

**TURKISH OXYMIRINI DANILEVSKY IN ALTHOFF &
DANILEVSKY, 1997 WITH ZOOGEOGRAPHICAL
REMARKS (COLEOPTERA: CERAMBYCIDAE:
LEPTURINAE)**

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ABSTRACT: All taxa of the tribe Oxymirini Danilevsky in Althoff & Danilevsky, 1997 in Turkey and the world fauna are evaluated. A new faunistical data for Turkey is given in the text.

KEY WORDS: *Oxymirus*, Oxymirini, Lepturinae, Cerambycidae.

Subfamily LEPTURINAE Latreille, 1802

Tribe OXYMIRINI Danilevsky in Althoff & Danilevsky, 1997

Type genus: *Oxymirus* Mulsant, 1863

Tribe Oxymirini was erected by Danilevsky (in Althoff & Danilevsky, 1997) on the base of larval characters in Švácha & Danilevsky (1989).

Danilevsky (2009a,b) stated that “*The tribe system of Lepturinae (with Rhamnusiini, Oxymirini, Enoploderini and so on) is more or less agree with P. Švácha (1989 in Švácha & Danilevsky, 1989) divisions, though P. Švácha joined Rhamnusium and Enoploderes in one tribe. Rhamnusiini, Oxymirini and Enoploderini were named by Danilevsky in “A Check-list ...” (Althoff & Danilevsky, 1977)*”.

It seems that Oxymirini Danilevsky, 1997 is available, but Enoploderini and Rhamnusiini are not available according to the ICZN Art. 13.1 now. Recently Sama in Sama & Sudre (2009) described tribe Rhamnusiini with the type genus *Rhamnusium* Latreille, 1829.

Also, Vives (2000) separated the genera *Rhagium* and *Rhamnusium* in the tribe Rhagiini and he grouped other Rhagiini (including *Oxymirus*) in the tribe Toxotini.

According to Vitali (2009), the larval differences claimed by Danilevsky (1997) are not sufficient to define the tribe of Oxymirini since they are not supported by adult characters. So Vitali (2009) placed these tribal names (Rhamnusiini, Oxymirini and Enoploderini) of Danilevsky (1997), Toxotini Mulsant, 1839 and Stenocorini Thomson, 1860 as synonyms of the tribe Rhagiini Kirby, 1837.

Recently, Sýkorová (2008) actualized a study on DNA of some Cerambycidae and she obtained some important results on tribal classification of Lepturinae.

According to Sýkorová (2008), however, Oxymirini are reasonably supported. Rhagiini is not retrieved as monophyletic.

On tribal classification of Lepturinae, Sýkorová (2008) mentioned that “*distribution of genera in the tribe in the subfamily Lepturinae is very unsteady, but the only work that Švácha & Danilevsky (1989) is attempted to define the tribe to at least larval apomorphies. Fig. 1 shows the relationship proposed by each tribe (one of the newly created tribe were named, tribus containing genera Oxymirus and Anthophylax was later named Oxymirini Althoff & Danilevsky, 1997)*”.

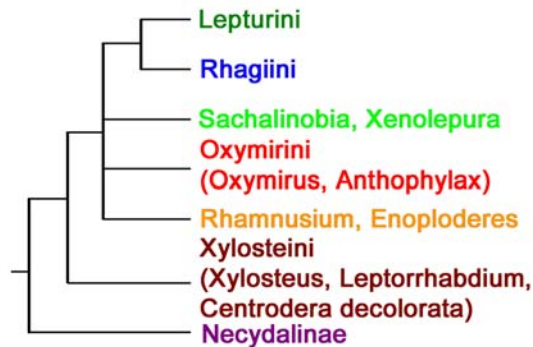


Figure 1. The relationship proposed by each tribe. Colors were used according to the preliminary draft tribal classification of Švácha & Danilevsky, 1989 (from Sýkorová, 2008).

Sýkorová (2008) also stated that these groups are present in virtually all analysis with few exceptions (e. g. *Oxymirus*). Linking Old World *Oxymirus* and New World *Anthophylax* within one tribe Oxymirini is supported in several kladogram. Furthermore, Sýkorová (2008) pointed out that *Oxymirus mirabilis* regraded in the genus *Anthophylax* according to reliability of kladogram and appropriateness of the sequence of 16S rDNA which agree with the larval morphology in Švácha & Danilevsky (1989).

According to her, within the subfamily Lepturinae s. str., tribe Lepturini in the modified scale (including the genera *Desmocerus*, *Grammoptera* and *Strophiona*) and Oxymirini were mostly monophyletic. Monophylety of tribe Rhagiini is not supported. The short sequence is not sufficient to assess the position of some isolated, probably basal genera (e. g. *Rhamnusium*, *Sachalinobia*, *Caraphia*, *Centrodera*, *Teledapus*, *Enoploderes*) and to determine the mutual relationship of higher taxa within the subfamily Lepturinae.

So, I now accept Oxymirini Danilevsky, 1997 as a separate tribe from Rhagiini and Lepturini and others on the base of larval morphologies (Švácha & Danilevsky, 1989) and the study of DNA (Sýkorová, 2008).

Danilevsky (2009b) stated that “*according to the DNA Cerambycidae study of M. Sýkorová (2008) with English comments by P. Švácha (personal message, 2008): The three lepturine genera [Enoploderes, Rhamnusium and Sachalinobia] probably should not be included in any of the existing tribes (Xylosteini, Oxymirini, Rhagiini s.l., Lepturini)*”.

New World genus *Anthophylax* LeConte, 1850, of which the type species is *A. viridis* LeConte, 1850, has four species as *Anthophylax attenuatus* (Haldeman, 1847) [SE Canada, NE USA]; *A. cyaneus* (Haldeman, 1847) [E North America]; *A. hoffmani* Beutenmüller, 1903 [SE USA] and *A. viridis* LeConte, 1850 [E North America]. Sýkorová (2008) studied on the species, *Anthophylax attenuatus* (Haldeman, 1847) and *A. cyaneus* (Haldeman, 1847). Monné & Bezark (2009) placed the genus *Anthophylax* LeConte, 1850 in the tribe Lepturini Latreille, 1802. *A. cyaneus* (Haldeman, 1847), *A. hoffmani* Beutenmüller, 1903 and *A. viridis* LeConte, 1850 are metallic. Only the species *A. attenuatus* (Haldeman, 1847) has dense tufts of white hairs on the reddish-brown elytra.

So I think now the status of *Anthophylax* LeConte, 1850 and even probably *Neanthophylax* Linsley & Chemsak, 1972 according to Švácha & Danilevsky (1989) need to be clarified with future investigations on immature stages and adult characters in comparison of that of the genus *Oxymirus*. And then we can decide on the real status of *Oxymirus mirabilis*. Anyway, this species was originally described as *Anthophylax mirabilis* Motschulsky, 1838. Švácha & Danilevsky (1989) gave it as *Anthophylax mirabilis* Motschulsky, 1838. Since they stated that “*the larvae of O. mirabilis differ significantly from those of the type species, O. cursor. Having examining larvae of some North American species of the genus Anthophylax, it has become clear that they are congeneric with O. mirabilis, which has been therefore transferred to that genus*”.

Genus OXYMIRUS Mulsant, 1863

Type species: *Cerambyx cursor* Linnaeus, 1758

Body is small or moderate size generally. It is approximately between 14-32 mm.

Head robust and small, gradually narrowed posteriorly, somewhat elongated and slightly narrowed in front of the eyes; without distinct temples, simply narrowed behind eyes; impressed with a distinct median line that runs from the clypeus to the occiput; clypeus large, limited above by a faint semicircular line, extending in front considerably beyond the base of the mandibles; labrum large; maxillary palpi longer than the labial, last joint of both strongly triangular; eyes of moderate size, finely faceted, emarginate, rather deeply incurved; antennae inserted in small but rather prominent tubercles placed between the lower lobes of the eyes and at a very short distance from them; Antennae, with 11 articles in both sexes, reaching almost the elytral apex in the male and the level of the apical third in the female, rather slender: first segment barely reaching past the eye, third longer than the fourth, but distinctly shorter than the fifth; fifth to seventh or eighth subequal, ninth and tenth shorter, 4th segment shorter than 3rd and 5th segments. Pronotum longer than broad, constricted near apex and base with anterior and posterior transverse depressions, with a strong tubercle at the middle of each side and two elongate elevations on the disc with medial groove, pronotum slightly bell-shaped and lateral pronotal spines large and obtuse.

Prosternum with a narrow triangular projection. Scutellum triangular. Elytra much broader at base than base of pronotum, a little prominent at the shoulders, gradually narrowed posteriorly, rounded at the apex, each elytron with or without small sutural spine. Legs rather long and slender, femora gradually and not strongly thickened, the hind pair do not reach to the apex of the elytra in the male; tibial spurs rather long; first segment of tarsi long, that of the hind tarsi longer than the second and third united, third segment deeply bilobed (Gahan, 1906; Villiers, 1978; Bily & Mehl, 1989).

The genus characterized by antennae attached between eyes; pronotum laterally with markedly produced spinescent tubercles and 1st segment of hind tarsi notably longer than next two segments together (Cherepanov, 1990).

Larvae are polyphagous in deciduous trees and conifers (e.g. *Fagus*, *Larix*, *Abies*, *Picea*, *Pinus*, *Betula*, *Alnus*, *Corylus*, *Quercus*, *Carpinus*, *Populus*, *Salix*, *Ulmus*, *Sorbus*). Larvae feed in decaying or rotten wood. Pupation is in soil in a cocoon. Occasionally pupation takes place in wood. Adults are in May-July in general or late April to August. Life cycle is several years (3 years). They are nocturnal, rarely on flowers in the daytime (Plavilstshikov, 1936; Bily & Mehl, 1989; Švácha & Danilevsky, 1989; Cherepanov, 1990; Bense, 1995; Vives, 2000; Sama, 2002; Hoskovec & Rejzek, 2009).

The small genus *Oxymirus* Mulsant, 1863 has only 2 species in the world fauna, of which one is known to occur in Turkey. The genus has W-Palaeartic (European + SW-Asiatic) chorotype.

A key for species

1 (2) Elytral apex with a tooth in the suture; elytra without transversal stripes or bands.....***O. cursor* (Linnaeus, 1758)**

2 (1) Elytral apex rounded and without tooth in the suture; elytra with transversal spots or bands.....***O. mirabilis* (Motschulsky, 1838)**

***Oxymirus cursor* (Linnaeus, 1758)**

Original combination. *Cerambyx cursor* Linnaeus, 1758.

Other names. *noctis* Linnaeus; *vittatus* Gmelin; *niger* Olivier; *striatus* Voet; *verneuili* Mulsant; *testaceus* Gredl.; *lacordairei* Pascoe; *genuinus* Letzner; *fenestratus* Letzner; *niger* Letzner; *lineatus* Letzner; *nigricollis* Letzner; *genuinus* Letzner; *tournieri* Pic; *luctuosus* Latreille; *letzneri* Csiki; *subvittatus* Reitter; *nigrinus* Reitter; *subvittatus* Reitter; *semiobscurus* Pic; *bicoloricollis* Pic; *spaceki* Roubal; *liberecensis* Podany; *demetli* Heyrovsky; *leseigneuri* Villiers.

Length moderate size. It is approximately between 25-32 mm. In the male, most often nearly black, faintly covered above, more densely beneath, with grey pubescence. Head and prothorax finely and very densely punctate; furnished sparsely with some longish hairs, especially on the sides. Antennae do not reach the elytral apex. Scutellum rather densely pubescent. Elytra rugose, each with an obtuse costa that extends along almost its whole length from the shoulder and two feebler and shorter costae along the disc, the intervals between the costae

depressed, forming shallow channels. Last ventral segment elongate, narrowed posteriorly, subsinuately truncate at the apex, strongly carinate along the middle. In the female, exceptionally coloured like the male, but usually differs as follows: Upper side with yellow hairs, a rather broad chestnut-red band along the middle of each elytron and another along the side margin, the two bands uniting at the apex; the legs to a great extent and the antennae reddish brown; last ventral segment scarcely longer than the penultimate, not carinate along the middle; antennae shorter than in the male, extend hardly beyond the middle of elytra (on the base of Gahan, 1906, Plavilstshikov, 1936).

Records in Turkey. Absent.

Range. Europe (Spain, France, Italy, Slovenia, Croatia, Bosnia-Herzegovina, Serbia, Macedonia, Bulgaria, Romania, Hungary, Austria, Switzerland, Czechia, Slovakia, Germany, Luxembourg, Belgium, Netherlands, Denmark, Poland, Sweden, Norway, Finland, Estonia, Latvia, Lithuania, Belorussia, Ukraine, Moldova, European Russia), W Siberia.

Chorotype. European.

Remarks. It has been recorded by Acatay (1948, 1961 and 1968) and Lodos (1998) in his unrealistic list from Turkey without any exact locality. So it is not confirmed for Turkey now.

This species is rather variable. According to Plavilstshikov (1936) and Villiers (1978), some variations present as follows:

Forma typica: In male, antennae do not reach or extend barely beyond the elytral apex. In female, extend hardly beyond the middle of elytra. Elytra, pronotum and legs black (male); Elytra with 2 more or less clear costae, elytral apex in the suture with a small tooth; Upper side with faintly grey (male) or yellow (female) hairs, underside denser hairy. Black, base of antennae and mouth red (male); or black, mouth, the biggest part of the antennae, tibiae and tarsi rust-color completely, elytra reddish yellowish-brown with a wide stripe in the suture and a wide longitudinal band from the shoulder up to apex black (female).

ab. *fenestratus* Letzner: Pronotum black completely; elytra black, only before the apex with a brighter longitudinal spot (male and female).

ab. *leseigneuri* Villiers: Pronotum black completely, elytra as precedent but lateral edge ruddy (male and female).

ab. *bicoloricollis* Pic: Head black, pronotum black, red lined, elytra yellowish along the suture blackish and along the side edges (lateral carinae) brownish or blackish (male and female).

ab. *verneuli* Mulsant: Pronotum, elytra, body, legs and antennae reddish-yellow (male and female). Sometimes uniformly brownish-yellow (female).

ab. *subvittatus* Reitter: Sometimes elytra brighter colored (male). Pronotum black completely, elytra black with two brown bands (female).

ab. *tourneri* Pic: Longitudinal band strongly diminished and only in the shoulders intimated. Pronotum black completely, elytra brown with only the suture and the calus humeral callus black (female).

ab. *semiobscurus* Pic: Only the head and the pronotum black, elytra yellowish with only the suture very closely black (female).

ab. *lineatus* Letzner: Elytra black or for a great part black, the discal band very shrunk and short in the anterior part brightly (female).

- ab. *letzneri* Csiki: Pronotum black completely, elytra black with only lateral edge ruddy (female).
ab. *niger* Letzner: Elytra black, narrowly reddish lined (female).
ab. *nigrinus* Reitter: Pronotum and elytra uniformly black (female).
ab. *liberecensis* Podany: Pronotum black completely, elytra like forma typica, but discal band reaching to the suture (female).
ab. *demelti* Heyrovsky: Pronotum black completely, elytra dark brown with black basal part, legs brown-black (male).
ab. *nigricollis* Letzner: Elytra black, discal and lateral stripes brown, or elytra brown, sutural stripe and border line black (male).
ab. *spaceki* Roubal: The body honey-yellow, base of femora, antennae from the 3-rd segment, metasternum, shortened discal band and subhumeral stripe on elytra black (male).

***Oxymirus mirabilis* (Motschulsky, 1838)**

Original combination. *Anthophylax mirabilis* Motschulsky, 1838.

Other names. *atripes* Pic; *multinotatus* Pic.

Length moderate size. It is approximately between 14-20 mm. In male, antennae reaching the elytral apex. In the female, extend hardly beyond the middle of elytra. Elytra without costae, elytral apex in the suture without tooth; Upper side with felt-like, silky brilliant pubescence. Male gray-black, elytra to the apex yellowish-brown, in the middle with two brownish-yellow or pale-yellow, outwardly black enclosed zigzag transversal bands often flowing into each other in the suture; Female brown-black, antennae and legs rust-red, elytra red-brown with two zigzag-shaped bands of hairs, a bald longitudinal spot in the shoulder and a big hairless area between the transversal bands black.

Material examined: Giresun prov.: Eğribel pass-Kümbet plateau, 1-15.06.2009, leg. A. Y. Okutaner, 2 specimens. The specimens were collected from a pheromone trap.

Records in Turkey. Ordu prov.: Mesudiye as *Toxotus mirabilis* (Sama, 1982) (Map. 1).

Range: Caucasus (Armenia, Azerbaijan, Georgia), Transcaucasus, N Iran, Turkey. Chorotype: SW-Asiatic (Irano-Caucasian + Irano-Anatolian + Anatolo-Caucasian).

Remarks: It has been recorded only by Sama (1982) from Turkey until now. The present materials are the first record for Giresun province and the second record for Turkey. So it confirmed for Turkey. This species is distributed only in NE Turkey.

According to Plavilstshikov (1936), the variations present as follows:

Forma typica: as mentioned above.

ab. *atripes* Pic: Sometimes black, elytra in the middle yellow drawn (male) or elytra brownish-red with black hind band and black in front third, antennae black, slightly red (female).

ab. *multinotatus* Pic: Upper side brown-red, head and pronotum partly black or dark, elytra with black shoulder line and with three indistinct black spots in front half and discontinuous black hind band (male and female).

Note: The present zoogeographical characterization is based on the chorotype classification of Anatolian fauna, recently proposed by Vigna Taglianti et al. (1999). Distribution and other names are based on Gahan (1906), Aurivillius (1912), Winkler (1924-1932), Plavilstshikov (1936), Villiers (1978), Danilevsky & Miroshnikov (1985), Bense (1995), Althoff & Danilevsky (1997), Sama (2002), Danilevsky (2009a,b).

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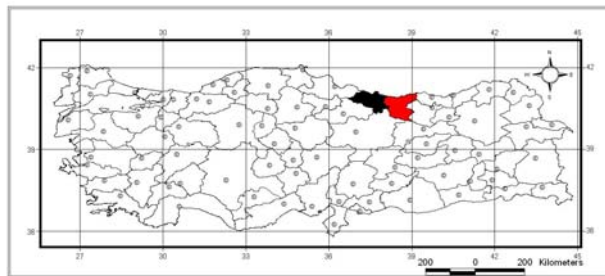
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Map. 1. The distributional records of *Oxymirus mirabilis* (Motschulsky, 1838) in Turkey.