A SYNOPSIS ON THE GENUS *RHAMNUSIUM* LATREILLE, 1829 WITH A NEW RECORD (COLEOPTERA: CERAMBYCIDAE) FOR ANATOLIAN FAUNA FROM A NEW HOST PLANT, *LIQUIDAMBAR ORIENTALIS* MILLER (HAMAMELIDACEAE)

Hüseyin Cebeci* and Hüseyin Özdikmen**

* İstanbul Üniversity, Faculty of Forestry, Department of Forest Entomology and Protection 34473 Sarıyer, İstanbul / TURKEY. E-mail: hcebeci@istanbul.edu.tr
** Gazi Üniversitesi, Fen-Edebiyat Fakültesi, Biyoloji Bölümü, 06500 Ankara / Türkiye. E-mails: ozdikmen@gazi.edu.tr

[Cebeci, H. & Özdikmen, H. 2010. A synopsis on the genus *Rhamnusium* Latreille, 1829 with a new record (Coleoptera: Cerambycidae) for Anatolian fauna from a new host plant, *Liquidambar orientalis* Miller (Hamamelidaceae). Munis Entomology & Zoology 5 (1): 131-139**]**

ABSTRACT: All taxa of the genus *Rhamnusium* Latreille, 1829 in the world and Turkey are evaluated. These taxa are also discussed in detail here with some taxonomical, faunistical, zoogeographical and biological remarks. A longicorn beetle, *Rhamnusium bicolor* (Schrank, 1781), presented for the first time for Anatolian fauna from a new host plant, *Liquidambar orientalis* Miller (Hamamelidaceae). A short identification key of *Rhamnusium* species is also given in the text.

KEY WORDS: Coleoptera, Cerambycidae, *Rhamnusium*, Turkey, *Liquidambar orientalis*.

First of all, the genus *Rhamnusium* Latreille, 1829 has a classification problem on tribal rank. Traditionally, it was placed by authors in the tribe Rhagiini Kirby, 1837. Vives (2000) separated the genera *Rhamnusium* Latreille, 1829 and *Rhagium* Fabricius, 1775 from other Rhagiini and he grouped the others in the tribe Toxotini Mulsant, 1839. However, the genus *Rhamnusium* was given by Althoff and Danilevsky (1997) under the tribal name Rhamnusiini Danilevsky, 1997 firstly. Several tribes (Rhamnusiini, Oxymirini, Enoploderini) were named in Althoff and Danilevsky (1997). The tribal names Rhamnusiini Danilevsky, 1997 and Enoploderini Danilevsky, 1997 are not available according to the ICZN (1999) Art. 13.1. So now, we do not use the tribe name Rhamnusiini Danilevsky, 1997 as valid. The same opinion is shared by Vitali (2009). He mentioned that Enoploderini and Rhamnusiiini compared only in electronic papers.

In addition to this, the separation as Rhamnusiini Danilevsky, 1997 seems to be require. Danilevsky (2009a) stated that "*according to the DNA Cerambycidae study of M. Sýkorová (2008) with English comments by P.Svacha (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)*". So, Rhamnusiini Danilevsky, 1997 must be establish validly.

Finally, Sama in Sama & Sudre (2009) described tribe Rhamnusiini with the type genus *Rhamnusium* Latreille, 1829.

The main aim of this work is to clarify current status of the genus in the world and Turkey. The genus *Rhamnusium* Latreille, 1829 has Palaearctic chorotype. It is distributed in European and Mediterranean area especially.

MATERIALS AND METHODS

This study was conducted in Turkey. A visual examination was carried out of damages caused to trunks of sweet gum trees in the areas. Some of trunks including larvae in each area were cut and put into rearing boxes (Figure 1). Pupation occurred inside trunks. As soon as possible the adults emerged, the species were determined and taken photos.

According to Alan and Kaya (2003), The natural range of oriental sweet gum is a limited area in southwest Turkey and Rhodos Island in Greece between 36°-38° N, and it is found at altitudes of 0-1000 m.

The natural range of this plant in Turkey is Antalya prov. (Alanya, Kas, Serik), Aydin prov. (Central), Burdur prov. (Bucak), Denizli prov. (Acipayam, Beyagac, Tavas), Isparta prov. (Sutculer) and Mugla prov. (Central, Dalaman, Datca, Fethiye, Koycegiz, Marmaris, Milas, Ortaca, Yatagan) (Figure 2).

RESULTS AND DISCUSSION

Tribe RHAMNUSIINI Sama, 2009
Type genus: *Rhamnusium* Latreille, 1829

Genus *RHAMNUSIUM* Latreille, 1829
Type species: *Rhagium salicis* Fabricius, 1787. = *Cerambyx bicolor* Schrank, 1781 nec Voet, 1778.

Body length is medium size generally. It is approximately between 12 and 24 mm.

Diagnostic characters of this genus are:

The genus differs from the nearest taxa by very strongly developed temples which are far convex in sides; the eyes protruding in sides are not less strongly developed also is not more slight, and is not stronger than temples; head behind the temples suddenly narrowed like a neck. 3rd and 4th antennal segments short and almost same-long, 3rd segment much shorter than 5th.

Head broad and robust, depressed transversally behind the antennal tubercules, with a very short neck. Eyes transverse, cut away forward. Antennae short, thick and sometimes hard toothed in the males, first segment longer than third which is equal with fourth and much shorter than fifth segment. Moreover, pronotum with well developed lateral humps normally; these are big, conical or sharpened but not dental-shaped; the lateral humps always clear. Prosternal process narrow, the front coxae clearly overriding. Mesosternal process between the middle coxae is bit by bit forwards sloping or weakly taken on back, not vertically sloping. Elytra almost parallel in the females, lightly shrunk in apical region in the males, rounded in the apex; elytra have not clear costae, at most only with two or three fine longitudinal lines (Plavilstshikov 1936, Villiers 1978).

The genus *Rhamnusium* Latreille, 1829 is close to the genus *Rhagium* Fabricius, 1775. Both genera can be separated shortly as follows:

- Temples very convex. 3rd and 4th antennal segments short and almost same-long, 3rd segment much shorter than 5th. Lateral humps or tubercules of pronotum not like a spine. Elytra without clear keels.....***Rhamnusium*** Latreille, 1829

- Temples not very convex. 3rd segment rather long, 4th segment short and 3rd segment not much shorter than 5th. Lateral humps or tubercules of pronotum like a spine. Elytra with clear keels.....***Rhagium*** Fabricius, 1775

Larval development is in deciduous trees (*Populus, Aesculus, Ulmus, Fagus, Salix, Quercus, Acer, Castanea, Carpinus, Tilia, Juglans, Prunus, Platanus, Robinia*). Larvae are always in dead parts of living trees, in dead wood in contact with living tissue. Larvae make galleries in the wood. Pupation in pupal cells is spring/summer in the wood generally. Life cycle is about 2-3 years. Adults can be found on the host plants generally (Svacha and Danilevsky 1988, Cherepanov 1990, Bense 1995, Vives 2000, Sama 2002, Hoskovec and Rejzek 2009).

As commonly accepted that the genus has 5 species in the world fauna as *Rhamnusium algericum* Pic, 1896; *R. bicolor* (Schrank, 1781); *R. graecum* Schaufuss, 1862; *R. rugosipenne* Pic, 1939 and *R. testaceipenne* Pic, 1897. *R. algericum* Pic, 1896 is endemic to Algeria and *R. rugosipenne* Pic, 1939 is endemic to China. The remaining species have more or less distribution areas.

In Europe and Turkey, this genus includes 3 species as *R. bicolor* (Schrank, 1781); *R. graecum* Schaufuss, 1862 and *R. testaceipenne* Pic, 1897. According to Bense (1995) it is represented by one species, *R. bicolor* (Schrank, 1781), in Europe due to *Rhamnusium gracilicorne* (Théry, 1894) and *R. graecum* Schaufuss, 1862 are chromatic variations of its. Althoff and Danilevsky (1997) gave three species as mentioned above from Europe. Sama (2002) also accepted one species, *R. bicolor* (Schrank, 1781), for Europe. According to him, all taxa [*R. bicolor* (Schrank, 1781); *R. ruficollis* (Herbst, 1784); *R. graecum* Schaufuss, 1862 and *R. juglandis* Fairmaire, 1866 (=*R. testaceipenne* Pic, 1897)] could be only geographic variations of one species. However, three species were presented by Sama for Europe in Fauna Europeae (2007). The old records from Turkey of *R. graecum* and *R. testaceipenne* summarized in Ozdikmen (2007 and 2008). *R. bicolor* (Schrank, 1781) has not been recorded from Anatolia until now.

The species of the genus *Rhamnusium* Latreille, 1829 are presented as follows:

algericum Pic, 1896
Original combination: *Rhamnusium algericum* Pic, 1896.
Other names: *R. algericum* var. *testaceum* Pic, 1896; *R. algericum* var. *nigrum* Pic, 1906.

Range: N Africa (Algeria).
Chorotype: N African.
Host plants: *Quercus, Acer, Populus* (Svacha and Danilevsky 1988).
Remarks: It is endemic to Algeria.

bicolor Schrank, 1781 (New record for Anatolian fauna).
ssp. ***bicolor*** Schrank, 1781
ssp. ***demaggii*** Tippmann, 1956
Original combination: *Cerambyx bicolor* Schrank, 1781
Other names: *Cerambyx virgo* Voet, 1778 (invalid name); *Cerambyx glaucopterus* Schaller, 1783; *Rhagium schranki* Laicharting, 1784; *Stenocorus ruficollis* Herbst, 1784; *Rhagium salicis* Fabricius, 1787; *Cerambyx rubroviolaceus* Villers, 1789; *Rhagium etruscum* Rossi, 1790; *Stenocorus salicis* (Fabricius) Olivier, 1795; *Rhamnusium bicolor* var. *ambustum* Heyden, 1876; *Rhamnusium bicolor* var. *atripenne* Bedel, 1892; *Rhamnusium bicolor* var. *humerale* Bedel, 1892; *Rhagium gracilicorne* Théry, 1894; *Rhamnusium bicolor* var. *limbatum* Pic, 1897; *Rhamnusium bicolor* var. *capitale* Pic, 1898; *Rhamnusium bicolor* var.

aubei Pic, 1898; *Rhamnusium bicolor* var. *rufotestaceum* Pic, 1898; *Rhamnusium bicolor* var. *inapicale* Pic, 1901; *Rhamnusium bicolor* var. *diversitarse* Dayrem, 1916; *Rhamnusium bicolor* var. *lutetianum* Dayrem, 1916; *Rhamnusium bicolor* var. *pici* Kanabé, 1932; *Rhamnusium bicolor* var. *symmetricum* Kanabé, 1932; *Rhamnusium bicolor* var. *occipitale* Plavilistshikov, 1936; *Rhamnusium bicolor* var. *bischoffi* Pic, 1947; *Rhamnusium bicolor* var. *nigripenns* Podaný, 1950; *Rhamnusium gracilicorne* var. *subhumerale* Heyrovsky, 1955; *Rhamnusium gracilicorne* var. *micani* Heyrovsky, 1955; *Rhamnusium gracilicorne* var. *apicepraeustum* Heyrovsky, 1955; *Rhamnusium bicolor* var. *aeneomicans* Tippmann, 1956; *Rhamnusium bicolor* var. *bergeri* Villiers, 1978 (invalid name); *Rhamnusium bicolor* var. *bedeli* Villiers,1978 (invalid name).

Material examined: Muğla prov.: Fethiye, Yanıklar, 40-60 m, cutting date of trees 08.04.2009; adults emerged in 24.04.2009, in Oriental sweet gum (*Liquidambar orientalis* Miller), leg. H. Cebeci (Figure 3).
Records in Turkey: İstanbul prov.: Büyükada from *Aesculus hippocastanum* (Demelt 1963).
Range: Europe (Spain, France, Italy, Sicily, Slovenia, Croatia, Bosnia-Herzegovina, Serbia, Albania, Macedonia, Greece, Bulgaria, Romania, Hungary, Austria, Switzerland, Czech Republic, Sweden, Germany, Belgium, Netherlands, Luxembourg, Poland, Finland, Estonia, Latvia, Lithuania, Belorussia, Ukraine, ?Crimea, Moldavia, European Russia, European Kazakhstan).
Chorotype: European.
Host plants: *Populus*, *Aesculus*, *Ulmus, Salix, Quercus, Castanea, Tilia, Acer, Juglans*, *Fagus* (Svacha and Danilevsky 1988, Vives 2000, Hoskovec and Rejzek 2009).
Remarks: It is the widest spread species of *Rhamnusium* Latreille, 1829. As understanding from other names, this species is very variable and it has many variations. Diagnostic characters of many variations can obtain from Plavilstshikov (1936) and Villiers (1978). It is represented by the nominotypical subspecies in Turkey. The other subspecies, *Rhamnusium bicolor demaggii* Tippmann, 1956 occurs only in Italy. It is regarded by some authors (e.g. Vitali 2009) as a synonym of the nominotypical subspecies. However, it is still regarded as a subspecies by some authors (e.g. Danilevsky 2009b).

In addition to this, the name of this species is under discussion. The name, *Cerambyx bicolor* Schrank, 1781, is a primary junior homonym of *Cerambyx bicolor* Voet, 1778. The later is in the genus *Chydarteres* Hüdepohl, 1985 in the tribe Trachyderini Dupont, 1836 as a valid name now. Therefore, Silfverbeg (1977) replaced it with the senior synonym name *Cerambyx virgo* Voet, 1778. The last name was also cited by Aurivillius (1912) with a question mark under *R. bicolor* (Schrank, 1781) in spite of being senior name. The replacing of Silfverberg, however, has not been accepted by many authors (Lobanov et al. 1981, Svacha and Danilevsky 1988, Bily and Mehl 1989, Burakowski et al. 1990, Sama 2002) until now. Since, according to the authors, Voet (1778) did not use binominal nomenclature in his publication. Moreover, Sama (2002) stated that the identity of *C. virgo* appears extremely doubtful.

Consequently, this problem has still been unsolved. In real, under these circumstances, *Cerambyx bicolor* Schrank, 1781 is still a primary homonym. And it must be replace with an available name according to ICZN (1999). It seems that a senior synonym name for it is *Cerambyx glaucopterus* Schaller, 1783, but we propose to preserve the name *R. bicolor* (Schrank, 1781) due to prevailing usage according to ICZN (1999) Art. 23.9.

This species has been recorded only by Demelt (1963) from horse chestnut tree (*Aesculus hippocastanum*) for NW Turkey (Istanbul province) until now.

This old record was so doubtful. Since *R. graecum* was also recorded by Demelt (1963) in the same reference from same locality, date and host plant. So, Demelt's record from Istanbul was disregarded by Ozdikmen (2008) for Marmara region of Turkey due to the doubtful status of *R. bicolor* for Turkey. The presence of *R. bicolor* in Turkey is also confirmed by the authors with this work.

These present materials obtained from host plant of larvae. Host plant is Oriental sweet gum (Hamamelidaceae: *Liquidambar orientalis* Miller). It is a new host plant of *Rhamnusium bicolor* (Schrank, 1781). The present materials are the second record for Turkey and it is the first record for Anatolian fauna (SW Turkey) interestingly.

The larvae of *Rhamnusium bicolor* feed in the wood. The specimens were collected in a hollow trunk of Oriental sweet gum (Figure 4).

Among the longhorned beetles species, only *Rhaesus serricollis* (Motschulsky, 1838) has been recorded by Acatay (1971), Erdem and Canakcioglu (1977), Canakcioglu (1983), Oymen (1987) from Oriental sweet gum in Turkey until now. So, Oriental sweet gum is served as a host plant for two longhorned beetles species with the present record.

graecum Schaufuss, 1862
ssp. ***graecum*** Schaufuss, 1862
ssp. ***italicum*** Müller, 1966
Original combination: *Rhamnusium graecum* Schaufuss, 1862.
Other names: *Rhamnusium juglandis* Fairmaire, 1866; *Rhamnusium graecum* var. *praeustum* Reitter, 1895; *Rhamnusium graecum* var. *geniculatum* Pic,1898; *Rhamnusium delagrangei* Pic, 1901.

Records in Turkey: Anatolia as *R. graecum* var. *juglandis* Fairmaire, 1866 (Aurivillius 1912, Winkler 1924-1932); Anatolia (Plavilstshikov 1936); Istanbul prov.: Princes Islands from *Aesculus hippocastanum* (Demelt 1963); Turkey (Lobanov et al. 1981, Danilevsky and Miroshnikov 1985, Lodos 1998); Ankara prov.: Kizilcahamam, Istanbul prov.: Princes Islands from *Populus* (Svacha and Danilevsky 1988); European Turkey (Althoff and Danilevsky 1997).
Range: Europe (Italy, Greece, European Turkey), Transcaucasia, Azerbaijan, Armenia, Syria, Turkey, Persia.
Chorotype: Turano-Mediterranean (Turano-Apenninian).
Host plants: *Populus* (Svacha and Danilevsky 1988).
Remarks: It is more or less widespread species of *Rhamnusium* Latreille, 1829. This species has two subspecies. It is represented by the nominotypical subspecies in Turkey. Known other subspecies, *R. graecum italicum* Müller, 1966 occurs only in Italy. *R. juglandis* that has reddish-yellow elytra described from Turkey (İzmir prov.: Bozdağ), *R. graecum* var. *praeustum* described from Syria and *R. graecum* var. *geniculatum* that has reddish-yellow coloration in the apex of abdomen and femora and in the base of tibiae and antennae described from Greece. It was also recorded from Anatolia by Pic (1901).

We have another problem. *Rhamnusium delagrangei* was described from Smyrna (=Izmir province in SW Anatolia) by Pic (1901). Aurivillius (1912) and Winkler (1924-1932) gave the species in *Rhamnusium* for Smyrna (SW Anatolia). According to Pic (1901), this species has almost entirely black femora and relatively robust body. In the other side, a species, *R. juglandis* with reddish-yellow elytra described from Izmir province (Bozdag). It is regarded as a color variation of *R. graecum* (e.g. Plavilstshikov, 1936). Also Plavilstshikov (1936) do not mention *delagrangei* Pic, 1901. However, it is very probably that it also should be a synonym of *R. graecum* like *R. juglandis*.

rugosipenne Pic, 1939.
Original combination: *Rhamnusium rugosipenne* Pic, 1939.

Range: China.
Chorotype: Chineese.
Remarks: It is endemic to China.

testaceipenne Pic, 1897.
Original combination: *Rhamnusium testaceipenne* Pic, 1897.
Other names: *Rhamnusium testaceipenne* var. *anatolicum* Pic, 1901; *Rhamnusium testaceipenne* var. *obscuripes* Pic, 1903; *Rhamnusium testaceipenne* var. *rufotibialis* Pic, 1908; *Rhamnusium testaceipenne* var. *mesmini* Pic, 1908.

Records in Turkey: Amasya prov. as *R. testaceipenne* var. *anatolicum* Pic, 1901 (Aurivillius 1912); Asia Minor as *R. testaceipenne* var. *anatolicum* Pic, 1901 (Winkler 1924-1932); European Turkey as *R. testaceipenne* var. *obscuripes* Pic, 1903 (Winkler 1924-1932); Turkey (Aurivillius 1912 as *R. testaceipenne* var. *obscuripes* Pic, 1903; Lobanov et al. 1981, Danilevsky and Miroshnikov 1985, Lodos 1998, Svacha and Danilevsky 1988 from *Carpinus*; Sama 2002); Anatolia (Plavilstshikov 1936); Ankara prov.: Cubuk (Demelt 1963); Konya prov. (Danilevsky 2009b).
Range: Europe (Crimea), Caucasia, Transcaucasia, Near East, Turkey, Syria, Persia.
Chorotype: Turanian (Ponto-Caspian).
Host plants: *Quercus, Carpinus* (Svacha and Danilevsky 1988, Hoskovec and Rejzek 2009).
Remarks: It is more or less widespread species of *Rhamnusium* Latreille, 1829. *R. testaceipenne* var. *anatolicum* and *R. testaceipenne* var. *obscuripes* described from Turkey. Accordnig to Plavilstshikov (1936), it is very possible that *R. testaceipenne* var. *obscuripes* belongs to *R. graecum* Schaufuss, 1862. Elytra is blue and legs and abdomen are partly black in *R. testaceipenne* var. *obscuripes*. Also *R. testaceipenne* var. *rufotibialis* described from Taurus. Sama (2002) supposed *R. testaceipenne* Pic, 1897 is a synonym of *R. juglandis* Fairmaire, 1866. However, according to Plavilstshikov (1936) *R. juglandis* Fairmaire, 1866 (as var. *juglandis* Fairm.) is a red form of *R. graecum* Schaufuss, 1862.

A short identification key of Turkish *Rhamnusium* species

1 Antennae at least partly black.....**2**
- In general, antennae light, redish-yellow or yellow, in apical half dull. Rarely antennae partly black.....**3**
2 Antennae black, at most in the base lightly. All femora completely or partly black.....***graecum*** Schaufuss, 1862
- Antennae up to middle of the 5th segment lightly, at most in the base darkened. Only hind femora black in the base.....***bicolor*** Schrank, 1781 (partly)
3 First antennal segment strongly thickened, less two times longer than apical width. 5th segment more than twice longer than at the apical width.....
.....***bicolor*** Schrank, 1781 (partly)
- First antennal segment less tickened, at least two times longer than apical width. 5th segment no more than twice longer than at the apical width.....
.....***testaceipenne*** Pic, 1897

Note: The present zoogeographical characterisation is based on the chorotype classification of Anatolian fauna, recently proposed by Taglianti et al. (1999).

ACKNOWLEDGEMENTS

The authors wish to express their cordial thanks to M. L. Danilevsky (Russia) for providing us the reference, Pic (1901). Also thanks to Directory of Forest Management of Fethiye (Turkey: Muğla) and Semra Turgut (Turkey) for their help.

LITERATURE CITED

Acatay, A. 1971. Über das Auftreten einiger Forstschädlinge in der Türkei. Anzeiger für Schädlingskunde, 44 (11): 161-165.

Alan, M. & Kaya, Z. 2003. EUFORGEN Technical Guidelines for genetic conservation and use for oriental sweet gum (*Liquidambar orientalis*). International Plant Genetic Resources Institute, Rome, Italy. 6 pp.

Althoff, J. & Danilevsky, M. L. 1997. A Check-List of Longicorn Beetles (Coleoptera, Cerambycoidea) of Europe. Slovensko Entomološko Društvo Štefana Michielija. Ljubljana, 64 pp.

Aurivillius, C. 1912. Coleopterorum Catalogus, pars 39 [vol. 22], Cerambycidae: Cerambycinae. Berlin. W. Junk & S. Schenkling. 574 pp.

Bense, U. 1995. Illustrated key to the Cerambycidae (excl. Dorcadionini) and Vesperidae of Europe. Margraf Verlag, Germany, 512 pp.

Bily, S. & Mehl, O. 1989. Longhorn Beetles (Coleoptera, Cerambycidae) of Fennoscandia and Denmark. Fauna Entomologica Scandinavica, 22: 1-203.

Burakowski, B., Mroczkowski, M. & Stefanska, J. 1990. Coleoptera: Cerambycidae i Bruchidae. Katalog Fauny Polski, Cz. 23, tom 15. Warzawa: 312 pp.

Cherepanov, A. I. 1990. Cerambycidae of Northern Asia. Cerambycinae 2 (1). Brill publ., New Delhi, 292 pp.

Çanakçıoğlu, H. 1983. Forest Entomology (Insects Species). Istanbul University Publications, No: 3152 (349), Istanbul, 536 pp. (In Turkish).

Danilevsky, M. L. 2009a. Systematic list of Longicorn Beetles (Cerambycoidea) of the territory of the former USSR. Available from: http://www.cerambycidae.net (Updated 13.03.2009).

Danilevsky, M. L. 2009b. A check-list of Longicorn Beetles (Coleoptera, Cerambycoidea) of Europe. Available from: http://www.cerambycidae.net (Updated 13.03.2009).

Danilevsky, M. L. & Miroshnikov, A. I. 1985. Timber-Beetles of Caucasus (Coleoptera, Cerambycidae). The Key. Krasnodar, 419 pp.

Demelt, C. V. 1963. Beitrag zur Kenntnis der Cerambycidenfauna Kleinasiens und 13. Beitrag zur Biologie palaearkt. Cerambyciden, sowie Beschreibung einer neuen Oberea-Art. Entomologische Blatter, 59 (3): 132-151.

Erdem, R. & Çanakçıoğlu, H. 1977. Wood pests in Turkey. Istanbul University Publications, Istanbul, 184 pp. (In Turkish).

Hoskovec, M. & Rejzek, M. 2009. Cerambycidae. Longhorn beetles (Cerambycidae) of the West Palaearctic Region. Available from: http://www.cerambyx.uochb.cz/ (last update 20 March 2009).

International Comission of Zoological Nomenclature. 1999. International Code of Zoological Nomenclature. Fourth Edition. The International Trust for Zoological Nomenclature, London. 306 pp.

Lobanov, A. L., Danilevsky, M. L. & Murzin, S. V. 1981. [Systematic list of Longicorn beetles (Coleoptera, Cerambycidae) of the USSR. 1]. Revue d'Entomologie, 60 (4): 784-803 (in Russian).

Lodos, N. 1998. Entomology of Turkey VI (General, Application and Faunistic). Aegean University, Agriculture Faculty Publication, No: 529, Izmir, 300 pp. (In Turkish).

Oymen, T. 1987. The Forest Cerambycidae of Turkey. Istanbul University, Faculty of Forestry, Istanbul, 146 pp. (Unpublished).

Ozdikmen, H. 2007. The Longicorn Beetles of Turkey (Coleoptera: Cerambycidae) Part I - Black Sea Region. Munis Entomology & Zoology, 2(2): 179-422**.**

Ozdikmen, H. 2008. The Longicorn Beetles of Turkey (Coleoptera: Cerambycidae) Part II – Marmara Region. Munis Entomology & Zoology 3(1): 7-152.

Pic, M. 1901. Matériaux pour server a l'étude des Longicornes. Lyon, 3 (3): 29-31.

Plavilstshikov, N. N. 1936. Cerambycidae (P.1). In: Faune de l'URSS. Insects Coléptères. V.21. Moscou, Leningrad, 612 pp.

Sama, G. 2002. Atlas of the Cerambycidae of Europe and the Mediterranean Area, Volume I, Kabourek, Zlin, 173 pp.

Sama, G. 2007. Fauna Europeae: Rhamnusium. Available from: http://www.faunaeur.org/full_results.php?id=115057 (Updated 19.04.2007).

Sama, G. & Sudre, J. 2009. New nomenclatural acts in Cerambycidae. II. (Coleoptera). Bulletin de la Société entomologique de France, 114 (3): 383-388.

Silfverberg, H. 1977. Nomenclature notes on Coleoptera Polyphaga.Notulae entomologicae, 57: 91-94.

Svacha, P. & Danilevsky, M. L. 1988. Cerambycoid Larvae of Europe and Soviet Union (Coleoptera, Cerambycoidea), Part III. Acta Universitatis Carolinae – Biologica, 32: 1-205.

Taglianti, A. V., Audisio, P. A., Biondi, M., Bologna, M. A., Carpaneto, G. M., De Biase, A., Fattorini, S., Piattella, E., Sindaco, R., Venchi, A. & Zapparoli, M. 1999. A proposal for a chorotype classification of the Near East fauna, in the framework of the Western Palaearctic Region. Biogeographia 20: 31-59.

Villiers, A. 1978. Faune des Coleopteres de France, 1. Cerambycidae. Paris, 636 pp.

Vitali, F. 2009. BioLib: Rhagiini. Available from : http://www.biolib.cz/en/taxon/id11173 (Updated 01.03.2009).

Vives, E. 2000. Coleoptera, Cerambycidae. Fauna Iberica, Vol. 12. Museo Nacional de Ciencias naturales. CSIC. Madrid, 715 pp.

Winkler, A. 1924-1932. Catalogus Coleopterorum regionis palaearcticae. Verlag von Albert Winkler, 1135-1226.

Figure 1. Tree pieces into rearing boxes.

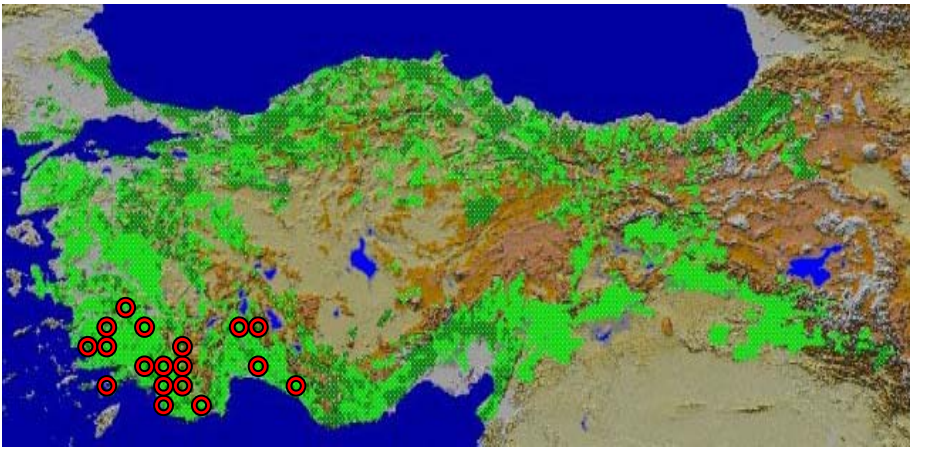

Figure 2. The natural ranges of Oriental sweet gum.

a **b**

Figure 3. *Rhamnusium bicolor* (Schrank, 1781) a) Female b) Male

Figure 4. The damage of larvae in the wood.