A ZOOGEOGRAPHICAL REVIEW OF SPONDYLIDINAE IN TURKEY (COLEOPTERA: CERAMBYCIDAE)

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ABSTRACT: The taxa of Turkish Spondylidinae fauna that were recorded by various authors from different localities of Turkey are evaluated zoogeographically with the present paper. For this reason, the distribution patterns in Turkey and rest of the world for each taxon of related subfamily are determined. Also, chorotypes for each taxon are given in the parts of zoogeographical remarks.

Key Words: Coleoptera, Cerambycidae, Spondylidinae, Turkey, Zoogeography, Fauna

The longhorn beetles or Cerambycidae are classified together with Chrysomelidae and Bruchidae in the superfamily Chrysomeloidea. But, some authors recognized Cerambycidae as a separate superfamily Cerambycoidea (Svacha & Danilevsky, 1986). Cerambycidae sensu stricto is divided into several subfamilies. These are Parandrinae, Prioninae, Lepturinae, Necydalinae, Spondylidinae, Apatophyseinae, Cerambycinae and Lamiinae. Parandrinae are not represented in Turkey. Moreover, the subfamilies Necydalinae and Apatophyseinae are represented only a few species in Turkey.

The Turkish Spondylidinae fauna has not been evaluated as detailed by any authors yet. The works on the fauna of Spondylidinae in Turkey have been carried out especially towards late second half of the 20. century mostly faunistically. These are: Fairmaire (1884), Schimitschek (1944), Alkan (1946), Erdem (1947), Acatay (1948, 1961, 1963 and 1968), Defne (1954), Çanakçıoğlu (1956 and 1983), Demelt & Alkan (1962), Demelt (1963 and 1967), Villiers (1967), Erdem (1968), Besçeli (1969), Gfeller (1972), Gül-Zümreoğlu (1972 and 1975), Tosun (1975), Erdem & Çanakçıoğlu (1977), Lobanov et al. (1981), Sekendiz (1981), Sama (1982 and 2002), Danilevsky & Miroshnikov (1985), Svacha & Danilevsky (1986), Öymen (1987), Önder et al. (1987), Adlbauer (1988 and 1992), Sama & Rapuzzi (1993), Yüksel (1996), Lodos (1998), Tauzin (2000), Alkan (2000), Tozlu (2001), Tozlu et al. (2002), Danilevsky (2005), Özdikmen & Çağlar (2004), Özdikmen & Şahin (2005), Malmusi & Saltini (2005), Özdikmen (2006). But, any work included the subfamily Spondylidinae completely is presently related to Turkish fauna. The known taxa of Spondylidinae in the studies above have been given together with other examined Cerambycidae taxa by various authors step by step. So nowadays, such data about the Turkish Spondylidinae fauna have reached a considerable level. The main aim of the present paper is to

evaulate the Turkish Spondylidinae fauna zoogeographically and faunistically by using known data.

In this paper classification and nomenclature of the longhorn beetles suggested by Danilevsky, 2005 and Althoff & Danilevsky, 1997 are followed. All genera are listed in the same order as in Danilevsky (2005), Althoff & Danilevsky (1997) and Sama (2002). Within the genera the species are listed alphabetically. Each name of a species or subspecies is accompained by the author's name and description date. The data, "Current records from Turkey", "Range" and "Zoogeographical Remarks" under the title for each taxon is given in this present text. The present zoogeographical characterization is based on the chorotype classification of Anatolian fauna, recently proposed by Vigna Taglianti et al. (1999).

Subfamily Spondylidinae
Tribe Saphanini
Genus *Drymochares* Mulsant, 1847
Drymochares starcki Ganglbauer, 1888

The species has three subspecies in the World. These are nominate *Drymochares starcki starcki* Ganglbauer, 1888; *Drymochares starcki cavazzutii* Sama & Rapuzzi, 1993 and *Drymochares starcki ivani* Sama & Rapuzzi, 1993. *Drymochares starcki starcki* Ganglbauer, 1888 occurs only in Caucasus. *Drymochares starcki cavazzutii* is known from Abchazia, Armenia and north-eastern Turkey. *Drymochares starcki ivani* is only known from northern part of Turkey (Sama & Rapuzzi, 1993). These taxa may be distinguished by the different pubescence of elytra. Tauzin (2000) mentioned that Ilgaz Mountains in Kastamonu province was the hybridization area for the two subspecies occurring in Turkey.

Drymochares starcki cavazzutii Sama & Rapuzzi, 1993

Current records from Turkey: Artvin prov.: pass between from Borçka and Hopa (type locality); Turkey (Lobanov et al., 1981); Artvin prov.: from Borçka to Hopa (Sama, 1982); Northern Turkey (Danilevsky & Miroshnikov, 1985); Eastern Black Sea Region (Svacha & Danilevsky, 1986); Artvin prov.: Çifteköprüler and Murgul (Petek forest); Gümüşhane prov.: Zigana Mts. (Adlbauer, 1988; Sama & Rapuzzi, 1993); Giresun prov.: Dereli; Ordu prov.: Harçbeli; Hasancık; Gölköy; Gürgentepe; Mesudiye; Tokat prov.: Niksar; Samsun prov.: Yenigün, Alaçam; Sinop prov.: Dranaz Mt., Yenikonak; Kastamonu prov.: Çatalzeytin, between Azdavay and Pınarbaşı, Ilgaz Mts. (Sama & Rapuzzi, 1993); Samsun prov.: Ladik and ?Layvikent (=Yakakent); Gümüşhane prov.: Şiran; Artvin prov.: Murgul; Ordu prov.: Akkuş; Kastamonu prov.: Ilgaz Mts. (Tauzin, 2000); Samsun prov.: Kavak, Hacılar pass; Artvin prov.: Cankurtaran pass (Malmusi & Saltini, 2005).
Range: Turkey, Caucasus (Sama & Rapuzzi, 1993).
Zoogeographical remarks: The subspecies is distributed in Turkey from Artvin to Kastamonu provinces in North Turkey. All old records before 1993 from Turkey should belong to this subspecies.

Drymochares starcki ivani Sama & Rapuzzi, 1993

Current records from Turkey: Bolu province: Abant (type locality) ; Bolu province (Tauzin, 2000); Bolu province: Abant; Zonguldak province: from Karadere to Eğerci (Malmusi & Saltini, 2005). **Range:** Turkey. **Zoogeographical remarks:** The subspecies is distributed only towards West of Kastamonu province in North Turkey. Up to now, it has been known from a rather local area in Turkey.

Genus *Saphanus* Serville, 1834
Saphanus piceus (Laicharting, 1784)

Current records from Turkey: There is no published record from Turkey. However, this species collected in Turkey is preserved in the collection of Stanislav Kadlec (Czechia) according to Danilevsky (2004). **Range:** Europe (Winkler, 1924-1932); Central and North of South Europe (Svacha & Danilevsky, 1986); Europe (Bense, 1985); Europe (Althoff & Danilevsky, 1997); Europe: from French Alps to Bulgaria and Greece (Sama, 2002); Europe

and Balkan Peninsula (Danilevsky, 2005). **Zoogeographical remarks:** The species is distributed only in Europe and probably European Turkey. It has the S-European chorotype.

Genus *Oxypleurus* Mulsant, 1839

Oxypleurus nodieri Mulsant, 1839

Current records from Turkey: Antalya province: Bey Mts. (Demelt, 1963); Southern Turkey (Sama, 2002). **Range:** Mediterranean Region (Winkler, 1924-1932); Crimea, Europe, North Africa (Danilevsky & Miroshnikov, 1985); Mediterranean area (inc. Canary Islands), as far eastwards as the Black Sea, South Africa (Svacha & Danilevsky, 1986); Europe, North Africa (Bense, 1985); Europe (Althoff & Danilevsky, 1997); Southern Europe, Southern Turkey, Canary Islands, Madeira, North Africa, imported to South Africa (Sama, 2002); Crimea Peninsula, Caucasus, North Africa, South Europe, Balkan Peninsula (Danilevsky, 2005). **Zoogeographical remarks:** The species is distributed only in South part of Turkey. It has the Mediterranean chorotype.

Tribe Anisarthronini

Genus *Anisarthron* Redtenbacher, 1845

Anisarthron barbipes (Schrank, 1781)

Current records from Turkey: The species has been reported only by Lodos (1998) from Turkey without exact locality. **Range:** Europe (Winkler, 1924-1932); Central Europe, up to Northern Italy and North of the Balkan Peninsula (Svacha & Danilevsky, 1986); Europe (Bense, 1985); Europe: from Italy to Ukraine (Althoff & Danilevsky, 1997); Western, Central and Eastern Europe (Sama, 2002); Europe and Balkan Peninsula (Danilevsky, 2005). **Zoogeographical remarks:** Unfortunately any record with exact locality in Turkey has not been given according to the literature yet. For this reason the real status in Turkey of this taxon needs to be clarified. It has the S-European chorotype.

Genus *Alocerus* Mulsant, 1862

Alocerus moesiacus (Frivaldsky, 1838)

Current records from Turkey: Turkey (Svacha & Danilevsky, 1986); Isparta province: Eğirdir, Kovada (Adlbauer, 1992); Turkey (Lodos, 1998); Antalya province: Kumluca (Tozlu et al., 2002); Kırklareli province: İğneada, Mert lake (Özdikmen & Çağlar, 2004). **Range:** Mediterranean Region (Winkler, 1924-1932); Mediterranean Region (Svacha & Danilevsky, 1986); South Europe, North Africa (Bense, 1985); South Europe: from Portugal to Bulgaria and Greece (Althoff & Danilevsky, 1997). **Zoogeographical remarks:** The species is distributed in European Turkey and South Anatolia in Turkey. It has the Mediterranean chorotype.

Tribe Asemini

Genus *Nothorhina* Redtenbacher, 1845

Nothorhina muricata (Dalman, 1817)

Current records from Turkey: The species has been reported as N. punctata by Lobanov et al., 1981 and Svacha & Danilevsky, 1986 from Turkey without exact locality. **Range:** Central and North Europe (Winkler, 1924-1932); Japan (Kusama & Takakuwa, 1984); Europe, South-West Siberia, Asia Minor, Japan (Svacha & Danilevsky, 1986); Europe, European Russia (Bense, 1985); Europe, European Russia, European Kazakhstan (Althoff & Danilevsky, 1997); Northern Palaearctic Region from Western Europe to Japan (Sama, 2002); Europe, Balkan Peninsula, Kazakhstan, West Siberia, Near East, Japan (Danilevsky, 2005). **Zoogeographical remarks:** Unfortunately any record with exact locality in Turkey has not been given according to the literatures yet. For this reason the real status in Turkey of this taxon needs to be clarified. It has the Sibero-European chorotype.

Genus *Asemum* Eschscholtz, 1830

Asemum striatum (Linnaeus, 1758)

Current records from Turkey: Turkey (Acatay, 1948, 1961 and 1968); Sinop province: Hassan, 45 km SE Sinop (Villiers, 1967); Gümüşhane province: Torul Mts. (Gfeller, 1972); Gümüşhane province (Öymen, 1987); Tokat province: Topçam Mt. and Yıldız Mt., Almus, Teknecik (Adlbauer, 1992); Turkey (Lodos, 1998); Kars province: Sarıkamış (Tozlu, 2001); Kars province: Sarıkamış (Tozlu et al., 2002); Northern Turkey (Sama, 2002). **Range:** Palaearctic Region (Winkler, 1924-1932); European Russia, Caucasus, Siberia, Europe, Mongolia, North-East China, Japan, Korea, Northern America (Danilevsky & Miroshnikov,

1985); Palaearctic Region, North America (Svacha & Danilevsky, 1986); Europe, European Russia (Bense, 1985); Europe, European Russia, European Kazakhstan (Althoff & Danilevsky, 1997); Europe, Northern Turkey, Caucasus, Siberia, Manchuria, Korea, Sakhalin, Japan, North America (Sama, 2002); Europe, Balkan Peninsula, Caucasus, Republics of Central Asia, Kazakhstan, West and East Siberia, Far East Russia, Sakhalin, Mongolia, Korea, Japan (Danilevsky, 2005). **Zoogeographical remarks:** Apparently the species is distributed only in North parts of Turkey. It has the Holarctic chorotype.

Asemum tenuicorne Kraatz, 1879

Current records from Turkey: Ankara province: Kızılcahamam (Demelt, 1967); Turkey (Lobanov et al., 1981); Turkey (Danilevsky & Miroshnikov, 1985); Turkey (Svacha & Danilevsky, 1986); Turkey (Lodos, 1998); Asia Minor (Central and South-Eastern Turkey) (Sama, 2002). **Range:** Crimea, Caucasus, Syria (Winkler, 1924-1932); Crimea, Caucasus, Transcaucasia, Near East, Turkey (Danilevsky & Miroshnikov, 1985); Crimea, Caucasus, Transcaucasia, Turkey, Syria, Greece, ? Sweden (Svacha & Danilevsky, 1986); Italy, Greece, Romania, Sweden, Crimea (Althoff & Danilevsky, 1997); Europe (incl. Sweden, Italy, Greece, Rumania, Crimea, Central and South-Eastern Turkey, West Caucasus, Northern Spain) (Sama, 2002); Crimea, Caucasus, Europe, Near East (Danilevsky, 2005). **Zoogeographical remarks:** Apparently the species is distributed in Central and South parts of Turkey. It has probably the Turano-European chorotype.

Genus *Arhopalus* Serville, 1834

Arhopalus ferus (Mulsant, 1839)

Current records from Turkey: Hatay province: Akbez (Fairmaire, 1884); Bolu province: Abant as C. polonicus (Alkan, 1946); İzmir province: Central; Aydın province: Kuşadası (Demelt, 1963); Antalya province: Gebiz, Bozburan Mt. as Arhopalus tristis (Villiers, 1967); İzmir province: Bornova; Tokat province: Turhal (Gül-Zümreoğlu, 1972 and 1975); Turkey as Arhopalus tristis Lobanov et al., 1981); Eskişehir province: Bokuyak (=?Bozüyük) as Arhopalus tristis (Sama, 1982); Çanakkale province: Gelibolu; Ankara province: Botanic Garden as Arhopalus tristis (Öymen, 1987); Çanakkale province: İntepe as Arhopalus tristis (Adlbauer, 1988); Tokat province: Turhal; İzmir province; Marmara Region, Aegean Region (Lodos, 1998); Adana province: Balcalı and Kozan; Antalya province: Central, Serik, Alanya, Topçam and Akseki; Bilecik province: Central; Kütahya province: Tavşanlı (Tozlu et al., 2002); Aydın province : Kuşadası ; Kırklareli province : İslambeyli ; Muğla province : Marmaris (Malmusi & Saltini, 2005) ; Turkey (Özdikmen & Şahin, 2006). **Range:** Europe, Siberia (Winkler, 1924-1932); European Russia, Caucasus, Transcaucasia, Siberia, Europe, Near East, Northern China, North Africa (Danilevsky & Miroshnikov, 1985); Most of Palaearctic Region (Svacha & Danilevsky, 1986); Europe, European Russia, North Africa (Bense, 1995); Europe, European Russia, European Kazakhstan (Althoff & Danilevsky, 1997); North Africa, Europe, Caucasus, Transcaucasia, Syria, Israel, Siberia, China (Sama, 2002); Europe, Balkan Peninsula, Crimea, Caucasus, Kazakhstan, West Siberia, Far East Russia, North Africa, Near East, China (Danilevsky, 2005). **Zoogeographical remarks:** Apparently the species is rather widely distributed in Turkey (especially West half of Turkey). It has the Sibero-European and the Turano-Europeo-Mediterranean chorotypes.

Arhopalus rusticus (Linnaeus, 1758)

Current records from Turkey: Between Ordu province and Bolu Mts. (Alkan, 1946); Sinop province: Ayancık (Schimitschek, 1944); Turkey (Acatay, 1948, 1961 and 1968); Tokat province: Arguslu (Villiers, 1967); Bolu province: Bolu Mts., Mengen (Demelt, 1967); Karabük province: Büyükdüz Research Forest (Besçeli, 1969); Denizli province: Buldan (Gül-Zümreoğlu, 1975); Antalya province: Manavgat (Karavca place), Korkuteli (Yazır forests), Serik (Belek forest) (Tosun, 1975); Bolu province, Sinop province: Ayancık, Gümüşhane province, Trabzon province: Akçaabat, Antalya province: Manavgat, Korkuteli, Serik, Denizli province (Erdem & Çanakçıoğlu, 1977); Gümüşhane province: Torul, Örümcek Serisi forests, Trabzon province: Akçaabat, around Düzköy (Sekendiz, 1981); Bolu province, Sinop province: Ayancık, Gümüşhane province, Trabzon province: Akçaabat, Antalya province: Manavgat, Korkuteli and Serik, Denizli province (Çanakçıoğlu, 1983); Northern Turkey (Danilevsky & Miroshnikov, 1985); Artvin province: Atilla Forest, Muğla province: Central, Balıkesir province: Dursunbey, Alaçam, İstanbul province: Büyükada and Belgrad Forest (Öymen, 1987); Turkey (Önder et al., 1987); Kütahya province, Kastamonu province: Yaralıgöz pass, Sinop province: Boyabat, Dıranaz pass, Rize province: İkizdere (Adlbauer,

1992); Artvin province: Şavşat (Yayla, Kocabey place) and (Veliköy, Karagöl Forests), Gümüşhane province: Karanlıkdere Forests (Yüksel, 1996); Gümüşhane province, Artvin province, Kars province, East Anatolian Region, Aegean Region, Western Black Sea Region, Mediterranean Region (Lodos, 1998); Artvin province: Ardanuç, Ovacık (Alkan, 2000); Kars province: Sarıkamış (Tozlu, 2001); Ankara province: Çamlıdere, Bayburt province: Central, Gümüşhane province: Central and Kürtün, Kars province: Sarıkamış (Tozlu et al., 2002); Turkey (Sama, 2002); Ordu province: Perşembe, Çaytepe Özdikmen, 2006); Karabük province: Büyükdüz Research Forest (Özdikmen & Şahin, 2006). **Range:** Europe (Winkler, 1924-1932); European Russia, Caucasus, Transcaucasia, Siberia, Europe, North Iran, North Turkey, Mongolia, Korea, Northern China, Japan, North Africa, North Amerika (Danilevsky & Miroshnikov, 1985); Most of Palaearctic Region, North America (Svacha & Danilevsky, 1986); Europe, European Russia, North Africa (Bense, 1995); Europe, European Russia, European Kazakhstan (Althoff & Danilevsky, 1997); North Africa, Europe, Turkey, Caucasus, Iran, Middle Asia, Siberia, Japan, North America, European Russia, European Kazakhstan (Sama, 2002); Europe, Balkan Peninsula, Crimea, Caucasus, Kazakhstan, West and East Siberia, Far East Russia, Sakhalin, Near East, Iran, Mongolia, Korea, Japan (Danilevsky, 2005). **Zoogeographical remarks:** Apparently the species is widely distributed in Turkey. It has the Holarctic chorotype.

Arhopalus syriacus (Reitter, 1895)

Current records from Turkey: İzmir province: Kemalpaşa as Criocephalus syriacus (Demelt & Alkan, 1962); İzmir province: Kemalpaşa, Antalya province: Bey Mt. as Criocephalus syriacus (Demelt, 1963); Antalya province: Kepez forests (Tosun, 1975); Artvin province: Ardanuç Forests as Criocephalus syriacus (Sekendiz, 1981); Muğla province: Yeşilyurt (Adlbauer, 1992); Gaziantep province, Şanlıurfa province, İzmir province: Kemalpaşa as Criocephalus syriacus (Lodos, 1998); Adana province: Balcalı, Bağtepe and Kozan, Antalya province: Central (Tozlu et al., 2002); Nevşehir province: Cappadocia (Malmusi & Saltini, 2005); İçel province: Mut, Alahandüzü (Özdikmen & Şahin, 2006). **Range:** Syria (Winkler, 1924-1932); Mediterranean area, Canary Islands (Svacha & Danilevsky, 1986); South Europe (Bense, 1995); South Europe (Althoff & Danilevsky, 1997); Mediterranean Region (Sama, 2002). **Zoogeographical remarks:** Apparently it distributed in South parts of Turkey. For this reason, the Artvin record in Sekendiz (57) is very doubtful as a possible wrong identification. The status of this record must be revised. It has the Mediterranean chorotype.

Genus *Tetropium* Kirby, 1837

Tetropium castaneum (Linnaeus, 1758)

Current records from Turkey: Turkey (Acatay, 1948, 1961 and 1968); Düzce province, Zonguldak province: Devrek, Western Black Sea Region (Erdem & Çanakçıoğlu, 1977, 1983); Düzce province: Çiçekli forest, Zonguldak province: Devrek, Beldibi, Davulgu forest, Zonguldak province: Devrek, Karadere as Tetropium luridum (Defne, 1954); North Anatolia as Tetropium luridum (Erdem, 1968); Bolu province: Seben (Öymen, 1987); Turkey (Önder et al., 1987); Artvin province: Atila Forests (Yüksel, 1996); Zonguldak province, Bolu province, Western Black Sea Region (Lodos, 1998); Artvin province: Central (Alkan, 2000). **Range:** Central and North Europe, Siberia (Winkler, 1924-1932); European Russia, Northern Caucasus, Siberia, Europe, Mongolia, Northern China, Korea, Northern Japan (Danilevsky & Miroshnikov, 1985); Most of Palaearctic Region, from Europe to Japan (Svacha & Danilevsky, 1986); Europe, European Russia (Bense, 1995); Europe, European Russia, European Kazakhstan (Althoff & Danilevsky, 1997); Northern Palearctic region from Europe to Japan (Sama, 2002); Europe, Balkan Peninsula, Crimea, Caucasus, Kazakhstan, West and East Siberia, Far East Russia, Sakhalin, Mongolia, China, Korea, Japan (Danilevsky, 2005). **Zoogeographical remarks:** Apparently it is distributed only in North parts of Turkey. It has the Sibero-European chorotype.

Tetropium fuscum (Fabricius, 1787)

Current records from Turkey: Turkey (Acatay, 1948, 1961 and 1968); North Anatolia (Erdem, 1968); Artvin province: Şavşat (Veliköy, Karagöl Forests), (Karagöl, Meşeli, Mukali district), Ardanuç (Tepedüzü, Şahinkaya) (Yüksel, 1996); Turkey (Lodos, 1998); Artvin province: Şavşat, Karagöl (Alkan, 2000). **Range:** Central and North Europe, Siberia (Winkler, 1924-1932); Japan (Kusama & Takakuwa, 1984); European Russia, Georgia, West Siberia, Europe (Danilevsky & Miroshnikov, 1985); Europe, West Siberia (Svacha &

Danilevsky, 1986); Europe, European Russia (Bense, 1995); Europe, European Russia, European Kazakhstan (Althoff & Danilevsky, 1997); Europe, Western Siberia, European Kazakhstan (Sama, 2002); Europe, Balkan Peninsula, Caucasus, Kazakhstan, West Siberia, Japan (Danilevsky, 2005). **Zoogeographical remarks:** Apparently it is distributed only in North-East Turkey. It has the Sibero-European chorotype.

Tetropium gabrieli Weise, 1905

Current records from Turkey: The species has only been reported by Acatay, 1948, 1961 and 1968 from Turkey without exact locality. **Range:** Central Europe (Winkler, 1924-1932); Central Europe and some adjacent regions, reaching to Danmark, Germany, France, Great Brtain (Svacha & Danilevsky, 1986); Central and North Europe (Bense, 1995); Europe, ? North parts of European Russia (Althoff & Danilevsky, 1997); Europe from British Isles to Russia (Sama, 2002); Europe (Danilevsky, 2005). **Zoogeographical remarks:** Any record with exact locality in Turkey has not been given according to the literature yet. Unfortunately the records in Acatay (1948, 1961 and 1968) seem to be very doubtful. Because the species must not occur in Turkey according to the known distributional patterns in the world. Therefore Acatay's records are not valid. It has the Centraleuropean chorotype.

Tribe Spondylidini

Genus *Spondylis* Fabricius, 1775

Spondylis buprestoides (Linnaeus, 1758)

Current records from Turkey: Sinop province: Ayancık (Schimitschek, 1944); Kars province: Sarıkamış (Erdem, 1947); Turkey (Acatay, 1948, 1961, 1963 and 1968); Bursa province: Keles, Kocayayla place (Çanakçıoğlu, 1956); Trabzon province: Zigana Mts. (Villiers, 1967); Ankara province: Kızılcahamam (Demelt, 1967); Karabük province: Büyükdüz Research Forest (Besçeli, 1969); Turkey (Lobanov et al., 1981); Turkey (Danilevsky & Miroshnikov, 1985); Trabzon province: Maçka (Öymen, 1987); Artvin province: Ardanuç (Yüksel, 1996); Turkey (Lodos, 1998); Artvin province: Ardanuç, Tosunlu (Alkan, 2000); Kars province: Sarıkamış (Tozlu, 2001); Kars province: Sarıkamış (Tozlu et al., 2002); Northern and South-Western Turkey (Sama, 2002); İstanbul province: Şile (Malmusi & Saltini, 2005); Ankara province: Kızılcahamam, Çamkoru (Özdikmen & Şahin, 2006). **Range:** Palaearctic Region (Winkler, 1924-1932); European Russia, Caucasus, Transcaucasia, Siberia, Europe, Turkey, Northern Iran, Mongolia, Northern China, Korea, Japan (Danilevsky & Miroshnikov, 1985); Most of Palaearctic Region, from Europe to Japan (Svacha & Danilevsky, 1986); Europe, European Russia (Bense, 1995); Europe, European Russia, European Kazakhstan (Althoff & Danilevsky, 1997); Europe, Northern and South-Western Turkey, Siberia, Sakhalin, Northern Mongolia, Northern China, Korea, Japan, ? North Africa (Sama, 2002); Europe, Balkan Peninsula, Crimea, Caucasus, Kazakhstan, West and East Siberia, Far East Russia, Sakhalin, Mongolia, China, Korea, Japan (Danilevsky, 2005). **Zoogeographical remarks:** Apparently it is distributed only in North parts of Turkey. It has the Sibero-European chorotype.

DISCUSSION

The Turkish Spondylidinae subfamily is represented by 4 tribes as Saphanini, Anisarthronini, Asemini and Spondylidini. The tribe Saphanini includes 3 genera as Drymochares, Saphanus and Oxypleurus. The tribe Anisarthronini includes 2 genera as Anisarthron and Alocerus. The tribe Asemini includes 4 genera as Nothorhina, Asemum, Arhopalus and Tetropium. The tribe Spondylidini includes only one genus as Spondylis normally.

In the tribe Saphanini, the genus Drymochares is represented by 2 subspecies as D. s. cavazzutii and D. s. ivani of the species Drymochares starcki. The other two genera, Saphanus and Oxypleurus are represented

by one each species as Saphanus piceus (Laicharting, 1784) and Oxypleurus nodieri Mulsant, 1839 respectively.

In the tribe Anisarthronini, both genera Anisarthron and Alocerus are represented by one species each as Anisarthron barbipes (Schrank, 1781) and Alocerus moesiacus (Frivaldsky, 1838) respectively.

In the tribe Spondylidini, the genus Spondylis is represented by the species Spondylis buprestoides (Linnaeus, 1758).

In the tribe Asemini, the genus Nothorhina is represented by the species Nothorhina muricata (Dalman, 1817). The genus Asemum is represented by 2 species as Asemum striatum (Linnaeus, 1758) and Asemum tenuicorne Kraatz, 1879. The genus Arhopalus is represented by 3 species as Arhopalus ferus (Mulsant, 1839), Arhopalus rusticus (Linnaeus, 1758) and Arhopalus syriacus (Reitter, 1895). According to literatures, the genus Tetropium has been represented by 3 species as Tetropium castaneum (Linnaeus, 1758), Tetropium fuscum (Fabricius, 1787) and Tetropium gabrieli Weise, 1905. But, as seen in the text, Tetropium gabrieli has only been known by Acatay's records from Turkey. However, Acatay's records are wrong. We think the species must not occur in Turkey according to its known distribution patterns in the world.

Consequently, the Turkish Spondylidinae subfamily includes 4 tribes, 10 genera, 14 species and 2 subspecies until now according to the present paper. Taking into consideration the status of the species Tetropium gabrieli, the known real taxa number of Turkish Spondylidinae is 15 as species and subspecies. Moreover, Sama (pers. com.) mentioned that Anisarthron barbipes, Saphanus piceus and all species of the genus Tetropium are very likely absent in Turkey. Under these circumtances, Turkish Spondylidinae includes 4 tribes, 7 genera, 9 species and 2 subspecies.

Zoogeographically, Asemum striatum (Linnaeus, 1758) and Arhopalus rusticus (Linnaeus, 1758) have the Holarctic chorotype. Oxypleurus nodieri Mulsant, 1839, Alocerus moesiacus (Frivaldsky, 1838) and Arhopalus syriacus (Reitter, 1895) have the Mediterranean chorotype. Saphanus piceus (Laicharting, 1784) and Anisarthron barbipes (Schrank, 1781) have the S-European chorotype. Nothorhina muricata (Dalman, 1817), Tetropium castaneum (Linnaeus, 1758), Tetropium fuscum (Fabricius, 1787) and Spondylis buprestoides (Linnaeus, 1758) have the Sibero-European chorotype. Arhopalus ferus (Mulsant, 1839) has the Sibero-European and the Turano-Europeo-Mediterranean chorotypes. Asemum tenuicorne Kraatz, 1879 has probably the Turano-European chorotype. Tetropium gabrieli Weise, 1905 has the Centraleuropean chorotype. The subspecies Drymochares starcki cavazzutii Sama & Rapuzzi, 1993 has been known from Turkey and Caucasus. The other subspecies Drymochares starcki ivani Sama & Rapuzzi, 1993 are known only from Turkey yet.

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