

## Two New Species of the Genus *Reicheiodes* (Coleoptera, Carabidae) from Honshu, Japan

Seiji MORITA

Higashi-gotanda 5–19–7, Shinagawa-ku, Tokyo, 141–0022 Japan

**Abstract** Two new species of the genus *Reicheiodes* are described from Honshu, Japan, under the names, *R. (Reichonippodes) matobai* sp. nov. and *R. (R.) yokozekii* sp. nov., respectively.

There are more than 400 specimens of the genus *Reicheiodes* in my collection, which were collected from Japan by friends of mine. Most of them were identified as three species named by previous authors, which were *R. yanoi* (KULT, 1949, p. 128), *R. igai* (NAKANE et S. UENO, 1953, p. 3) and *R. nishii* (MORITA et BULIRSCH, 2010, p. 276), whereas some others were apparently new to science. Therefore, I am going to describe two new species below in this paper.

The abbreviations used herein are as follows: — L – body length, measured from apical margin of clypeus to apices of elytra; HW – greatest width of head; GL – length of gena, measured in parallel with the mid-line; eL – length of eye, measured in parallel with the mid-line; PW – greatest width of pronotum; PL – length of pronotum, measured along the mid-line; PA – width of pronotal apex; EW – greatest width of elytra; EL – greatest length of elytra; M – arithmetic mean; NSMT – National Museum of Nature and Science, Tsukuba.

Before going further, I would like to express my hearty thanks to Dr. Yûki IMURA for taking an excellent picture. My deep indebtedness is due to the following colleagues and friends, whose kind aid and support enable me to complete this study: Dr. Yoshihiro SAWADA, and Messrs Futoshi ICHIKAWA, Masao ISHII, Hideo KAWASE, Katsuya KIDO, Isao MATOBA, Masato MORI, Nobuyuki NARUKAWA, Osamu YAMAJI, Hideyuki YOKOZEKI and Masataka YOSHIDA.

***Reicheiodes (Reichonippodes) matobai* MORITA, sp. nov.**

[Japanese name: Nanki-chamaru-chibi-hyôtan-gomimushi]

(Figs. 1–3)

**Diagnosis.** Body large; eyes small and rather strongly convex; genae arcuate and convex; GL/eL 0.23–0.35; elytral shoulder dentate; elytral striae coarsely punctate and interval III with three dorsal pores; aedeagus moderately curved at basal 1/3.

**Description.** L: 2.24–2.43 mm.

Body large. Colour brown and polished; appendages brown, but antennae are slightly lighter than dorsum.

Head moderately convex; eyes small and rather strongly convex; frontal furrows straight, very deep, strongly divergent posteriad, and reaching the post-gena level; a pair of anterior supraorbital setae situated between basal 1/3–2/5 of eyes; a pair of posterior ones situated a little behind the post-eye level; clypeus rather strongly convex; clypeal suture deep and forming a transverse furrow; frons moderately convex and smooth; vertex moderately convex and polished; neck wide and polished, but the sides are weakly impressed with isodiametric microsculpture; genae rather large and convex;



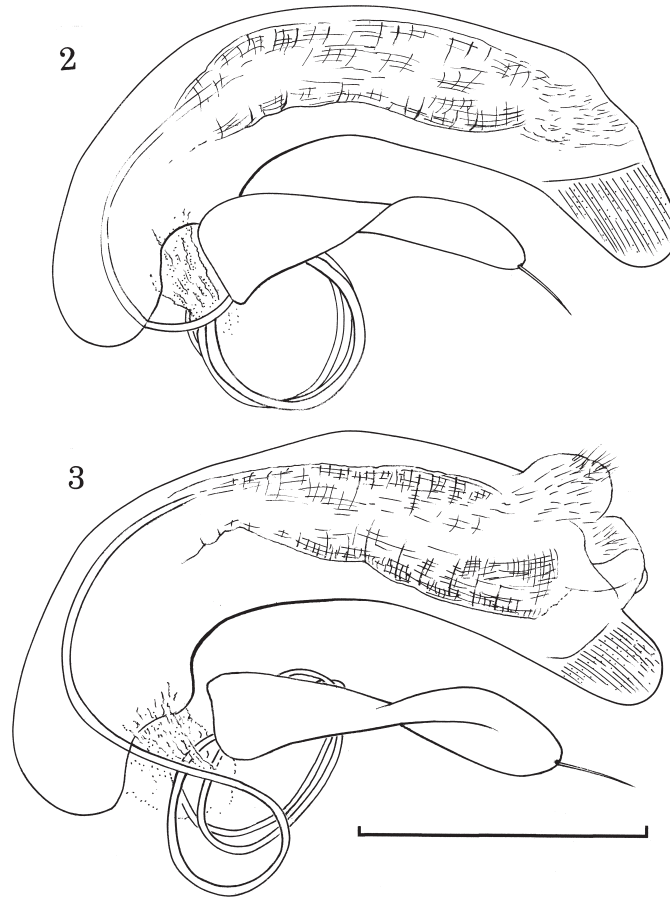
Fig. 1. *Reicheiodes (Reichonippodes) matobai* MORITA, sp. nov. from Koza, Kushimoto-chô.

GL/eL 0.23–0.35 (M 0.31); PW/HW 1.49–1.58 (M 1.54); microsculpture vanished; antennae short and moniliform; relative lengths of antennal segments as follows: — II : III  $\cong$  1 : 0.78.

Pronotum strongly convex, rounded and widest a little behind the middle; apex almost straight, not bordered; PW/PL 1.11–1.21 (M 1.16); sides strongly arcuate from apical angle to the widest part, and rather strongly arcuate towards base; PW/PA 1.51–1.68 (M 1.59); apical angles not produced and widely rounded at the tips; a pair of anterior marginal setae situated between basal 3/4–4/5; anterior transverse impression rather weakly and finely punctate; median line shallow, fine and impressed between anterior transverse impression and base; a pair of posterior marginal setae situated at basal 7/20; marginal gutters deep, adjoining anterior transverse impression and extended slightly behind a pair of posterior marginal setae; microsculpture almost vanished.

Elytra ovate, strongly convex and widest a little before the middle; EW/PW 1.24–1.31 (M 1.27); EL/EW 1.38–1.48 (M 1.43); base arcuate; shoulders dentate at the tips; sides moderately arcuate between shoulder and a level of the anterior apical pore, and almost straight towards apices; apical parts rather narrowly produced, with obtuse apices; stria 1 clearly impressed, and coarsely and sparsely punctate, but punctures become weaker towards subapical part; striae 2–4 weakly impressed, and coarsely and sparsely punctate, but punctures vanished at about basal 5/7; striae 5–7 not impressed and only composed of rows of coarse punctures; stria 8 consisting of row of several punctures; basal pore situated at basal part of interval II; intervals very slightly convex; interval III with three dorsal pores; the first pore situated between basal 3/20–3/10, the second between basal 7/20–2/5, the third between basal 3/5–7/10, respectively; side behind shoulder with three humeral pores; side of subapical part with three pores; apex with two apical pores.

Ventral surface smooth, but the gula is impressed with isodiametric microsculpture; anal sternite with two pair of setae which are on a shallow arc open anteriorly.



Figs. 2–3. Male genital organs of *Reicheiodes* (*Reichonippodes*) *matobai* MORITA, sp. nov. — 2, Specimen from Ikenoyama; 3, specimen from Kotono-taki. (Scale: 0.2 mm.)

Legs slender; claw segment of metatarsomere without hairs on ventro-lateral side; claw smooth inside.

Aedeagus robust; basal part rather large, moderately curved at basal 1/3; subapical part almost straight; viewed dorsally, apical lobe thin; apical lobe rather elongate, with widely rounded apex in lateral view.

Inner sac with many hairs near apical orifice and long coil which is exposed from basal orifice.

Left paramere elongate, rather wide at apical half, and with a long seta at apex.

*Type series.* Holotype: ♂, Sabe, Kushimoto-chô, Wakayama Pref., 20.V.2010, M. MORI leg. (NSMT). Paratypes: 3 exs., Koza, Kushimoto-chô, 13.V.2010, M. MORI leg.; 2 exs., Shionomisaki, Kushimoto-chô, 3.II.1999, I. MATOBA leg.; 1 ex., Sabe, Kushimoto-chô, 13.V.2010, M. MORI leg.; 1 ex., same locality, 20.V.2010, M. MORI leg.; 1 ex., Tawara, Kushimoto-chô, 9.IX.2010, M. MORI leg.; 1 ex., Ikenoyama, Kozakawa-chô, 11.V.1990, I. MATOBA leg.; 5 exs., same locality, 7.V.1996, I. MATOBA leg.; 17 exs., same locality, 11.V.1996, I. MATOBA leg.; 4 exs., Takada, Shingû-shi, 29. III.1995, I. MATOBA leg.; 1 ex., Kotono-taki, Susami-chô, 26.X.1992, I. MATOBA leg.; 1 ex., same locality, 20.II.1997, I. MATOBA leg.; 2 exs., Esuzaki, Susami-chô, 15.XI.2007, I. MATOBA leg.

*Range.* Wakayama Prefecture, central Honshu, Japan.

*Specimens dissected and measured.* Standard ratios of body parts shown in the descriptive part are those of eight specimens from Takada and Ikenoyama. The genitalia of five males from Sabe, Kotonotaki, Ikenoyama and Takada were examined.

*Notes.* This new species is closely allied to *Reicheiodes (Reichonippodes) igai* (NAKANE et S. UÉNO) (1953, p.3). It is, however, distinguished from the latter by the following points: 1) body larger, 2) eyes smaller, 3) genae larger and more convex (GL/eL 0.23–0.35), 4) elytral shoulder dentate, 5) elytral striae more coarsely punctate, and 6) aedeagus moderately curved at basal 1/3 in lateral view.

In order to study the aedeagus, I placed it on a slide and preserved it with a drop of lactic acid. Several hours after this treatment, I composed the illustration of the organ, as shown in this paper, showing its accurate shape (cf. Figs. 2, 4). Incidentally, after more than one day, the aedeagus expanded, and its inner sac slightly everted (cf. Fig. 3).

*Etymology.* The name of this new species is dedicated to Mr. MATOBA.

[In ten specimens of *R. (R.) igai*: L 2.00–2.29 mm; PW/HW 1.38–1.52 (M 1.45); GL/eL 0.10–0.15 (M 0.13); PW/PL 1.11–1.25 (M 1.19); PW/PA 1.54–1.76 (M 1.63); EW/PW 1.21–1.30 (M 1.26); EL/EW 1.33–1.52 (M 1.44). The collecting data are as follows: Mt. Takamaru-yama, Tokushima Prefecture, 18.VI.2005, M. YOSHIDA leg.]

***Reicheiodes (Reichonippodes) yokozekii* MORITA, sp. nov.**

[Japanese name: Mie-chamaru-chibi-hyōtan-gomimushi]

(Fig. 4)

*Diagnosis.* Body large; eyes large and moderately convex; genae very short and convex; GL/eL 0.14–0.22; elytral striae finely punctate; elytral shoulders rounded at the tips; elytral interval III with three dorsal pores; aedeagus elongate.

*Description.* L: 2.21–2.36 mm.

Body large. Colour blackish brown and polished; legs brown; mouth parts and antennae slightly lighter than dorsum.

Head strongly convex; eyes large and moderately convex; frontal furrows, a pair of anterior supraorbital setae, clypeus and neck as in the preceding species; a pair of posterior supraorbital setae situated at the post-gena level; frons strongly convex and smooth; vertex very strongly convex and polished; genae very short, weakly convex and oblique; GL/eL 0.14–0.22 (M 0.17) in 3 ♂♂, 0.14–0.20 (M 0.18) in 3 ♀♀; PW/HW 1.42–1.48 (M 1.46) in 3 ♂♂, 1.46–1.49 (M 1.48) in 3 ♀♀; microsculpture vanished; relative lengths of antennal segments as follows: — II : III = 1 : 0.84 in ♂, 1 : 0.77 in ♀.

Pronotum strongly convex, rounded and widest a little before the middle; PW/PL 1.08–1.13 (M 1.11) in 3 ♂♂, 1.16–1.19 (M 1.17) in 3 ♀♀; sides strongly arcuate from apical angle to posterior marginal seta, and rather strongly arcuate towards base; PW/PA 1.64–1.69 (M 1.66) in 3 ♂♂, 1.61–1.72 (M 1.65) in 3 ♀♀; a pair of anterior marginal setae situated at basal 4/5; anterior transverse impression deep and irregularly punctate; median line shallow, fine and impressed between anterior transverse impression and basal transverse furrow; a pair of posterior marginal setae situated at basal 7/20; microsculpture almost vanished.

Elytra ovate; EW/PW 1.29, 1.34 in 2 ♂♂, 1.23, 1.26 in 2 ♀♀; EL/EW 1.27, 1.39 in 2 ♂♂, 1.30, 1.35 in 2 ♀♀; base oblique; shoulders rounded at the tips; stria 1 clearly impressed, becoming shallower towards basal 4/5 of elytra, and finely and sparsely punctate, but punctures become weaker towards that level; striae 2–3 very weakly impressed, and finely and sparsely punctate, but punctures vanished

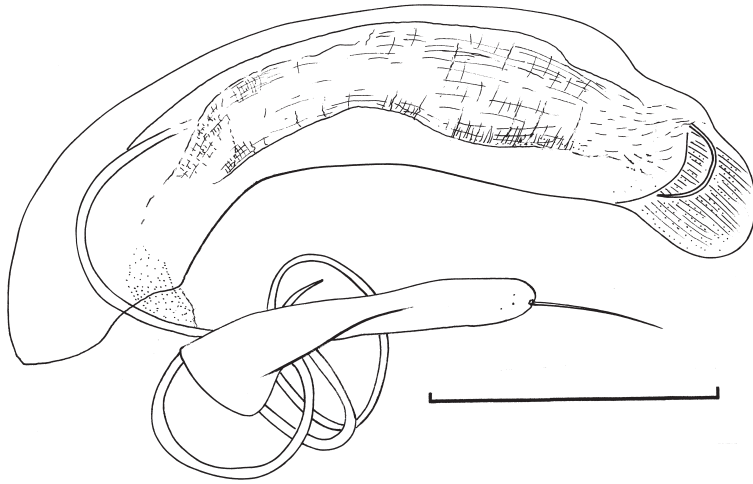


Fig.4. Male genital organs of *Reicheiodes (Reichonippodes) yokozekii* MORITA, sp. nov. from Mt. Mayoi-dake. (Scale: 0.2 m.)

at basal 2/3; striae 4–7 not impressed and only composed of rows of fine punctures; stria 8 composed of row of several fine punctures; basal pore situated at basal part of interval II; intervals very slightly convex; interval III with three dorsal pores; the first pore situated between basal 3/20–1/5, the second between 7/20–2/5, the third between 3/5–7/10, respectively; side behind shoulder with three humeral pores; side of subapical part with three pores; apex with two apical pores.

Ventral surface and legs as in the preceding species.

Aedeagus elongate; basal part rather small and weakly arcuate; subapical part almost straight; apical lobe rather elongate and with widely rounded apex in lateral view.

Inner sac with many hairs near apical orifice and long coil which is exposed from basal orifice.

Left paramere elongate, rather wide at apical half, and with a long seta at apex.

*Type series.* Holotype: ♂, Mt. Mayoi-dake, 7.X.2000, H. YOKOZEKI leg. (NSMT). Paratypes: 4 exs., Mt. Mayoi-dake, 15.VI.2000, H. YOKOZEKI leg.; 21 exs., same locality, 5.X.2000, H. YOKOZEKI leg.; 14 exs., same locality, 7.X.2000, H. YOKOZEKI leg.; 3 exs., same locality, 22.X.2000, N. NARUKAWA leg.; 6 exs., Mt. Senchiyogamine, 2.IX.1995, H. YOKOZEKI leg.; 1 ex., Mt. Minamimata-yama, 4.V.1995, N. NARUKAWA leg.; 13 exs., same locality, 6.V.1995, N. NARUKAWA leg.; 5 exs., same locality, 17.XI.1995, N. NARUKAWA leg.; 5 exs., same locality, 22.X.1995, F. ICHIKAWA leg.; 1 ex., same locality, 28.IV.1996, N. NARUKAWA leg.

*Range.* Mie Prefecture, central Honshu, Japan.

*Specimens dissected and measured.* Standard ratios of body parts shown in the descriptive part are those of the specimens from Mt. Mayoi-dake. The genitalia of five males from Mt. Mayoi-dake and two males from Mt. Minamimata-yama were examined.

*Notes.* This new species is closely allied to *Reicheiodes (Reichonippodes) igai* (NAKANE et S. UÉNO). It is, however, distinguished from the latter by the following points: 1) body larger, 2) eyes more convex, 3) pronotum more convex, 4) elytra wider and more convex, EL/EW 1.27–1.35, and 5) aedeagus more elongate with wider apical lobe.

*Etymology.* The name of this new species is dedicated to Mr. YOKOZEKI.

## 要 約

森田誠司：本州産チャマルチビヒョウタンゴミムシ属 *Reicheiodes* の2新種 (鞘翅目オサムシ科)。——本州産チャマルチビヒョウタンゴミムシ属 *Reicheiodes* の2新種を記載し、ナンキチャマルチビヒョウタンゴミムシ *Reicheiodes (Reichonippodes) matobai* およびミエチャマルチビヒョウタンゴミムシ *R. (R.) yokozekii* とそれぞれ命名記載した。両者ともに、上翅第3間室に3孔点を有するものの、複眼の大きさとその突出程度、複眼後方の側頭部の長さ、上翅の肩部の構造 (単純に丸みをおびる、または小歯を有する)、条線の点刻の状態などの組み合わせで、容易に識別できる。種名は、多数の標本を筆者の研究のために提供して下さった場、横関両氏に献名した。

## References

- KULT, K., 1949. Revision of the genus *Dyschirius*, BON., species from S. E. Asia. *Časopis Československé Společnosti Entomologické, Praha*, **46**: 122–132.
- MORITA, S., & P. BULIRSCH, 2010. A new species of the genus *Reicheiodes* (Coleoptera, Carabidae) from Southwest Japan. *Elytra, Tokyo*, **38**: 275–278.
- NAKANE, T., 1953. New or little known Coleoptera from Japan and its adjacent regions, IX. – Caraboidea II–. *Scientific reports of the Saikyo University Kyoto, (Natural Science & Living Science)*, **1**: 93–102.

Manuscript received 12 June 2015;  
revised and accepted 10 July 2015.