, Antalya, Balıkesir, Bolu, Eskişehir, Gaziantep, Hatay, İçel, Kahramanmaraş, Manisa, Niğde (Pehlivan, 1989; Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Ordu, Tokat provinces and thereby Middle Black Sea Region.

SPECIES *Palaeonthophagus ovatus* (Linnaeus, 1767)

Material examined: Amasya, Duracasu, 04.VII.2010, 5 ♂♂; Çorum, Mecitözü, 03.VII.2010, Şenyüz Y. leg. and det. 1 ♂, 1 ♀; Ordu, Esentepe, 04.VII.2010, 1 ♂; Ordu, Kabataş, 06.VII.2010, 1 ♂; Ordu, Nadirli, 05.VII.2010, 1 ♂; Ordu, Fatsa, Çömlekli, 05.VII.2010, 1 ♂; Samsun, Akgöl, 16.VII.2010, 8 ♂♂, 1 ♀♀; Giresun, Kümbet Yaylası, 1784 m, 08.VII.2010 1 ♀.

Records in Turkey: Adana, Antalya, Bartın, Bolu, Bursa, Çanakkale, Çankırı, Gaziantep, Hatay, İçel, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kırşehir, Konya, Manisa, Niğde, Osmaniye, Sakarya, Uşak, Zonguldak (Pehlivan, 1989; Lodos et al., 1999; Anlaş et al., 2011a).

Remark: New to Amasya, Çorum, Giresun, Ordu, Samsun provinces and thereby Middle and Eastern Black Sea Region.

SPECIES *Palaeonthophagus sericatus* Reitter, 1893

Material examined: Çorum, Mecitözü, 03.VII.2010, 1 ♀.

Records in Turkey: Adana, Ankara, Antalya, Çorum, Eskişehir, Gaziantep, Giresun, Hatay, İçel, Kahramanmaraş, Konya, Osmaniye, Sakarya, Siirt (Pehlivan, 1989; Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009).

Remark: New to Çorum province.

SPECIES *Palaeonthophagus similis* (Scriba, 1790)

Material examined: Rize, Ovit mountain, 2292 m, 11.VII.2010, 1 ♀.

Records in Turkey: Adana, Antalya, Denizli, Gaziantep, Hatay, İçel, Kahramanmaraş, Tarsus (Pehlivan, 1989; Rozner & Rozner, 2009).

Remark: New to Rize province, and thereby Eastern Black Sea Region and Black Sea Region.

SPECIES *Palaeonthophagus ruficapillus* Brullé, 1832

Material examined: Amasya, Duracasu, 04.VII.2010, 3 ♀♀; Amasya, Ovasaray, 03.VII.2010, 1 ♂, 2 ♀♀; Çorum, Çaybaşı, 16.VII.2010, 6 ♂♂, 7 ♀♀; Çorum, Mecitözü, 03.VII.2010, 4 ♂♂, 3 ♀♀; Ordu, Esentepe, 04.VII.2010, 4 ♀♀; Ordu, Kabataş, 06.VII.2010, 1 ♂, 1 ♀; Ordu, Nadirli, 05.VII.2010, 3 ♂♂, 6 ♀♀; Ordu, Fatsa Çömlekli, 05.VII.2010, 6 ♂♂, 6 ♀♀; Samsun, Akgöl, 16.VII.2010, 12 ♂♂, 6 ♀♀; Tokat, Ustahasan, 04.VII.2010, 2 ♀♀.

Records in Turkey: Adana, Afyon, Amasya, Ankara, Antalya, Aydın, Balıkesir, Bartın, Bolu, Burdur, Çanakkale, Çankırı, Çorlu, Çorum, Denizli, Edirne, Erzurum, Eskişehir, Gaziantep, Giresun, Hatay, Isparta, İçel, İzmir, Kahramanmaraş, Kastamonu, Kırklareli, Kırşehir, Kilis, Konya, Kütahya, Manisa, Muğla, Nevşehir, Niğde, Osmaniye, Sakarya, Samsun, Sinop, Sivas, Tarsus, Tekirdağ, Yozgat, Zonguldak (Pehlivan, 1989; Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Çorum, Ordu, Samsun, Tokat provinces.

SPECIES *Palaeonthophagus vacca* (Linnaeus, 1767)

Material examined: Amasya, Ovasaray, 03.VII.2010, 1 ♀; Çorum, Çaybaşı, 16.VII.2010, 1 ♂.

Records in Turkey: Adana, Afyon, Ağrı, Ankara, Antalya, Aydın, Balıkesir, Bursa, Çanakkale, Çorlu, Çorum, Denizli, Edirne, Erzincan, Eskişehir, Gümüşhane, İçel, İzmir, Kahramanmaraş, Kars, Kırşehir, Kütahya, Manisa, Niğde, Osmaniye, Sivas, Tekirdağ (Pehlivan, 1989; Lodos et al., 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011b).

Remark: New to Amasya province.

TRIBE Sisyphini Mulsant, 1842**GENUS *Sisypus* Latrille, 1807****SPECIES *Sisypus schaefferi schaefferi* (Linnaeus, 1758)**

Material examined: Rize, Ayder Yaylası, 1670 m, 13.VII.2010, 1 ex.

Records in Turkey: Adıyaman, Ankara, Antalya, Balıkesir, Bilecik, Burdur, Çorum, Edirne, Erzurum, Eskişehir, Gümüşhane, Hatay, Isparta, İçel, İzmir, Kahramanmaraş, Kars, Kırklareli, Kütahya, Manisa, Muğla, Osmaniye, Samsun, Sivas, Tekirdağ, Uşak, Van (Tuatay et al., 1970; Lodos et al., 1978, 1999; Bellmann, 2007; Rozner & Rozner, 2009; Anlaş et al., 2011a,b).

Remark: New to Rize province.

SUBFAMILY Dynastinae MacLeay, 1819**TRIBE Oryctini Mulsant, 1842****GENUS *Oryctes* Illiger, 1798****SPECIES *Oryctes nasicornis kuntzeni* (Minck 1914)**

Material examined: Ordu, Merkez, 06.VII.2010, 1 ♂.

Records in Turkey: Çorum (Lodos et al., 1999).

Remark: New to Ordu province.

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