

A review of *Erotides* Waterhouse, 1879 (Coleoptera: Lycidae) of continental China, with description of a new species from Yunnan

Обзор *Erotides* Waterhouse, 1879 (Coleoptera: Lycidae) континентального Китая, с описанием нового вида из Юннаня

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Ключевые слова: Coleoptera, Lycidae, *Erotides*, новый вид, определительная таблица, Палеарктика.

Abstract. A new species of net-winged beetles, *Erotides* (*Glabroplatycis*) *shangrilaensis* Kazantsev **sp.n.**, is described from Yunnan, southwestern China, which is a third representative of the genus *Erotides* Waterhouse, 1879 from continental China. A key to *Erotides* (*Glabroplatycis*) Pic, 1914 species of continental China and a list of the subgenus of the Palaearctic region are provided.

Резюме. Из Юннаня (юго-западный Китай) описан новый вид жуков-краснокрылов *Erotides shangrilaensis* Kazantsev **sp.n.**, который является третьим представителем рода *Erotides* Waterhouse, 1879 из континентального Китая. Дана определительная таблица видов рода континентального Китая, а также список видов *Erotides* (*Glabroplatycis*) Pic, 1914 Палеарктики.

Introduction

The genus *Erotides* Waterhouse, 1879 (Erotrini, Erotrinae) was erected for the Nearctic net-winged beetle *Eros oblitus* Newman, 1838 (*Omalisus sculptilis* Say, 1835), which turned out to be similar to the European *Dictyopterus cosnardi* Chevrolat, 1831 and was synonymised with the European *Platycis* Thomson, 1859 [Bourgeois, 1882] and later with the Nearctic *Eros* Newman, 1838 [Kleine, 1933]. Meanwhile, Pic [1914] erected a new genus, *Glabroplatycis* Pic, 1914, for *Dictyopterus cosnardi*, not comparing it with the North American *Erotides* species. Then Green [1951] synonymised *Erotides* with *Platycis*, but Winkler [1989] revalidated it.

More recently, after revisional studies on the group, *Erotides* and *Glabroplatycis* were recognised as subgenera of *Erotides* [Kazantsev, 1993; 2004; Bocáková, Bocák, 2007; Matsuda, 2010]. Notably, the distribution of the nine species of the two subgenera of *Erotides* is entirely Holarctic, with three *Erotides* (*Erotides*) species come across both in the Nearctic and Palaearctic regions and six *Erotides* (*Glabroplatycis*) species being exclusively Palaearctic [Matsuda, 2010].

The present paper is a further contribution to the knowledge of the genus. Examination of the recently collected material allowed discovering a new *Erotides* (*Glabroplatycis*) species in northern Yunnan. Description of the new species is given below, along with a checklist of *Glabroplatycis* of the Palaearctic region and a key to the subgenus of continental China.

Material and methods

For examination the beetles were relaxed in water, then their detached abdomens were kept for several hours in 10 % KOH at room temperature. The KOH treated aedeagi and terminalia were then placed in microvials with glycerin for photographing.

MSP-1 zoom stereoscopic dissecting microscope with x8 x80 magnification range were used. Photographs were taken with Canon EOS 6D camera and Canon MP-E 65 mm lens.

The following acronym is used in the paper: ICM — Insect Center, Moscow.

Nomenclatural acts introduced in the present work are registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:D409B7C7-A279-40E3-A76B-BE4618E3393B

Taxonomy

Lycidae Laporte, 1838

Erotrinae LeConte, 1881

Erotrini LeConte, 1881

Erotides Waterhouse, 1879

Erotides C.O. Waterhouse, 1879: 37. Type species: *Eros oblitus* Newman, 1838 (original designation).

Erotides (*Glabroplatycis*) Pic, 1914

Glabroplatycis Pic, 1914: 50. Type species: *Dictyopterus cosnardi* Chevrolat, 1831 (by monotypy).

Erotides (Glabroplatycis) shangrilaensis

Kazantsev sp.n.

Figs 1–5.

urn:lsid:zoobank.org:act:D24BFA8E-C240-4D1B-B478-7D9524410373

Material. China: Holotype, ♂: «YUNNAN: Shangrila» Deqen, NE slope SE Baima Mt. R., 3750 m, fur for[est], 28°09'06" N / 99°13'46" E, 5.VI.2013, Belousov, Kabak, Davidian leg.» (ICM).

Description. Male. Dark brown to black; pronotum and elytra testaceous (Figs 1, 2).

Head transverse, vertex densely micro-granulose. Eyes small, interocular distance ca 2.6 times greater than eye diameter. Clypeus with, transverse, sub-rectangular and slightly emarginate medially vertical process (truncate in dorsal view). Labrum small, transverse, rounded and medially emarginate anteriorly. Palps relatively short; ultimate palpomeres elongate, widest at base, gradually narrowed distally. Antennal sockets separated by relatively wide lamina. Antennae moderately long, attaining to mid-elytra, from antennomere 4 filiform; antennomere 3 ca 2 times longer than antennomere 2 and ca 1.5 times shorter than antennomere 4, antennomeres 3–11 with short dense sub-erect pubescence (Figs 1–3).

Pronotum transverse, ca 1.45 times wider than long, trapezoidal, slightly bisinuate basally and moderately semi-

circularly produced anteriorly, with bisinuate sides (concave before both anterior and posterior angles) and short acute posterior and distinct blunt anterior angles; pronotal carinae and narrow, forming relatively broad, widened proximally median anterior cells and trapezoidal median posterior cell. Scutellum elongate, parallel-sided, with deep parallel-sided emargination at apex (Fig. 1).

Elytra long, ca 3.3 times longer than wide at humeri and ca 6 times longer than pronotum, parallel-sided, non-dehiscent at suture, with four complete longitudinal costae and doubles rows of relatively large sub-rectangular cells in the interstices; pubescence sparse and short (Fig. 1).

Legs moderately long; middle trochanters elongate, hind trochanters triangular, about as long as wide, without pilose cavities; femurs relatively robust, tibiae slender and straight; hind tarsomere length ratio: 2.4:1.6:1:1:1.6 (Figs 1, 2).

Aedeagus elongate, almost parallel-sided in dorsoventral view, with elongate, straight, noticeably widened before apex, in dorsoventral view, median piece; parameres distinctly shorter than median piece, straight and narrowed near apex; median piece and parameres, in lateral view, concave ventrally; phallobase, in dorsoventral view, elongate, ca 1.2 times longer than wide (Figs 4, 5).

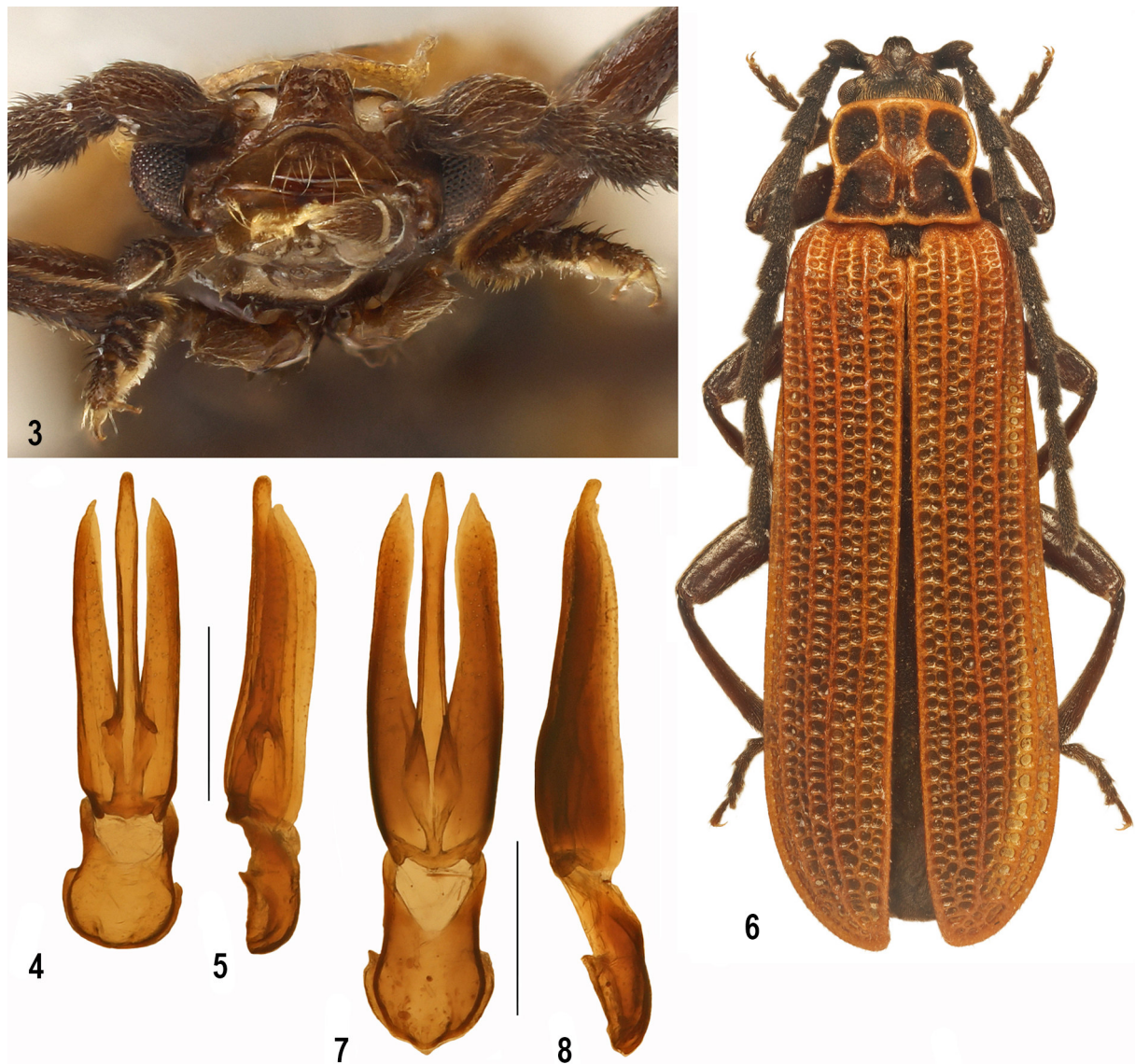
Length: 7.5 mm. Width (humeral): 1.9 mm.

Female. Unknown.



Figs 1–2. General view of *Erotides (Glabroplatycis) shangrilaensis* sp.n. holotype male. 1 — dorsally; 2 — ventrally.

Рис. 1–2. Общий вид *Erotides (Glabroplatycis) shangrilaensis* sp.n., голотип, самец. 1 — вид сверху; 2 — вид снизу.



Figs 3–8. *Erotides* (*Glabroplatycis*), general view and details of males: *E. (G.) shangrilaensis* sp.n., holotype (3–5) and *E. (G.) nasutus* (6–8). 3 — head; 4, 5, 7, 8 — aedeagus; 6 — general view; 3 — anteriorly; 4, 7 — ventrally; 5, 8 — laterally; 6, 7 — dorsally. Scale bar: 0.5 mm. Fig. 6 after Kazantsev [2021].

Рис. 3–8. Общий вид и детали строения самцов подрода *Erotides* (*Glabroplatycis*): *E. (G.) shangrilaensis* sp.n., голотип (3–5) и *E. (G.) nasutus* (6–8). 3 — голова; 4, 5, 7, 8 — эдеагус; 6 — общий вид; 3 — вид спереди; 4, 7 — вид снизу; 5, 8 — вид сбоку; 6, 7 — вид сверху. Масштаб: 0,5 мм. Рис. 6 по: [Kazantsev, 2021].

Etymology. The new species is named after the locality in northern Yunnan (Shangri-La) where the unique type specimen was collected.

Diagnosis. *Erotides (Glabroplatycis) shangrilaensis* sp.n. is similar to *E. (G.) bocaki* Matsuda, 2010, also from Yunnan, in the distally semi-truncate frons-clypeal process (Figs 1, 3), [Matsuda, 2010: Fig. 39], distinguishable by the structure of its pronotum, with a pair of relatively broad anterior median cells, trapezoidal posterior median cell and distinct anterior angles, the shape of its scutellum, with deep parallel-sided incision and non-dehiscent and less elongate elytra, which are ca 6 times longer than pronotum (Fig. 1), as well as by the stout basis of median piece of the aedeagus, which is distinctly wider, in dorsoventral view, than the median piece proximally and by the concave ventrally, in lateral view, median piece and parameres (Figs 4, 5) — whereas *E. bocaki* is characterised by the pronotum with a pair of narrow anterior median cells, oval posterior median cell and rounded anterior angles, scutellum

with triangular incision, dehiscent behind scutellum and more elongate elytra, which are ca 6.6 times longer than pronotum, as well as by the narrowed basis of median piece of aedeagus, which is distinctly more narrow, in dorsoventral view, than the median piece proximally and by the straight ventrally, in lateral view, median piece and parameres [Matsuda 2010: Figs 39, 49, 50].

Distribution. China (northern Yunnan).

Erotides (Glabroplatycis) nasutus
(Kiesenwetter, 1874)

Figs 6–8.

Eros nasutus Kiesenwetter, 1874;

= *Platycis raddensis* Pic, 1904: 25: Kazantsev, 1993.

Material. *Russia, Moskovskaya Oblast*: 1♀ — «C Russia, Moscow Obl., Prioksko-Terrasnyj Res., FIT, 14–23.V.1991, coll. N. Nikitsky»; 1♀ — idem, «28.V–4.VI.1993, coll. N. Nikitsky»; 1♂ — idem «16–23.V.1995, coll. N. Nikitsky»; *Republic of Altai*: 1♀ — «Russia, Gorny

Altai, Karakol Lake shore, cedar forest, 30.VI.1993, coll. F.V. Melyakh»; 2♂♂ — *Primorie*: «S Primorje (Ussuri), Hasan Distr., R. Kedrovaya, 25–30.V.1990, S. Kazantsev leg.»; 1♂ — idem, «Blue Mt. ch., 30 km S Spassk-Dalny, 16–18.VI.1990, S. Kazantsev leg.»; 1♂, 1♀ — idem, «30 km E Ussurijsk, Kamenuska, 20–25.VI.1990, S. Kazantsev leg.»; 4♀♀ — «FE Russia, Primorskij Kr., Lazovsk. Res., Amerika Sta., 43°16'16" N 134°03'01" E, 19–23.VI.2006, V. Shokhrin leg.»; 1♂ — «FE Russia, Kunashir Is., Kordon Alekseevskij env., 6.VII.2016, leg. A. Prosvirov» (ICM).

Remarks. *Erotides (Glabroplatycis) nasutus* is remarkable for the considerable gap between the western patch, in the centre of the European part of Russia, and the western border of the eastern patch, in Gornyy Altai, which exceeds 2,500 km. Records of the species in Zhejiang (eastern China) and Taiwan [Bocakova, Bocak, 2007] need confirmation, as they may refer to the similar *E. (G.) lalashanus* Matsuda, 2010 and *E. (G.) taiwanus* (Kôno, 1932), known only from Taiwan.

KEY TO *EROTIDES (GLABROPLATYCIS)* OF CONTINENTAL CHINA

1. Vertical frons-clypeal process distally rounded, in dorsal view; elytra reddish, less than 6 times longer than pronotum, elytral reticulation stronger, with small roundish cells in the interstices (Fig. 6) *E. (G.) nasutus*
— Vertical frons-clypeal process distally semi-truncate, in dorsal view; elytra yellowish, at least 6 times longer than pronotum, elytral reticulation weaker, with larger sub-rectangular cells in the interstices (Figs 1, 3) 2
2. Elytra dehiscent behind scutellum and more elongate, ca 6.6 times longer than pronotum; pronotum with a pair of narrow anterior median cells, oval posterior median cell and rounded anterior angles; scutellum with triangular incision; aedeagus with narrowed basis of median piece; median piece and parameres ventrally, in lateral view, straight [Matsuda 2010: Figs 39, 49, 50] *E. (G.) bocaki*
— Elytra non-dehiscent and less elongate, ca 6 times longer than pronotum; pronotum with a pair of relatively broad anterior median cells, trapezoidal posterior median cell and distinct anterior angles; scutellum with deep parallel-sided incision (Fig. 1), basis of median piece of aedeagus stout, distinctly wider, in dorsoventral view, than median piece proximally; median piece and parameres ventrally, in lateral view, concave (Figs 4, 5)
..... *E. (G.) shangrilaensis* sp.n.

A CHECKLIST OF *EROTIDES (GLABROPLATYCIS)* OF THE PALAEARCTIC REGION

Erotides (Glabroplatycis) bocaki Matsuda, 2010: 87. China (Yunnan);

Erotides (Glabroplatycis) cosnardi (Chevrolat, 1831): livr. 14: pl. 45 (*Dictyopterus*). Europe (in Russia registered in Kaliningradskaia and Kaluzhskaya Oblasts); = *Erotides (Glabroplatycis) flavescens* (Redtenbacher, 1849): 319 (*Dictyopterus*); Bourgeois, 1882; = *Erotides (Glabroplatycis) mercki* (Mulsant, 1838): 80 (*Dictyopterus*); Bourgeois, 1882;

Erotides (Glabroplatycis) hayashii Matsuda, 2010: 91. Japan (Yaku-shima Island);

Erotides (Glabroplatycis) lalashanus Matsuda, 2010: 94. Taiwan;

Erotides (Glabroplatycis) nasutus (Kiesenwetter, 1874): 255 (*Eros*). Centre of European part of Russia (Moscovskaya, Kaluzhskaya Oblasts, Mordovia, Chuvashia), South Siberia (to Altai in the west), Far East (Primorskii Krai, Sakhalin, Kuri-

les), Japan, Korea, continental China (Zhejiang), Taiwan; = *Erotides (Glabroplatycis) raddensis* (Pic, 1904): 25 (*Platycis*); Kazantsev, 1993;

Erotides (Glabroplatycis) shangrilaensis sp.n. China (Yunnan);

Erotides (Glabroplatycis) taiwanus (Kôno, 1932): 59 (*Platycis*). Taiwan.

Discussion

The gender of the genus-group name *Platycis* Thomson, 1859 was not stated in the description [Thomson, 1859] — however, the grammatical gender of the Latin adjective used as the name of its type species, *P. minuta* (Fabricius, 1787), clearly indicates that it is feminine, as defined by article 30 of the International Code of Zoological Nomenclature [ICZN, 1999, 2012]. The same refers to the name *Glabroplatycis* derived from *Platycis*. Later, the same author included *Platycis* in *Eros* Newman, 1838 as a subgenus, agreeing the name of its type species (*P. minuta*) in gender with the genus *Eros*, which is masculine [Thomson, 1864]; and thus causing much confusion. Some authors were (correctly) given to using the feminine form of the name, *Platycis minuta* [eg, Bourgeois, 1882; Jacobson, 1911; Kleine, 1933; Medvedev, 1965; Kazantsev, 2004, 2012, 2021], while others preferred the masculine *Platycis minutus* [eg, Waterhouse, 1878; Kleine, 1942; Nakane, 1969; Bocáková, Bocák, 2007; Matsuda, 2010].

On the other hand, the above mentioned Latin or latinised adjectives used as species names in *Erotides (Glabroplatycis) lalashanus*, *E. (G.) nasutus* and *E. (G.) taiwanus*, where the genus name *Erotides* is masculine, and the subgenus name *Glabroplatycis* is feminine, should agree in gender with the genus and take the form of *lalashanus*, *nasutus* and *taiwanus*, in accordance with articles 31.2 and 34.2 of the ICZN [1999, 2012].

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