THE GENUS *TETROPS* STEPHENS, 1829 WITH A NEW SUBSPECIES, *TETROPS PRAEUSTUS ANATOLICUS* SSP. N. FROM TURKEY (COLEOPTERA: CERAMBYCIDAE: LAMIINAE)

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[Özdikmen, H. & Turgut, S. 2008. The genus *Tetrops* Stephens, 1829 with a new subspecies, *Tetrops praeustus anatolicus* ssp. n. from Turkey (Coleoptera: Cerambycidae: Lamiinae). Munis Entomology & Zoology 3 (2): 621-635**]**

ABSTRACT: All taxa of the genus *Tetrops* in the whole world are evaluated. A new subspecies, *Tetrops praeustus anatolicus* ssp. n. is described from S Turkey. Distinguishing characters, photo of adult are also given in the text. It is compared with related taxa. On the other side, a replacement name, *T. hauseri kostini* nom. nov. proposed for the homonym species group name *T. hauseri nigra* Kostin, 1973 or *T. hauseri niger* Kostin, 1973 (not *T. nigra* Kraatz, 1859). The genus is also discussed in detail.

KEY WORDS: new subspecies, replacement name, *Tetrops,* Lamiinae, Cerambycidae.

Subfamily LAMIINAE Latreille, 1825

Tribe TETRAOPINI Thomson, 1860

= Tetropini Thomson, 1860
= Astathini Thomson, 1864

The tribe includes currently 14 genera as *Astathes* Newman, 1842; *Bacchisa* Pascoe, 1866; *Chreomisis* Breuning, 1956; *Eustathes* Newman, 1842; *Hecphora* Thomson, 1857; *Hispasthathes* Breuning, 1956; *Mecasoma* Chemsak & Linsley, 1974; *Ochrocesis* Pascoe, 1867; *Parastathes* Breuning, 1956; *Paratragon* Teocchi, 2002; *Phaea* Newman, 1840; *Tetraopes* Dalman in Schoenherr, 1817; *Tetrops* Kirby, 1826 and *Tropimetopa* J. Thomson, 1864. This genus was placed in Tetropini by some authors. Since Tetropini were separated by Planet (1924) and supported by Namkhaidorzh (1976) and Danilevsky & Miroshnikov (1985) according to Danilevsky (2007b).

Genus *TETROPS* Stephens, 1829

= *Polyopsia* Mulsant, 1839
= *Oberopa* Haldeman, 1873

Type species: *Leptura praeusta* Linnaeus, 1758

The generic name *Tetraopes* was introduced by Dalman in Schönherr, 1817 without a type species and Thomson (1864) subsequently designated *Lamia tornator* Fabricius, 1775 as a type species of *Tetraopes* Dalman in Schönherr, 1817. Later, the genus name *Tetrops* was used by Kirby, 1826

with the type species *Lamia tornator* Fabricius, 1775 that is a junior synonym of *Cerambyx tetrophthalmus* Förster, 1771. At present, *Tetraopes* Dalman in Schönherr, 1817 is still used as a valid generic name in Cerambycidae (Lamiinae: Tetraopini). Vives (2000) also stated that "*Kirby (1826, In: Kirby and Spence, Introd. Entomol., 3: 498) uses a genre Tetrops in combination with the specific name tornator and in the following volume of the same work (1826, In: Kirby and Spence, Introd. Entomol., 4: 619) introduces the genre Tetraopes in replacement of his previous Tetrops. It is a question of a later use of the genre of Schönherr because his Tetrops is a mistake or a deliberate proposition of a new name*". So *Tetrops* Kirby, 1826 is a junior objective synonym of *Tetraopes* Dalman in Schönherr, 1817. On the other hand, the genus name *Tetrops* was used by Stephens, 1829 and also Stephens, 1831 with the type species *Leptura praeusta* Linnaeus, 1758. Vives & Zarazaga in Vives (2000) used *Tetrops* Stephens, 1829 as valid genus name and mentioned in their appendix that the authors will request the commission for the suppression of *Tetrops* Kirby, 1826. Apparently, *Tetrops* Stephens, 1829 has at least two synonyms as *Polyopsia* Mulsant, 1839 and *Oberopa* Haldeman, 1873. However, the name *Tetrops* Stephens, 1829 must be conservated as a valid name. Also according to Vives (2000), the name *Tetrops* is masculine in gender not feminine.

This chiefly Palaearctic genus is represented by 9 species in the whole world. In Turkey, it is represented by only 2 species as *T. praeustus* (Linnaeus, 1758) and *T. warnckei* Holzschuh, 1977. All taxa of this genus are presented as follows:

eleagni Plavilstshikov, 1954

Other names. *plavilstshikovi* Kostin, 1973

According to Danilevsky (2007b), *T. plavilstshikovi* Kostin, 1973 is a synonym of *T. eleagni* Plavilstshikov, 1954. He stated that "*the statement of Kostin (1973), that in Ily valley two Tetrops species: "T. plavilstshikovi" (=elaeagni) and T. formosa songarica live together is wrong. According to his materials in Zoological Museum (S.-Petersburg), he identified less pubescent T. elaeagni from Ily valley as T. formosa songarica. T. elaeagni was recorded for Russia by G.V. Lindemann (1971: Pallasovka distr. Vishnevka and Elton). I've got two specimens from Dzhanybek, which is situated exactly on Russia–Kazakhstan border. The species is also known from Amu-Darja River Valley in Turkmenia (see Kostin, 1973: 207)*".

DISTRIBUTION: S European Russia, Kazakhstan, Uzbekistan, Turkmenia
CHOROTYPE: Central Asiatic

formosus Baeckmann, 1903
ssp. ***formosus*** Baeckmann, 1903
ssp. ***bivittulatus*** Jankowski, 1934
ssp. ***songaricus*** Kostin, 1973

Other names. *bivuttulata* Plavilstshikov, 1954

This species has at least 3 subspecies in the world. The nominative subspecies occurs in Central Asia (Kirgizia) and China. The other subspecies, *T. formosus bivittulatus* Jankowski, 1934 and *T. formosus songaricus* Kostin, 1973 occur only in Kazakhstan. Danilevsky (2007b) stated that"*Tetrops formosa was described from Issyk-Kul (Kirgizia). It has red elytra and totally red antennae and pronotum. I treat as nominative my two specimens from near Merke (Kazakhstan at the border with Kirgizia). Tetrops formosa bivittulata Jankowski, 1934, described from Zailijsky Alatau (Alma-Ata) as a variation differs from the nominative subspecies by dark general colour and specially by usual presence of elongated elytral black spots. It was regarded as a subspecies distributed in Zailijsky Alatau by Kostin (1973: 206) under the name "T. formosa bivittulata Plav." Wrong attribution of the name to Plavilstshikov was repeated by Lobanov et al. (1981: 790-791) in the wrong synonymization: "Tetrops formosa formosa Baeckm., 1903 = T. formosa bivittulata Plav., 1954 (sensu Kostin, 1973)". T. f. bivittulata has usually black elongated spot on each elytron and black two basal antennal joints, but sometimes elytra and antennae are totally red. T. f. songarica (Dzhungarsky Alatau near Lepsinsk – Chernaia Rechka) is similarly red as the nominative subspecies, but pronotum is always partly black, sometimes elytra are with dark spots. O. Mehl reared a series of Tetrops formosa ssp. n. from Malus twigs collected (1991)near Arslan-Bob in Fergansky Ridge (Kirgizia). Specimens are darker than T. f. formosa, but in general lighter than T. f. bivittulata, though black elytral stripes are often present, as well as only two basal antennal joints are black. Another new subspecies of T. formosa must be distributed in Kirgizia near At-Bashi, according to my single specimen, which is coloured similar to T. f. songarica, but pronotum with very dense recumbent pubescens among erect setae. The species attribution of T. hauseri nigra (unknown to me) from Tekes River valley near Narynkol in Kazakhstan is doubtful. It can be a form of T. formosa. T. f. songarica is distributed only in Dzhungarsky Alatau and absent in Ily River valley*".

DISTRIBUTION: Kirgizia, Kazakhstan, China
CHOROTYPE: Central Asiatic

gilvipes Faldermann, 1837

Other names. *nigra* Kraatz, 1859; *muehlfeldi* Mulsant, 1863

The European *Tetrops* Stephens, 1829 was revised by Holzschuh (1981). According to him, *T. gilvipes* must be regarded as a subspecies of *T. praeustus*, from which it differs only by the punctuation, dark coloration of elytra and entirely light legs. Sama (2002) gave *T. nigra* Kraatz, 1859 as a synonym of *T. praeustus*. According to Danilevsky (2007a), we include west Europe in the area of *Tetrops gilvipes* following P. Berger (1985), though the distribution of this species in Europe rests unclear. C. Pesarini and A. Sabbadini (1994) regard that *Tetrops gilvipes* (described from Transcaucasie) absent in West Europe, and black *Tetrops* with pale legs from West Europe can be a separate species *T. nigra* or a dark form of *T. praeustus*. Danilevsky (2007b) also stated that "*Tetrops praeustus and T. gilvipes can be definitly distinguished only with larvae (Danilevsky, Miroshnikov, 1985). A taxon with "gilvipes-like larvae" is very common in West Europe, but its adults are very similar to T. praeustus (Svacha, Die Larven der Kafer Mitteleuropas, Band 6)! So possibly a yellow form of T. gilvipes was described from Europe as T. praeustus. In that case black beetles from Caucasus are T. praeustus ssp. gilvipes. And a taxon with "praeustus-like" larvae (sensu Danilevsky and Miroshnikov, 1985) needs another name. Any way the stable black colour of Caucasian (and Turkmenian) T. gilvipes makes impossible its synonymysation with T. praeustus, proposed by Sama (1988) and accepted by Bense (1995). But if T. praeustus has "praeustus-like larvae", then European taxon with "gilvipes-like" larvae (usually yellow, but sometimes black) can be named T. gilvipes ssp. nigra Kraatz, 1859*". So we think that possibly there are two different species in Europe. Since, they have two separate larvae as "praeustus-like larvae" and "gilvipes-like larvae". These are *T. praeustus* and *T. gilvipes* not *T. nigra*. Because both *gilvipes* and *T. nigra* were described from Caucasus and Western Europe based on the specimens with black colored elytra. In this case, *T. nigra* is merely the named populations of *T. gilvipes* in mainly Western Europe. Anyway, Sama (2002) also mentioned that "*specimens with brown or black elytra, at various times referred to T. nigra, T. gilvipes or even T. starkii, have often been reared from the same locality and the same trees (probably Padus)*". However, we think that Sama believed wrongly that *T. nigra* in Europe is a transitional form between *T. praeustus* and *T. gilvipes*. Moreover, the observation in copula of black and light specimens of Sturani (1981) as mentioned by Sama (2002), is not more important than finding two different larvae in Europe. The observation of Sturani (1981) does not prove that these are the same taxon and it can be explained by various ways. For example, it may be an explanation for this case, density of the populations of these taxa in observation areas or on plants etc. Even as we known an unusual event that the copulation can occur between two different species among animal taxa. Furthermore, according to Starzyk & Lessaer (1978), the male genitalia of *T. gilvipes* and *T. praeustus* are clearly different from each other (fig. 3). Finally, for

us, *T. gilvipes* and *T. praeustus* are separate species and *T. nigra* is a synonym of *T. gilvipes* not *T. praeustus* now.

DISTRIBUTION: Europe (?France, ?Italy, ?Romania, ?Hungary, ?Czechia, ?Slovakia, Crimea, S European Russia), Caucasus (Georgia, Armenia, Azerbaijan), Central Asia (Turkmenia), Iran
CHOROTYPE: Turano-European

hauseri Reitter, 1897
ssp. ***hauseri*** Reitter, 1897
ssp. ***kostini*** **nom. nov.**

Other names. *bicoloricornis* Plavilstshikov, 1954

This species has 2 subspecies in the world. The nominative subspecies occurs in Kirgizia and Uzbekistan. The other subspecies, *T. hauseri kostini* nom. nov. occurs in Kazakhstan and China. Danilevsky (2007b) stated that "*T. hauseri hauseri up to now seems to be known only from Sary-Chelek. According to a series of Tetrops hauseri hauseri, collected by me in Sary-Chelek (2004), it can be with only two basal antennal joints black (that is why Tetrops formosa m. bicoloricornis Plav., 1959 was decribed from Saery-Chelek) and with rather red elytra (with only small black elonagated spots). So the colour patterns of T. hauseri and T. formosa can be same. Both species can be easily distinguished by the character of pronotal punctation, which is very fine in T. hauseri. The species attribution of T. hauseri nigra (unknown to me) from Tekes River valley near Narynkol in Kazakhstan is doubtful. It can be a form of T. formosa*".

In addition to this, *T. hauseri nigra* Kostin, 1973 or *T. hauseri niger* Kostin, 1973 is a homonym name of *T. nigra* Kraatz, 1859. Also Danilevsky (2007b) mentioned this status. It must be replaced under the articles 57-60 of the zoological code (ICZN, 1999). So we propose the replacement name *kostini* nom. nov. for the homonym name *T. hauseri nigra* Kostin, 1973. The replacement name is dedicated to I. A. Kostin who is current author name of the taxon. It is masculine in sex.

DISTRIBUTION: Kirgizia, Uzbekistan, Kazakhstan, China
CHOROTYPE: Central Asiatic

mongolicus Murzin, 1977

Danilevsky (2007c) stated that "*one male of Tetrops mongolicus from Russia is preserved in the collection of Moscow Pedagogical State Iniversity: Buriatija, Selenga river valley, 5km NE Dzhida, 4-9.6.2001, A. Anishchenko leg*".

DISTRIBUTION: Mongolia, Russia (East Siberia)
CHOROTYPE: Siberian

praeustus Linnaeus, 1758
ssp. ***praeustus*** Linnaeus, 1758
ssp. ***algiricus*** Chobaut, 1893
ssp. ***anatolicus*** **ssp. n.**

Other names. *iocustus* Voet, 1778; *pilosa* Geoffroy, 1785; *ustulata* Hagenbach, 1822; *praecesta* Dufour, 1843; *inapicalis* Pic, 1891; *angorensis* Pic, 1918.

This species is represented by three subspecies (including new subspecies) in the world. The subspecies, *T. praeustus algiricus* Chaubaut, 1893 occurs only in North Africa (Algeria). New subspecies, *T. praeustus anatolicus* ssp. n. occurs only in South Turkey.

In Turkey, it is represented by two subspecies as *T. praeustus praeustus* (Linnaeus, 1758) and *T. praeustus anatolicus* ssp. n.

Records from Turkey:

For nominative subspecies: Sakarya prov.: Sapanca, Niğde prov.: Çamardı, Antalya prov.: Toros Mountains (Bodemeyer, 1900); Asia Minor: Ankara prov. as *T. praeustus* v. *angorensis* (Winkler, 1924-1932); İstanbul prov.: Polonez village (Demelt, 1963); Çorum prov.: İskilip as *Tetrops praeustus angorensis* (Breuning et Villiers, 1967); Ankara prov.: Kızılcahamam (Gfeller, 1972); Sinop prov.: Dranaz Mt. (Sama, 1982); Turkey (Danilevsky & Miroshnikov, 1985; Lodos, 1998; Sama, 2002); Çorum prov.: İskilip (Öymen, 1987); Bilecik prov. (Adlbauer, 1988); European Turkey (Althoff & Danilevsky, 1997); Samsun prov., İçel prov. (Özdikmen et al., 2005); Ankara prov.: between Sereflikoçhisar-Evren (Özdikmen, 2006).

For the new subspecies, *T. praeustus anatolicus*: Antalya prov.: Alanya-Taşkent and between Karapınar and Sarımut, Konya prov.: near Beyreli, Hadim, Bozkır, Sorkun, Beyşehir-Akseki road and Dere, Osmaniye prov.: Zorkun.

However, the old İçel record of Özdikmen et al., 2005 belongs to the new subspecies, *T. praeustus anatolicus* and probably the old Antalya record of Bodemeyer (1900) should be the new subspecies.

DISTRIBUTION: 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, Ireland, Czechia, Slovakia, Norway, Poland, Sweden, Finland, Estonia, Latvia, Lithuania, Belorussia, Ukraine, Crimea, Moldavia, European Russia, European Kazakhstan), Siberia, Mongolia, Caucasus, Transcaucasia, Turkey, Syria, Iran, North Africa (Algeria), North America (Canada)
CHOROTYPE: Palearctic

Tetrops praeustus anatolicus ssp. n.

Material examined: Holotype male: Konya province: Hadim, Küçüklü village env., 13.05.2007, 1300 m, N 36 45 E 32 27 and Paratypes: Antalya province: Alanya-Taşkent, exit of Karapınar village, 16.05.2006, 1100 m, N 36 36 E 32 24, 1 specimen; Konya province: near Beyreli, 16.05.2006, 1096 m, N 36 46 E 32 26, 8 specimens; Antalya province: between Karapınar and Sarımut, 13.05.2007, 1100 m, N 36 36 E 32 24, 1 specimen; Konya province: Hadim, Küçüklü village env., 13.05.2007, 1300 m, N 36 45 E 32 27, 47 specimens; Konya province: Bozkır, Üçpınar village, 15.05.2007, 1471 m, N 37 08 E 32 15, 10 specimens; Konya province: Sorkun, 15.05.2007, 1281 m, N 37 09 E 32 08, 14 specimens; Konya province: Beyşehir-Akseki road, S of Beyşehir, 11.06.2007, 1410 m, N 37 28 E 31 37, 1 specimen; Konya province: Dere, 13.06.2007, 1252 m, N 37 10 E 32 09, 4 specimens; Osmaniye province: Zorkun, Fenk plateau, 04.06.2007, 1049 m, N 36 59 E 36 20, 6 specimens.

Differential diagnosis: Mainly, the new subspecies *T. praeustus anatolicus* is a color form of *T. praeustus praeustus* like *T. praeustus algiricus*. This new taxon resembles *T. praeustus praeustus* and *T. praeustus algiricus* in terms of colour of elytra and colour of legs respectively.

The new subspecies, *T. praeustus anatolicus* can be easily distinguished from *Tetrops praeustus praeustus* (Linnaeus, 1758), which is widely distributed in Palaearctic region by following feature: Fore legs are not light entirely. They are black or dark at least in basal half (sometimes nearly complete) of femora (fig. 1b). Elytral punctuation of the new subspecies is more or less stronger than the nominative subspecies (fig. 2b).

Also the new subspecies, *T. praeustus anatolicus* can be easily distinguished from *Tetrops praeustus algiricus* Chobaut, 1893, which is only distributed in North Africa (Algeria) by following feature: Elytra have a dark spot apically (fig. 1a).

The new subspecies probably distributes only in Southern Anatolian region (especially from Western Taurus Mountains to Amanos Mountains) of Turkey.

Sama (2002) stated that "*the true T. praeustus has fore legs entirely light and middle and hind legs entirely dark, sometimes except apices of middle femora. Specimens from southern Turkey (Çakıllı pass, North of Antalya, Çamlıyayla and Yayladağı, east of Hatay) differ from those of Europe by having distinctly darker, nearly black middle and hind legs and a stronger punctation of pronotum and elytra*". If the Sama's specimens also belong to this new taxon, so the new subspecies possibly occurs only from Antalya province to Hatay province in Mediterranean region of Turkey.

Even the old İçel record of Özdikmen et al., 2005 is belonging to the new subspecies, *T. praeustus anatolicus* and probably the old Antalya record of Bodemeyer (1900) must belong to the new subspecies.

On the other side, the variety *T. praeustus* var. *angorensis* was described by Pic, 1918 based on the specimens with totally black legs and black elytral apex from Turkey. The variety name *angorensis* was very likely dedicated to Ankara province by Pic. M. L. Danilevsky (personal communication in 30.12.2007) mentioned that "in Europe specimens with totally black legs are not often, but they exist. I have several specimens from Krasnodar region of Russia, where they are mixed with normal". In this case, Pic's variety *angorensis* is not a subspecies absolutely. As seen above, we examined many specimens of the new subspecies. And we see that above mentioned characters of the new subspecies are stable and invariable. So we decided that the examined specimens are belonging to a new taxon not var. *angorensis* Pic, 1918. The var. *angorensis* is a form of *T. praeustus praeustus*.

Variations: The new subspecies is characterized by black or dark spot on femora of fore legs chiefly. This variable spot always exist in all examined specimens. The femoral dark spots of the specimens from Amanos Mountains are smaller than the specimens from Western Taurus Mountains. In addition to this, while middle and hind tibiae and tarsi are entirely black in the specimens from Western Taurus Mountains, are not completely in the specimens from Amanos Mountains. These last specimens have distinctly dark, nearly black middle and hind legs, as it was mentioned by Sama (2002). For this reason, Sama's specimens mentioned in 2002 from S Turkey are also belonging to the new subspecies very likely.

Etymology: The new name "*anatolicus*" derived from the word "Anadolu" (meaning Anatolia in English).

A short key for related taxa

1. Elytra dark colored mostly and legs light colored entirely.....*gilvipes* Faldermann, 1837 (=*nigra* Kraatz, 1859)
- Elytra light colored at least a great part and but legs not light colored entirely 2

2. Fore legs light colored entirely.....*praeustus praeustus* Linnaeus, 1758
- Fore legs not light colored entirely.....3

3. Elytra with an apical dark spot.....*praeustus anatolicus* ssp. n.
- Elytra without an apical dark spot.....*praeustus algiricus* Chobaut, 1893

rosarum Tsherepanov, 1975

Danilevsky (2007d) stated that "*Tetrops rosarum was recorded for Mongolia by Tsherepanov (1985) and O. Krivolutzkaia (in: Tsherepanov, 1996) without special comments. Most probably the records were based on Tetrops mongolicus Murzin, 1977*".
DISTRIBUTION: Russia (Far East Russia), ?Mongolia
CHOROTYPE: Siberian

starkii Chevrolat, 1859

Other names: *pseudopraeusta* Müller, 1927; *vicina* Pic, 1928; ? *mesmini* Pic, 1928.

Holzschuh (1981) mentioned that the variety *vicina* Pic, 1928 belongs to *T. starkii* and the variety *mesmini* Pic, 1928 should be *T. starkii*.

DISTRIBUTION: Europe (Spain, France, Italy, Slovenia, Croatia & Bosnia Herzegovina, Serbia, Moldova, Greece, Bulgaria, Romania, Hungary, Austria, Germany, Great Britain, Czechia, Slowakia, Poland, Netherland, Denmark, Norway, Sweden, Latvia, Lithuania, Belorussiya, Ukraine, ?Crimea, European Russia), Caucasus (Georgia)
CHOROTYPE: European

warnckei Holzschuh, 1977

This species is endemic to Turkey.

Records from Turkey: Antalya prov.: Taurus, Akseki as the type locality (Holzschuh, 1977).

DISTRIBUTION: S Turkey
CHOROTYPE: S Anatolian

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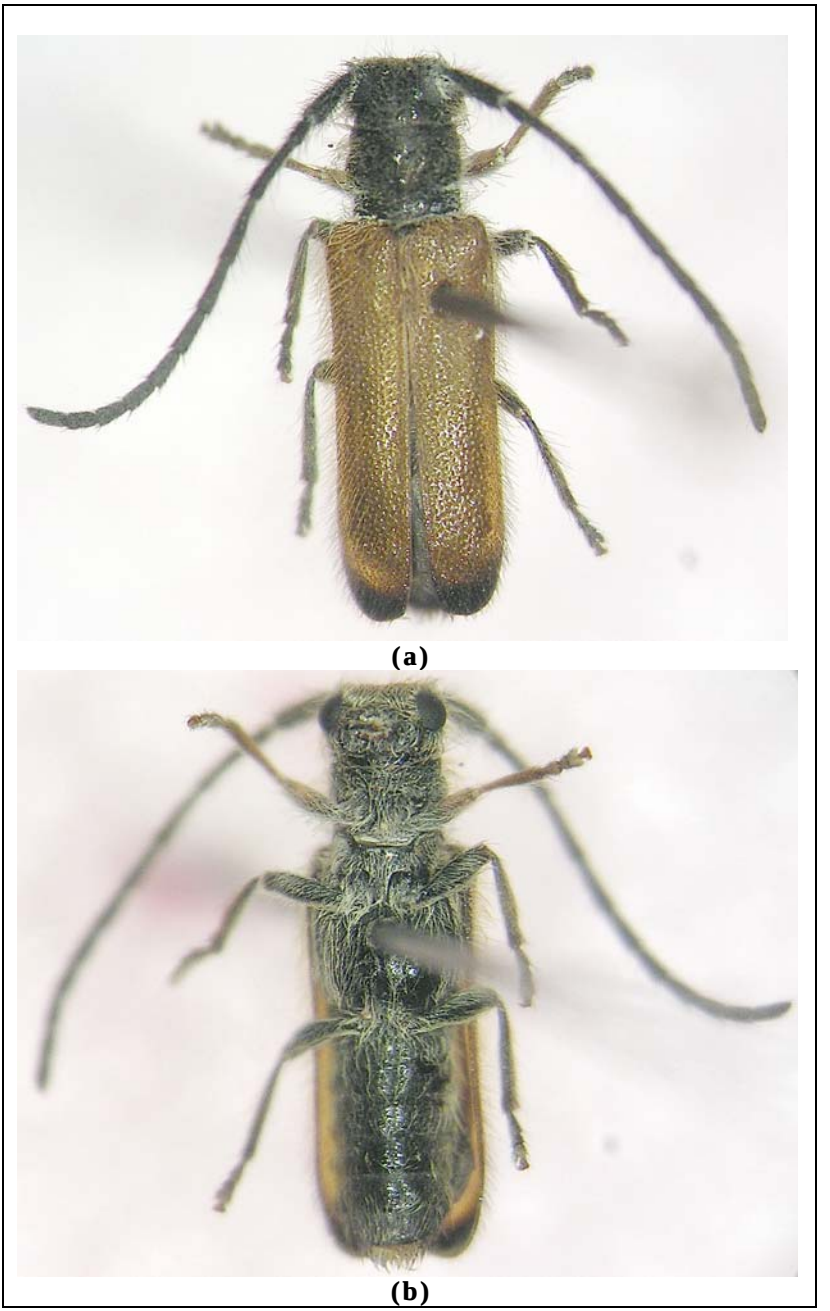


Figure 1. (a) Dorsal view and (b) Ventral view of holotype of *T. praeustus anatolicus* ssp. n.

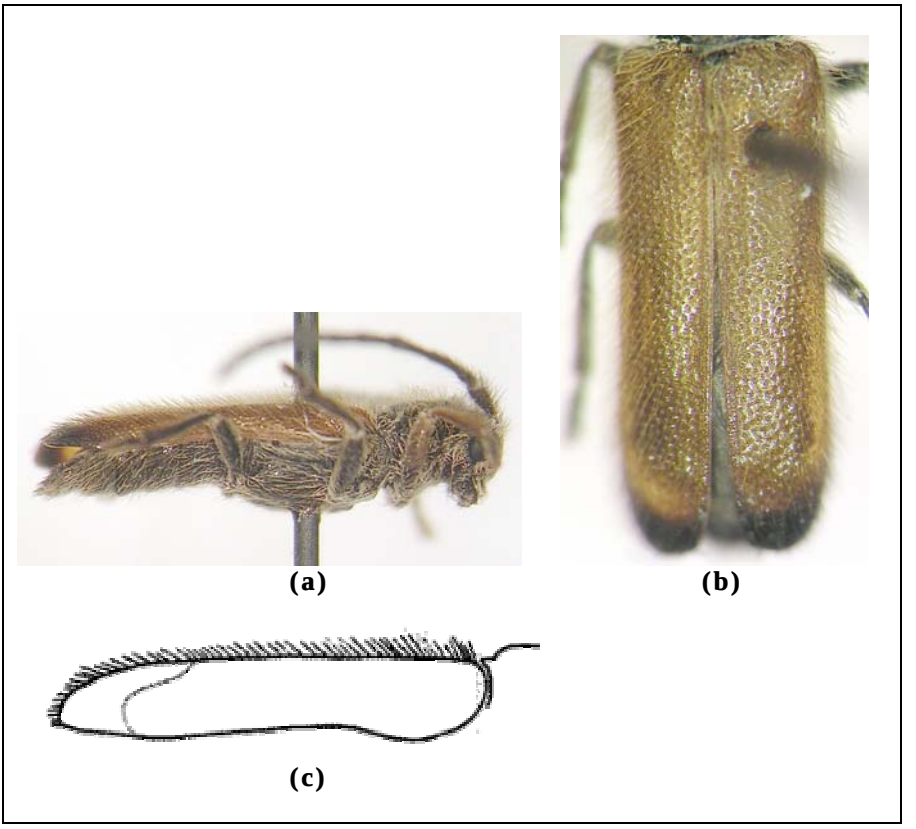


Figure 2. (a) Lateral view and (b) Elytral punctuation and pubescence of holotype of *T. praeustus anatolicus* ssp. n. (c) Elytral pubescence of *T. praeustus* (from Starzyk & Lessaer, 1978)

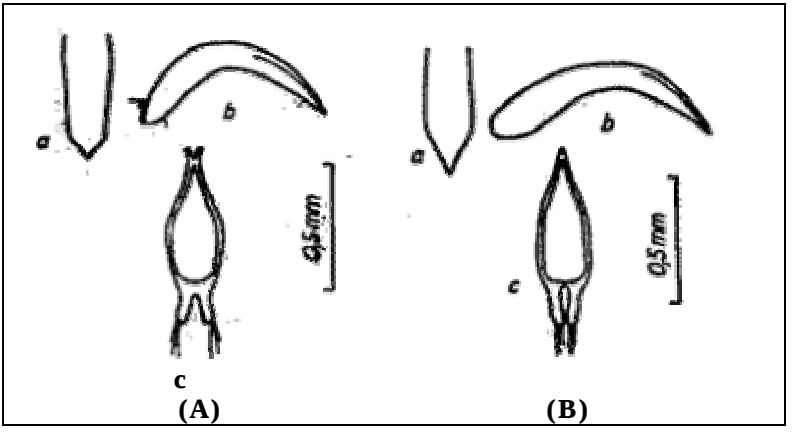
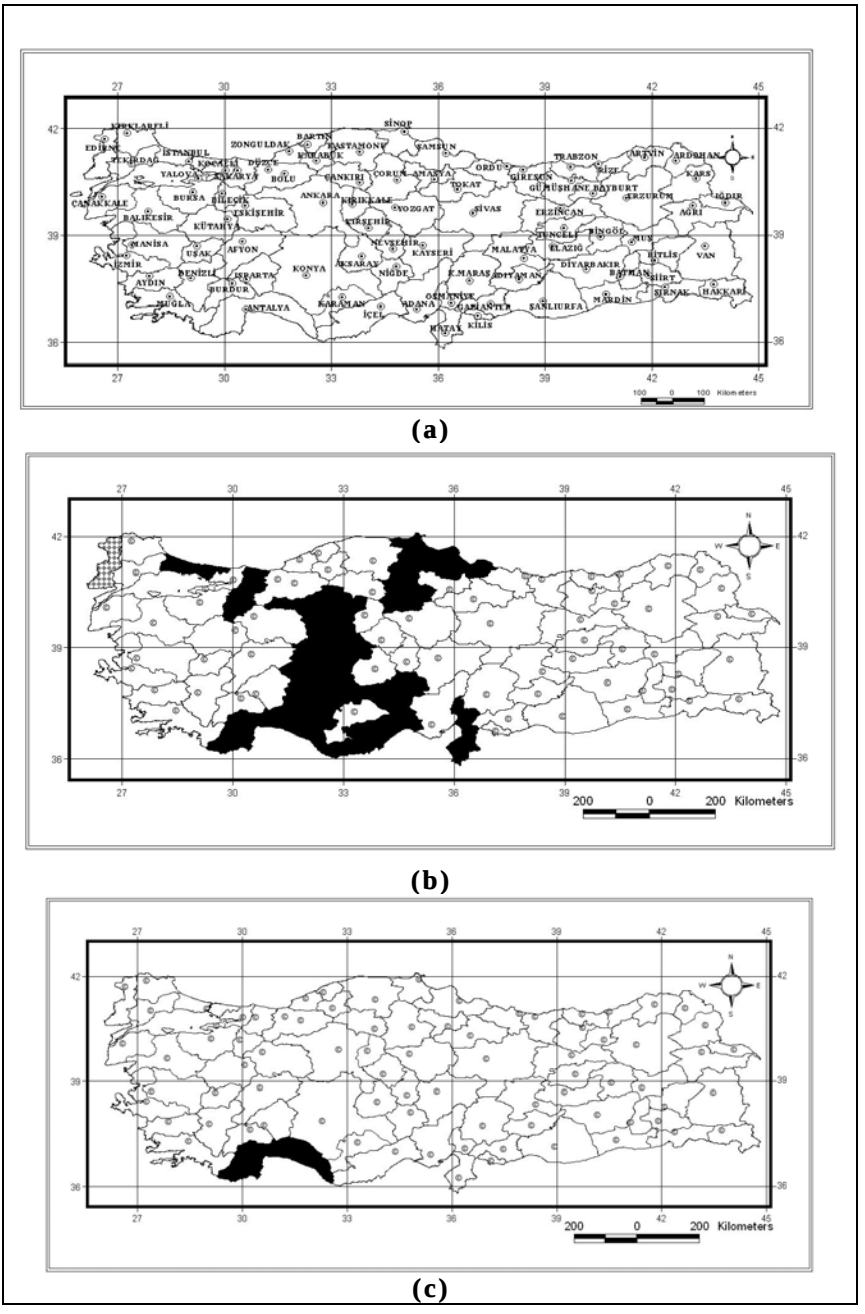


Figure 3. a: aedeagus (top view), b: aedeagus (side view), c: paramerae (top view), Paramerae (top view) (A) *T. gilvipes* (B) *T. praeustus* (from Starzyk & Lessaer, 1978)



Map 1. (a) The provinces of Turkey (b) Distributional patterns of *T. praeustus* (Linnaeus, 1758) in Turkey (c) Distributional patterns of *T. warnckei* Holzschuh, 1977 in Turkey.

Map 2. Objective distributional patterns ( ) in S Turkey of *T. praeustus anatolicus* ssp. n. (the map from Google Earth).