

A new species of the genus *Epuraea* Erichson, 1843
(Coleoptera, Nitidulidae) from the Palearctic Far East
with synonymy notes

Новый вид рода *Epuraea* Erichson, 1843 (Coleoptera, Nitidulidae)
из Дальнего Востока Палеарктики и замечания по синонимии

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Key words: Coleoptera, Nitidulidae, *Epuraea*, new species, new synonym, Japan, Russian Far East.

Ключевые слова: Coleoptera, Nitidulidae, *Epuraea*, новый вид, новый синоним, Япония, Российский Дальний Восток.

Abstract. *Epuraea* (*Epuraea*) *rotundipennis* sp.n. is described from the Palearctic Far East. This new species has formerly been treated as *Epuraea* (*Epuraea*) *deleta apposita* Reitter, 1884 by Kirejtshuk [1992], and also as *Epuraea* (*Epuraea*) *argus* Reitter, 1894 by Hisamatsu [1985]. Re-examination of the paralectotype of *E. (E.) argus* and the holotype of *E. (E.) apposita* allowed the authors to ascertain that one East Palearctic species is clearly separated from these two species and therefore remained without both name and a proper description. It was established that the holotype of *E. apposita*, **syn.n.** is a teneral specimen of *Epuraea* (*Epuraeanella*) *neglecta* (Heer, 1841) and that of *Epuraea densepunctata* Nakane et Hisamatsu, 1967, **syn.n.** is also conspecific with the specimens of this common transpalearctic species.

Резюме. *Epuraea* (*Epuraea*) *rotundipennis* sp.n. описан из Дальнего Востока Палеарктики. Этот новый вид трактовался как *Epuraea* (*Epuraea*) *deleta apposita* Reitter, 1884 Кирейчуком [1992], а также как *Epuraea argus* Reitter, 1894 Хисамацу [Hisamatsu, 1985]. Дополнительное исследование паралектотипа *E. (E.) argus* и голотипа *E. (E.) apposita* позволило авторам установить, что восточнопалеарктический вид отчетливо обособлен от этих двух видов и требует обозначения и описания. Установлено, что голотип *E. apposita*, **syn.n.** является только что полинявшим экземпляром *Epuraea* (*Epuraeanella*) *neglecta* (Heer, 1841), а *Epuraea densepunctata* Nakane et Hisamatsu, 1967, **syn.n.** — также экземпляром этого обычного транспалеарктического вида.

Introduction

Genus *Epuraea* Erichson, 1843 is the largest genus among subfamily Epuraeinae (Nitidulidae), 16 sub-

genera and about 300 species have been known worldwide [Kirejtshuk, 2008; Hisamatsu, unpublished]. Currently the first author is studying the Epuraeinae fauna of the Palearctic Region, especially of the Palearctic Far East. There are some little known *Epuraea* species which were described by Edmund Reitter from Japan, such as *E. apposita* Reitter, 1884 and *E. argus* Reitter, 1884. During this study the first author was able to examine the Reitter's type specimens and recognized related an undescribed species.

Material and method

External structures were observed using a Leica® MZ75 stereoscopic microscope in Baton Rouge and Leica® MZ12 in St. Petersburg, and small body parts, such as labrum, antennae and genitalia were observed using an Olympus® BX50 optical microscope with magnification 40× to 200× in Baton Rouge. In preparing illustrations, the whole beetle was placed in 10 % KOH solution for 24 hours. After the chemical maceration, it was dissected into small body parts, washed with water, mounted on slide glasses with glycerol, and then observed and illustrated.

Digital photographs were prepared using either a JVC® digital camera (JVC KY-F75U) attached to a Leica® dissecting scope (Leica® Z16 AP0) and subsequently combined with Syncroscope® Auto-Montage software. Genitalia, antennae and mouthpart drawings were made with a drawing attachment on an Olympus® BX50 compound microscope. Upon completion of the

drawings, the images were scanned by Plustek® Optic-Book 3600 Plus, and plates constructed using Adobe® Photoshop 7.0. All measurements were made with an ocular micrometer. The measurements include: pronotal length as measured along the midline; pronotal width as measured at greatest width; elytral length as measured at greatest length; elytral width as measured at combined greatest width; body length as measured from apex of mandibles to apex of pygidium.

Exact label data are cited for holotypes. Label lines are separated by a slash (/), and different labels by a double slash (//).

Abbreviations of collections utilized are as follows: BMNH — The Natural History Museum, London, United Kingdom; EUM — Ehime University Museum, Japan; SEHU — Hokkaido University Museum, Japan; SMNS — Staatliches Museum für Naturkunde, Stuttgart; ZIN — Russian Academy of Sciences, Zoological Institute, St. Petersburg, Russia.

Results

Coleoptera

Nitidulidae Latreille, 1802

Epuraeinae Kirejtshuk, 1986

Epuraeini Kirejtshuk, 1986

Epuraea Erichson, 1843

Subgenus *Epuraea* Erichson, 1843

Type species *Nitidula silacea* Herbst, 1784 (designation by Thomson, 1859).

Epuraea (Epuraea) rotundipennis

S-T. Hisamatsu et Kirejtshuk, **sp.n.**

Figs 1, 7–16.

Epuraea argus Reitter, 1884: Hisamatsu, 1985: 183, pl. 29, fig. 16 (misidentification, note, photo);

Epuraea (Epuraea) deleta apposita Reitter, 1884: Kirejtshuk, 1992: 145, pl. 68, figs. 13–18 (misidentification, in key, figure).

Material. Holotype (EUM): ♂, Japan, Towada / Hirakachō / Aomori Pref. / 26.VI.1965 / K. Shimoyama // アミヒラタケ // N186a'. Paratypes: 1♂, 1♀ (EUM), same label data as the holotype. Russia, *Khabarovsk Krai*: 1 spm. (ZIN), Khingan-sky Zap., Kungur, 17.VI.1975, Kompantzev leg. («17.06.1975, Хинган. зап., Кунгур, Хабар., в грибе, Компанцев»); 1 spm. (SMNS), Khabarovsk Province, SE Boitsovo, 12 km NE Bikin, 26.V–4.VI.1990, h=250–350 m, W. Schawaller leg.; *Primorsky Krai*: 1 spm. (ZIN), Ussuriysky District, Suputinskiy zapov., 3.IX.1984, Kryzhanovsky leg. («Супутинский запов., Примор., 3.IX.1984, Крыжановский»); 1 spm. (ZIN), Ussuriysky District, Kamenushka, 27.VI.1989, Kirejtshuk leg. («Приморский край, Уссурийский р-н, Каменушка, долинный лес, 27.06.1989, Кирейчук»); 2 spm. (ZIN), Khasansky District, zap. 'Kedrovaya pad', 27.V, 24.VI.1983, Kirejtshuk leg. («Приморский край, Хасанский р-н, зап. 'Кедровая пад', Кирейчук, 24.06.1983» and «Приморский край, Хасанский р-н, зап. 'Кедровая пад', 27.05.1983, Кирейчук»); *Kunasbir*: 4 spm. (ZIN), Alekhino, 12.VIII.1984, Kirejtshuk leg. («Кунашир, Алехино, цветы, 12.VIII.1984, Кирейчук»); 2 spm. (ZIN), Alekhino, 14.VI.1973, Kerzhner leg. («Кунашир, Алехино, 14.VI.1973, Кержнер»); 7 spm. (ZIN), Mendelevo, 10, 12.VII.1977, Kompantzev leg. («о-в Кунашир, п. Менделеево, 10.VII.1977, Компанцев» and «Кунашир, п. Менделеево, из грибов, 12.VII.1977, Компанцев»).

Diagnosis. This new species is characterised by the following features: coloration uniformly reddish-yellow; dorsum densely covered with short, recumbent yellowish

setae; each elytron usually with a blackish spot in the middle; lateral margins of pronotum and elytra widely explanate, which are about as wide as greatest width of protibia at mid-length; elytra widest at basal 1/2, then moderately converging both anteriorly and posteriorly; apical margins of elytra conjointly rounded; inner margins of male mesotibia very slightly angularly dilated and possessing a small appendage near apical corner; labral lobes subtriangular (not subsemicircular or with subtruncate apices); lateral margins of tegmen strongly sinuate in ventral view; inner margin of tegmen with distinct gibbosity in lateral view; apical 1/2 and lateral margins of median lobe sclerotized; apical margin of sclerotized area of median lobe widely rounded in ventral view.

Description. Holotype, ♂, length 1.63 mm, width 0.83 mm, height 0.40 mm.

Males. Body (Fig. 1) oval; dorsum and venter moderately shining; moderately convex dorsally, feebly convex ventrally; dorsum densely covered with short, recumbent yellowish setae, and venter covered with sparse yellowish setae. Coloration uniformly reddish-yellow; each elytron usually with a blackish spot at middle.

Head densely punctate; punctures on disc about as large as eye-facet at middle, separated by < 1 diameter; interspaces smooth. Labrum (Fig. 12) deeply notched at middle and with subtriangular lobes. Genae developed. Antennae (Fig. 11) with club oblong, 1.54 times as long as wide; approximate ratio of each segment is 3.27 : 2.27 : 2.00 : 1.73 : 2.00 : 1.27 : 1.00 : 1.09 : 1.45 : 1.55 : 3.45. Antennal grooves (Fig. 7) shallow, indistinctly outlined, moderately converging posteriorly and indistinctly connected each other at its posterior end.

Pronotum convex, strongly transverse, 2.06 times as wide as long; lateral margins widely explanate, which are about as wide as greatest width of protibia at mid-length, not undulating, widest at basal 1/3 then strongly converging both anteriorly and posteriorly; anterior margin deeply trapezium-likely emarginate; anterior angles strongly prominent, apices rounded; posterior angles subrectangular; punctures on disc slightly larger than those on head at middle, densely distributed, separated by < 1 diameter; interspaces slightly reticulate.

Elytra conjointly 1.17 times as long as wide, 2.59 times as long as pronotum; lateral margins widely explanate, which are as wide as greatest width of protibia at mid-length, widest at basal 1/2, then moderately converging both anteriorly and posteriorly; punctures on disc dense, slightly larger than those on head at middle, separated by ≤ 1 diameter; interspaces reticulate. Apical margins of elytra conjointly rounded.

Prosternum not convex along the midline; prosternal process in ventral view strongly expanded behind procoxae, apical margin widely rounded, with many short setae. Metaventricle convex, metathoracic discrimen entirely expressed; punctures on disc distinctly smaller than those on head at middle, separated by ≤ 1 diameter, becoming denser laterally. Legs slender; protibia (Fig. 9) slender, narrower than greatest width of antennal club, without outer apical process; mesotibia (Fig. 10) with inner margins almost straight, slightly angularly dilated and possessing a small appendage near apical corner; tarsal claws simple.

Male genitalia with tegmen (Fig. 13) deeply incised at apex in ventral view; lateral lobes with lateral margins moderately sinuate in ventral view; inner margin of tegmen (Fig. 14) thin, strongly sinuate in lateral view. Median lobe (penis trunk) (Fig. 15) long and slender, feebly constricted

at middle in ventral view; apex membranous and subtruncate in ventral view; apical 1/3 and apical 1/2 of lateral margins strongly sclerotized, and basal 1/2 feebly sclerotized; apical margin of sclerotized area widely rounded in ventral view.

Female. Abdominal sternite VII feebly longer than that of male, apex widely rounded. Pro- and mesotibiae simple. Ovipositor (Fig. 16) as figured.

Variability. Length 1.6–2.8 mm. The body varies in coloration from subnigrescent light straw yellow to light reddish and most specimens with a small spot in the middle of each elytron. The elytral apices of most specimens are as those in the holotype, although many paratypes have the elytra with more or less obliquely truncate apices (this aberrant shape of them was a reason for misinterpretation of this new species in Kirejtshuk [1992]).

Some variability is observed also in the punctuation and sculpture of the integument and width of pronotal and elytral explanate sides. However the shape of labral lobes is rather stable and makes it possible to identify this species among the relatives (see below).

Bionomics. Holotype and most paratypes were collected from *Polyporus squamosus* (Huds.) Fr. (Polyporaceae).

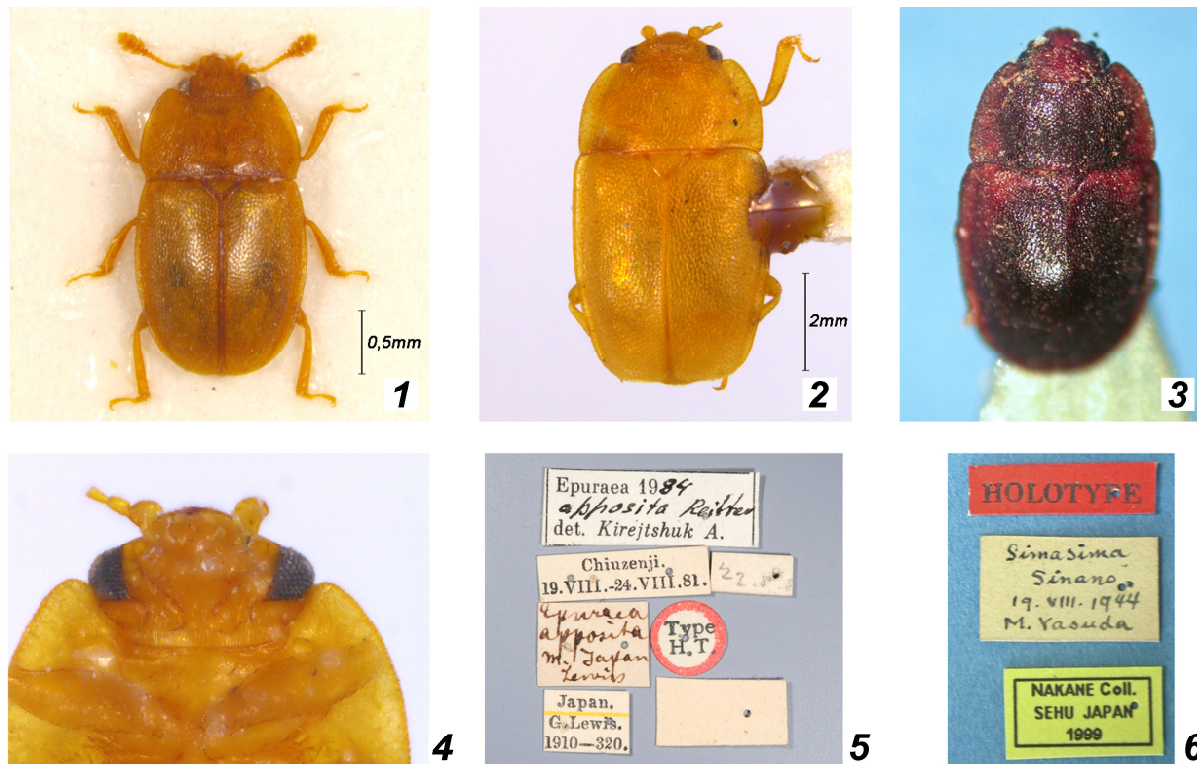
Distribution. Russian Far East (Kunashir, Khabarovsk and Primorsky Krays) and Japan (Honshû).

Etymology. The epithet of the new species is formed from the Latin «rotundus» (round) + «penna» (wing), which is derived from the conjointly rounded apical margins of elytra.

Notes. This new species is similar and apparently closely related to *Epuraea* (*Epuraea*) *silacea* (Herbst, 1783) spread through the forest zone of the Palaearctic, including Iran and Mongolia (although in the eastern areas of its range it seems to be becoming more rare: (Buryatia, Sakha, Magadan Region, Khabarovsk and Primorsky Krays, Kunashir) and also to *E. (E.) reichardti* Sjöberg, 1939 from Russian Far East (Khabarovsk and Primorsky Krays).

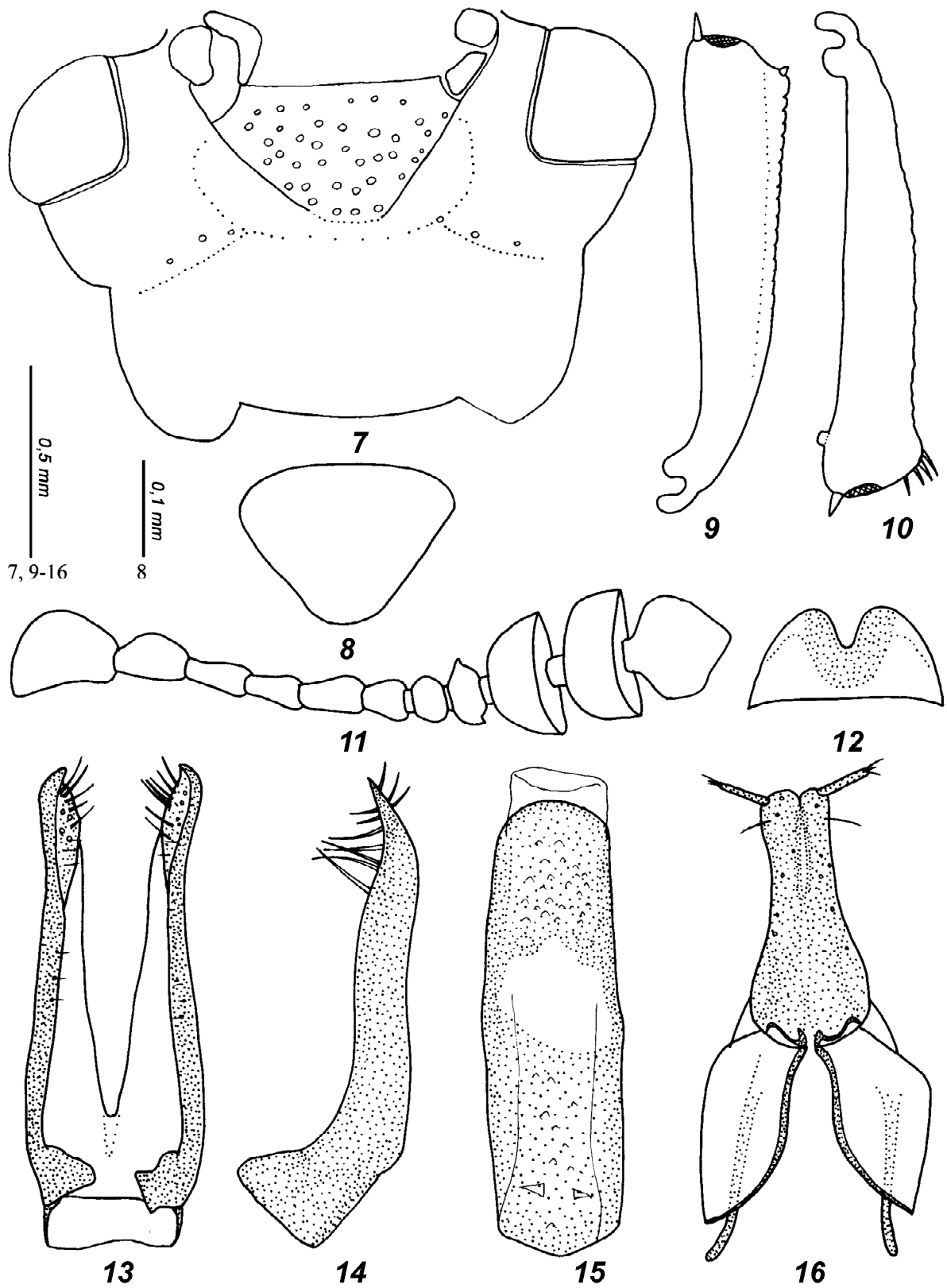
The new species can be separated from both *E. (E.) silacea* and *E. (E.) reichardti* by the following characters: body smaller with coarser and deeper punctuation on the dorsum; labrum more deeply excised between subtriangular lobes; elytra with arcuately oblique apices and much more widely explanate sides (at least as widely explanate as greatest width of protibia at its mid-length but frequently wider); each elytron usually with a black spot in the middle; apical margin of median lobe widely rounded; and from *E. (E.) reichardti* also by normally swollen profemora. Besides, the body of new species is never infuscated and usually rather shining (in contrast to that in both its relatives).

This species have been erroneously treated as *Epuraea argus* Reitter, 1894 by the Japanese coleopterists [Hisamatsu, 1985], and as *Epuraea* (*Epuraea*) *deleta apposita* Reitter, 1884 by Kirejtshuk [1991]. The first author examined holotype of *E. apposita* and found that it is a teneral specimen of *Epuraea neglecta* (see also below Notes of *Epuraea* (*Epuraeanella*) *neglecta*).



Figs 1–6. *Epuraea* spp.: 1 — *E. (Epuraea) rotundipennis* sp.n., dorsal habitus, holotype; 2 — *E. (Epuraeanella) apposita* Reitter, dorsal habitus, holotype; 3 — *E. (Epuraeanella) densepunctata* Nakane et Hisamatsu, dorsal habitus, holotype; 4 — *E. apposita*, holotype, head, ventral view; 5 — *ibid*, labels of the holotype; 6 — *E. densepunctata*, labels of the holotype.

Рис. 1–6. *Epuraea* spp.: 1 — *E. (Epuraea) rotundipennis* sp.n., габитус голоטיפа, дорсально; 2 — *E. (Epuraeanella) apposita* Reitter, габитус голоטיפа, дорсально; 3 — *E. (Epuraeanella) densepunctata* Nakane et Hisamatsu, габитус голоטיפа, дорсально; 4 — *E. apposita*, голоטיפ, голова снизу; 5 — то же, этикетки голоטיפа; 6 — *E. densepunctata*, этикетки голоטיפа.



Figs 7–16. *Epuraea (Epuraea) rotundipennis* sp.n. (Aomori Pref., Japan): 7 — head, ventral view; 8 — pygidium of female; 9 — right protibia of male; 10 — right mesotibia of male; 11 — right antenna of male; 12 — labrum of male; 13 — tegmen, ventral view; 14 — tegmen, lateral view; 15 — median lobe, ventral view; 16 — ovipositor.

Рис. 7–16. *Epuraea (Epuraea) rotundipennis* sp.n. (префектура Аомори, Япония): 7 — голова, снизу; 8 — пигидий самки; 9 — правая передняя голень самца; 10 — правая средняя голень самца; 11 — правый усик самца; 12 — верхняя губа самца; 13 — тегмен вентрально; 14 — тегмен латерально; 15 — эдеагус, вентрально; 16 — яйцеклад.

Subgenus *Epuraeanella* Crotch, 1874

Type species. *Omosita castanea* Melsheimer, 1844 (= *Epuraea nearctica* Kirejtshuk et Kvamme, 2001), designated by Kirejtshuk et Kvamme, 2001.

Epuraea (Epuraeanella) neglecta (Heer, 1841)

Figs 2–6.

Nitidula neglecta Heer, 1841 (see references in Audisio [1993]); *Epuraea densepunctata* Nakane et Hisamatsu, 1967: 67 [SEHU]; Hisamatsu, 1985: 182, pl. 29, g. 3 (note, photo), **syn.n.**; *Epuraea (Epuraea) densepunctata*: Kirejtshuk, 1992: 149, pl. 71, figs 6–9 (in key, figure); Jelínek et Audisio, 2007: 460 (catalogue); *Epuraea apposita* Reitter, 1884a: 261 [BMNH]; Reitter, 1884b: 302 (description); 1885: 141 (list); Grouvelle, 1913: 109 (catalogue); Hisamatsu, 1985: 182 (note); Jelínek et Audisio, 2007: 460 (catalogue), **syn.n.**

Material. Type series: Holotype of *Epuraea densepunctata* Nakane et Hisamatsu, 1967 (SEHU): ♂, «HOLOTYPE // Simasima, / Sinano, / 19.VIII.1944 / M. Yasuda // NAKANE Coll. // SEHU JAPAN / 1999». Paratypes (EUM): 1♀, Lakeside of Shoji, Yamanashi Pref., 7.VII.1959, S. Hisamatsu leg.; 1♀, Idozawa, Aomori Pref., 22.VI.1952, K. Shimoyama leg.; 1♀, Shigakogen, Nagano Pref., 21.VII.1948, N. Hayashi leg.; 1♂, Mt. Hiko, Fukuoka Pref., 7.V.1971, M.-T. Chûjô leg. Holotype of *Epuraea apposita* Reitter, 1884 (BMNH): ♀, «Type / H.T. // Japan. / G. Lewis. / 1910–320. // Chiuzenji. / 19.VIII.–24.VIII.81. // 22.8.8. // *Epuraea / apposita / m. Japan / Lewis // Epuraea 1984 / apposita* Reitter / det. Kirejtshuk A».

Additional material: Japan, Hokkaido: 1 spm. (EUM), Mt. Daisetsu–Sounkyo, 3.VII.1958, M. Miyatake leg.; Aomori: 1 spm. (EUM), Yunomata, Ohata, 14.VII.1956, K. Morimoto leg.; Nagano: 1 spm. (EUM), Kamikochi, 20.VII.1959, T. Shibata leg.; 1 spm. (EUM), Tobira Spa, 30.VII.1973, S. Hisamatsu leg.; Hyogo: 1 spm. (EUM), Akazai-siso-gun, 21.V.1979, T. Takahashi leg.; Tokushima: 3 spm. (EUM), Mt. Kohtsu, 7–8.VIII.1971, S. Kinoshita leg.; Ehime: 1 spm. (EUM), Mt. Takanawa, 27.V.1973, A. Oda leg.; 2 spm. (EUM), Mt. Sara, 3.VI.1977, A. Oda leg.; 2 spm. (EUM), Mt. Omogo, 22–23.VI.1968, S. Masuda leg.; 3 spm. (EUM), Mt. Sara, h=1,100 m, 28.V.1988, M. Sakai leg.; 1 spm. (EUM), Jojusha, Mt. Ishizuchi, 27.VIII.1957, M. Miyatake leg.; 2 spm. (EUM), Odamiyama, 15.V.1968, A. Tominaga leg.; Kumamoto: 1 spm. (EUM), Mt. Ichifusa, 2.VI.1966, M.-T. Chujo leg. Russia, East Siberia and Far East: about 200 spm. (ZIN) from the eastern parts of Russia (Irkutsk and Amur Regions, Khabarovsk and Primorsky Krays, Sakhalin, Kunashir).

Diagnosis. This species differs from other congeners in the more oval body; labrum moderately notched at middle; isolated postocular fossae; antennal grooves extremely deep, sharply outlined, strongly converging posteriorly and widely separated at its posterior end; apical margins of elytra subtransversely truncate; male pro- and mesotibiae simple.

Variability. The pronotum in the specimens from east parts of its range is frequently widest just before the posterior angles, while it in European specimens is more usually widest at the mid-length.

Bionomics. This species is associated with deciduous trees. Audisio [1993] mentioned its preference of beech (such as *Fagus sylvatica* L.) in Europe. However, this species is rather common in the areas beyond the range of this plant species of *Fagus*, such as the north of the East Europe, including European part of Russia, and also Western and Eastern Siberia and Russian Far East. Larvae develop on fermented sap and on carpophores of Polyporaceae. Adults are often attracted to fresh skinned logs of different deciduous trees and also decayed fruiting bodies of various Agaricaceae.

Distribution. Europe (except the north), Caucasus and Asia Minor, South of West Siberia (including Altai Mountains), South of East Siberia and Russian Far East and Japan (Hokkaido, Honshû, Shikoku and Kyûshû).

Notes. *Epuraea apposita* was described by Reitter [1884b]. At the same time he noted that this species is similar with *E. neglecta* but with pale-yellow body coloration and possessing pronotal lateral margins not widest at mid-length as in the latter. On the other hand, *E. densepunctata* was described by Nakane et Hisamatsu [in Nakane, 1967], and the original description noted it is closely allied with *E. neglecta*, but differs by more densely punctured dorsal disc and widest just before the posterior angles of pronotum, nevertheless male and female genitalia of it are quite identical with *E. neglecta*. All mentioned characters are rather variable among large series of *E. neglecta* from different parts of its transpalearctic range. The first author examined the holotype of *E. apposita* and photo of the holotype [Hokkaido University Museum, 2007] and paratypes of *E. densepunctata* and found their certain conspecificity.

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