

**PRELIMINARY REPORT ON A SURVEY OF THE
SAPROXYLIC BEETLE FAUNA LIVING ON OLD HOLLOW
OAKS (*QUERCUS* SPP.) AND OAK WOOD IN TURKEY
(COLEOPTERA: CERAMBYCIDAE)**

Gianfranco Sama*, Nicklas Jansson, Mustafa Avcı***,
Oğuzhan Sarıkaya***, Mustafa Coşkun****, Tamer Kayış****
and Hüseyin Özdikmen*******

* Via Raffaello Sanzio, 84, 47521 Cesena (FC), ITALY. E-mail: francosama@gmail.com

** IFM, Division of Ecology, Linköping University, Linköping, SWEDEN. E-mail: nicja@ifm.liu.se

*** Forest Faculty, Süleyman Demirel University, Isparta, TURKEY. E-mail: avci@orman.sdu.edu.tr

**** Department of Biology, Adiyaman University, Adiyaman, TURKEY. E-mail: mcoskun@adiyaman.edu.tr

***** Gazi Üniversitesi, Fen-Edebiyat Fakültesi, Biyoloji Bölümü, 06500 Ankara, TURKEY. E-mail: ozdikmen@gazi.edu.tr

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ABSTRACT: 45 species of Cerambycidae collected during a survey of the saproxylic beetle fauna ecologically associated with the hollows of old oak trees are listed. *Poecilium kasnaki* Sama n. sp. close to *P. wrzecionkoi* Rapuzzi & Sama, 2010 from Syria is described; *Necydalis hadullai* Szallies, 1994 is regarded as a synonym of *N. ulmi*; *Trichoferus pallidus* (Olivier, 1790) is mentioned for the first time from Turkey, several species are mentioned as first records for various Turkish provinces.

KEY WORDS: Saproxylic fauna, old oaks, Cerambycidae, Turkey, new species, new records.

Old oaks are exceptionally species-rich in Europe, but the habitat in most countries has declined substantially. Saproxylic insects associated with old trees and dead wood is one of the most endangered invertebrate groups in Europe, as their habitat has severely decreased (McLean & Speight, 1993). These insects are living in fungal fruit bodies, dead wood outside the tree (in branches, twigs or parts of the trunk) or inside the tree in hollows (Palm, 1959; Speight, 1989; Dajoz, 2000). Many species dependent on large, old and hollow trees have survived in small remnant woodlands of ancient trees, often in the agricultural landscape (Speight 1989; Warren & Key, 1989). In general the knowledge of the Turkish beetle fauna is poor in comparison to other European countries. In comparison to others there are some beetle families, with large amount of saproxylic species, with relatively good information of what species existing in Turkey. One of these is the longhorn beetles (Cerambycidae).

Large parts of Turkey are intensively grazed since many centuries and old trees are very rare. But in some areas in higher altitudes (>1000m) patches with old oaks can still be found. Most of the old broad leaved deciduous trees in Turkey are regularly pollarded. The forest authorities have quite recently started to reforest the landscape. In this process many of the last sites with old oaks are transformed to pine (*Pinus brutia*) or cedar (*Cedrus libani*) plantations. The beetle fauna associated with old oaks in Turkey is virtually unknown but very threatened.

The aim of this study is to describe the saproxylic beetle fauna living on old oaks (*Quercus* spp) and oak wood in Turkey. This article presents the longhorn beetles found in the study.

MATERIAL AND METHODS

The four studied sites are situated on the southern part of Turkey (Fig. 1), 100-150 km from the Mediterranean coast at an altitude of 1000-1500m. The studied trees were all old hollow oaks. The trees studied at the sites were *Quercus cerris*, *Q. infectoria*, *Q. trojana*, *Q. libanii*, *Q. pubescens*, *Q. vulcanica* and *Q. ithaburensis*.

At each site 20 trees were examined with two different trap types for sampling the beetle fauna. The window traps (w-trap) consisted of a 30x60 cm wide transparent plastic plate with a tray underneath (Jansson and Lundberg, 2000). They were placed near the trunk (<1 m), beside or in front of a cavity entrance (Fig. 2a). Their positions were 1.5-5 m from the ground, depending on where the cavity entrance was situated on the studied tree.

The pitfall traps (p-trap) were plastic cups with a top diameter of 6.5 cm. They were placed, in the wood mould in the bottom of the cavity, with the opening on level with the wood mould surface (Fig. 2b).

We used interception traps to survey the flight-active beetle fauna of the oak trees. Individual trees used for trapping were randomly selected from the pool of oaks investigated in habitat modelling.

RESULTS

During the present survey, we have found about 180 specimens of Cerambycidae belonging to 45 different species, among which 1 species new to the Science, 1 new to Turkey [*Trichoferus pallidus* (Olivier, 1790)], 3 [*Grammoptera abdominalis* (Stephens, 1831), *G. ustulata* (Schaller, 1783) and *Xylotrechus antilope antilope* (Schönherr, 1817)] new to southern Turkey (previously recorded from northern Turkey only); *Deroplia genei genei* (Aragona, 1830) is here recorded from Turkey for the second time; finally, several species are firstly recorded for Isparta (13 species), Burdur (10), Bingöl (1) and Mersin (3) provinces of Turkey.

Among the identified species, *Prinobius myardi* Mulsant, 1842, *Stictoleptura rufa* (Brullé, 1832), *Necydalis ulmi* (Chevrolat, 1838) and *Alocerus moesiacus* (Frivaldszky, 1837) are really associated with the hollows of old oaks where they oviposit and where their immature stages develop. A further species (*Rhamnusium juglandis* Fairmaire, 1866), which develops inside hollows of old trees and is known to occur in the studied area, cannot be collected.

On the other hand, some species collected during our survey are, in fact, unrelated to the hollows of old oaks, being ecologically associated with herbaceous plants (*Cortodera colchica colchica* Reitter, 1890) or to conifer trees [*Anastrangalia montana montana* (Mulsant & Rey, 1863)] (which develops in dead wood of *Pinus* spp.), *Delagrangeus angustissimus angustissimus* Pic, 1892 (*Juniperus* and *Cupressus*) and *Leiopus syriacus abieticola* Sama & Rapuzzi, 2010 (*Abies cilicica*). Larvae of *Pseudovadonia livida livida* (Fabricius, 1777) (and very likely those of *Alosterna anatolica* Adlbauer, 1992 and some *Cortodera* spp.) tunnel freely in the soil feeding externally between dead or dying roots and root stalks of grasses and among white micelium of fungi which, at least for *P. l. livida*, seems an indispensable component of his food (Burakovsky, 1979).

Turkey, Isparta: Yukarıgökdere 30 km S. Egirdir: Kasnak Forest National Park, 37°42'964"N 30°49'899" – hollow *Quercus*, leg. N. Jansson & M. Avci

Prinobius myardi Mulsant, 1842 - 7.VI.2007 (1, trap 28); 19.VII.2007 (1, p-trap 17); 11.IX.2007 (1, p-trap 27).
Mesopronus besikanus (Fairmaire, 1855) - 19.VII.2007 (1, w-trap 28).
Cortodera colchica colchica Reitter, 1890 - 07.VI.2007 (1, w-trap 17/5).
Cortodera humeralis orientalis Adlbauer, 1988 - 17.V.2007 (3, w-trap 3), (1, w-trap 17).
Cortodera inrasanica Sama & Rapuzzi, 1999 - 17.V.2007 (2, w-trap 3), (1, w-trap 23), (1, w-trap 16). 07.VI.2007 (1, w-trap 1).
Grammoptera abdominalis (Stephens, 1831) - 17.V.2007 (1, w-trap 1). 07.VI.2007 (1, w-trap 1); 07.VI.2007 (2 w-trap 11).
Grammoptera ustulata (Schaller, 1783) - 07.VI.2007 (2, w-trap 1), (1, w-trap 12), (1, w-trap 5).
Stictoleptura rufa rufa (Brullé, 1832) ♀ - 27.VI.2007 (1, w trap 8).
Paracorymbia excisipes (Daniel & Daniel, 1891) - 07.VI.2006 (1, w-trap 19).
Paracorymbia fulva (DeGeer, 1775) - 27.VI.2007 (1, w-trap 11).
Pseudovadonia livida livida (Fabricius, 1777) - 27.VI.2007 (1, w-trap 21); 27.VI.2007 (2, w-trap 4); 27.VI.2007 (1, w-trap 19).
Stenurella bifasciata bifasciata (O. F. Müller, 1776) - 27.VI.2007 (1, w-trap 13); 7.VIII.2007 (1, w-trap 8); 19.VII.2007 (1, w-trap 19).
Necydalis ulmi (Chevrolat, 1838) - 27.VI.2007 (1, w-trap 24).
Cerambyx welenusii (Küster, 1845) - 19.VII.2007 (1, p-trap 24).
Alocerus moesiacus Frivaldszky, 1837 - 07.VIII.2007 (2, w-trap 17), (3, w-trap 13).
Trichoferus pallidus (Olivier, 1790) - 11.IX.2007 (1, w-trap 10).
Axinopalpis gracilis gracilis (Krynicky, 1832) - 27.VI.2007 (1, w-trap 1), (1, w-trap 5), (1, w-trap 12).
Callimus angulatus angulatus (Schränk, 1789) - 17.V.2007 (1, w-trap 4), (1, W-trap 28), (1, w-trap 29), (1, w-trap 4).
Phymatodes testaceus (Linnaeus, 1758) - 07.VI.2007 (1, w-trap 4), (1, w-trap 6), (1, w-trap 28); 17.VI.2007 (1, w-trap 16); 19.VII.2007 (1, w-trap 12).
Poecilium magnanii Sama & Rapuzzi, 1999 - 17.V.2007 (1, w-trap 3); 7.VI.2007 (1, w-trap 3).
Poecilium kasnaki Sama, n. sp. - 07.VI.2007 (3, w-trap 12), (1, w-trap 3), (1, w-trap 29), (1, w-trap 17/5); 17.V.2007 (1, w-trap 21), (2, w-trap 24), (2, w-trap ?); 27.VI.2007 (1 w-trap 1).
Xylotrechus antilope antilope (Schoenherr, 1817) - 07.VI.2007 (1, w-trap 4), (1, w-trap 7); 11.IX.2007 (1, w-trap 28).
Plagionotus arcuatus (Linnaeus, 1758) - 06.VI.2007 (1, w-trap 3); 11.IX.2007 (1, w-trap 13).
Chlorophorus nivipictus (Kraatz, 1879) - 06.VII.2007 (1, w-trap 1).
Deroplia genei genei (Aragona, 1830) - 17.05.2007 (1, w-trap ?).
Leiopus syriacus abieticola Sama & Rapuzzi, 2010 - 27.VI.2007 (1, w-trap 29); 19.VII.2007 (1, w-trap 1).

Turkey, Mersin: 30 km NW Gülnar: Köseçobanlı / Tasdüstü, old *Quercus* sp., 1480 m, 36°30'22,5" N 33°07'43,3"E - leg. N. Jansson & M. Coşkun

Prinobius myardi Mulsant, 1842 - 24.VI.2006 (2, p-trap 6), (1, p-trap 17).
Rhagium (Megarhagium) syriacum Pic, 1892 - 24.V.2006 (1, w-trap 1), (1, w-trap 6), (1, w-trap 16).
Anisorerus heterocerus (Ganglbauer, 1882) - 24.5.2006 (1, w-trap 12).
Cortodera omophloides Holzschuh, 1975 - 24.VI.2006 (1, w-trap 16).
Alosterna anatolica Adlbauer, 1992 - 24.VI.2006 (1, w-trap 14).
Alocerus moesiacus Frivaldszky, 1837 - 24.V.2006 (1, w-trap 16); 26.VI.2006 (1, w-trap 16), (2, w-trap 18); 26.VII.2006 (2, w-trap 3).
Stromatium unicolor (Olivier, 1795) - 26.VIII.2006 (1, w-trap 20).
Cerambyx cerdo Linnaeus, 1758 - 24.VI.2006 (1, w-trap 3), (1, w-trap 20); 28.VIII.2006 (1, w-trap 1), (1, w-trap 3), (1, w-trap 12).
Stenhomalus (Obriopsis) bicolor (Kraatz, 1862) - 24.VI.2006 (1, w-trap 7).

Anatolobrium eggeri Adlbauer, 2004 - 26.VII.2006 (1, w-trap 16); 26.VIII.2006 (1, p-trap 16).
Phymatodes testaceus (Linnaeus, 1758) - 24.V.2006 (1, w-trap 9); 26.VII.2006 (1, w-trap 19).
Poecilium lividum (Rossi, 1794) - 24.V.2006 (1, w-trap 1).
Chlorophorus sartor (Müller, 1776) - 26.7.2006 (1, w-trap 8).
Chlorophorus nivipictus (Kraatz, 1879) - 26.VII.2006 (1, w-trap 10).

Turkey, Burdur: Göllhisar 120 km W. Antalya, 7 km SW. Altinyayla, 36°57'40"N 29°27'53"E - hollow Quercus sp., leg. N. Jansson & Mustafa Avci

Anisorus homocerus (K. Daniel, 1900) - 28.VI.2009 (1, w-trap 4).
Rhagium (Megarhagium) syriacum Pic, 1892 - (22.VI.2009 (1, w-trap 27).
Cortodera humeralis orientalis Adlbauer, 1988 - 28.VI.2009 (1, w-trap 16); 22.V.2009 (1, w-trap 17); 17.V.2009 (2 w-trap 17); 07.VI.2009 (1, w-trap 5).
Cortodera imrasanica Sama & Rapuzzi, 1999 - 22.V.2009 (3, w-trap 7).
Cortodera colchica colchica Reitter, 1890 - 28.VI.2009 (1, w-trap 5).
Stictoleptura rufa rufa (Brullé, 1832) - 25.VII.2009 (2, w-trap 17).
Anastrangalia montana montana (Mulsant & Rey, 1863) - 28.VI.2009 (1, w-trap 7).
Alosterna anatolica Adlbauer, 1992 - 22.V.2009 (3, w-trap 7); 1♀, w-trap 18).
Alocerus moesiacus Frivaldszky, 1837 - 30.VIII.2009 (1, w-trap 14), (1, w trap ?).
Cerambyx welensii (Küster, 1845) - 22.V.2009 (1, p-trap 21).
Axinopalpis gracilis gracilis (Krynicky, 1832) - 28.VIII.2009 (1, w-trap 12).
Calchaenesthes oblongomaculata (Guérin-Ménéville, 1844) - 28.VI.2009 (1, w-trap 5).
Callimus angulatus angulatus (Schrank, 1789) - 22.V.2009 (2♀♀, w-trap 7), (1♂, w-trap 1), (2♀♀ w-trap 18); 28.VI.2009 (4♀♀, w-trap 7).
Phymatodes testaceus (Linnaeus, 1758) - 28.VI.2009 (2, w-trap 7); (1 w-trap 8), (1 w-trap 13), (1 w-trap 23), (1, w-trap 9).
Poecilium kasnaki Sama, n. sp. - 22.V.2009 (1, w-trap 7).
Xylotrechus antilope antilope (Schönherr, 1817) - 28.VI.2009 (1, w-trap 27).

Turkey, Mersin, Devrent 30 km N. Erdemli, 1139 m, hollow oak, leg. N. Jansson & M. Coşkun

Cortodera omophloides Holzschuh, 1975 - 23.V.2005 (1, w-trap 15); 16.VII.2005 (25, 16 w-trap).
Paracorymbia excisipes (Daniel & Daniel, 1891) - 1.VI.2005 (1, w-trap 14).
Anoplodera rufipes lucidipes+ Sama, 1999 - 23.V.2005 (1♀, w-trap 13).
Stenomalus (Obriopsis) bicolor (Kraatz, 1862) - 23.V.2005 (1, w-trap 13).
Poecilium lividum (Rossi, 1794) - 23.V.2005 (1, w-trap 17).
Clytus rhamni Germar, 1817 - 7.VII.2005 (1, w-trap, 19).
Chlorophorus varius varius (Müller, 1766) - 11.VIII.2005 (1, w-trap 18).

Turkey, Mersin, Kizilen, 50 km N. Erdemli, 1250 m, old oak, leg. N. Jansson & M. Coşkun

Cortodera omophloides Holzschuh, 1975 - 23.V.2005 (1, w-trap 1), (1, w-trap 4), (1, w-trap 18); 17.VI.2005 (2, w-trap 16), (1, w-trap 13), (1, w-trap 3), (1, w-trap 14).
Grammoptera merkli Frivaldszky, 1884 - 17.VI.2005 (1, p-trap, 6).
Alocerus moesiacus Frivaldszky, 1837 - 11.VIII.2005 (1, w-trap 4).
Cerambyx cerdo Linnaeus, 1758 - 11.VIII.2005 (1, w-trap 6).
Anatolobrium eggeri Adlbauer, 2004 - 11.VIII.2005 (1, w-trap 1), (1, w-trap 6).
Molorchus juglandis Sama, 1982 - 23.V.2005 (1, w-trap 4).
Delagrangeus angustissimus angustissimus Pic, 1892 - 23.V.2005 (1, w-trap 5).

SYSTEMATIC LIST

01 - *Prinobius myardi myardi* Mulsant, 1842 – Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Mersin:** 30 km NW. Gülnar: Köseçobanlı / Taşdüştü - hollow *Quercus*, leg. N. Jansson & M. Coskun. 6 specimens: 24.VI.2006, 7.VI.2007, 19.VII.2007, 11.IX.2007. **Remark.** This is a new record for Isparta province. It has been recorded from Mersin province (Özdikmen & Turgut, 2009).

02 - *Mesoprionus besikanus* (Fairmaire, 1855) – Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 1 specimen: 19.VII.2007.

Remark. All specimens of prionine beetle intercepted during our survey were collected by pitfall traps inside the hollows of old oak trees. It is a new record for Isparta province (Özdikmen & Turgut, 2009).

03 - *Rhagium (Megarhagium) syriacum* Pic, 1892 – Mersin: 30 km NW Gülnar: Köseçobanlı / Taşdüştü, old *Quercus* sp., 1480 m, leg. M. Coskun & N. Jansson; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 4 specimens: 24.V.2006, 22.VI.2009.

Remark. This species was originally described from "Akbes, Syria" (currently in SE Turkey) and later described again under the name *R. phrygium* Daniel, 1906, from "Philomelium, Asiae minoris" (currently Akşehir); moreover it is known from Mersin and Bingöl provinces (Buğlan geçidi NW Muş) in Turkey and from Slinfah, east of Latakia, in NW Syria. Development on *Quercus*. It is a new record for both Burdur and Bingöl provinces.

04 - *Anisorus heterocerus* (Ganglbauer, 1882) – Mersin: 30 km NW. Gülnar: Köseçobanlı / Taşdüştü - hollow *Quercus* sp., leg. N. Jansson & M. Coskun. 1 specimen: 24.V.2006.

05 - *Anisorus homocerus* (K. Daniel, 1900) - Burdur: Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 1 specimen: 28.VI.2009.

Remark. This species was previously known only from Central Anatolian region of Turkey; this is a new record for Burdur province and for the Mediterranean region of Turkey.

06 - *Cortodera colchica colchica* Reitter, 1890 – Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 2 specimens: 07.VI.2007, 28.VI.2009.

Remark. Species widely distributed in Turkey; the present record is the first one for the Isparta province.

07 - *Cortodera humeralis orientalis* Adlbauer, 1988 - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 9 specimens: 17.V.2007, 07.VI.2007, 22.V.2009, 28.VI.2009.

Remark. This taxon was only known from Antalya and Osmaniye provinces of Turkey (Özdikmen, 2011); this is a new record for both Burdur and Isparta provinces.

08 - *Cortodera imrasanica* Sama & Rapuzzi, 1999 - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & Mustafa Avci. 8 specimens: 17.V.2007, 07.VI.2007, 22.V.2009.

Remark. Endemic species from southern Turkey, previously known only from the type locality: Imrasan geçidi (Çakilli pass north of Antalya). The present records constitute the first ones for both Burdur and Isparta provinces. Host plants and bionomics of immature stages are unknown. Adults were collected by beating flowering oak trees.

09 - *Cortodera omophloides* Holzschuh, 1975 - Mersin: 30 km NW Gülnar: Köseçobanlı / Tasdüstü, old *Quercus* sp., 1480 m, leg. M. Coskun & N. Jansson; **Mersin:** Devrent 30 km N. Erdemli, 1139 m, hollow oak, leg. N. Jansson & M. Coskun. 35 specimens: 23.V.2005, 17.VI.2005, 16.VII.2005, 24.VI.2006.

Remark. Endemic species from southern Turkey, recorded from Antalya and Mersin provinces. Bionomics Host plants and bionomics of immature stages like the preceding species. Adults are usually found on flowering oaks and other bushes.

10 - *Grammoptera merkli* Frivaldszky, 1884 - Mersin: Kizilen, 50 km N. Erdemli, 1250 m, old oak, leg. N. Jansson & M. Coskun. 1 specimen: 17.VI.2005.

Remark. Very likely endemic species to Turkey; a single record from north-eastern Greece (Berger, 2005), probably refers to a different, unpublished species.

11 - *Grammoptera abdominalis* (Stephens, 1831) (Fig. 4) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 3 specimens: 17.V.2007, 07.VI.2007.

Remark. The present locality constitutes the first record in southern Turkey for this species previously recorded from northern provinces (Özdikmen, 2008).

12 - *Grammoptera ustulata* (Schaller, 1783) (Fig. 5) - Isparta, Egirdir: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park, hollow *Quercus*, leg. N. Jansson & M. Avci. 4 specimens: 07.VI.2007.

Remark. An uncommon species in Turkey, where it was previously known only from northern provinces (Özdikmen, 2008).

13 - *Anastrangalia montana montana* (Mulsant & Rey, 1863) - Burdur: Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 1 specimen: 28.VI.2009).

Remark. Development in dead wood of *Pinus* spp., adults on flowers. This is the first record for Burdur province.

14 - *Stictoleptura rufa rufa* (Brullé, 1832) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 3 specimens: 27.VI.2007, 25.VII.2009.

Remark. This uncommon species develops inside the hollows (caries) of living trees; all specimens collected during our surveys are females probably intercepted when flying for oviposition. This taxon is a new record for both Burdur and Isparta provinces.

15 - *Paracorymbia excisipes* (Daniel & Daniel, 1891) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park, hollow *Quercus*, leg. N. Jansson & M. Avci; **Mersin:** Devrent 30 km N. Erdemli, 1139 m, hollow oak, leg. N. Jansson & M. Coskun. 3 specimens: 1.VI.2005, 7.VI.2006.

Remark. This species has been recorded by Adlbauer (1988) and Tausin (2000) from Mersin province. It is a new record for Isparta province.

16 - *Paracorymbia fulva* (DeGeer, 1775) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 1 specimen: 27.VI.2007.

17 - *Pseudovadonia livida livida* (Fabricius, 1777) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 4 specimens: 27.VI.2007.

18 - *Stenurella bifasciata bifasciata* (O. F. Müller, 1776) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 3 specimens: 27.VI.2007, 19.VII.2007, 7.VIII.2007.

19 - *Alosterna anatolica* Adlbauer, 1992 (Fig. 6) - **Mersin:** 30 km NW Gülnar: Köseçobanlı / Tasdüştü, old *Quercus* sp., 1480 m, leg. M. Coskun & N. Jansson; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avcı. 4 ♀♀ specimens: 24.VI.2006, 22.V.2009.

Remark. An uncommon species, endemic to Turkey, previously known only from the mountains north of Antalya (Adlbauer, 1992; Özdikmen, 2011). It is a new record for both Burdur and Mersin provinces. Host plants and bionomics of immature stages are unknown. Adults are usually collected on flowering oaks and different bushes. All specimens collected during our surveys are females.

20 - *Anoplodera rufipes lucidipes* Sama, 1999 – **Mersin:** Devrent 30 km N. Erdemli, 1139 m, hollow oak, leg. N. Jansson & M. Coskun. 1 specimen ♀: 23.V.2005.

21 - *Necydalis ulmi* (Chevrolat, 1838) (= *N. hadullai* Szallies, 1994) **n. syn.** (Fig. 7) – **Isparta:** Yukarıgökdere 30 km S. Eğirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avcı. 1 specimen: 27.VI.2007.

Remark. *N. hadullai* was described according to a single specimen from Isparta: Kovada s. Eğirdir. It was regarded as a synonym of *N. ulmi* by Özdikmen & Turgut (2006), but restored by G. Sama & Lôbl (2010). The study of the present specimen, in fact a topotype, confirms that the synonymy is correct.

22 - *Alocerus moesiacus* Frivaldszky, 1837 - **Isparta:** Yukarıgökdere 30 km S. Eğirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avcı; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & Mustafa Avcı; **Mersin:** 30 km NW. Gülnar: Köseçobanlı / Taşdüştü - hollow *Quercus*, leg. N. Jansson & M. Coskun; **Mersin:** Kizilen, 50 km N. Erdemli, 1250 m, old oak, leg. N. Jansson & M. Coskun. 12 specimens: 24.V.2006, 26.VI.2006, 26.VII.2006, 07.VIII.2007, 30.VIII.2008, 30.VIII.2009, 11.VIII.2005.

Remark. This species was recorded only by Adlbauer (1992) from Isparta province; it is a new record for both Burdur and Mersin provinces.

23 - *Trichoferus pallidus* (Olivier, 1790) (Fig. 8) - **Isparta:** Yukarıgökdere 30 km S. Eğirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avcı. 1 ♂ specimen: 11.IX.2007.

24 - *Stromatium unicolor* (Olivier, 1795) - **Mersin:** 30 km NW. Gülnar: Köseçobanlı / Taşdüştü - hollow *Quercus*, leg. N. Jansson & M. Coskun. 1 specimen: 26.VIII.2006.

25 - *Cerambyx cerdo cerdo* Linnaeus, 1758 - **Mersin:** 30 km NW. Gülnar: Köseçobanlı / Taşdüştü - hollow *Quercus*, leg. N. Jansson & M. Coskun; **Mersin:** Kizilen, 50 km N. Erdemli, 1250 m, old oak, leg. N. Jansson & M. Coskun. 6 specimens: 11.VIII.2005, 24.VI.2006, 28.VIII.2006.

26 - *Cerambyx welensii* (Küster, 1845) - **Isparta:** Yukarıgökdere 30 km S. Eğirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avcı; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avcı. 2 specimens: 19.VII.2007, 26.VI.2009.

Remark. A new record for Burdur province.

27 - *Calchaenesthes oblongomaculata* (Guérin-Ménéville, 1844) - **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avcı. 1 specimen: 28.VI.2009.

Remark. An uncommon species known to occur throughout the East Mediterranean region from Greece, Bulgaria and Romania to Jordan. In Turkey it is known from the Taurus mountains between Antalya and Hatay. This is a new record for Burdur province.

28 - *Stenomalus (Obriopsis) bicolor* (Kraatz, 1862) - **Mersin:** 30 km NW. Gülnar: Köseçobanlı / Taşdüştü - hollow *Quercus*, leg. N. Jansson & M. Coskun; **Mersin:** Devrent

30 km N. Erdemli, 1139 m, hollow oak, N. Jansson & M. Coskun. 2 specimens: 23.V.2005, 4.VI.2006.

29 - *Anatolobrium eggeri* Adlbauer, 2004 - Mersin: 30 km NW. Gülnar: Köseçobanlı / Taşdüştü - hollow *Quercus*, leg. N. Jansson & M. Coskun; **Mersin:** Kizilen, 50 km N. Erdemli, 1250 m, old oak, leg. N. Jansson & M. Coskun. 4 specimens: 11.VIII.2005, 26.VII.2006, 26.VIII.2006.

Remark. Endemic genus and species to the Taurus mountains in southern Turkey, described from 30 km NW Alanya and previously known only from Antalya province (Adlbauer, 2004; Özdikmen & Okutaner, 2006; Turgut & Özdikmen, 2010). This is the first record from the eastern Taurus mountain range (Mersin province). The host plants of immature stages are unknown.

30 - *Axinopalpis gracilis gracilis* (Krynicky, 1832) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Burdur:** Gölhisar, 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 4 specimens: 28.VIII.2006, 27.VI.2007.

Remark. This is a new record for Burdur province.

31 - *Molorchus juglandis* Sama, 1982 - Mersin: Kizilen, 50 km N. Erdemli, 1250 m, old oak, leg. N. Jansson & M. Coskun. 1 specimen: 23.V.2005.

32 - *Callimus angulatus angulatus* (Schrank, 1789) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 13 specimens: 17.V.2007, 22.V.2009, 28.VI.2009.

Remark. All specimens collected during our survey are females. This taxon is a new record for Burdur and Isparta provinces.

33 - *Delagrangaeus angustissimus angustissimus* Pic, 1892 - Mersin: Kizilen, 50 km N. Erdemli, 1250 m, old oak, leg. N. Jansson & M. Coskun. 1 specimen: 23.V.2005.

Remark. This species develops in dead branches and twigs of Cupressaceae (*Cupressus* and *Juniperus*); its interception by window trap on a oak tree must be regarded as casual.

34 - *Phymatodes testaceus* (Linnaeus, 1758) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Mersin:** 30 km NW Gülnar: Köseçobanlı / Taşdüştü, old *Quercus* sp., 1480 m, leg. N. Jansson & M. Coskun; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 10 specimens: 24.V.2006, 26.VII.2006, 7.VI.2007, 17.VI.2007, 19.VII.2007, 28.VI.2009.

35 - *Poecilium magnanii* Sama & Rapuzzi, 1999 - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 2 specimens: 17.V.2007, 7.VI.2007.

Remark. This rare species was only known from Antalya and Mersin provinces. Morphology and bionomics of immature stages are unknown; the type series was collected by beating flowering oak trees.

36 - *Poecilium lividum* (Rossi, 1794) - Mersin: 30 km NW. Gülnar: Köseçobanlı / Taşdüştü - hollow *Quercus*, leg. N. Jansson & M. Coskun; **Mersin:** Devrent 30 km N. Erdemli, 1139 m, hollow oak, leg. N. Jansson & M. Coskun. 2 specimens: 23.V.2005, 24.V.2006.

37 - *Poecilium kasnaki* Sama n. sp. (Figs. 9-11)

Material examined. Holotype ♂. Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, 17.V.2007, leg. N. Jansson & M. Avci; 12 paratypes from the same locality as follows: 1 ♂, 3 ♀♀: 07.VI.2007 (w-trap 12; w-trap 17/5), 1 ♂: 17.V.2007 (w-trap 21); 3 ♂♂: 17.V.2007 (2, w-trap 24; 1 w-trap ?); 2 ♂♂: 7.VI.2007 (1, w-trap 3), (1, w-

trap 29); 1 ♀: 27.VI.2007 (1 w-trap-1); 1 ♀: Burdur: Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla, 36°57'40"N 29°27'53"E - hollow *Quercus* sp., leg. N. Jansson & Mustafa Avci, 22.V.2009 (w-trap-7). Holotype in coll. G. Sama; paratypes in coll. N. Jansson, G. Sama and the Insect Museum, Suleyman Demirel University, Isparta.

Description of the holotype ♂.

Length: 5 mm. Body black except yellowish-brown elytra. Pronotum shining, coarsely and deeply punctate, without microsculpture, sparsely clothed with long greyish hairs; elytra yellowish indistinctly darkened on the disc; densely and deeply punctate, clothed with golden erect hairs of medium length intermixed with longer setae of the same colour. Antennae extending to about 3/4 of elytra, the segments 1st, 3rd and 4th segments similar in length, the 5th longer than each of the preceding; all segments clothed with erect hairs. Legs blackish, 1st segment of hind tarsi about as long as the two preceding combined.

Variability in paratypes: The body length varies from 4,5 to 7mm. Female differ from male by antennae shorter, hardly reaching the middle of elytra, and the shallow elytral punctation; all paratypes have yellowish-brown elytra except one female which has elytra bluish on the disk.

Discussion: The new species belongs to the *P. pusillum* (Fabricius, 1787) species group; because of the totally black abdomen and the short antennae it chiefly resembles *P. wrzecionkoi* Rapuzzi & Sama, 2010 from Syria. This species differs from *P. kasnaki* n. sp. by the black-bluish elytral coloration, pronotum finely and densely microsculptured, elytra roughly, indistinctly punctate and very densely microsculptured in male.

38 - *Xylotrechus antilope antilope* (Schoenherr, 1817) - Isparta: Yukarigökdere 30 km S. Egridir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Burdur:** Gölhisar 120 km W. Antalya, 7 km SW. Altinyayla - hollow *Quercus* sp., leg. N. Jansson & M. Avci. 4 specimens. 07.VI.2007, 28.VI.2009.

Remark. This interesting species was mentioned in Turkey only from the north-western provinces: Bursa, Istanbul, Kirklareli and Manisa (Özdikmen, 2008). The present records constitute the first ones for both Burdur and Isparta provinces and thereby for the Mediterranean region of Turkey.

39 - *Plagionotus arcuatus* (Linnaeus, 1758) - Isparta: Yukarigökdere 30 km S. Egridir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 2 specimens: 06.VI.2007, 11.IX.2007.

40 - *Clytus rhamni* Germar, 1817 - Mersin: Devrent 30 km N. Erdemli, 1139 m, hollow oak, N. Jansson & M. Coskun. 1 specimen: 7.VII.2005.

41 - *Chlorophorus nivipictus* (Kraatz, 1879) - Isparta: Yukarigökdere 30 km S. Egridir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci; **Mersin:** 30 km NW Gülnar: Köseçobanlı / Tasdüstü, old *Quercus* sp., 1480 m, leg. N. Jansson & M. Coskun. 2 specimens: 06.VII.2007, 26.VII.2006.

Remark. This species is a new record for Isparta province.

42 - *Chlorophorus sartor* (Müller, 1776) - Mersin: 30 km NW Gülnar: Köseçobanlı / Tasdüstü, old *Quercus* sp., 1480 m, leg. N. Jansson & M. Coskun. 1 specimen: 26.7.2006.

43 - *Chlorophorus varius varius* (Müller, 1766) - Mersin: Devrent 30 km N. Erdemli, 1139 m, hollow oak, N. Jansson & M. Coskun. 1 specimen: 11.VIII.2005.

44 - *Deroplia genei genei* (Aragona, 1830) - Isparta: Yukarigökdere 30 km S. Egridir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 1 specimen: 17.05.2007.

Remark. This uncommon species was only known in Turkey for one specimen collected north of Erdemli (Mersin) by R. Petterson, who reared one specimen from *Quercus* sp.

(Sama, 1996). The present record is the second one for Turkey and the first one for Isparta province.

45 - *Leiopus syriacus abieticola* Sama & Rapuzzi, 2010 (fig. 12) - **Isparta:** Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park – hollow *Quercus*, leg. N. Jansson & M. Avci. 2 specimens: 27.VI.2007, 19.VII.2007. Although intercepted by window traps on *Quercus* trees, this taxon is unrelated to this plant, being ecologically associated with *Abies cilicica*.

Remark. The nominotypical subspecies (*Leiopus syriacus syriacus* Ganglbauer, 1884) is known from Israel, Lebanon (type locality), NW Syria and S Turkey (Hatay prov.) where it develops in dead branches of *Prunus ursina*, *Acer* sp., *Juglans regia*, *Cotoneaster* sp. and *Nerius oleander* (Sama & alii, 2010). It is replaced in southern Turkey by the subspecies *L. s. tauricus* Sama & Rapuzzi, 2010, recorded from the Taurus mountain ridge from Burdur to Adana, where it develops on broadleaf trees, chiefly on *Ficus carica* and *Juglans regia* (Demelt, 1963; Adlbauer, 1988; Sama & alii, 2010). All specimens belonging to the type series of *L. s. abieticola* emerged ex larvae from branches of *Abies cilicica* collected near Göksun (Kahramanmaraş).

LITERATURE CITED

- Adlbauer, K.** 1988. Neues zur Taxonomie und Faunistik der Bockkäferfauna der Türkei. Entomofauna, 9 (12): 257-297.
- Adlbauer, K.** 1992. Zur Faunistik und Taxonomie der Bockkäferfauna der Türkei. II (Coleoptera, Cerambycidae). Entomofauna, 13 (30): 485-509.
- Burakovsky, B.** 1979. Immature stages and bionomics of *Vadonia livida* (F). Annales zoologici, 35 (2): 25-42.
- Dajoz, R.** 2000. Insects and forests. The role and diversity of insects in the forest environment. Intercept Ltd. Editions Technique et Documentation. Paris, Lavoisier publishing: 668 pp.
- Demelt, C.** 1963. Beitrag zur Kenntniss der Cerambycidenfauna Kleinasiens und 13. Beitrag zur Biologie palaearktischen Cerambyciden, sowie Beschreibung einer neuer *Oberea*-Art. Entomologische Blätter, 59 (3): 132-151.
- Jansson, N. & Lundberg, S.** 2000. Beetles in hollow broadleaved deciduous trees – Two species new to Sweden and the staphylinid beetles (Coleoptera: Staphylinidae) *Hypnogyra glabra* and *Meliceria tragardhi* found again in Sweden. Entomologisk tidskrift 121: 93-97. [In Swedish with English summary].
- McLean, I. F. G. & Speight, M. C. D.** 1993. Saproxylid invertebrates. The European context., p. 21-32, In: K. J. Kirby & Drake, C. M. (Eds). Dead wood matters: the ecology and conservation of saproxylid invertebrates in Britain. English Nature Science, 7: 857 pp.
- Özdikmen, H.** 2008. The Longicorn Beetles of Turkey (Coleoptera: Cerambycidae). Part II – Marmara Region. Munis Entomology & Zoology, 3 (1): 7-152.
- Özdikmen, H.** 2011. The Longicorn Beetles of Turkey (Coleoptera: Cerambycidae) Part IV – Mediterranean Region. Munis Entomology & Zoology, 6 (1): 6-145.
- Özdikmen, H. & Turgut, S.** 2006. An evaluation on the known taxa of Necydalinae and Apatophyseinae from Turkey (Coleoptera: Cerambycidae). Munis Entomology & Zoology, 1 (2): 199-204.
- Özdikmen, H. & Turgut, S.** 2009. A synopsis of Turkish Vesperinae Mulsant, 1839 and Prioninae Latreille, 1802 (Coleoptera: Cerambycidae). Munis Entomology & Zoology, 4 (2): 402-423.
- Palm, T.** 1959. Die Holz- und Rindenkäfer der Süd- und Mittelschwedischen Laubbäume (The wood and bark coleoptera on deciduous trees in southern and central Sweden).
- Sama, G.** 1996. Revision du genre *Deroplia* Dejean, 1835 Coleoptera – Cerambycidae. Biocosme Mésogéen, 13 (2): 23-64.

Sama, G. 2002. Atlas of the Cerambycidae of Europe and the Mediterranean Area. I: Northern, Western, Central and Eastern Europe. British Isles and Continental Europe from France (excl. Corsica) to Scandinavia and Urals. Kabourek, Zlin: 173 pp., 36 col. plates.

Sama, G. & Löbl, I. 2010: Cerambycidae, Western Palaearctic taxa, eastward to Afghanistan, excluding Oman and Yemen and the countries of the former Soviet Union, pp. 84 - 334. In: Löbl I. & Smetana A. (eds.): Catalogue of Palaearctic Coleoptera. 6. Chrysomeloidea. Apollo Books, Stenstrup: 924 pp.

Sama G., Rapuzzi P. & Kairouz A. 2010. Catalogue commenté des Cerambycidae du Liban. Quaderno di Studi Naturalistici della Romagna, 30: 131-201.

Speight, C. D. 1989. Saproxylic invertebrates and their conservation. Council of Europe, Strasbourg.

Tauzin, P. 2000. Complement a l'inventaire des Coleopteres Cerambycidae de Turquie. L'Entomologiste, 56 (4): 151-153.

Turgut, S. & Özdikmen, H. 2010. New data for Turkish longhorned beetles fauna from Southern Turkey (Coleoptera: Cerambycidae). Munis Entomology & Zoology, 5, suppl.: 859-889.

Warren, M. S. & Key, R. S. 1991. Woodlands: past, present and potential for insects. In Collins, N.M. and Thomas, J.A. (Eds). The conservation of insects and their habitats. Proceedings of the 15th symposium of the Royal Entomological Society of London. Academic Press, Imperial College, London: 155- 211.

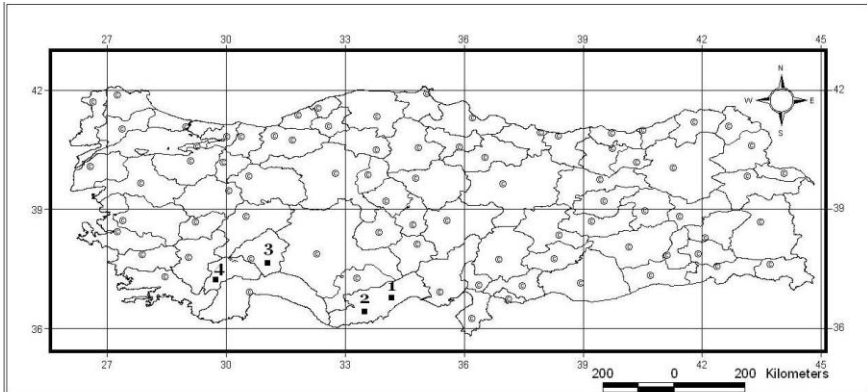


Figure 1. The position of the studied sites in Turkey. 1. Erdemli, 2. Gülnar, 3. Isparta and 4. Gölhisar.

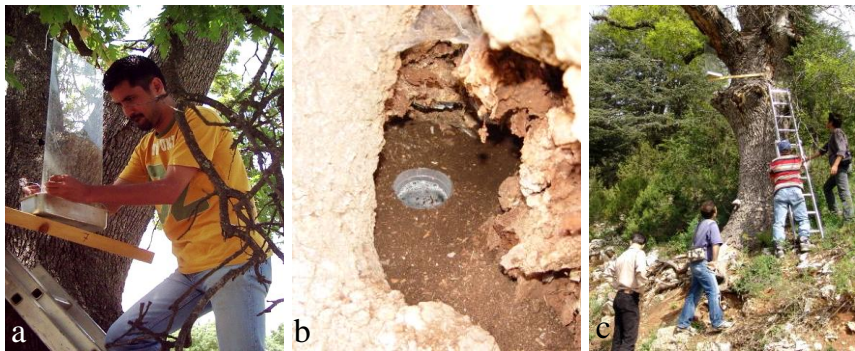


Figure 2. Mounting a window trap (a), a pit-fall trap inside a hollow oak (b), working with the traps on an old oak (c).



Figure 3. Window trap.

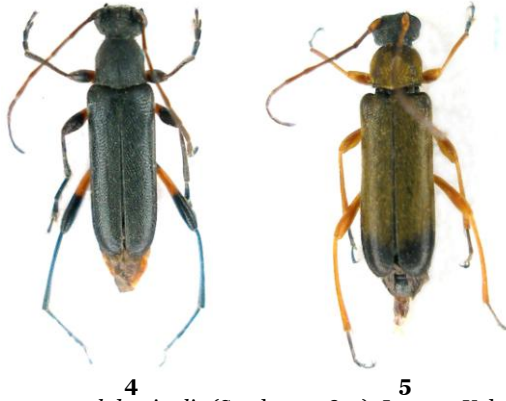


Figure 4-5. *Grammoptera abdominalis* (Stephens, 1831). Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park (4); *Grammoptera ustulata* (Schaller, 1783). Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park (5).



Figure 6-8. *Alosterna anatolica* Adlbauer, 1992 ♀- Mersin: 30 km NW Gülnar: Köseçobanlı / Tasdüstü (6); *Necydalis ulmi* (Chevrolat, 1838). Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park (7); *Trichoferus pallidus* (Olivier, 1790) - Isparta: Yukarigökdere 30 km S. Egirdir: Kasnak Forest National Park (8).

