

**ON TURKISH *CERAMBYX* LINNAEUS, 1758 WITH
ZOOGEOGRAPHICAL REMARKS (COLEOPTERA:
CERAMBYCIDAE: CERAMBYCINAE)**

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[Özdikmen, H. & Turgut, S. 2009. On Turkish *Cerambyx* Linnaeus, 1758 with zoogeographical remarks (Coleoptera: Cerambycidae: Cerambycinae). Munis Entomology & Zoology 4 (2): 301-319]

ABSTRACT: All taxa of the genus *Cerambyx* Linnaeus, 1758 in Turkey and the whole world are evaluated. The genus is also discussed in detail. The main aim of this catalogic work is to clarify current status of the genus in Turkey. New faunistical data are given in the text. A key for Turkish *Cerambyx* species is also given in the text.

KEY WORDS: *Cerambyx*, Cerambycinae, Cerambycini, Cerambycidae.

Subfamily CERAMBYCINAE Latreille, 1802

Tribe CERAMBYCINI Latreille, 1802

- = Cerambycina Latreille, 1804
- = Cérambycaires Mulsant, 1839
- = Cérambycites verae Thomson, 1860
- = Cerambycites Fairmaire, 1864
- = Cerambycina Thomson, 1866
- = Cérambycides virais Lacordaire, 1869
- = Sphalotrichina Martins & Monné, 2002

Type genus: *Cerambyx* Linnaeus, 1758

The size is large in general. It has brown reddish coloration, slightly brilliant. Head is more or less salient. It is projecting, with very pronounced furrows. Antennae are variable length and long in general, the segments are either smoothed and hornlike or flattened or streamlined. The eyes are large, strongly cut away. They present strong necklines and very rude facets. The maxillary palpus has triangular last segment; tongue membranous, strongly bilobed. The prothorax is rugulose, in general it has conspicuous teeth laterally. It is wrinkled or pleated from side to side. The elytra are long, subparallel or cuneiform and they are covered with a thin hairiness. Front femora globulose, angled or not outside. Intermediate coxal cavity opened. The claws are long and robust. The tribe is wide in distribution, almost cosmopolitan or subcosmopolitan, more abundant in the tropical regions (Villiers, 1978; Vives, 2000).

The tribe includes currently at least 77 genera as *Aeolesthes* Gahan, 1890; *Allodisus* Schwarzer, 1926; *Amphelictus* Bates, 1884; *Atiaia* Martins & Monné, 2002; *Bolbotritus* Bates, 1871; *Bothrocerambyx* Schwarzer, 1929; *Butherium* Bates, 1870; *Calocerambyx* Heller, 1905; *Calpazia* Pascoe, 1857; *Ceramboldus* Quentin & Villier, 1979; *Cerambyx* Linnaeus, 1758; *Cevaeria* Tavakilian, 2003; *Coelodon* Audinet-Serville, 1832; *Coelodoniella* Adlbauer, 2005; *Coleoxestia* Aurivillius, 1912; *Criodion* Audinet-Serville, 1833; *Cyriopalus* Pascoe, 1866;

Derolus Gahan, 1891; *Derolydnus* Hüddepohl, 1989; *Dialeges* Pascoe, 1856; *Dissopachys* Reitter, 1886; *Djabiria* Duvivier, 1891; *Dymasius* Thomson, 1864; *Elydnus* Pascoe, 1869; *Falsoxoanodera* Pic, 1923; *Gibbocerambyx* Pic, 1923; *Hamaticherus* Audinet-Serville, 1834; *Hirtobrasilianus* Fragoso & Tavakilian, 1958; *Hoplocerambyx* Thomson, 1864; *Imbrius* Pascoe, 1866; *Ischionorox* Aurivillius, 1922; *Jebusaea* Reiche, 1877; *Juiaparus* Martins & Monné, 2002; *Jupoata* Martins & Monné, 2002; *Lachnopterus* Thomson, 1864; *Macrambyx* Fragoso, 1982; *Margites* Gahan, 1891; *Massicus* Pascoe, 1867; *Melathemma* Bates, 1870; *Metacriodion* Fragoso, 1970; *Micrambyx* Kolbe, 1893; *Mimosebasmia* Pic, 1946; *Nadezhdiella* Plavilstshikov, 1931; *Neocerambyx* Thomson, 1860; *Neoplocaederus* Sama, 1991; *Ochrodion* Fragoso, 1982; *Opsamates* Waterhouse, 1879; *Pachydissus* Newman, 1838; *Paracriodion* Fragoso, 1982; *Parasphallenum* Fragoso, 1982; *Peruanus* Tippmann, 1960; *Plocaederus* Megerle in Dejean, 1835; *Pneumida* J.Thomson, 1864; *Poeciloxestia* Lane, 1965; *Potiaxixa* Martins & Monné, 2002; *Prospphilus* Thomson, 1864; *Pseudaolesthes* Plavilstshikov, 1931; *Ptycholaemus* Chevrolat, 1858; *Rhytidodera* White, 1853; *Sebasmia* Pascoe, 1859; *Sphallambyx* Fragoso, 1982; *Sphallenopsis* Fragoso, 1981; *Sphallenum* Bates, 1870; *Sphallopterus* Fragoso, 1982; *Sphalotrichus* Fragoso, 1982; *Tapinolachnus* Thomson, 1864; *Taurotagus* Lacordaire, 1869; *Teraschema* Thomson, 1860; *Trachylophus* Gahan, 1888; *Trirachys* Hope, 1841; *Utopia* Thomson, 1864; *Xenopachys* Sama, 1999; *Xestiodion* Fragoso, 1981; *Xoanodera* Pascoe, 1857; *Xoanotrephus* Hüddepohl, 1989; *Zatrephus* Pascoe, 1857 and *Zegriades* Pascoe, 1869. *Diorthus* Gahan, 1891 is a synonym of *Tapinolachnus* Thomson, 1864. The tribe is represented by only one genus, *Cerambyx* Linnaeus, 1758 in Turkey.

Genus **CERAMBYX** Linnaeus, 1758

- = *Hamaticherus* Dejean, 1821 (Type sp.: *Cerambyx heros* Scopoli, 1763)
- = *Hammaticherus* Germar, 1824
- = *Hammaticherus* Redtenbacher, 1845
- = *Hammatochaerus* Bach, 1856
- = *Microcerambyx* Miksic & Georgijevic, 1973
- = *Mesocerambyx* Zagaikévitch, 1991

Type species: *Cerambyx cerdo* Linnaeus, 1758

Body length is large generally. It is approximately between 17 and 56 mm.

Head is large, robust, elongated and deeply grooved medially. Eyes very distant from mandibles, into rude facets, deeply incurved. Antennae are long to very long, basal antennal segments swollen apically, distal segments somewhat flattened laterally with a feeble carina. Pronotum is transverse with lateral tooth, transversely wrinkled or ridged on disc, anteriorly narrower than the base. The prosternum expands to the apex. Elytra are long, slightly tapering posteriorly, with or without sutural spines. Femora are long, flattened laterally. First segment of hind tarsi is almost so long as following two segments (Villiers, 1978; Bily & Mell, 1989; Vives, 2000).

Larval and pupal developments are in broadleaf trees (e.g. *Prunus*, *Crateagus*, *Quercus*, *Juglans*, *Ceratonia*, *Platanus*, *Fagus*, *Castanea*, *Carpinus*, *Betula*, *Ulmus*, *Salix*, *Populus*, *Syringa*, *Tilia*, *Corylus*, *Malus*, *Amygdalus*, *Pyrus*, *Vitis*, *Acer* etc.) (Bense, 1995; Sama, 2002).

Larva characterized by large body, inconspicuous hairy cover on abdominal pleura, large spiracles laterally on abdominal segment I, which are not smaller than on mesothorax (Cherepanov, 1990).

Pupation is in wood. Life cycle is 2-4 years (Bense, 1995; Sama, 2002; Hoskovec & Rejzek, 2009).

The main aim of this work is to clarify current status of the genus in Turkey and the world. 26 species have been known in the world fauna as *Cerambyx apiceplicatus* Pic, 1941; *C. bifasciatus* Linnaeus, 1767; *C. carinatus* (Küster, 1846); *C. castaneus* Voet, 1778; *C. cerdo* Linnaeus, 1758; *C. clavipes* Forster, 1771; *C. dux* (Faldermann, 1837); *C. elbursi* Jurecek, 1924; *C. fasciatus* Voet, 1778; *C. ferrugineus* Goeze, 1777; *C. heinzianus* Demelt, 1976; *C. juvencus* Linnaeus, 1767; *C. klinzingi* Podany, 1964; *C. lucidus* Olivier, 1790; *C. miles* Bonelli, 1823; *C. multiplicatus* Motschulsky, 1859; *C. nodulosus* Germar, 1817; *C. paludivagus* (Lucas, 1842); *C. petechizans* Voet, 1778; *C. praepes* Voet, 1778; *C. quadripunctatus* Fabricius, 1801; *C. rufus* Voet, 1806; *C. scopolii* Füsslins, 1775; *C. surinamensis* Voet, 1778; *C. umbraticus* Olivier, 1795 and *C. welensii* (Küster, 1846). However, Monné & Hovore (2002, 2005), Monné et al., (2007) and Monné & Bezark (2009) stated the species, *C. castaneus* Voet, 1778 (America); *C. clavipes* Forster, 1771 (North America); *C. ferrugineus* Goeze, 1777 (America); *C. lucidus* Olivier, 1790 (America); *C. praepes* Voet, 1778 (America); *C. rufus* Voet, 1806 (America) and *C. umbraticus* Olivier, 1795 (Fr Guiana), as uncertain identity. According to Monné & Bezark (2009), *C. bifasciatus* Linnaeus, 1767 is a synonym of *Hileolaspis auratus* (Linnaeus, 1758) in the tribe Mallaspini. Also, Monné & Bezark (2009) never includes the species, *Cerambyx fasciatus* Voet, 1778; *C. juvencus* Linnaeus, 1767; *C. petechizans* Voet, 1778; *C. quadripunctatus* Fabricius, 1801 and *C. surinamensis* Voet, 1778. With the same approach, Vives (2000) mentioned that the tribe Cerambicini is missing in North America. Since, the taxa names of Voet (1778) are incertae sedis.

As the same above, Newman (1850)'s Australian taxa names, *Cerambyx lativitta* and *C. subserratus*, given by Aurivillius (1912) and Zicha (2009) are also incertae sedis.

So, as mentioned by Vives (2000), we can say that *Cerambyx* Linnaeus, 1758 is a genus distributed in Western Palaearctic Region. It is represented by thirteen species there.

In addition to this, 3 more or less wide spread species have subspecies. These are: *Cerambyx cerdo cerdo* Linnaeus, 1758; *C. cerdo acuminatus* Motschulsky, 1852; *C. cerdo iranicus* Heyrovský, 1951; *C. cerdo mirbecki* (Lucas, 1842); *C. cerdo pfisteri* Stierlin, 1864; *C. welensii welensii* (Küster, 1846); *C. welensii centurio* Czawallina, 1841; *Cerambyx scopolii scopolii* Füsslins, 1775 and *C. scopolii nitidus* Pic, 1892.

The endemic species are *Cerambyx apiceplicatus* Pic, 1941 to Iraq, *C. elbursi* Jurecek, 1924 to Iran, *C. heinzianus* Demelt, 1976 to Turkey, *klinzingi* Podany, 1964 to Caucasus and *C. paludivagus* (Lucas, 1842) to North Africa. Recently, *C. scopolii paludivagus* (Lucas, 1842) was raised by Sama (2008) to species level again. Sama (2008) stated that "*C. paludivagus* was originally described as a distinct species (Lucas, 1842), then (Lucas, 1846) regarded as "une variété du *C.*

cerdo” [very likely *C. cerdo* Scopoli (not Linnaeus), currently *C. scopolii* Fuesslins, 1775]. It is, in facts, a distinct species, more similar to *C. multiplicatus* Motschulsky, 1860 than to *C. scopolii*, not a variety of the latter as stated by Pic (1893, 1896), Normand (1937), Vives (2000) or an aberration (Plavilstshikov, 1931), or a subspecies (Villiers, 1946)”. He also mentioned that this species is only known from Tunisia and Algeria, not in southern Spain. Other species in this genus are more or less wide spread in Western Palaearctic Region.

In Europe, this genus includes seven species as *C. carinatus* (Küster, 1846); *C. cerdo* Linnaeus, 1758; *C. dux* (Faldermann, 1837); *C. miles* Bonelli, 1823; *C. nodulosus* Germar, 1817; *C. scopolii* Füsslins, 1775 and *C. welensii* (Küster, 1846). All species occur also in Turkey.

Demelt (1976) presented a key for Anatolian *Cerambyx* species with the description of the species *Cerambyx heinzianus*. He gave 8 species (6 species plus 2 subspecies) without any exact locality in his key for Anatolia as *Cerambyx cerdo acuminatus*, *C. dux*, *C. heinzianus*, *C. miles*, *C. multiplicatus*, *C. nodulosus*, *C. scopolii nitidus* and *C. velutinus* (= *C. welensii*).

The first record of *Cerambyx carinatus* (Küster, 1846) in Turkey was given by Demelt (1963). Surprisingly, the species was not present for Turkey in Demelt (1976). Demelt (1976) included *C. multiplicatus* Motschulsky, 1859 but any record of this species has been known for Turkey. *C. multiplicatus* is distributed only in Caucasus (Azerbaijan, Georgia) and Iran.

As seen in the present text, however, 8 species (6 species plus 4 subspecies) are known to occur in Turkey in real as *Cerambyx carinatus* (Küster, 1846); *C. cerdo* Linnaeus, 1758; *C. cerdo acuminatus* Motschulsky, 1852; *C. dux* (Faldermann, 1837); *C. heinzianus* Demelt, 1976; *C. miles* Bonelli, 1823; *C. nodulosus* Germar, 1817; *C. scopolii scopolii* Füsslins, 1775; *C. scopolii nitidus* Pic, 1892 and *C. welensii welensii* (Küster, 1846).

The present zoogeographical characterization is based on the chorotype classification of Anatolian fauna, recently proposed by Vigna Taglianti et al. (1999). In the text, as far as possible as one chorotype description can be identified for each taxon.

It is widely accepted that the genus includes currently 2 subgenera as *Cerambyx* Linnaeus, 1758 and *Microcerambyx* Miksic & Georgijevic, 1973. The subgenus *Microcerambyx* includes three species as *C. elbursi* Jurecek, 1924; *C. multiplicatus* Motschulsky, 1859 and *C. scopolii* Füsslins, 1775. Other species belong to the nominative subgenus. Both subgenera are represented in Turkey.

Subgenus CERAMBYX Linnaeus, 1758

Type species: *Cerambyx cerdo* Linnaeus, 1758

The subgenus is represented by 7 species in Turkey.

carinatus Küster, 1846

Original combination: *Hammaticherus carinatus* Küster, 1846

Material examined: Ankara prov.: Güdül, 17.05.2002, 1 specimen, leg. H. Batur; Ankara prov.: Beytepe, 850 m, 07.07.2002, 2 specimens, leg. Y. Durmuş [These materials has never been published, but they mentioned in Özdikmen et al. (2009) under the title records in Ankara wrongly].

Records in Turkey: Denizli prov. (Schimitschek, 1944); Aydın prov.: Germencik (Demelt, 1963; Gül-Zümreoğlu, 1972); Denizli prov.: Sarayköy (Gül-Zümreoğlu, 1975); Turkey (Lodos, 1998; Alkan & Eroğlu, 2001; Özdikmen et al., 2005); Manisa prov.: Muradiye, İzmir prov.: Kemalpaşa (Tezcan & Rejzek, 2002).

Range: Europe (Croatia & Bosnia-Herzegovina, Serbia, Macedonia, Montenegro, Crete, Bulgaria, Malta), Turkey, Iran.

Chorotype: Turano-Mediterranean (Turano-Balkan)

Remarks: The species is distributed only from Croatia to Iran. Generally rare but locally it may be quite abundant. The first record of this species in Turkey was given by Demelt (1963). Surprisingly, the species was not present for Turkey in Demelt (1976).

cerdo Linnaeus, 1758

ssp. ***cerdo*** Linnaeus, 1758

?ssp. ***mirbecki*** Lucas, 1842

?ssp. ***acuminatus*** Motschulsky, 1852

?ssp. ***pfisteri*** Stierlin, 1864

?ssp. ***iranicus*** Heyrovský, 1951

Original combination: *Cerambyx cerdo* Linnaeus, 1758

Other names. *heros* Scopoli, 1763; *luguber* Voet, 1778; *manderstjernae* Mulsant & Godart, 1855.

Material examined: Konya prov.: Taşkent-Alanya road: 80 km to Alanya, 1482 m, N 36 46 E 32 27, 19-28.07.2006, 1 specimen, Hadim, Beyreli village env., 1322 m, N 36 47 E 32 26, 14.06.2007, 1 specimen, Hadim-Alanya road, 70 km to Alanya, 1298 m, N 36 45 E 32 27, 30. 07. 2007, 1 specimen; Osmaniye prov.: Mitisin plateau, N 36 58 E 36 21, 1402 m, 08.2006, 2 specimens, 07.07.2007, 1 specimen.

Records in Turkey: Hatay prov.: Akbez as *C. cerdo acuminatus* (Fairmaire, 1884); İçel prov.: Bolkar Mountains (Bodemeyer, 1906); İstanbul prov.: Belgrad forest (Acatay, 1943); İstanbul prov.: Bosphorus region (Belgrad Forest), Sinop prov.: Ayançık (Schimitschek, 1944); Turkey as *C. heros* (Alkan, 1946); Turkey (Acatay, 1948, 1961, 1963, 1968; Erdem, 1968; Danilevsky & Miroshnikov, 1985; Önder et al., 1987; Althoff & Danilevsky, 1997; Sama, 2002); Bursa prov.: near Soğukpınar (Çanakçıoğlu, 1956); Sakarya prov.: Sapanca (Nizamhoğlu, 1957); Antalya prov.: near Aspendos (Belkıs) as *C. cerdo acuminatus* (Demelt & Alkan, 1962); Antalya prov.: Aspendos, İstanbul prov.: Polonez village as *C. cerdo acuminatus* (Demelt, 1963); İstanbul prov. as *C. cerdo acuminatus* (Villiers, 1967; Sama, 1982); Muğla prov.: Milas (Gül-Zümreoğlu, 1972); Kocaeli prov.: İzmit (Sapanca) (İren & Ahmed, 1973); Muğla prov.: Milas, İzmir prov.: Bergama / Bornova (Gül-Zümreoğlu, 1975); İstanbul prov.: Belgrad Forest, Sinop prov., Bursa prov., Muğla prov., İzmir prov. (Erdem & Çanakçıoğlu, 1977;

Çanakçıoğlu, 1983); İstanbul prov.: Belgrad Forest (Öymen, 1987); Tunceli prov., İstanbul prov.: Üsküdar as *C. cerdo acuminatus* (Adlbauer, 1988); İstanbul prov., Kastamonu prov., Sinop prov., Bursa prov., Muğla prov., İzmir prov., Kahramanmaraş prov. (Kanat, 1998); İstanbul prov.: Belgrad Forest, Bursa prov., Kastamonu prov., Sinop prov.: Ayancık, İzmir prov.: various parts, Muğla prov.: Milas (Lodos, 1998); Niğde prov.: Ulukışla, Adana prov.: Pozantı (Ulusoy et al., 1999); Adıyaman prov.: Karadut village as *C. cerdo acuminatus* (Rejzek & Hoskovec, 1999); Tunceli prov. as *C. cerdo acuminatus* (Tauzin, 2000); Artvin prov.: Ardanuç (Tepedüzü village) (Alkan & Eroğlu, 2001); İzmir prov.: Kemalpaşa (Armutlu) as *C. cerdo acuminatus* (Tezcan & Rejzek, 2002); Antalya prov.: Alanya (Çayarası), Kırklareli prov.: İğneada-Saka lake (Sivriler village) (Özdikmen & Çağlar, 2004); Ankara prov.: Hacıkadın, Kayseri prov. (Özdikmen et al., 2005); Kahramanmaraş prov.: Pazarcık, Kırklareli prov.: Demirköy / İslambeyli, İstanbul prov.: Şile, Sinop prov. as *C. cerdo acuminatus* (Malmusi & Saltini, 2005); Çanakkale prov.: Central (Kordonboyu), Sinop prov.: Türkeli as *C. cerdo acuminatus* (Özdikmen, 2006); Samsun prov.: Central (Çobanlı village), Ankara prov.: Kayaş (Bayındır dam env.), Osmaniye prov.: Mitis's plateau (Özdikmen & Demir, 2006); Kahramanmaraş prov.: Pazarcık (Bağdımsağır) (Özdikmen & Okutaner, 2006); Denizli prov., Bartın prov.: Gafhar district (Özdikmen & Şahin, 2006); Artvin prov.: Şavşat, Şırnak prov.: Central (Özdikmen, 2007); Manisa prov.: Kırkağaç (Tezcan & Can, 2009); Ankara prov.: Kayaş (Özdikmen et al., 2009).

Range: Europe (Portugal, Spain, France, Corsica, Italy, Sicily, Sardinia, Malta, Slovenia, Croatia, Bosnia-Herzegovina, Serbia, Macedonia, Greece, Bulgaria, European Turkey, Romania, Hungary, Austria, Switzerland, Belgium, Netherlands, Denmark, Germany, Luxembourg, Czechia, Slovakia, Poland, Sweden, Latvia, Lithuania, Belorussia, Ukraine, Crimea, Moldavia), North Africa (Algeria, Morocco, Tunisia), Caucasus, Transcaucasia, Near East, Turkey, Iran, Iraq, Israel, Palestine, Syria, Lebanon, Jordan.

Chorotype: Turano-Europeo-Mediterranean

Remarks: It is the most wide spread species of the genus *Cerambyx*. It is also widely distributed in Turkey. The species is represented by two subspecies in Turkey as *C. cerdo cerdo* Linnaeus, 1758 and *C. cerdo acuminatus* Motschulsky, 1852. Materials of this work belongs to the nominative subspecies. It is the first record for Konya province. The species has 5 subspecies in the world as *C. cerdo acuminatus* (Motschulsky, 1852) (in Turkey, Lebanon, Syria, Iran, Crimea, Armenia), *C. cerdo pflisteri* Stierlin, 1864 (in Sicily, ?Italy, ?Malta, ?Greece), *C. cerdo mirbecki* Lucas, 1842 (Portugal, Spain, Algeria, Morocco, Tunisia), *C. cerdo iranicus* Heyrovský, 1951 (Iran) and the nominative *C. cerdo cerdo*. In Sama (2002), he did not accept as distinct subspecies *C. cerdo acuminatus* (Motschulsky, 1852) and *C. cerdo pflisteri* Stierlin, 1864 due to large variability of *C. cerdo* in the size and body shape. We share the same idea, as seen above because of the known data of *C. cerdo acuminatus* (Motschulsky, 1852) in Turkey is unavailable to the allopatric distribution rule of subspecies theoretically. Vives (2000) mentioned that in the whole Iberian peninsula, the species *C. cerdo* is represented by the subspecies *C. cerdo mirbecki* (Lucas, 1842) that was described in North Africa. According to Sama (2002), the status and distribution of *C. cerdo mirbecki* is unclear. He stated that "*specimens from central Morocco as well as specimens from Spain*

which I have seen are indistinguishable from *C. cerdo cerdo* from central and western Europe". So, we share the approach of Danilevsky (2009a) on this subject. According to this approach, "Different populations of *Cerambyx cerdo* do not show distinct differentiations on subspecies level in real. Since the species, *C. cerdo*, has a large variability in the size and body shape".

dux Faldermann, 1837

Original combination: *Hammaticherus dux* Faldermann, 1837

Other names: *orientalis* Küster, 1846; *thirki* Küster, 1846; *intricatus* Fairmaire, 1848; *nodosus* Mulsant, 1863.

Material examined: Osmaniye prov.: Central, 150 m, 19.05.2006, 1 specimen; Kahramanmaraş prov.: Pazarcık, Bağdınısağır district, N 37 35 E 36 46, 787 m, 29.06.2006, 2 specimens, Pazarcık, Central, 07.06.2007, 4 specimens, 20.06.2007, 8 specimens.

Records in Turkey: Hatay prov.: Akbez (Fairmaire, 1884); Antalya prov.: Toros Mountains, Niğde prov.: Çamardı (Bodemeyer, 1900); İçel prov.: Bolkar Mountains (Bodemeyer, 1906); İstanbul prov.: Belgrad Forest (Acatay, 1943); Turkey (Alkan, 1946; Erdem, 1968; Avidov & Harpaz, 1969; Çanakçıoğlu, 1983; Danilevsky & Miroschnikov, 1985; Önder et al., 1987; Sama & Rapuzzi, 2000 Özdikmen & Şahin, 2006); Central Anatolia, Hatay prov.: Dörtyol (Bodenheimer, 1958); İzmir prov.: Bornova, Kayseri prov. (Demelt, 1963); Kahramanmaraş prov., Hatay prov.: Dörtyol (Nizamhoğlu & Gökmen, 1964); Denizli prov.: Sarayköy (Tuatay et al., 1972); İzmir prov.: Bornova (Gül-Zümreoğlu, 1972); Southern Anatolia, Northern Anatolia, Marmara Region (İren & Ahmed, 1973); Denizli prov.: Sarayköy (Gül-Zümreoğlu, 1975); Van prov.: Tatvan, Bingöl prov.: Kuruca pass (Adlbauer, 1988); İzmir prov.: Denizli prov., Kayseri prov., Mediterranean Region, Aegean Region (Lodos, 1998); Niğde prov.: Ulukışla, Adana prov.: Pozantı (Ulusoy et al., 1999); Adıyaman prov.: Karadut village (Rejzek & Hoskovec, 1999); Tunceli prov.: Pülümür, Hatay prov.: Antakya (Tauzin, 2001); Antalya prov.: Central / Gazipaşa, Bilecik prov.: Central, Bingöl prov.: Central / Solhan (Buğlan pass), Burdur prov.: Central, Bursa prov.: Central / Uludağ, Elazığ prov.: Central, Erzincan prov.: Kemaliye (Sandıklı), Erzurum prov.: İspir, Hatay prov.: Cırtıman / İskenderun (Denizciler), Isparta prov.: Eğirdir, İçel prov.: Anamur, İzmir prov.: Kemalpaşa, Kars prov.: Sarıkamış (Karakurt), Kastamonu prov.: Central, Konya prov.: Güneysınır (Gürağaç) / Seydişehir, Malatya prov.: Central, Niğde prov.: Bor, Osmaniye prov.: Çiftmazı / Olukbaşı, Tokat prov.: Central (Tozlu et al., 2002); Adana prov., Ankara prov. (Özdikmen et al., 2005); Gaziantep prov.: Kuşçubeli pass / İslahiye (Kabaklar village / Köklü village), Hatay prov.: İskenderun (entry of Kurtbağı village, Üçgüllük) (Özdikmen & Demirel, 2005); Kahramanmaraş prov.: Pazarcık (Bağdınısağır / Sakarkaya village, Kısıc / Botaş) / Çağlayancerit (Bozlar) / Nurhak (Nurhak-Malatya road, Tatlar) (Özdikmen & Okutaner, 2006); Kırklareli prov.: İğneada (Özdikmen & Demir, 2006); Niğde prov.: between Balcı-Aktaş villages (Özdikmen, 2006); Erzincan prov.: Kemaliye, Muğla prov.: Marmaris and Fethiye (Özdikmen, 2007).

Range: Europe (Macedonia, Bulgaria, Crimea), Caucasus, Transcaucasia, Turkey, Iran, Syria, Israel, Lebanon, Jordan.

Chorotype: Turano-Mediterranean (Turano-Balkan).

Remarks: It distributes widely in Turkey.

heinzianus Demelt, 1976

Original combination: *Cerambyx heinzianus* Demelt, 1976

Records in Turkey: Type loc.: Turkey, Bingöl prov.: Solhan (Demelt, 1976); Bitlis prov.: Tatvan, Bingöl prov.: Solhan (Adlbauer, 1988); Bitlis prov.: Reşadiye (Tauzin, 2001); Bitlis prov.: Güroymak (Malmusi & Saltini, 2005).

Range: Turkey.

Chorotype: Anatolian.

Remarks: It is endemic to Turkey. It is distributed in east Turkey. According to some authors, it may be a synonym of *C. klinzingi* Podany, 1964. Danilevsky (2009a,b) mentioned that *C. cerdo klinzingi* Podany, 1964 described from Caucasus. Danilevsky (2009a) stated that "According to J. Vorisek (personal communication, 1992), *C. cerdo klinzingi*, described from Caucasus is a good species, described later as *C. heinzianus* from Turkey. I do not know Caucasian *C. klinzingi*, but I've got two pairs of Turkish *C. heinzianus* including one paratype. It is evident, that *C. heinzianus* is not close to *C. cerdo* because of rather short antennae: hardly longer than body in male and much shorter than body in female". Consequently, we think that *C. heinzianus* Demelt, 1976 and *C. klinzingi* Podany, 1964 are separate and distinct species of the genus *Cerambyx*. Anyway, the species *C. heinzianus* was placed by Demelt (1976) into the *Cerambyx dux-miles-nodulosus* group. He never discussed it with *C. cerdo* rightly. Nevertheless, the species *C. klinzingi* was described by Podany from Caucasus at infraspecific rank of *C. cerdo* as *C. cerdo klinzingi* Podany, 1964. So, we accept both are separate and distinct species now and not synonym. *C. heinzianus* Demelt, 1976 is endemic to Turkey and *C. klinzingi* Podany, 1964 is endemic to Caucasus. *C. heinzianus* is very close to *C. dux*. *C. miles* and *C. nodulosus* are other related species to it.

miles Bonelli, 1812

Original combination: *Cerambyx miles* Bonelli, 1812

Other names: *militaris* Latreille, 1829; *rufescens* Pic, 1933.

Material examined: Antalya prov.: Alanya, Sarımut-Karapınar, 1092 m, N 36 37 E 32 24, 09.07.2007, 1 specimen; Osmaniye prov.: Düziçi, between Böcekli-Hıdırlı, N 3718 E 36 20, 266 m, 28.06.2006, 2 specimens.

Records in Turkey: İçel prov.: Bolkar Mts. (Bodemeyer, 1906); Diyarbakır prov. (Ex. Gül-Zümreoğlu, 1975); Denizli prov. (Gül-Zümreoğlu, 1975); Edirne prov.: Yerlisu (Sama, 1982); Turkey (Danilevsky & Miroschnikov, 1985; Lodos, 1998; Sama, 2002); İstanbul prov.: Belgrad forest (Öymen, 1987); European Turkey (Althoff & Danilevsky, 1997); Niğde prov.: Ulukışla, Adana prov.: Pozantı (Ulusoy et al., 1999); Adıyaman prov.: Karadut village env. (Rejzek & Hoskovec,

1999); Uşak prov.: Ulubey (Ovacık village), Konya prov.: Taşkent (Özdikmen & Çağlar, 2004); Kahramanmaraş prov.: Pazarcık (Özdikmen & Okutaner, 2005); Bitlis prov.: Güroyamak, İçel prov.: Güzeloluk (Malmusi & Saltini, 2005); Afyon prov.: Akkale hill (Özdikmen, 2006); Bitlis prov.: Reşadiye (Özdikmen & Demir, 2006).

Range: Europe (Spain, Portugal, France, Italy, Sicily, Malta, Slovenia, Croatia and Bosnia and Herzegovina, Serbia, Macedonia, Albania, Greece, Bulgaria, Romania, Hungary, ?Austria, Slovakia, Switzerland, Crimea), Caucasus, Transcaucasia, Turkey, Syria, Lebanon, ?North Africa (Morocco).

Chorotype: S-European. According to Sama (2002), the records of Morocco appear rather doubtful.

Remarks: It distributes rather widely in Turkey (especially west half of Turkey and south Anatolia). The present materials are the first record of Antalya and Osmaniye provinces. Danilevsky (2009a) stated "*according to A. Miroshnikov (2004), *Cerambyx miles Bonelli* was described in 1812, but not in 1823*".

nodulosus Germar, 1817

Original combination: *Cerambyx nodulosus* Germar, 1817

Other names: *nodicornis* Küster, 1846.

Records in Turkey: Asia Minor as *C. nodulosus nodicornis* Küster, 1846 (Winkler, 1924-1932); İstanbul prov.: Belgrad Forest as *Cerambyx nodicornis* (Acatay, 1943); İstanbul prov.: Bosphorus region (Bahçeköy) (Schimitschek, 1944); Turkey (Acatay, 1948, 1961, 1968; Erdem, 1968; Çanakçıoğlu, 1983; Danilevsky & Miroshnikov, 1985; Lodos, 1998); Bursa prov.: Gürsü Forest (Çanakçıoğlu, 1956); İstanbul prov. (Villiers, 1967); İçel prov.: Namrun, İstanbul prov.: Alem Mountain (Demelt, 1967); Manisa prov.: Demirci (Gül-Zümreoğlu, 1972); İzmir prov.: Bornova (Gül-Zümreoğlu, 1975); Erzurum prov. and near (Özbek, 1978); Bingöl prov.: Central, Osmaniye prov.: Nurdağı pass, Mardin prov.: Hop pass (Adlbauer, 1992); European Turkey (Althoff & Danilevsky, 1997); Adıyaman prov.: Karadut village env. (Rejzek & Hoskovec, 1999); Isparta prov.: Eğirdir (Tauzin, 2000); Adana prov.: Seyhan, Antalya prov.: Manavgat, Artvin prov.: Yusufeli, Erzurum prov.: Tortum (Kaledibi), İçel prov.: Tarsus (Bağlarbaşı) (Tozlu et al., 2002); Manisa prov.: Muradiye (Tezcan & Rejzek, 2002); Uşak prov.: Ulubey (Ovacık village, Gökgez hill), Muğla prov.: Kemer (Ceylan village), Konya prov.: Taşkent (İshaklı village, Gevne valley), Antalya prov.: Alanya (Çayarası plateau-Sarımut bridge), İçel prov.: Gözne (Özdikmen & Çağlar, 2004); İçel prov.: from Tarsus to Çamlıyayla (Malmusi & Saltini, 2005); Kahramanmaraş prov.: Pazarcık (Botas) (Özdikmen & Okutaner, 2006); Bitlis: Nemrut Mountain (Özdikmen, 2007).

Range: Europe (Italy, Malta, Albania, Slovenia, Croatia, Bosnia-Herzegovina, Serbia, Macedonia, Greece, Bulgaria, European Turkey, Romania, Crimea), Caucasus, Transcaucasia, Turkey, Syria.

Chorotype: Turano-Mediterranean (Turano-Apeninian) + Turano-European (Turano-Sarmato-Pannonian).

Remarks: It distributes Italy to Caucasus and rather widely in Turkey. It occurs very likely in Iran.

welensii Küster, 1846

ssp. **welensii** Küster, 1846

ssp. **centurio** Czawallina, 1841

Original combination: *Hammaticherus welensii* Küster, 1846

Other names: *velutinus* Brullé, 1832; *tuniseus* Pic, 1891; *tunisicus* Pic, 1892; *minor* Pic, 1926.

Material examined: Antalya prov.: Alanya: Sarımut env., 1113 m, N 36 37 E 32 23, 09.07.2007, 2 specimens; Akseki, Yarpuz env., 1615 m, N 37 13 E 31 55, 10.07.2007, 1 specimen; Kahramanmaraş prov.: Pazarcık, Bağdınısağır district, 2005, 2 specimens; Konya prov.: Beyşehir-Akseki road, Huğlu env., 1398 m, N 37 28 E 31 37, 11.07.2007, 1 specimen; Taşkent: Avşar, 1556 m, N 36 54 E 32 30, 09.07.2007, 1 specimen; Osmaniye prov.: Düziçi, between Böcekli-Hıdırlı, N 37 18 E 36 20, 266 m, 28.06.2006, 1 specimen.

Records in Turkey: İçel prov.: Bolkar Mts. as *C. velutinus* (Bodemeyer, 1906); İstanbul prov.: Belgrad Forest as *C. velutinus* (Acatay, 1943); İstanbul prov.: Polonez village, Alem Mountain as *C. velutinus* (Demelt, 1963); Turkey as *C. velutinus* (Erdem, 1968; Çanakçıoğlu, 1983; Lodos, 1998); İstanbul prov.: Belgrad forest as *C. velutinus* (Öymen, 1987); Adıyaman prov.: Karadut village env. (Rejzek & Hoskovec, 1999); Turkey (Sama & Rapuzzi, 2000; Sama, 2002); Antalya prov., Karaman prov. (Tozlu et al., 2002); Antalya prov.: Alanya (Çayarası plateau-Sarımut bridge) (Özdikmen & Çağlar, 2004); Kahramanmaraş prov.: Pazarcık, İçel prov.: Ortagören-Mut (Malmusi & Saltini, 2005); İstanbul prov.: Çamlıca (Özdikmen & Demir, 2006); İzmir prov.: Kınık (Tezcan & Can, 2009).

Range: Europe (Spain, Portugal, France, Italy, Sicily, Malta, Slovenia, Croatia and Bosnia and Herzegovina, Serbia, Greece, Crete, Bulgaria, Romania, Hungary, Ukraine), Caucasus, Turkey, Middle East (Syria, Jordan, Lebanon, Israel), Iran.

Chorotype: S-European.

Remarks: It distributes rather widely in Turkey (especially west half of Turkey and south Anatolia). The present materials are the first record of Konya and Osmaniye provinces. The species is represented by the nominative subspecies in whole Turkey. Other subspecies of the species, *C. welensii centurio* Czawallina, 1841 only known from Syria. *Cerambyx velutinus* Brullé, 1832 (nec F., 1775) was replaced with *C. welensii* Küster, 1846 by Sama (1991).

Subgenus MICRO CERAMBYX Miksic & Georgijevic, 1973

= *Mesocerambyx* Zagalkevitch, 1991

Type species: *Cerambyx scopolii* Füsslins, 1775

The subgenus is represented by 1 species in Turkey.

scopolii Füsslins, 1775
 ssp. ***scopolii*** Füsslins, 1775
 ssp. ***nitidus*** Pic, 1892

Original combination: *Cerambyx scopolii* Füsslins, 1775

Other names: *cerdo* Poda, 1761 (preocc.); *heros* Bergstraesser, 1778; *gallicus* Voet, 1778; *piceus* Geoffroy, 1785; *helveticus* Stierlin, 1879.

Material examined: Osmaniye prov.: Zorkun road, Fenk plateau, N 36 59 E 36 20, 1049 m, 24.06.2006, 7 specimens; 22.07.2006, 2 specimens.

Records in Turkey: İçel prov.: Burna, Antalya prov.: Toros Mountains, Niğde prov.: Çamardı, Sakarya prov.: Sapanca (Gökdağ) (Bodemeyer, 1900); İstanbul prov.: Belgrad Forest (Acatay, 1943); İstanbul prov.: Bosphorus region (Belgrad Forest), Sinop prov.: Ayancık, Trabzon prov.: Meryemana Forest (Schimitschek, 1944); Turkey (Acatay, 1948, 1961, 1968; Erdem, 1968; Çanakçıoğlu, 1983; Danilevsky & Miroshnikov, 1985; Althoff & Danilevsky, 1997; Lodos, 1998; Sama, 2002); İstanbul prov.: Polonez village (Demelt & Alkan, 1962; Demelt, 1963); Samsun prov.: Bafra, Rize prov.: Fındıklı (Villiers, 1967); İstanbul prov.: Polonez village (İren & Ahmed, 1973); Artvin prov.: Saçınka (Sekendiz, 1981); İstanbul prov.: Belgrad Forest (Öymen, 1987); Osmaniye prov.: Nurdağı pass as *C. scopolii nitidus* (Pic, 1892) (Adlbauer, 1988); Tokat prov.: Topçam Mountain (Adlbauer, 1992); Kars prov.: Sarıkamış (Tozlu, 2001); Artvin prov.: Arhavi (Kireçli), Bingöl prov.: Central, Kars prov.: Sarıkamış (Tozlu et al., 2002); Kırklareli prov.: İğneada-Saka lake (Sivriler village) / İğneada (Pedina lake) (Özdikmen & Çağlar, 2004); Kırklareli prov.: Demirköy, Bolu prov.: Abant (Malmusi & Saltini, 2005); Artvin prov.: Hopa, İçel prov.: Çamhyayla as *C. scopolii nitidus* (Pic, 1892) (Malmusi & Saltini, 2005); Kırklareli prov.: İğneada (Özdikmen & Demir, 2006); Edirne prov. (Özdikmen & Şahin, 2006).

Range: Europe (Portugal, Spain, France, Corsica, Italy, Sicily, Sardinia, Malta, Albania, Slovenia, Croatia, Bosnia-Herzegovina, Serbia, Macedonia, Greece, Crete, Bulgaria, European Turkey, Romania, Hungary, Austria, Switzerland, Belgium, Netherlands, Denmark, Germany, Luxembourg, ?Great Britain, Czechia, Slovakia, Norway, Poland, Sweden, ?Estonia, Latvia, ?Lithuania, Belorussia, Ukraine, Crimea, Moldavia, European Russia), Caucasus, Transcaucasia, Near East, Turkey.

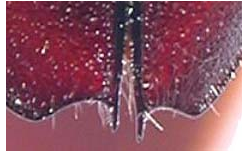
Chorotype: European.

According to Sama (2002), records from North Africa are belonging to *C. paludivagus* Lucas, 1846.S-European.

Remarks: It distributes widely in Turkey. The species is represented by two subspecies in Turkey. *C. scopolii nitidus* (Pic, 1892) occurring only in South Turkey and the nominative *C. scopolii scopolii* occurring in other parts of Turkey. According to Sama (2002 and 2008), *C. paludivagus* Lucas, 1846 is a distinct species in North Africa and not a form of *C. scopolii*. The present materials belong to the subspecies *C. scopolii nitidus* Pic, 1892.

A short key for Turkish *Cerambyx* species

1. Apex of each elytron extended into a sutural spine.....2



- Apex of each elytron rounded or blunt.....4

2. Second antennal segment in the shape of a ring, nearly three times as wide as long.....*carinatus* Küster, 1846



- Second antennal segment at the inner edge as long as wide, not in the shape of a ring.....3



3. First and second segments of hind tarsus with a smooth glabrous furrow on the underside. Abdomen with a very fine and thin pubescence, macroscopically shining..... *cerdo* Linnaeus, 1758

- Only first segment of hind tarsus with a smooth glabrous furrow on the underside. Abdomen with dense pubescence, macroscopically grey and dull.....
.....*welensii* Küster, 1846

4. Second antennal segment at the inner edge as long as wide, not in the shape of a ring.....5

- Second antennal segment in the shape of a ring, nearly three times as wide as long.....3

5. Elytra totally black, with fine grey pubescence. Relatively small body.....
.....*scopolii* Füsslins, 1775

- Elytra black or blackish onlt at the base, becoming paler, reddish brown towards the apex.....6

6. Antennae reaching beyond the elytral apex or hardly longer than the body in males. Eyes large, the lower edge nearly reaching to the underside of the head.....7

- Antennae in males more longer than the body. Eyes smaller, the lower edge well removed from the underside of the head.....**8**

7. 3 to 5 antennal segments in males very knobly thickened.....
.....**dux** Faldermann, 1837



- 3 to 5 antennal segments in males longer and less knobly thickened.....
.....**heinzianus** Demelt, 1976



8 Front tarsus with very broad segments, second segment wider than its median length. In females, antennae only reaching to the middle of the elytra.....
.....**miles** Bonelli, 1812

- Front tarsus with less broad segments, second segment not wider than its median length. In females, antennae reaching to the last quarter of the elytra.....
.....**nodulosus** Germar, 1817

* This work supported by the projects of TÜBİTAK (project number TBAG-105T329) and GAZİ UNIVERSITY (project number BAP-06/32).

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Table 1. Undoubted taxa of the genus *Cerambyx* Linnaeus, 1758.

SPECIES	PRE-SENCE IN TURKEY	CHOROTYPE
<i>Cerambyx apiceplicatus</i> Pic, 1941	-	Iraqi endemic
<i>C. carinatus</i> (Küster, 1846)	+	Turano-Mediterranean (Turano-Balkan)
<i>C. cerdo</i> Linnaeus, 1758	+	Turano-Europeo-Mediterranean
<i>C. dux</i> (Faldermann, 1837)	+	Turano-Mediterranean (Turano-Balkan)
<i>C. elbursi</i> Jurecek, 1924	-	Endemic for Iran
<i>C. heinzianus</i> Demelt, 1976	+	Anatolian endemic
<i>C. klinzingi</i> Podany, 1964	-	Caucasian endemic
<i>C. miles</i> Bonelli, 1823	+	S-European
<i>C. multiplicatus</i> Motschulsky, 1859	-	SW-Asiatic
<i>C. nodulosus</i> Germar, 1817	+	Turano-Mediterranean (Turano-Appenninian) + Turano-European (Turano-Sarmato-Pannonian)
<i>C. paludivagus</i> (Lucas, 1842)	-	North African endemic
<i>C. scopolii</i> Füsslins, 1775	+	European
<i>C. welensii</i> (Küster, 1846)	+	S-European

Table 2. Doubtful taxa of the genus *Cerambyx* Linnaeus, 1758.

SPECIES	CHOROTYPE	REMARKS
<i>Cerambyx castaneus</i> Voet, 1778	Nearctic	incertae sedis
<i>C. clavipes</i> Forster, 1771	Nearctic	incertae sedis
<i>C. fasciatus</i> Voet, 1778	Nearctic	incertae sedis
<i>C. ferrugineus</i> Goeze, 1777	Nearctic	incertae sedis
<i>C. juveneus</i> Linnaeus, 1767	Neotropic	incertae sedis
<i>C. lativitta</i> Newman, 1850	Australian	incertae sedis
<i>C. lucidus</i> Olivier, 1790	Neotropic	incertae sedis
<i>C. petechizans</i> Voet, 1778	Nearctic	incertae sedis
<i>C. praepes</i> Voet, 1778	Nearctic	incertae sedis
<i>C. quadripunctatus</i> Fabricius, 1801	Neotropic	incertae sedis
<i>C. rufus</i> Voet, 1806	Nearctic	incertae sedis
<i>C. subseratus</i> Newman, 1850	Australian	incertae sedis
<i>C. surinamensis</i> Voet, 1778	Neotropic	incertae sedis
<i>C. umbraticus</i> Olivier, 1795	Neotropic	incertae sedis

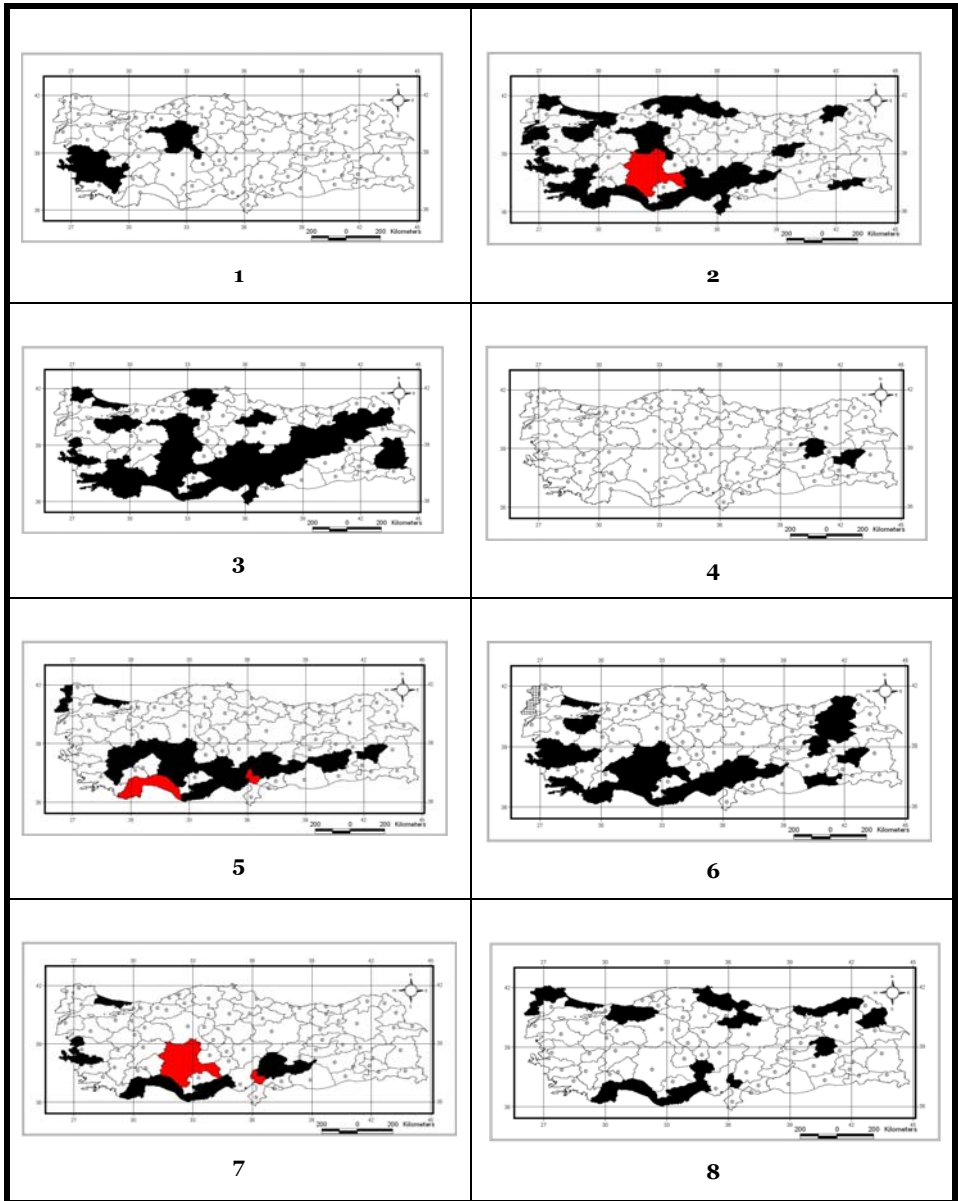


Plate I. Distributional map in Turkey of 1. *Cerambyx carinatus*, 2. *C. cerdo*, 3. *C. dux*, 4. *C. heinzianus*, 5. *C. miles*, 6. *C. nodulosus*, 7. *C. welskii*, 8. *C. scopoli*.