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On some East Palaearctic *Tetartopeus* species (Coleoptera: Staphylinidae: Paederinae)

V. ASSING

A b s t r a c t : A revision of several East Palaearctic species of the paederine genus *Tetartopeus* CZWALINA 1888 revealed three synonymies: *Tetartopeus kamtschaticus* (BERNHAUER 1927) = *Lathrobium gracile* POPPIUS 1909, nov.syn., = *L. poppiusi* KOCH 1939, nov.syn.; *Tetartopeus niger* (LECONTE 1863) = *Lathrobium cognatum* SHARP 1889, nov.syn. Lectotypes are designated for *Lathrobium kamtschaticum* BERNAUER 1927, *L. cognatum* SHARP 1889, *L. fragile* SHARP 1889, and *L. pallipes* SHARP 1889. The external and sexual characters of six species are illustrated. A catalogue of the 33 valid species currently known from the Palaearctic region is provided. Four of them are of doubtful identity, either because their descriptions are based on females or because their male sexual characters have not been examined. Additional records, among them several new country records, are presented for eight species.

K e y w o r d s : Coleoptera, Staphylinidae, Paederinae, *Lathrobium*, *Tetartopeus*, Palaearctic region, Nearctic region, new synonymies, lectotype designations, catalogue, new records.

Introduction

According to SMETANA (2004), the paederine genus *Tetartopeus* CZWALINA 1888 is represented in the Palaearctic region by 27 species. In the meantime, seven additional species have been described (ANLAŞ 2009; ASSING 2004, 2009a, 2010a; FELDMANN 2010), five of them from Turkey, one from Israel, and one species was transferred to the genus from *Lobrathium* MULSANT & REY 1878 (ASSING 2010b). One species was synonymised by BORDONI (2004), but subsequently revalidated by ASSING (2008). Eleven species, one of them distributed also in the Palaearctic region, have become known from North America (WATROUS 1980). Thus, the genus has a Holarctic distribution.

In contrast to most of the West Palaearctic *Tetartopeus* species, the East Palaearctic representatives of the genus have never been thoroughly revised; except for some species figured by COIFFAIT (1982) and RYVKIN (1989), their male sexual characters have not been studied, and their distributions are largely unknown. Therefore, it is the main objective of the present paper to clarify the identities of the East Palaearctic *Tetartopeus* species, based on an examination of the available type material. Also, some additional records are reported.

Four of the Palaearctic species remain of doubtful identity. The descriptions of *T. brachypterus*, *T. persicus*, and *T. ibericus*, all of them described by COIFFAIT, are based on single females. The aedeagus of *T. persicus* was illustrated by ASSING (2008) based on a male from Iraq, but this interpretation is only tentative. The aedeagus of *T. fulvipes* from Japan is unknown.

Material, methods, and measurements

The material treated in this study is deposited in the following public institutions and private collections:

BMNH ..... The Natural History Museum, London (R. G. Booth)
FMNH..... Field Museum of Natural History, Chicago (A. F. Newton; via L. H. Herman)
NHMW ..... Naturhistorisches Museum Wien (H. Schillhammer)
SDEI ..... Senckenberg Deutsches Entomologisches Institut, Müncheberg (L. Behne)
cAss..... author´s private collection
cPüt ..... private collection Andreas Pütz, Eisenhüttenstadt
cSch..... private collection Michael Schülke, Berlin
cSme..... private collection Aleš Smetana, Ottawa

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena) with a drawing tube. For the photographs a digital camera (Nikon Coolpix 995) was used.

Head length was measured from the anterior margin of the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the aedeagus.

Results

A revision of the types and additional material of several previously unrevised species from the East Palaearctic revealed three new synonymies, so that the *Tetartopeus* fauna of the Palaearctic region currently comprises 33 valid species. One of them, *T. niger*, is present also in the Nearctic region.

The zoogeography of the species from the East Palaearctic region is still poorly known, but new evidence suggests that most of them are rather widespread and that most previous records of West Palaearctic species from the East Palaearctic refer to externally similar congeners. In the course of the present study, not a single specimen of species such as *T. quadratus*, *T. rufonitidus*, or *T. terminatus* was found in the East Palaearctic material of the collections examined. So far, a trans-Palaearctic distribution has been confirmed only for *T. zetterstedti*.

Tetartopeus truncatus ASSING 2009

Material examined: Russia: 1♂, Primorskiy Kray, Ussurijsky Res., Komarov-Zapovednoe, 43°39'N, 132°21'E, 20.-29.VII.1999, leg. Sundukov (cSch); 1♀, Primorskiy Kray, Tschernye Gory, Venedivnovo, 1.-3.VIII.1990, leg. Pütz (SDEI); 1♂, Primorskiy Kray, 70 km E Vladivostok, Anisimovka, 43°11'N, 132°41'E, 300 m, 3.VI.1993, leg. Zerche (cAss).

Comment: The above specimens represent the first records since the original description, which is based on three specimens from Primorskiy Kray (ASSING 2009a).

Tetartopeus zetterstedti (RYE 1872)

Material examined: Russia: 1♀, Primorskiy Kray, Sichote-Alin reserve, Jasnaya estuary, 26.VI.-4.VII.1998, leg. Sundukov (cSch); 1♀, Primorskiy Kray, Lazovskiy district, spring valley Pazelnaya, 12 km N Lazo, 16.VI.1995, leg. Sundukov (cPüt).

Comment: According to SMETANA (2004), the distribution of this North Palaearctic species ranges from France, the British Isles, and Scandinavia to East Siberia. The above specimens represent the first records from the Russian Far East.

Tetartopeus kamtschaticus (BERNHAUER 1927) (Figs 1-10)

Lathrobium kamtschaticum BERNAUER 1927: 94.
Lathrobium punctatum var. *gracile* POPPIUS 1909: 22; preoccupied; **nov.syn.**
Lathrobium poppiusi KOCH 1939: 257; replacement name for *L. gracile* POPPIUS; **nov.syn.**
Tetartopeus kamtshaticus: SMETANA (2004); incorrect subsequent spelling.

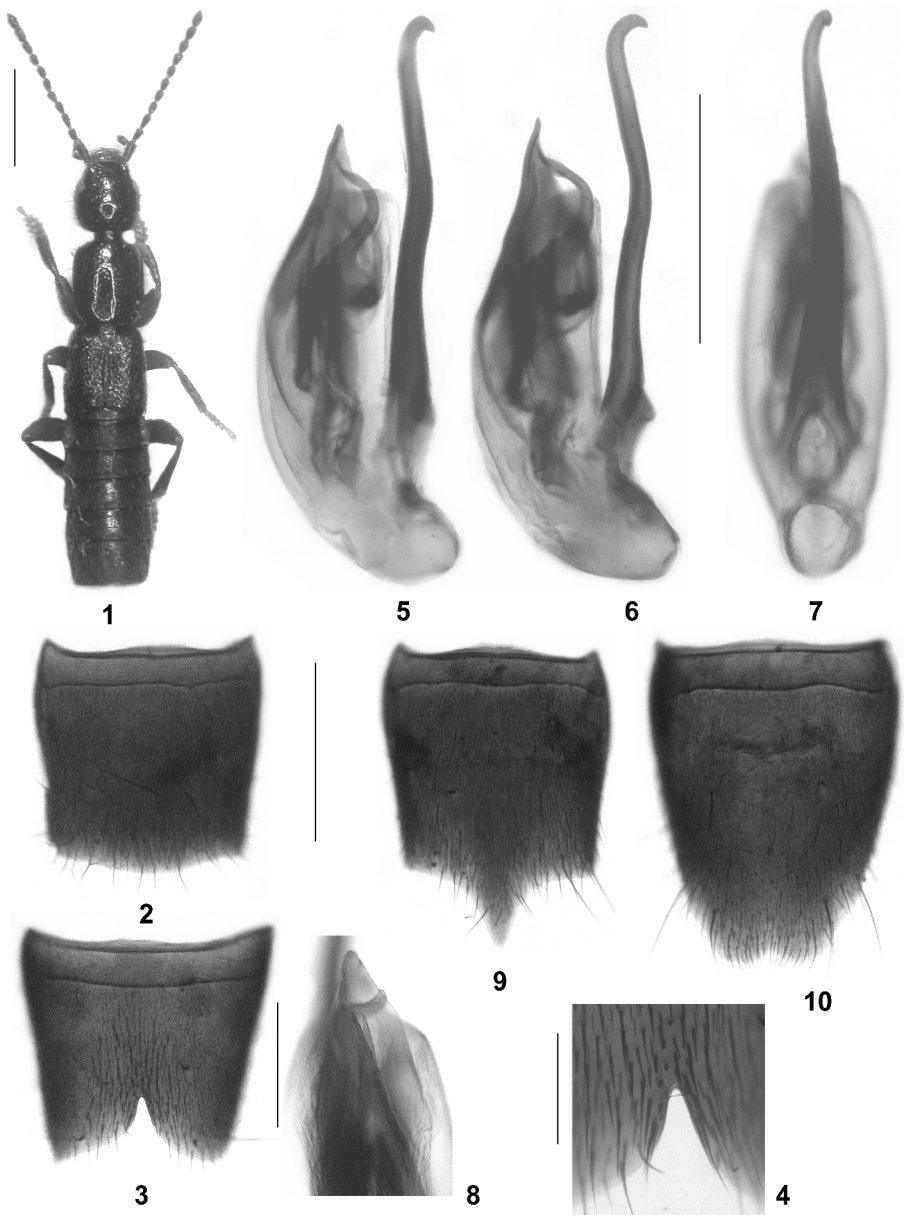
Type material examined: *Lathrobium kamtschaticum*: Lectotype ♂, present designation: "Kamtschatka, Bolscherjetsk / 10.VII.1917, Y. Wuorentaus / kamtschaticum Bernh. Typus. / Chicago NHMus, M.Bernhauer Collection / Lectotypus ♂ *Lathrobium kamtschaticum* Bernhauer, desig. V. Assing 2011 / Tetartopeus kamtschaticus (Bernhauer), det. V. Assing 2011" (FMNH).

Additional material examined: Russia: 2♂♂, Khabarovskiy Kray, 10 km N Bikin, Boitsovo, Shivki mountain, 47°05'N, 134°18'E, 200 m, 27.V.1993, leg. Zerche (SDEI, cSch); 1♀, 20 km N Bikin, 3 km SE Boitsovo, 47°02'N, 134°21'E, 250 m, 26.V.1993, leg. Zerche (cAss); 1♂, 1♀, "Ost-Sibirien / Quellgebiet des Irkut", 1891, leg. Leder (NHMW, cAss).

Comment: The original description of *Lathrobium kamtschaticum* is based on an unspecified number (at least two) of syntypes, among them at least one male, collected in "Bolscherjetsk, am 10. Juli 1917 von Y. Wuorentaus" and deposited in the Bernhauer collection and "in der Sammlung des Museums in Helsingfors" (BERNHAUER 1927). One male syntype was located in the Bernhauer collection. It is designated as the lectotype.

POPPIUS (1909) described *Lathrobium gracile* as a variety of *L. punctatum* ZETTERSTEDT (a primary homonym subsequently replaced with *L. zetterstedti*), based on several specimens collected in "Ytykhaja", "zwischen der Aldan-Mündung und Batylym", "auf den Werchojansk'ischen Gebirgen", and "in den Umgebungen von Shigansk" under moss in taiga habitats, once also near a mountain stream in July and August. The type material, which is probably deposited in the Zoological Museum, University of Helsinki, was not examined.

KOCH (1939) replaced the primary homonym *Lathrobium gracile* POPPIUS 1909 with the new name *L. poppiusi*.



Figs 1-10: *Tetartopeus kamtschaticus* (BERNHAUER) (1-5, 7: lectotype): (**1**) habitus; (**2**) male tergite VIII; (**3**) male sternite VIII; (**4**) posterior median portion of male sternite VIII; (**5-6**) aedeagus in lateral view; (**7**) aedeagus in ventral view; (**8**) dorsal plate of aedeagus; (**9**) female tergite VIII; (**10**) female sternite VIII. Scale bars: 1: 1.0 mm; 2-3, 5-7, 9-10: 0.5 mm; 4, 8: 0.2 mm.

COIFFAIT (1982) provided illustrations of the male and female sexual characters of *Tetartopeus poppiusi*, based on material collected close to the type locality. Based on

these illustrations, the aedeagus of *T. poppiusi* is identical to that of the lectotype of *T. kamtschaticus*; hence the new synonymies proposed above. The elytra of the lectotype are distinctly shorter (0.7 times as long as pronotum) than those of the additional male from Boitsovo (0.95 times as long as pronotum).

D i a g n o s i s : Length of forebody 2.7-3.3 mm. Habitus as in Fig. 1. Body uniformly blackish, elytra without yellowish spots; legs and antennae brown to blackish-brown. Elytra of very variable length, 0.70-0.95 times as long as pronotum.

♂: tergite VIII and sternite VIII as in Figs 2-4; aedeagus approximately 1.2 mm long; ventral process conspicuously long and almost straight in lateral view, somewhat asymmetric and subapically bent in ventral view, apically hooked; dorsal plate apically angular; internal sac with large sclerotized structures of characteristic shape; apical internal structure strongly curved (Figs 5-8).

♀: tergite VIII (Fig. 9) with pronounced and acute posterior process (similar to condition in *T. terminatus*); sternite VIII distinctly oblong, posterior margin produced and in the middle moderately concave (Fig. 10); hemi-tergites IX very long.

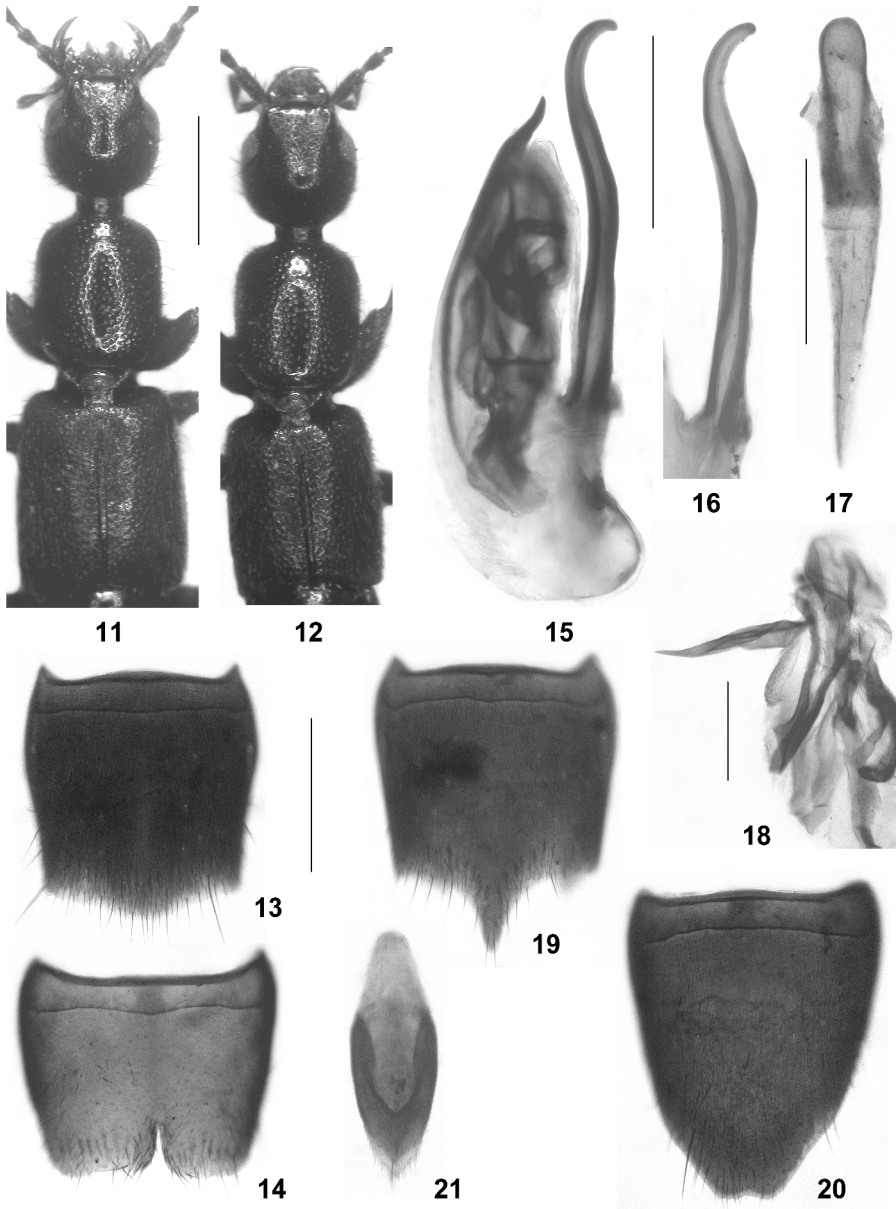
D i s t r i b u t i o n : The species is currently known from East Siberia and the Russian Far East.

Tetartopeus niger (LECONTE 1863) (Figs 11-21)

Lathrobium nigrum LECONTE 1863: 43.
Lathrobium cognatum SHARP 1889: 257; **nov.syn.**

T y p e m a t e r i a l e x a m i n e d : *Lathrobium cognatum*: Lectotype ♂, present designation: "Chiuzenji. Japan. 24.8.81. Lewis, Lathrobium cognatum ♂ Type D. S. [written next to specimen] / Japan. G. Lewis. / Syntype / Sharp Coll 1905-313. / Lathrobium cognatum Sharp, P.M. Hammond det. 1979 / Lectotype Lathrobium cognatum Sharp, des LE Watrous 1980 / Lathrobium nigrum Lec. ♂, Gusarov det. 1993 / Lectotypus ♂ *Lathrobium cognatum* Sharp, desig. V. Assing 2011 / Tetartopeus niger (LeConte), det. V. Assing 2011" (BMNH). Paralectotype ♀: "Chiuzenji. Japan. 24.8.81. Lewis, Lathrobium cognatum ♂ Type D. S. [written next to specimen] / Japan. G. Lewis. / Type / Sharp Coll 1905-313. / Paralectotypus ♀ Lathrobium cognatum Sharp, V. Gusarov des. 1993 / Lathrobium nigrum Lec. ♀, Gusarov det. 1993" (BMNH).

A d d i t i o n a l m a t e r i a l e x a m i n e d : Russia: 1♂, Khabarovskiy Kray, 30 km S Khabarovsk, Bychika, bank of Ussuri river, 11.-12.VI.1990, leg. Schawaller (cSch); 2♂♂, 1♀, Khabarovskiy Kray, 20 km N Bikin, 3 km SE Boitsovo, 47°02'N, 134°21'E, 250 m, 26.V.1993, leg. Zerche (SDEI, cSch); 1♂, Khabarovskiy Kray, 10 km N Bikin, Boitsovo, Shivki mt., 47°05'N, 134°18'E, 200 m, 27.V.1993, leg. Zerche (SDEI); 1♂, 3♀♀, Primorskiy Kray, 5 km SE Samarka, 70 km N Chuguyevka, Gordeyevskaya mountain, 44°46'N, 134°13'E, 300 m, 29.V.1993, leg. Zerche (SDEI, cSch); 1♀, 10 km SW Samarka, 70 km N Chuguyevka, Gordeyevskaya mt., 44°46'N, 134°13'E, 300 m, 29.V.1993, leg. Zerche (SDEI); 1♀, Primorskiy Kray, Lazovsky R., Lazo, Lazovka valley, 1.-12.VI.1998, leg. Sundukov (cSch); 1♂, Primorskiy Kray, Ussuriysky reserve, Komarovo-Zapovednoe, 43°39'N, 132°21'E, 20.-29.VII.1999, leg. Sundukov (cAss); 1♀, Primorskiy Kray, 15 km S Ussuriysk, 43°40'N, 132°00'E, 100 m, 23.V.1993, leg. Zerche (SDEI); 1♂ [teneral], Ussuriysky reserve, 30 km SE Ussriysk, "43,3N 132,0E", 28.VII.-1.VIII.1993, leg. Groll & Kutzscher (SDEI); 1♀, Primorskiy Kray, Tschernye Gory, Venedivnovo, 1.-3.VIII.1990, leg. Pütz (SDEI); 1♀, Primorskiy Kray, Sikhote-Alin, Biological Station 30 km SE Chuguyevka, 44°05'N, 134°12'E, 650 m, 1.VI.1993, leg. Zerche (SDEI); 2♀♀ [with relatively short elytra], Sakhalin, Korsakov distr., lake Ismenshyroye, 21.-22.VII.1993, leg. Pütz & Wrase (cSch, cAss); 1♀, Sakhalin, Tymovskiy district, 10 km S Palevo, Zonalnoye vill., 15.-19.VII.1993, leg. Pütz & Wrase (SDEI); 1♀: Kamchatka, lake Savo [Sevo?], Mitkovo [?], 2.VIII.1991, leg. Predel (cAss). U.S.A.: 2♂♂, 1♀ [1♂ teneral], Alaska, Kenai Peninsula, Soldatna, Sterling, Scout Lake Woods, lakeshore, 23.VIII.2009, leg. Renner (cAss); 1♀, Alaska, Kenai Peninsula, Homer, Mattox Street, moist meadow, 22.VI.2007, leg. Renner (cAss).



Figs 11-21: *Tetartopeus niger* (LECONTE) (14, 16-18: lectotype of *T. cognatus*): (**11-12**) forebody of specimens from Primorskiy Kray (**11**) and from Sakhalin (**12**); (**13**) male tergite VIII; (**14**) male sternite VIII; (**15**) aedeagus in lateral view; (**16**) ventral process of aedeagus in lateral view; (**17**) dorsal plate of aedeagus; (**18**) internal structures of aedeagus (extruded); (**19**) female tergite VIII; (**20**) female sternite VIII; (**21**) female tergite X. Scale bars: 11-12: 1.0 mm; 13-17, 19-21: 0.5 mm; 18: 0.2 mm.

C o m m e n t : *Lathrobium nigrum* was described from an unspecified number of specimens collected at "Lake Superior" (LECONTE 1863). A lectotype was designated by WATROUS (1980), who provided a detailed redescription and illustrations of the male and female sexual characters.

The original description of *Lathrobium cognatum* is based on "six examples" from "Chiuzenji, 24th August" (SHARP 1889); a holotype was not designated. Two syntypes, a male and a female, were located in the collections of the BMNH; both of them had been dissected prior to the present study. They have lectotype and paralectotype labels by L. Watrous (male; 1980) and V. Gusarov (female; 1993), respectively, attached to them, but a lectotype designation was never published. The male is here designated as the lectotype. According to the identification labels attached to the two type specimens, V. Gusarov considered them to be conspecific with *Tetartopeus niger*. A comparison with material from Russia and from the north of North America (Alaska), as well as with the illustrations and descriptive details provided by WATROUS (1980) confirms this synonymy.

D i a g n o s i s : Relatively large species; length of forebody 3.6-4.5 mm. Body uniformly blackish, occasionally with diffuse and indistinct yellowish spots in postero-lateral angles of elytra; legs blackish-brown to blackish, with reddish tarsi. Elytra of variable length, slightly longer or slightly shorter than pronotum (Figs 11-12).

♂: tergite and sternite VIII as in Figs 13-14; aedeagus rather large, 1.6-1.8 mm long (Figs 15-16); dorsal plate very long and apically rounded in dorsal view (Fig. 17); internal sac with pronounced sclerotized structures (Fig. 18).

♀: tergite VIII strongly produced posteriorly (Fig. 19); sternite VIII conspicuously long, posterior margin produced and weakly concave in the middle (Fig. 20); tergite X (Fig. 21) relatively large, strongly convex in cross-section, and with median carina posteriorly.

I n t r a s p e c i f i c v a r i a t i o n : According to WATROUS (1980), the coloration of the body is uniformly black. Many of the specimens seen from the Russian Far East and Japan, however, have the postero-external angles of the elytra, some of them also the narrow posterior margin, diffusely yellowish. The length of the elytra is subject to some variation, too. In the two females from Sakhalin (Fig. 12) and in some specimens from Alaska, the elytra are shorter than the pronotum, in the remainder they are somewhat longer than the pronotum (Fig. 11), suggesting that the species may be wing-dimorphic.

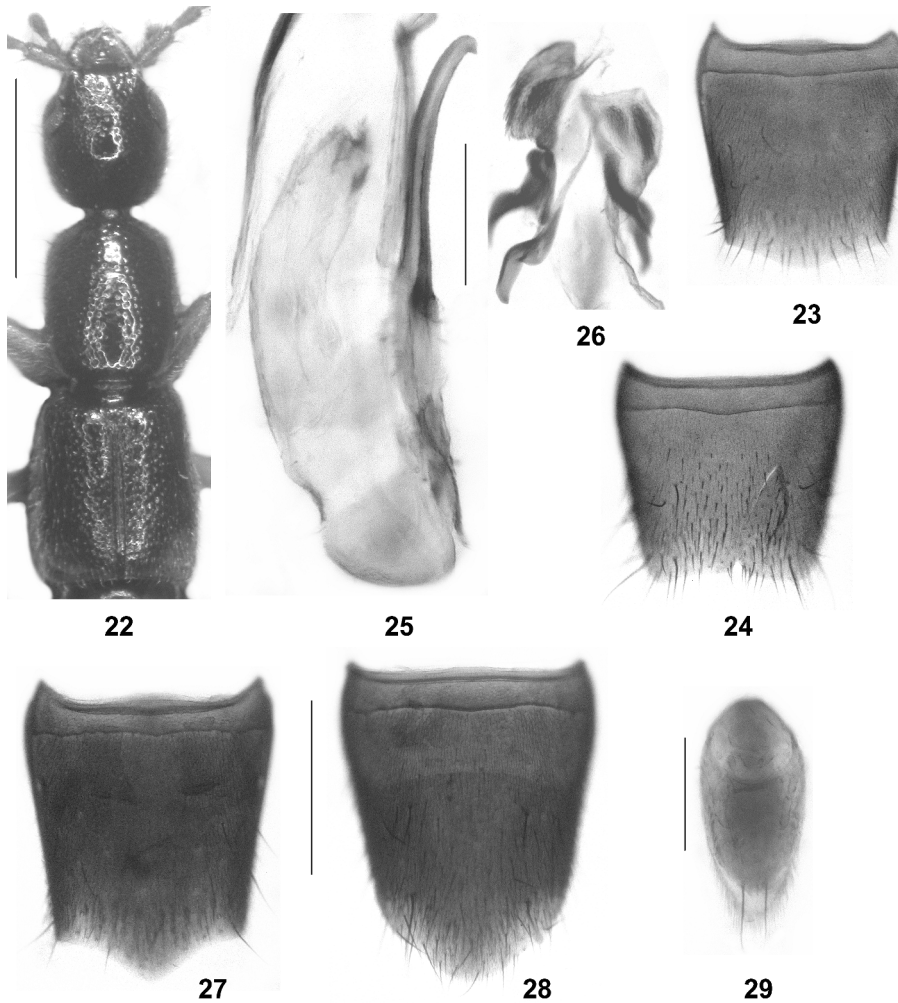
D i s t r i b u t i o n : *Tetartopeus niger* has a Holarctic distribution. In the Palaearctic region, it is confined to the Russian Far East and Japan.

Tetartopeus fragilis (SHARP 1889) (Figs 22-26)

Lathrobium fragile SHARP 1889: 258.

T y p e m a t e r i a l e x a m i n e d : Lectotype, present designation: "♂ Lathrobium fragile Type D. S. Osaka. 7.7.1881. Japan Lewis [written next to specimen] / Japan. G. Lewis. / Type / Syntype / Sharp Coll 1905-313. / Lathrobium fragile Sharp, P.M. Hammond det. 1979 / Lectotype Lathrobium fragile Sharp, des. LE Watrous 1980 / Lathrobium fragile Sharp ♂, V.I. Gusarov det. 1993 / Lectotypus ♂ *Lathrobium fragile* Sharp, desig. V. Assing 2011 / Tetartopeus fragilis (Sharp), det. V. Assing 2011" (BMNH).

C o m m e n t : The original description is based on "five examples" from "Ogura lake, 7th July" (SHARP 1889). One of the syntypes, a male dissected prior to the present study, was located in the collections of the BMNH. It has a lectotype label by Watrous attached



Figs 22-29: *Tetartopeus fragilis* (SHARP), lectotype (**22-26**), and *T. pallipes* (SHARP) (**27-29**): (**22**) forebody; (**23**) male tergite VIII; (**24**) male sternite VIII; (**25**) aedeagus in lateral view; (**26**) internal structures of aedeagus (extruded); (**27**) female tergite VIII; (**28**) female sternite VIII; (**29**) female tergite X. Scale bars: 22: 1.0 mm; 23-24, 27-28: 0.5 mm; 25-26, 29: 0.2 mm.

to it, but the designation was never published. The specimen is here formally designated as the lectotype.

D i a g n o s i s : Small and slender species; length of forebody 2.8 mm. Body dark-brown; elytra with pronounced and extensive yellowish spots in postero-lateral angles; legs and antennae reddish. Head distinctly oblong. Elytra approximately 0.9 times as long as pronotum (Fig. 22).

♂: tergite and sternite VIII as in Figs 23-24; aedeagus small, approximately 0.75 mm long; ventral process very slender and very weakly curved in lateral view (Fig. 25); internal sac with four large sclerotized structures (Fig. 26).

D i s t r i b u t i o n : This species is currently known only from Japan.

Tetartopeus pallipes (SHARP 1889) (Figs 27-38)

Lathrobium pallipes SHARP 1889: 257 f.

T y p e m a t e r i a l e x a m i n e d : Lectotype, present designation: "♂ Lathrobium pallipes Type D. S. Kioto 2.7.1881. Japan Lewis [written next to specimen] / Japan. G. Lewis. / Type / Syntype / Sharp Coll 1905-313. / Lathrobium pallipes Sharp, P.M. Hammond det. 1979 / Lectotype Lathrobium pallipes Sharp, des LE Watrous 1980 / Lathrobium pallipes Sharp ♂, V.I. Gusarov det. 1993 / Lectotypus ♂ *Lathrobium pallipes* Sharp, desig. V. Assing 2011 / Tetartopeus pallipes (Sharp), det. V. Assing 2011" (BMNH).

A d d i t i o n a l m a t e r i a l e x a m i n e d : Russia: 2♂♂, 1♀, Primorskiy Kray, Ussuriskiy Reserve, Kordon Peishula, 13.-20.VIII.1998, leg. Sundukov (cSch, cAss); 3♂♂, 4♀♀ [3 teneral], Primorskiy Kray, Ussuriskiy Reserve, Komarovo-Zapovednoe, 43°39'N, 132°21'E, 20.-29.VII.1999, leg. Sundukov (cSch, cAss); 11♂♂, 2♀♀, Primorskiy Kray, 70 km N Chuguyevka, Samarka, Gordeyevskaya mt., bank of Shuravlevka, 44°46'N, 134°13'E, 300, 29.V.1993, leg. Zerche (SDEI, cAss); 1♀, Primorskiy Kray, Ussurijskiy Distr., Kajmanovka, 132°14', 43°38'E, 31.VII.1999, leg. Sundukov (cSch); 1♂, 1♀, Primorskiy Kray, Tschernye Gory, Venedivnovo, 1.-3.VIII.1990, leg. Pütz (SDEI). Japan: 2♂♂, Hokkaido, Nopporo Forest Park, 27.V.&5.VI.2008, leg. Lackner (cAss); 2♀♀, Honshu, Toride, Tonegawa river, 20.VIII.1983, leg. Morita (SDEI); 1♀ [teneral], Honshu, Fukushima, Sanegawa, 15.VIII.1988 (SDEI); 1♀, Honshu, Kyoto, Mt. Amaishi, 22.VII.1995, leg. Ito (cAss).

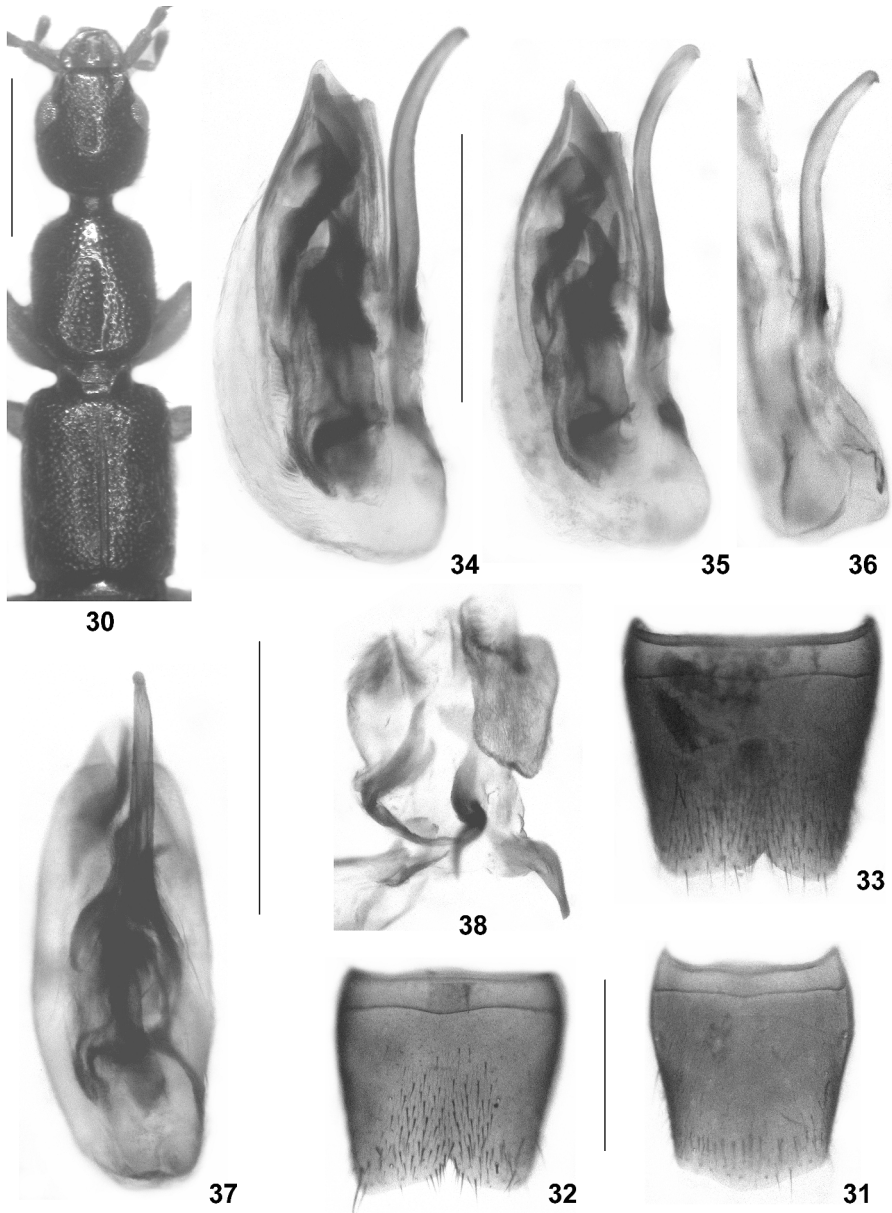
C o m m e n t : The original description is based on three syntypes, one from "Yokohama, 7th April", one from "Kioto, 2nd August", and one from "Niigata, 6th September" (SHARP 1889). One of the syntypes, a male from "Kioto", was located in the collections of the BMNH. It had been dissected prior to the present study and has a lectotype label by Watrous attached to it, but the designation was never published. The specimen is here formally designated as the lectotype.

D i a g n o s i s : Species of intermediate size; length of forebody 3.1-3.6 mm. Body uniformly blackish-brown to black, elytra with distinct yellowish spots in postero-lateral angles; legs reddish; antennae reddish, with antennomeres III-IX more or less distinctly infuscate. Elytra approximately as long as pronotum (Fig. 30).

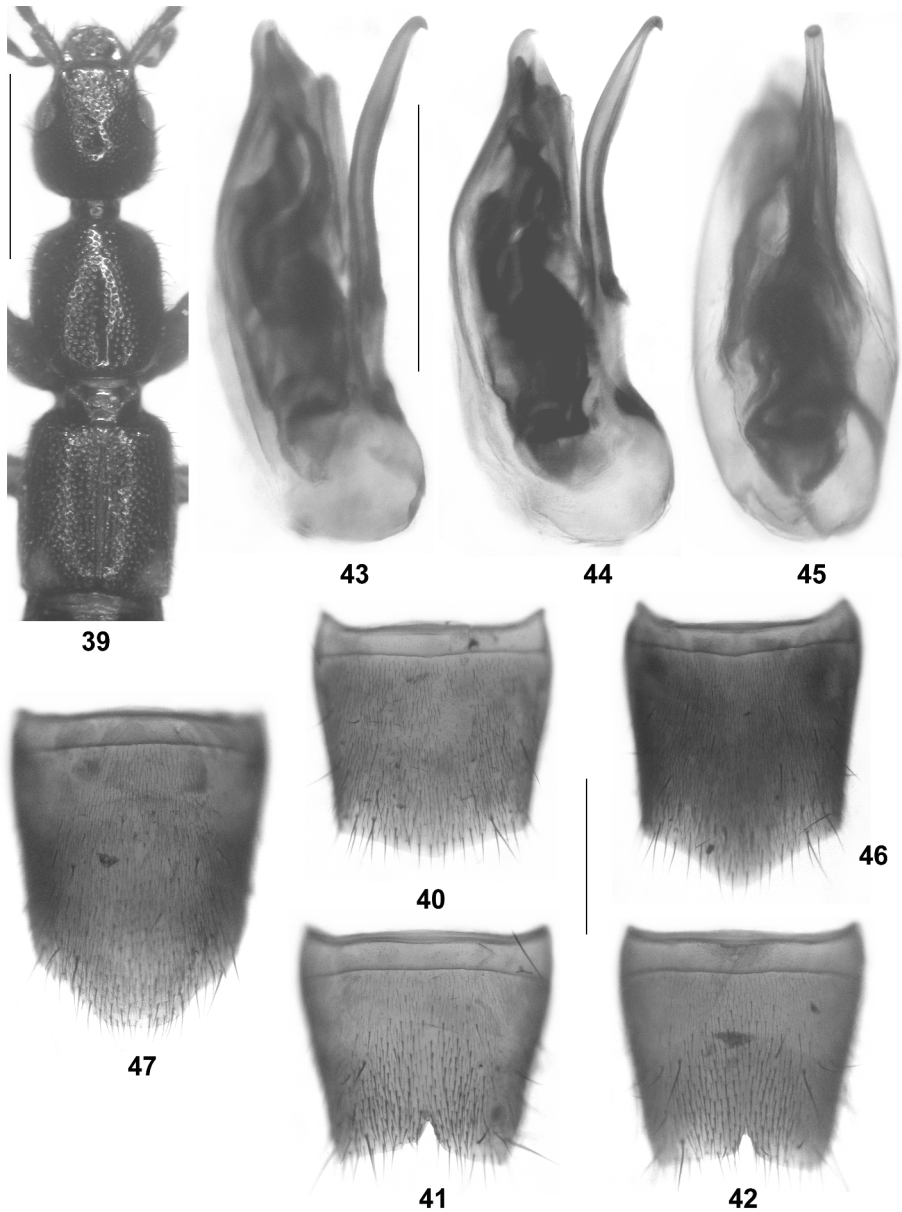
♂: tergite and sternite VIII as in Figs 31-33; aedeagus 0.8-1.0 mm long; ventral process very slender both in lateral and in ventral view (Figs 34-37), bent in apical third (lateral view), and apically only indistinctly hooked (lateral view); internal sac with four large sclerotized structures (Fig. 38).

♀: tergite VIII angularly produced posteriorly (Fig. 27); sternite VIII moderately produced posteriorly, posterior margin convex (Fig. 28); tergite X relatively small and without carina (Fig. 29).

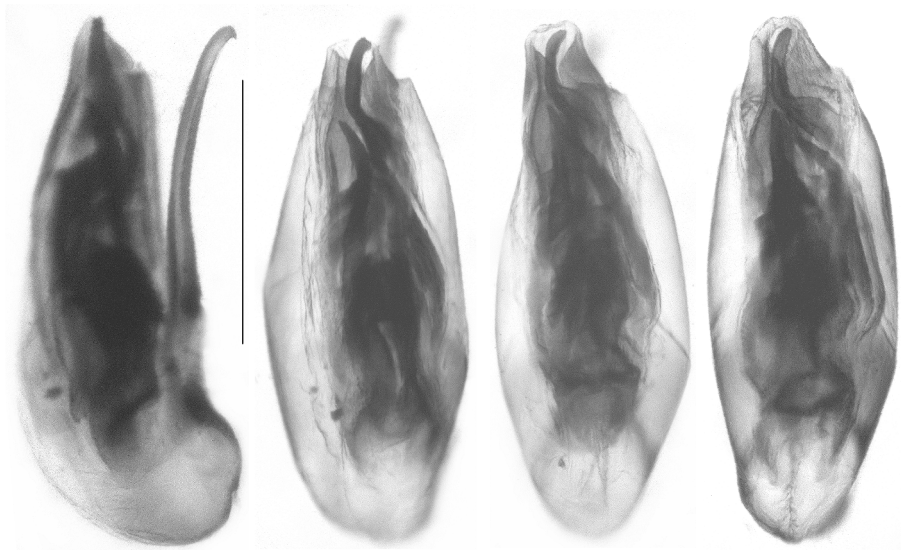
D i s t r i b u t i o n : According to SMETANA (2004), *T. pallipes* has been reported from Japan, China, and South Korea. Owing to possible confusion with the similar *T. bimaculatus* (see below), however, the records from China and South Korea require revision; at least those from China probably refer to *T. bimaculatus*. Confirmed records are currently known only from Japan and the Russian Far East (new record).



Figs 30-38: *Tetartopeus pallipes* (SHARP) (**31-32, 36, 38**: lectotype): (**30**) forebody; (**31**) male tergite VIII; (**32-33**) male sternite VIII; (**34-36**) aedeagus in lateral view; (**37**) aedeagus in ventral view; (**38**) internal structures of aedeagus (extruded). Scale bars: 30: 1.0 mm; 31-38: 0.5 mm.



Figs 39-47: *Tetartopeus bimaculatus* (LI, TANG & ZHU) from Taiwan (**39-41**, **44-47**) and from Hunan (**42-43**): (**39**) forebody; (**40**) male tergite VIII; (**41-42**) male sternite VIII; (**43-44**) aedeagus in lateral view; (**45**) aedeagus in ventral view; (**46**) female tergite VIII; (**47**) female sternite VIII. Scale bars: 39: 1.0 mm; 40-47: 0.5 mm.



Figs 48-51: *Tetartopeus bimaculatus* (LI, TANG & ZHU) from Yunnan (**48-49**), Taiwan (**50**) and from Hunan (**51**): (**48**) aedeagus in lateral view; (**49-51**) aedeagus in dorsal view. Scale bar: 0.5 mm.

Tetartopeus bimaculatus (LI, TANG & ZHU 2007) (Figs 39-51)

Lobrathium bimaculatum LI, TANG & ZHU 2007: 261 f.
Tetartopeus bimaculatus: ASSING (2010b).

C o m m e n t : The illustrations of the male sexual characters provided in the original description, which is based on a single male holotype from Guizhou, are schematic and unsuitable for an identification of this species. It was only after Liang Tang (Shanghai), one of the authors, kindly sent photographs of the primary and secondary sexual characters of the holotype that an interpretation was possible.

M a t e r i a l e x a m i n e d : Taiwan: 65 exs., Ilan Hsien, Chyr Duan, 1100 m, 11.IV.1990, leg. Smetana (cSme, cAss, cSch); 1♀, Ilan Hsien, Shen-Mi Lake, 24°23'N, 121°44'E, 1110 m, 9.V.1995, leg. Smetana" (cSme). China: 1♂, Zhejiang, Tianmu Shan, leg. Reitter ["Typus Lathrobium tienmuschanensis O. Scheerpeltz" (NHMW); 1♂, China, SW-Hunan, SW Huitong, 7.XI.1993, Guangping env., 400 m, leg. Schillhammer (NHMW); 7 exs. [2 teneral], SW-Hunan, SW Huitong, Guangping env., 350 m, 4.XI.1993, leg. Schillhammer (NHMW); 1♂, Yunnan, Baoshan Pref., Gaoligong Shan, road to Kambaiti pass, 22.5 km NW Tengchong, 25°11'N, 98°20'E, 1930 m, creek bank with vegetation, 29.VIII.2009, leg. Wrase (cAss).

D i a g n o s i s : Body length 5.8-6.8 mm; length of forebody 3.2-3.7 mm. Coloration: body blackish, postero-external angles of elytra with yellowish to reddish-yellow spot of variable size; middle and hind legs yellowish; forelegs in mature specimens almost always somewhat darker; antennae dark-brown, with the basal 1-2 and the apical 1-3 antennomeres paler reddish.

Elytra polymorphic, approximately as long as pronotum or nearly so, rarely shorter, in specimens from mainland China, and approximately 0.9 times as long as pronotum in material from Taiwan (Fig. 39); punctation dense and usually defined.

♂: posterior margin of tergite VIII convexly produced in the middle (Fig. 40); posterior margin of sternite VII weakly concave in the middle; sternite VIII without distinct clusters of black setae, posterior margin with pronounced V-shaped incision (Figs 41-42); aedeagus (Figs 43-45, 48-51) 0.9-1.0 mm long; ventral process usually weakly angled approximately in the midde (lateral view), moderately broad basally and very slender apically in ventral view, apex of ventral process distinctly hooked (lateral view); dorsal plate apically convex (dorsal view); internal sac with large sclerotized spines.

♀: posterior margin of tergite VIII produced and distinctly angled in the middle (Fig. 46); sternite VIII distinctly longer than tergite VIII, posterior margin produced, in the middle almost truncate (Fig. 47).

Intraspecific variation: The length of the elytra, the size and colour of the pale posterior spot on the elytra, and even the shape of the ventral process of the aedeagus are subject to rather pronounced variation. The elytra are distinctly shorter in specimens from Taiwan and from Yunnan than in material from the remaining Chinese localities. The elytral spots are darker (pale reddish) and much larger (occupying approximately one third of the elytra surface) in the specimen from Yunnan, whereas in the material seen from other localities they are pale yellow and confined to the extreme postero-lateral angles. The ventral process of the aedeagus is subapically slightly more slender in males from Taiwan (Fig. 44) and less distinctly angled in the middle in the male from Yunnan (Fig. 48). However, since no additional distinguishing characters were found and in view of the similar general morphology of the aedeagus, particularly the internal structures in lateral (Figs 43-44, 48) and in dorsal view (Figs 49-51), the observed differences are attributed to intra- rather than interspecific variation.

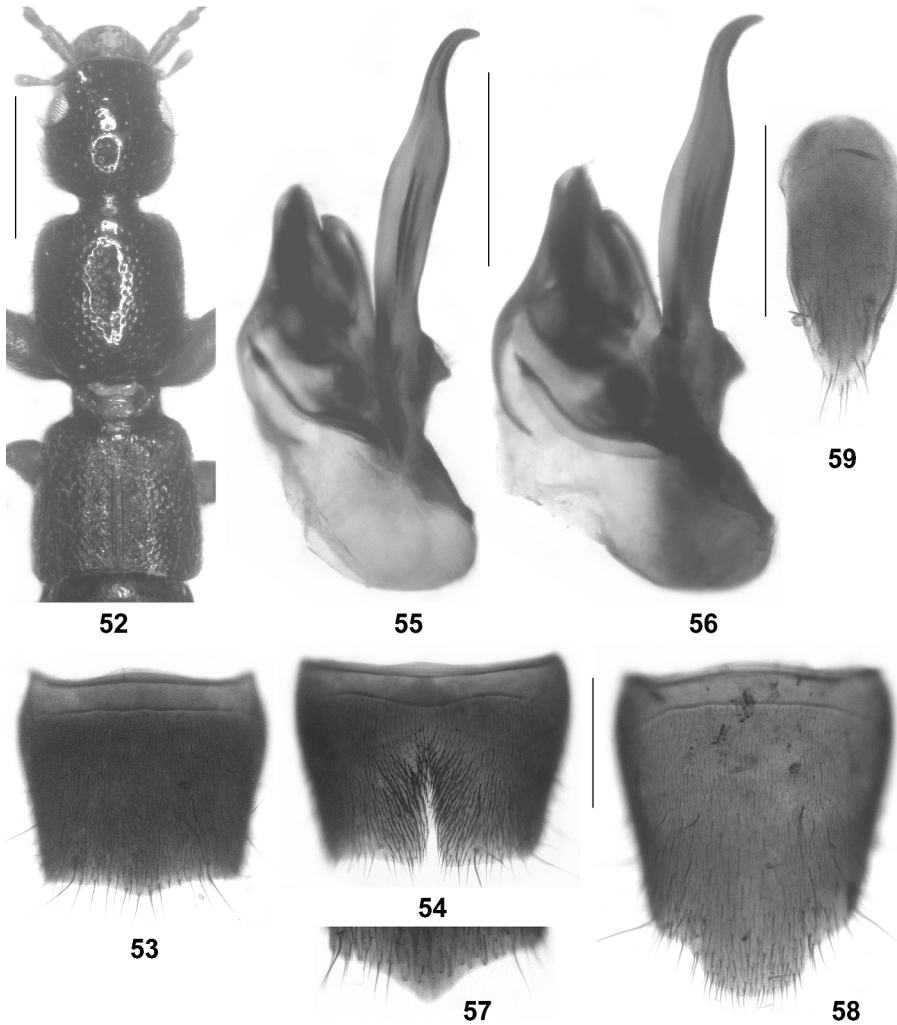
Comparative notes: Both in external and sexual characters, *T. bimaculatus* is most similar to *T. pallipes*, but distinguished by the usually somewhat darker coloration of the forelegs (in *T. pallipes* of similar coloration as the yellowish middle and hind legs), the morphology of the aedeagus (larger; ventral process stouter, bent in the middle, and apically distinctly hooked), and by the slightly different shape of the posterior margin of the female sternite VIII (*T. pallipes*: more convex in the middle). Specimens from Taiwan are additionally distinguished from *T. pallipes* by the shorter elytra.

Distribution and natural history: The species is currently known from mainland China (Guizhou, Zhejiang, Hunan, Yunnan) and Taiwan. The material from Taiwan was collected at the edge of a pond by pushing *Carex* tufts into the water (SMETANA pers. comm.). The male from Yunnan was found on a vegetated stream bank. Two specimens collected in November are teneral.

Tetartopeus baicalicus (EPPELSHEIM 1878) (Figs 52-59)

Lathrobium sibiricum EPPELSHEIM 1876: 433 f.; primary homonym.
Lathrobium baicalicum EPPELSHEIM 1878: 424; replacement name.

Type material examined: Syntype ♀: "sibiricum mihi. Baikal-See / Type / c. Epplsh. Steind. d. / Typus / Lathrobium baicalicum Epp. verum! Smetana det. 1960 / Tetartopeus baicalicus (Eppelsheim), det. V. Assing 2011" (NHMW).



Figs 52-59: *Tetartopeus baicalicus* (EPPELSHEIM) (**57-59**: syntype): (**52**) forebody; (**53**) male tergite VIII; (**54**) male sternite VIII; (**55-56**) aedeagus in lateral view; (**57**) posterior margin of female tergite VIII; (**58**) female sternite VIII; (**59**) female tergite X. Scale bars: 52: 1.0 mm; 53-59: 0.5 mm.

Additional material examined: Russia: 1♂, Primoskiy Kray, 70 km N Chuguyevka, 5 km SE Samarka, Gordeyevskaya mt., 44°46'N, 134°13'E, 300 m, 29.V.1993, leg. Zerche (SDEI); 2♂♂, 2♀♀: "Quellgebiet des Irkut, Leder" (NHMW, cAss); 1♂, "O. Sibirien" (NHMW).

Comment: The original description of *Lathrobium sibiricum* is based on an unspecified number of females from "Ost-Sibirien" deposited in the Eppelsheim collection ("In meiner Sammlung") (EPPELSHEIM 1876). Having realized that the name was a junior primary homonym of *L. sibiricum* FAUVEL 1875, EPPELSHEIM (1878) replaced it with the

new name *L. baicalicum*. One female syntype, probably the only one that ever existed, was located in the Eppelsheim collection at the NHMW.

D i a g n o s i s : Length of forebody 3.3-3.8 mm. Body blackish-brown to black, elytra without yellowish spots; legs reddish to reddish-brown. Elytra short, approximately 0.7 times as long as pronotum (Fig. 52).

♂: tergite VIII weakly angled posteriorly (Fig. 53); sternite VIII longitudinally impressed in the middle, posterior half of median line narrowly semi-transparent and without pubescence, on either side of semi-transparent portion with extensive cluster of very dense black setae, posterior incision relatively deep and narrow (Fig. 54); aedeagus approximately 1.5 mm long, ventral process relatively massive and apically acute (Figs 55-56), dorsal plate apically rounded.

♀: tergite VIII angularly produced posteriorly (Fig. 57); posterior margin of sternite VIII convexly produced in the middle (Fig. 58); tergite X in posterior half strongly convex in cross-section, but without median carina (Fig. 59).

C o m p a r i s o n : *Tetartopeus baicalicus* is most similar to *T. zetterstedti*, but distinguished by the reddish to reddish-brown legs (*T. zetterstedti*: legs dark-brown to blackish-brown), the shorter head, and by the sexual characters.

D i s t r i b u t i o n : According to SMETANA (2004), *T. baicalicus* is distributed in West and East Siberia, the Russian Far East, and Mongolia.

Tetartopeus punctulatus (LECONTE 1863)

M a t e r i a l e x a m i n e d : U.S.A: 2♂♂, Alaska, 34 mi SE Fairbanks, Tanana river, 30.VII.2009, leg. Renner (cAss).

C o m m e n t : This Nearctic species was not reported from Alaska by WATROUS (1980).

Catalogue of the *Tetartopeus* species of the Palaearctic region

Tetartopeus angustatus forticulus, which was described from "Le Kef" and "Aïn-Draham" by NORMAND (1947), is of doubtful identity and omitted in the catalogue below. The presence of a distinct subspecies in Tunisia is zoogeographically not plausible. Owing to the restrictive loan policy of the institution in Tunis, where the Normand collection is deposited, it has not been possible to study the type material.

Several West Palaearctic species (*T. rufonitidus*, *T. terminatus*) have been reported from the East Palaearctic, but these records are probably a result of a confusion with similar congeners. Such doubtful records are omitted in the catalogue.

In the third column, only those references are listed that provide (recent) illustrations, descriptions, keys, or important nomenclatural acts.

species	revised distribution	selected references
adanensis ASSING 2004	S-Turkey	ANLAŞ (2009), ASSING (2004)
albipes (LUCAS 1846)	N-Africa: Algeria, Tunisia	COIFFAIT (1982)
angustatus (LACORDAIRE 1835)	Atlanto-Mediterranean: N-Africa, W-Europe, C-Europe	ASSING (in press), COIFFAIT (1982)
baicalicus (EPPELSHEIM 1878) = *sibiricus* (EPPELSHEIM 1876)	Siberia, Russian Far East, Mongolia	COIFFAIT (1982), ASSING (present paper)
bimaculatus (LI, TANG & ZHU 2007)	China (Guizhou, Zhejian, Hunan, Yunnan), Taiwan	ASSING (2010b, present paper), LI, TANG & ZHU (2007)
brachypterus COIFFAIT 1978	Bhutan	COIFFAIT (1978)
ciceronii ZANETTI 1998	Italy	ASSING (2008), ZANETTI (1998)
czwalinai (JAKOBSON 1909) = *decipiens* (CZWALINA 1888) = *czwalinai* (BERNHAUER & SCHUBERT 1912)	Turkey: Izmir	ASSING (2009b), COIFFAIT (1982)
fragilis (SHARP 1889)	Japan	ASSING (present paper)
fulvipes (ADACHI 1955)	Japan	ADACHI (1955)
hamulifer FELDMANN, 2010	Israel	FELDMANN (2010)
ibericus COIFFAIT, 1980	Central Spain	COIFFAIT (1980, 1982)
inexcisus ASSING 2009	N-Turkey	ASSING (2009a)
kamtschaticus (BERNHAUER 1927) = *gracile* (POPPIUS 1909); nov.syn. = *poppiusi* (KOCH 1939); nov.syn.	East Siberia, Russian Far East	ASSING (present paper), Coiffait (1982)
lentus RYVKIN 1989	Russian Far East	RYVKIN (1989)
lomnickii (ROUBAL 1913)	Russian South European territory: Caucasus	COIFFAIT (1982)
mimeticus (FAUVEL 1898) = *kocheri* (JARRIGE 1952)	N-Africa: Tunisia, Algeria, Morocco; Spain	COIFFAIT (1982)
niger (LECONTE 1863) = *finitimus* LECONTE 1880 = *cognatus* (SHARP 1889); nov.syn. = *stibius* CASEY 1905	Russian Far East, Japan; North America	ASSING (present paper), WATROUS (1980)
paeneinsularum BORDONI 1982	Mediterranean: Spain, Italy, Greece	ASSING (2008, 2010a), BORDONI (2004)
pallipes (SHARP 1889)	Russian Far East, Japan, South Korea?	ASSING (present paper)

species	revised distribution	selected references
persicus COIFFAIT 1972	Iran, Iraq, Turkey	ANLAS (2009), ASSING (2008)
quadratus (PAYKULL 1789) = *filiformis* (FABRICIUS 1793) = *pilosus* (GRAVENHORST 1802) = *sycophanta* (SAINTE-CLAIRE DEVILLE 1935) = *erraticus* (COIFFAIT 1953)	W-Palaearctic	ASSING (in press), COIFFAIT (1982)
rufonitidus (REITTER 1909) = *fennicus* (RENKONEN 1938) = *confusus* COIFFAIT 1972	W-Palaearctic; Middle Asia	ASSING (2008, in press), COIFFAIT (1982)
scutellaris (NORDMANN 1837) = *gracilis* (SOLSKY 1866) = *solskyi* (STEIN 1868)	Balkans, C-Europe, E-Europe, Italy?	ASSING (in press), COIFFAIT (1982)
sengleti BORDONI 1984	Spain	ASSING (2008), BORDONI (1984)
sphagnetorum (MUONA 1977) = *gracilis* (HAMPE 1867)	SE-, C-, E-, and N-Europe	ASSING (in press), Coiffait (1982)
stylifer (REITTER 1909) = *moczarskii* (BERNHAUER 1915)	Ukraine, Russian South European Territory, Georgia, Turkey, Iraq, Iran	ANLAŞ (2009), ASSING (2004), COIFFAIT (1982)
terminatus (GRAVENHORST 1802) = *atripalpis* (SCRIBA 1859) = *posticus* (MULSANT & REY 1861) = *immaculatus* (FOWLER 1888)	W-Palaearctic	ASSING (in press), COIFFAIT (1982)
tezcani ANLAŞ 2009	SE-Turkey	ANLAŞ (2009)
truncatus ASSING 2009	Russian Far East	ASSING (2009a, present paper)
unguis ASSING 2010	N-Turkey	ASSING (2010a)
vomer ASSING 2010	N-Turkey	ASSING (2010a)
zetterstedti (RYE 1872) = *punctatus* (ZETTERSTEDT 1828)	N-Palaearctic	ASSING (present paper, in press), COIFFAIT (1982)

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Zusammenfassung

Die Revision einiger ostpaläarktischer Arten der Paederinengattung *Tetartopeus* CZWALINA 1888 ergab drei Synonymien: *Tetartopeus kamtschaticus* (BERNHAUER 1927) = *Lathrobium gracile* POPPIUS 1909, nov.syn., = *L. poppiusi* KOCH 1939, nov.syn.; *Tertartopeus niger* (LECONTE 1863) = *Lathrobium cognatum* SHARP 1889, nov.syn. Für *Lathrobium kamtschaticum* BERNAUER 1927, *L. cognatum* SHARP 1889, *L. fragile* SHARP 1889 und *L. pallipes* SHARP 1889 werden Lectotypen designiert. Die äußere Morphologie und die Geschlechtsmerkmale von sechs Arten werden abgebildet. Ein Katalog der derzeit 33 aus der Paläarktis bekannten, validen Arten wird erstellt. Vier dieser Arten sind von zweifelhaftem Status, da sie entweder nach Weibchen beschrieben oder die männlichen Sexualmerkmale bisher nicht untersucht wurden. Für acht Arten werden neue Nachweise, darunter eine Reihe von Erstnachweisen, gemeldet.

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