Caucasus Longhorned Beetles Fauna of Subfamilies Parandrinae and Prioninae with Their Bionomics and Two New Records (Coleoptera: Cerambycidae)

Hüseyin Özdikmen¹ and Naciye Cihan¹
¹Gazi University, Science Faculty, Department of Biology, 06500 Ankara / Turkey. E-mail: ozdikmen@gazi.edu.tr

Abstract:

All longhorned beetles are xylophagous and phytophagous. For this reason, longhorned beetles which are generated large damages on or in forest trees in larval stages especially, includes many pests of forests. Adults of the longhorned beetles can be found on flowers, leaves, wood, logs, trunks, stumps, herbs etc.

Key Terms: Forest pests, Eco-biology, Zoogeography, Coleoptera, Cerambycidae, Parandrinae, Prioninae, Caucasus, new records.

Cerambycidae fauna of Caucasus is still very poorly investigated. Formerly, many data on Caucasian Cerambycidae was chiefly included in the works of N. N. Plavilstshikov (mainly 1927, 1936, 1940 and 1958). Then, Longhorned beetles fauna of Caucasus was published by Danilevsky & Miroshnikov (1985) in detail. As a critique, however, the work did not include the species or subspecies that occur only in the Caucasian parts of Turkey and Iran.

The present work based on a total of 10 species group taxa of the subfamilies Parandrinae and Prioninae (Cerambycidae) for Caucasus fauna (1 species of the subfamily Parandrinae and 9 species and subspecies of the subfamily Prioninae).

These taxa of which almost all are forester, will present with eco-biological data (host plants, obtaining of adults and larvae, life cycle or developmental period, overwintering stage, larval feeding and life, pupation, habits of adults and flying period of adults), synonyms, distributional arguments, zoogeographical classifications (chorological types) and descriptive photos for each species group taxa.

Among them, 2 taxa are new records for Caucasus fauna as Collergates gaillardoti Chevrolat, 1854 and Mesoprionus besikanus Fairmaire, 1855 have been recorded by Sakenin et al. (2011) from West and East Azerbaijan provinces in NW Iran that is in Transcaucasia. But both are based on very likely misidentifications and impossible for Iran and thereby Caucasus fauna.

As known, the Caucasus situated between the Black Sea and the Caspian Sea. It is home to the Caucasus Mountains, which contain Europe's highest mountain, Mount Elbrus. The “Caucasus region” is separated into Northern and Southern parts.

The Northern part of the Caucasus is known as the “Ciscaucasia” (“Caucasus” traditionally) and the Southern part as the “Transcaucasia” (“Transcaucasia” traditionally).

The South Caucasus or Transcaucasia sensu lato includes also some parts of Turkey and Iran that is accepted commonly:

For Turkey: NE Turkey (Eastern Black Sea part of Turkey: Artvin, Bayburt, Giresun, Gümüşhane, Ordu, Rize, Trabzon provinces) and E Turkey ( Ağrı, Ardahan, Erzurum, Iğdır, Kars, Van provinces).

For Iran: West Azerbaijan, East Azerbaijan, Ardabil, Gilan and Mazandaran provinces (incl. Iranian Talysh and Elburz Mountains).

Abbreviations:

CIS: Ciscaucasia
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SER: South European Russia [Southern Rostov Oblast, Western Kalmykia, Krasnodar Kray, Stavropol Kray, Adyghea, Karachi–Cherkessia, Kabardino-Balkaria, North Ossetia, Ingushetia, Chechnya, Dagestan, also Northern parts of Georgia (incl. Abkhazia and N of South Ossetia) and Azerbaijan]

TRANS: Transcaucasus

AR: Armenia

AZ: Azerbaijan (incl. Nakhchevan, Nagorno-Karabakh) except the Northern parts

AZT: South Azerbaijan (incl. Talysh, Lenkoran)

GE: Georgia except the Northern parts (incl. Abkhazia and N of South Ossetia)

IR: N and NW Iran [West Azerbaijan, East Azerbaijan, Ardabil, Gilan and Mazandaran provinces (incl. Iranian Talysh and Elburz Mountains)]

TR: North-Eastern Turkey (Artvin, Bayburt, Giresun, Gümüşhane, Ordu, Rize, Trabzon provinces) and Eastern Turkey ( Ağrı, Ardahan, Erzurum, Iğdır, Kars, Van provinces)

Family CERAMBYCIDAE Latreille, 1802

Genus PARANDRA Latreille, 1802: 160

caspia Ménétriés, 1832: 225

TRANS: AZT IR

It was recorded by Plavilstshikov (1936) and Danilevsky & Miroshnikov (1985) for Caucasus fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs in European Russia, Georgia and Turkey and Danilevsky (2013) gave Caucasus and Turkey for it. So, it is distributed in both Ciscaucausus and Transcaucasus [European Russia, Georgia and NE Turkey (Artvin and Trabzon)] associated with Caucasian fauna (Plavilstshikov, 1936; Danilevsky & Miroshnikov, 1985; Svacha & Danilevsky, 1987; Özdikmen, 2007, 2011; Löbl & Smetana, 2010; Danilevsky, 2013). Chorotype: W-Palaearctic. The species is a forestar. The host plants of the species are conifers (Pinus, Picea, Abies, Cedrus and Larix) and exceptionally deciduous trees (Alnus, Populus). Pinus spp., however, are preferred host plants. The specimens that were collected from Turkey were found on or in Pinus brutia, Pinus nigra, Pinus pinaster, Picea orientalis, Abies bornmuelleriana as adults or larvae. Adults and larvae of the species can obtain only from the host plants in lowlands and foothills (between 40-1670 m). Life cycle of the species is at least 3 years. Larvae live in dead, rotten, dried wood and also in roots (in standing or fallen trunks and stumps) of the host plants. Pupation seems to be in spring and summer in the wood. Adults are nocturnal, attracted by light. Adults fly in late spring-early autumn (between May-September) (Özdikmen, 2013).
**Genus PRINOBUS** Mulsant, 1842: 207

*myardi* Mulsant, 1842: 207

*myardi slamorum* Sláma & Slámová, 1996 [RN]  
**TRANS:** GE IR

It was recorded by Danilevsky & Miroshnikov (1985) for Caucasus fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs in Azerbaijan, Armenia, Georgia, South European Russia, Iran and Turkey, and Danilevsky (2013) gave Caucasus, Turkey and Iran. So, it is distributed in both Ciscaucausus and Transcaucausus [European Russia, Azerbaijan, Armenia, Georgia, NW Iran (East Azerbaijan: Arasbaran, Ardabil: Pars-Abad, Gilan: Bandar Pahlavi, Tarik Rud, Astaneh and Bandar-e Anzali)] as associated with Caucasian fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs very likely in NE Turkey too. Chorotype: Turano-Mediterranean. The species is a forester. The **host plants** of the species are many deciduous trees (*Quercus, Fraxinus, Pyrus, Acer, Alnus, Morus, Olea, Citrus, Populus, Platanus, Salix, Prunus, Robinia, Pistacia, Salix*) and occasionally conifers (*Pinus, Cedrus, Picea, Quercus* spp.), however, are mostly recorded host plants. The **specimens** that were collected **from Turkey** were found on or in deciduous trees (*Quercus cerris, Quercus ilex, Quercus suber, Fraxinus dimorphoa, Prunus armeniaca, Morus alba*) and conifers (*Picea orientalis, Cedrus libani, Pinus brutia*) as adults or larvae. **Adults and larvae** of the species can obtain only from the host plants in lowlands and foothills (between 220-1120 m). Life cycle of the species is a few year. **Overwintering stage** is larva. Larvae live in living or dead deciduous trees, in rotting wood of dead stems and also in roots (either standing or fallen) of the host plants. **Pupation** is in the wood in spring and summer. **Adults** are crepuscular and nocturnal, attracted by light. **Adults fly** in summer-early autumn (between June-September) (Özdikmen, 2013).

**Genus RHAESUS** Motschulsky, 1875: 153 [RN]

*serricollis* Motschulsky, 1838: 187 (*Prionus*)  
**CIS:** SER  **TRANS:** AR AZ GE IR

It was recorded by Plavilstshikov (1936) and Danilevsky & Miroshnikov (1985) for Caucasus fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs in Azerbaijan, Armenia, Georgia, South European Russia, Iran and Turkey, and Danilevsky (2013) gave Caucasus, Turkey and Iran. So, it is distributed in both Ciscaucausus and Transcaucausus [European Russia, Azerbaijan, Armenia, Georgia, NW Iran (East Azerbaijan: Arasbaran, Ardabil: Pars-Abad, Gilan: Bandar Pahlavi, Tarik Rud, Astaneh and Bandar-e Anzali)] as associated with Caucasian fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs very likely in NE Turkey too. Chorotype: Turano-Mediterranean. The species is a forester. The **host plants** of the species are many deciduous trees (*Fagus, Celtis, Platanus, Quercus, Castanea, Tilia, Juglans, Salix, Morus, Liquidambar*) and exceptionally conifers (*Pinus*). The **specimens** that were collected **from Turkey** were found on or in deciduous trees (*Juglans regia, Liquidambar orientalis, Platanus orientalis, Morus alba*) and conifers (*Pinus brutia, Pinus nigra*) as adults or larvae. **Adults and larvae** of the species can obtain only from the host plants in lowlands (between 5-1000 m). Life cycle of the species is at least 3 years. **Overwintering stage** probably is larva. Larvae live in rotten wood of large trunks (either standing or fallen) of the host plants. **Pupation** is in the wood in spring and summer. **Adults** are crepuscular and nocturnal, attracted by light. **Adults fly** in early spring-summer (between May-August) (Özdikmen, 2013).

**Genus AEGOSOMA** Audinet-Serville, 1832: 162

*scabricorne* Scopoli, 1763: 54 (*Cerambyx*)  
**CIS:** SER  **TRANS:** AR AZ GE IR

It was recorded by Plavilstshikov (1936) and Danilevsky & Miroshnikov (1985) for Caucasus fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs in Azerbaijan, Armenia, Georgia, South European Russia, Iran and Turkey, and Danilevsky (2013) gave Caucasus, Turkey and Iran. So, it is distributed in both Ciscaucausus and Transcaucausus [European Russia, Azerbaijan, Armenia, Georgia, NW Iran (East Azerbaijan: Arasbaran, Ardabil: Pars-Abad, Gilan: Bandar Pahlavi, Tarik Rud, Astaneh and Bandar-e Anzali)] as associated with Caucasian fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs very likely in NE Turkey too. Chorotype: Turano-Mediterranean. The species is a forester. The **host plants** of the species are many deciduous trees (*Fagus, Celtis, Platanus, Quercus, Castanea, Tilia, Juglans, Salix, Morus, Liquidambar*) and exceptionally conifers (*Pinus*). The **specimens** that were collected **from Turkey** were found on or in deciduous trees (*Juglans regia, Liquidambar orientalis, Platanus orientalis, Morus alba*) and conifers (*Pinus brutia, Pinus nigra*) as adults or larvae. **Adults and larvae** of the species can obtain only from the host plants in lowlands (between 5-1000 m). Life cycle of the species is at least 3 years. **Overwintering stage** probably is larva. Larvae live in rotten wood of large trunks (either standing or fallen) of the host plants. **Pupation** is in the wood in spring and summer. **Adults** are crepuscular and nocturnal, attracted by light. **Adults fly** in early spring-summer (between May-August) (Özdikmen, 2013).
occurs in Azerbaijan, Armenia, South European Russia, Iran and Turkey, and Danilevsky (2013) gave Caucasus, Turkey and Iran. So, it is distributed in both Ciscaucasus and Transcaucasus [European Russia, Azerbaijan, Armenia, NW Iran (East Azerbaijan: Tabriz, Shahba, Gilan: Tarik Rud, Bandar-e Anzali (Tazehabad), Deylaman, Hashpar (Asalem, Pirs, Irishghar)], NE Turkey (Gümüşhane) and E Turkey (Van)] as associated with Caucasian fauna (Villiers, 1967; Danilevsky & Miroshnikov, 1985; Svacha & Danilevsky, 1987; Radjäbi, 1991; Borumand, 2004; Özdkmen, 2007, 2011, 2013; Sakenin et al., 2011; Havaskary et al., 2012). Chorotype: Turano-European. The species is a forester. The host plants of the species are many deciduous trees (Salix, Populus, Acer, Quercus, Alnus, Fagus, Ulmus, Morus, Aesculus, Carpinus, Castanea, Malus, Juglans, Prunus, Celtis, Hedera, Fraxinus, Platanus, Tilia). Populus and Salix spp., however, are preferred host plants. The specimens that were collected from Turkey were found on or in deciduous trees (Populus nigra, Salix nigra, Fagus orientalis) as adults or larvae. Adults and larvae of the species can obtain only from the host plants in lowlands and foothills (between 126-1680 m). Life cycle of the species is at least 3 years. Overwintering stage is larva. Larvae live in living or dead deciduous trees, in dead stumps, in moist decaying wood (either standing or fallen), often in dead parts of living trees of the host plants. Pupation is in the wood in spring and summer. Adults are nocturnal, attracted by light. Adults fly in late spring-early autumn (between May-September) (Özdikmen, 2013).

Genus MESOPRIONUS Jakovlev, 1887: 323

angustatus Jakovlev, 1887: 327 (Prionus)

TRANS: IR

It has not been recorded by any author for Caucasian fauna until now. However, it was recorded by Bodemeyer (1927), Villiers (1967), Abai (1969), Awal (1997) and Sama et al. (2008) from NW Iran (Gilan: Bandar Pahlavi, Tarik Rud). As associated with Caucasian fauna, also Löbl & Smetana (2010) and Danilevsky (2013) stated that it occurs in Iran. So, it occurs also in Transcaucusus on the base of Iranian records. Chorotype: Centralasiatic. The species probably is not a typical forester because of lives on/in brushes. It has not been recorded from Turkey with exact locality. It was reported only by Löbl & Smetana (2010) from Asian Turkey (=Anatolia). So, biology in Turkey is unknown. The host plants of the species are Haloxylon, Calligonum. Adults and larvae of the species can obtain from separate trees in dry, almost semidesert open areas. Larvae live in roots of the host plants. Pupation is in the soil (in larval tunnels of mature larvae). Adults probably are nocturnal, attracted by light. Adults fly in summer (at least June) (Özdikmen, 2013).

asiaticus Faldermann, 1837: 263 (Prionus)

CIS: SER TRANS: AR AZ GE IR TR

It was recorded by Plavilstshikov (1936) and Danilevsky & Miroshnikov (1985) for Caucasus fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs in Azerbaijan, Armenia, South European Russia, Iran and Turkey, and Danilevsky (2013) gave Caucasus, Turkey and Iran. So, it is distributed in both Ciscaucasus and Transcaucusus [European Russia, Azerbaijan, Armenia, Georgia, NW Iran (Gilan: Elburz Mountains, West Azerbaijan: Iranian part of Arax valley) and NE Turkey] as associated with Caucasian fauna (Semenov, 1927; Villiers, 1967; Danilevsky & Miroshnikov, 1985; Svacha & Danilevsky, 1987). According to Özdkmen & Turgut (2009a), the species was not recorded from Turkey. However, Drumont & Komiya in Löbl & Smetana (2010) also gave it for Turkey on the base of unpublished data. Therefore, it occurs probably at least NE Turkey as associated with Caucasian fauna. Chorotype: Turanian (Turano-Caucasian). The species probably is not a typical forester because of lives also on/in brushes. It has not been recorded from Turkey with exact locality. It was reported only by Löbl & Smetana (2010) from Asian Turkey (=Anatolia). So, biology in Turkey is unknown. The host plants of the species are deciduous tree (Ficus carica, Salix) and brushe (Tamarix). Adults and larvae of the species can obtain from separate trees in...
dry, almost semidesert open areas. **Life cycle** of the species is at least 3 years. **Larvae live** in dead underground parts of trees or in roots of a brush. **Pupation** probably is in the soil. **Adults** probably are nocturnal, attracted by light. **Adults fly** in summer (between June-August) (Özdikmen, 2013).

**Genus PRIONUS** Geoffroy, 1762: 198

*coriarius* Linnaeus, 1758: 389 (*Cerambyx*)

**CIS:** SER **TRANS:** AR AZ GE IR TR

It was recorded by Plavilstshikov (1936) and Danilevsky & Miroshnikov (1985) for Caucasus fauna. As associated with Caucasian fauna, also Löbl & Smetana (2010) stated that it occurs in European Russia, Azerbaijan, Armenia, Georgia, Iran and Turkey and Danilevsky (2013) gave Caucasus, Iran and Turkey for it. So, it is distributed in both Ciscaucacus and Transcaucacus [European Russia, Azerbaijan, Armenia, Georgia, NW Iran (Elburz Mts., Iranian Talysh, Ardabil: Bilehsavar, Gilan: Tarik Rud, Hashtpar, Forest of Asalem) and NE Turkey (Artvin, Rize and Trabzon)] as associated with Caucasian fauna (Pic, 1905; Villiers, 1967; Abai, 1969; Danilevsky & Miroshnikov, 1985; Svacha & Danilevsky, 1987; Awal, 1997; Borumand, 2004; Özdikmen, 2007, 2011; Löbl & Smetana, 2010; Sakenin et al., 2011). Chorotype: W-Palaearctic. The species is a forester. The **host plants** of the species are conifers (*Pinus, Picea, Abies, Cedrus*) and deciduous trees (*Quercus, Fagus, Alnus, Castanea, Malus, Salix, Fraxinus, Betula, Ulmus, Corylus, Carpinus, Accacia, Cerasus*). The **specimens** that were collected from Turkey were found on or in conifers (*Pinus brutia, Picea orientalis, Cedrus libani*) and deciduous trees (*Corylus avellana, Malus sylvestris, Cerasus avium, Cerasus vulgaris*) as adults or larvae. **Adults and larvae** of the species can obtain only from the host plants in lowlands and foothills (between 03-1700 m). **Life cycle** of the species is at least 3 years. **Overwintering stage** is larva. **Larvae feed** almost exclusively underground, rarely above ground level. **Larvae live** in dead, rotten wood especially at the base of dead stems, in stumps and roots of the host plants. **Pupation** is in the soil (in a cocoon) in late spring and early summer. **Adults** are crepuscular and nocturnal, attracted by light. **Adults fly** in summer-early autumn (between June-September) (Özdikmen, 2013).

**Genus PSEUDOPRIONUS** Pic, 1898: 33

*bienerti* Heyden, 1885: 311 (*Polyarthron*)

**TRANS:** IR

It has not been recorded by any author for Caucasus fauna until now. However, it was recorded by Villiers (1967), Awal (1997) and Sama et al. (2008) from NW Iran (East Azerbaijan, Gilan, Mazandaran). As associated with Caucasian fauna, Löbl & Smetana (2010) and Danilevsky (2013) stated that it occurs in Iran. So, it occurs only in Transcaucacus on the base of Iranian records. Chorotype: Turanian (Turano-Caucasian). Development of the species is unknown. **Host plant** of the species is unknown. **Larvae feed** probably underground in roots of different plants. **Adults fly** in summer (between July-August) (Sama et al., 2008).

**Genus TRAGOSOMA** Audinet-Serville, 1832: 159

*depisarium* Linnaeus, 1767: 624 (*Cerambyx*)

**CIS:** SER

It is a doubtful taxon for Caucasus fauna. It was not recorded by Danilevsky & Miroshnikov (1985) for Caucasus fauna. As associated with Caucasian fauna, however, Löbl & Smetana (2010) stated that it occurs in South European Russia. Danilevsky (2013) stated that “Bily et Mehl (1989) recorded it for Caucasus and Amur Valley after Horion (1974: 5-6) and Samoilov (1936). The quality of the map in Horion’s publication does not allow to interprate his data as definite enough”. So, he gave the species for Caucasus with a question mark. Chorotype: Sibero-European. The species is a forester. The **host plants** of the species are conifers (especially *Pinus* and sometimes *Picea, Abies, Larix*). **Adults and larvae** of the species can obtain only from the host plants in lowlands and foothills. **Life cycle** of the species is at least 3 years. **Overwintering stage** probably is larva. **Larvae feed and live** in dead, mostly fallen trunks, in
decaying sapwood. **Pupation** is in the wood in summer (June-early July). **Adults** are crepuscular and nocturnal, attracted by light. **Adults fly** in summer-early autumn (between June-September) (Svacha & Danilevsky, 1987; Bense, 1995; Sama, 2002). Moreover, 2 recorded taxa from Iranian parts of Caucasus are presented as follows:

**Genus CALLERGATES** Lameere, 1904: 47

*gaillardoti* Chevrolat, 1854: 481 (*Ergates*)

It was recently reported by Sakenin et al. (2011) from West Azerbaijan: Salmas (NW Iran). But it is apparently misidentification and impossible for Iran and Caucasus fauna. Because, it is distributed only in Greek Islands (Rhodos and Samos), Egypt, Cyprus, Lebanon, Syria and Turkey (including only West and Central parts of South Turkey).

**Genus MESOPRIONUS** Jakovlev, 1887: 323

*besikanus* Fairmaire, 1855: 318 (*Prionus*)

It was recently reported by Sakenin et al. (2011) from East Azerbaijan: Maragheh (NW Iran). But it is apparently misidentification and impossible for Iran and Caucasus fauna. Because it is distributed only from Balkans to Turkey (especially Western half) and Cyprus.

**References**


