

Records of the Carabina (Coleoptera, Carabidae) from Heishui Xian and Mao Xian of Northern Sichuan, China

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Abstract Seven species of the carabid subtribe Carabina are recorded from Heishui Xian and Mao Xian of northern Sichuan, Southwest China, with descriptions of the following five new subspecies: *Hypsocarabus latro maizhaensis*, *Megodontoides erwini heishuiensis*, *M. e. maoxianensis*, *Neoplesius lixianensis caigaiensis* and *Pseudocranion gansuensis kalongensis*.

The carabid fauna of Heishui Xian and Mao Xian in northern Sichuan, Southwest China, have been poorly known as yet, in contrast to those of the surrounding areas such as Songpan Xian, Barkam Xian and Li Xian, which have been rather well investigated as reported for several times by previous authors. Early in the summer of 2001, I had an opportunity to make a brief survey in the above two prefectures and succeeded in collecting a series of interesting forms of the subtribe Carabina. In this paper, I am going to record seven species and introduce five new geographical races into science. For the application of the generic names to each species, I follow the newest system proposed by myself (IMURA, 2002 a, b; see other pages of this volume). The abbreviations used herein are the same as those explained in previous papers of mine.

Before going further, I wish to thank Mr. FAN Ting of the International Academic Exchange Center of the Academia Sinica for his warmest help throughout my investigations. Also I thank Mr. Kiyoyuki MIZUSAWA for his kind cooperation. My appreciation is due to Dr. Shun-Ichi UENO of the National Science Museum (Nat. Hist.), Tokyo, for reviewing the manuscript of this paper.

1. *Piocarabus (Qinlingocarabus) reitterianus* BREUNING, 1934

Carabus (Qinlingocarabus) reitterianus: IMURA & MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371), p. 27, fig. 8.

Specimens examined. 1♂, 4♀♀, above Kalongzhen [卡龙镇], 2,760 m in altitude, on the western bank of the Riv. Xiaoheishui He [小黑水河], 12–VI–2001, Y. IMURA leg.; 1♀, above Caigai [才盖], 2,920–2,970 m in altitude, in the Kalong-gou [卡龙沟] Valley, 14–VI–2001, Y. IMURA leg.; all from northeastern Heishui Xian [黑水县] of northern Sichuan, Southwest China, preserved in colls. Y. IMURA and K. MIZUSAWA.

2. *Hypsocarabus latro maizhaensis* IMURA, subsp. nov.

Carabus (Hypsocarabus) latro: IMURA & MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371), p. 27, fig. 9.

Description. Length: 23.9 mm (including mandibles). Differs from nominotypical *latro* SEMENOV (type locality: “Ta-tz’ao-pin”=Mt. Dacaoing [大草坪], ca. 30 km NNE. from Pingwu, on the borders between Sichuan and Gansu) as follows: 1) body larger; 2) dorsal surface apparently more blackish; 3) head a little more hypertrophic; 4) median tooth of mentum longer, almost the same in length as those of lateral lobes; 5) posterior parts of pronotal sides less remarkably reflexed above; 6) elytra much more elongate, with the primary intervals narrower, median costae of the tertiary intervals also narrower and much less strongly raised. From subsp. *minshanensis* DEUVE*, the new race is discriminated by a little darker body coloration, a little more coarsely rugulose frons, narrower pronotum with more sharply pointed hind angles, a little more effaced shoulders, a little weaker tertiary costae, and less strongly developed granulation around the umbilicate series. Evidently different from subsp. *huanglongensis* DEUVE (type locality: Huanglong, 3,300 m) in larger size, darker coloration, narrower and longer pronotum with more sharply pointed hind angles, more effaced shoulders, longer elytra, and much more regularly costate elytral intervals.

Holotype: ♀, above Caigai, 2,900 m in altitude, in the Kalong-gou Valley, of northeastern Heishui Xian of northern Sichuan, Southwest China, 12–VI–2001, Y. IMURA leg., in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Derivatio nominis. The new subspecific name comes from Maizha [麦扎], indicating the former name of Kalongzhen.

3. *Megodontoides erwini heishuiensis* IMURA, subsp. nov.

(Fig. 1)

Carabus (Megodontoides) erwini ssp.: IMURA & MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371), p. 25, fig. 7-a.

Description. Length: 29.3–33.0 mm (including mandibles). Differs from nominotypical *erwini* MANDL (type locality: Wenchuan) as follows: 1) dorsal surface of elytra more strongly greenish; 2) head a little more hypertrophic; 3) vertex of head less remarkably rugulose and a little more strongly punctate; 4) antennae a little shorter, at most reaching basal quarter in male; 5) pronotum more transverse, with the sides less acutely convergent towards apex and less remarkably sinuate before hind angles; 6) pronotal disc more strongly punctate; 7) elytra a little robuster and less acutely convergent towards apices; 8) elytral intervals flatter and smoother; 9) striae between

* This race was described from “Monts Min Shan, environs de Huanglong [sic], 2,600 m”. However, the true locality of subsp. *minshanensis* is somewhere in the Jiuzhaigou area, since the type specimens I have examined bear the same features as those of the Jiuzhaigou population and the correction was given by DEUVE himself (1997, p. 110).

elytral intervals scattered with larger and deeper punctures hardly contiguous to one another; 10) propleura, episterna and sides of abdominal sternites more remarkably punctate; 11) apical part of aedeagus slenderer and a little more strongly bent ventrad. From subsp. *pleiolabrus* DEUVE (type locality: Li Xian), the new race is discriminated by much more greenish coloration, different shape of labrum and differently sculptured elytral surface. Endophallus, which is illustrated and described for the first time at the species level, as shown in Fig. 1: ostium lobe robust and faintly bilobed at tip, neither BL nor ML developed in endophallus, PRE with the right lobe rather sharply protruded, PAR well-developed, PP large and symmetrical, AL unremarkable, PL conspicuously protruded, AGG slightly sclerotized and pigmented to form a pair of short terminal plates on both sides, lacinia indicated by a fin-like thin ridge.

Type series. Holotype: ♂, between Reli [热里] and Dakouwo [大口窝] below Zhimulin [知木林], 2,040–2,080 m in altitude, on the northeastern bank of the Riv. Xiaoheishui He, in central Heishui Xian of northern Sichuan, Southwest China, 15–VI–2001, Y. IMURA leg., in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes: 2♂♂, 1♀, same data as for the holotype; 2♀♀, below Zhimulin, 2,050–2,100 m in altitude, on the eastern bank of the Riv. Heishui He, 13–14–VI–2001; 8♂♂, Yubadu [渔巴渡], 2,020 m in altitude, between Mawo [麻窝] and Shuangliusuo [双溜索], on the northern bank of the Riv. Heishui He [黑水河], 15–VI–2001; all in central Heishui Xian, preserved in colls. Y. IMURA, K. MIZUSAWA and B. BŘEZINA.

Notes. All the specimens of the present new subspecies were trapped on a dried slope along the Riv. Heishui He and its main tributary, Xiaoheishui He, below 2,100 m in altitude. It is sympatric with *Holosoma* sp. whose upper surface of elytra is similarly greenish (see IMURA & MIZUSAWA, 2002, p. 25), suggesting that these two species belonging to two different subfamilies show a convergence.

4. *Megodontoides erwini maoxianensis* IMURA, subsp. nov.

(Fig. 2)

Carabus (Megodontoides) erwini ssp.: IMURA & MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371), p. 27, fig. 14.

Description. Length: 31.4–32.8 mm (including mandibles). Most closely allied to subsp. *heishuiensis* nov., but discriminated from that race as follows: 1) size a little larger on an average; 2) dorsal surface of elytra much more strongly blackish; 3) hind angles of pronotum shorter; 4) elytral intervals flatter; 5) aedeagus as illustrated in Fig. 2, with apical lobe a little slenderer and a little more strongly bent ventrad.

Type series. Holotype: ♂, below Shuigouzi [水沟子], 1,700–1,750 m in altitude, near Huilong [回龙], on the southern bank of the Riv. Heishui He, in central Mao Xian [茂县] of northern Sichuan, Southwest China, 15–VI–2001, Y. IMURA leg., in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes: 2♂♂, 1♀, same data as for the holotype, in colls. Y. IMURA and K. MIZUSAWA.

Notes. The present new species is sympatric with *Coptolabrus formosus sunpanensis*.

5. *Pagocarabus* (s. str.) *crassesculptus diruptus* MORAWITZ, 1886

Specimens examined. 2♂♂, 2♀♀, above Caigai, 2,920–2,970 m in altitude, in the Kalong-gou Valley, of northeastern Heishui Xian of northern Sichuan, Southwest China, 12~14–VI–2001, Y. IMURA leg., in coll. Y. IMURA.

6. *Neoplesius lixianensis lixianensis* DEUVE, 1990

Carabus (*Cupreocarabus*) *lixianensis*: IMURA & MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371), p. 27, fig. 10.

Specimens examined. 1♂, 3♀♀, Pass (so-called Yakou [埡口], 3,500–3,550 m in altitude) in the western end of Heishui Xian near the Hong'yuan [红原] border, of northern Sichuan, Southwest China, 13–VI–2001, Y. IMURA leg., in colls. Y. IMURA and K. MIZUSAWA.

Notes. The specimens collected from the above locality are somewhat different from the nominotypical subspecies described from Li Xian in having slenderer body, narrower pronotum, more roughly sculptured elytral surface, etc., though not so different in shape of the aedeagus.

7. *Neoplesius lixianensis caigaiensis* IMURA, subsp. nov.

(Fig. 3)

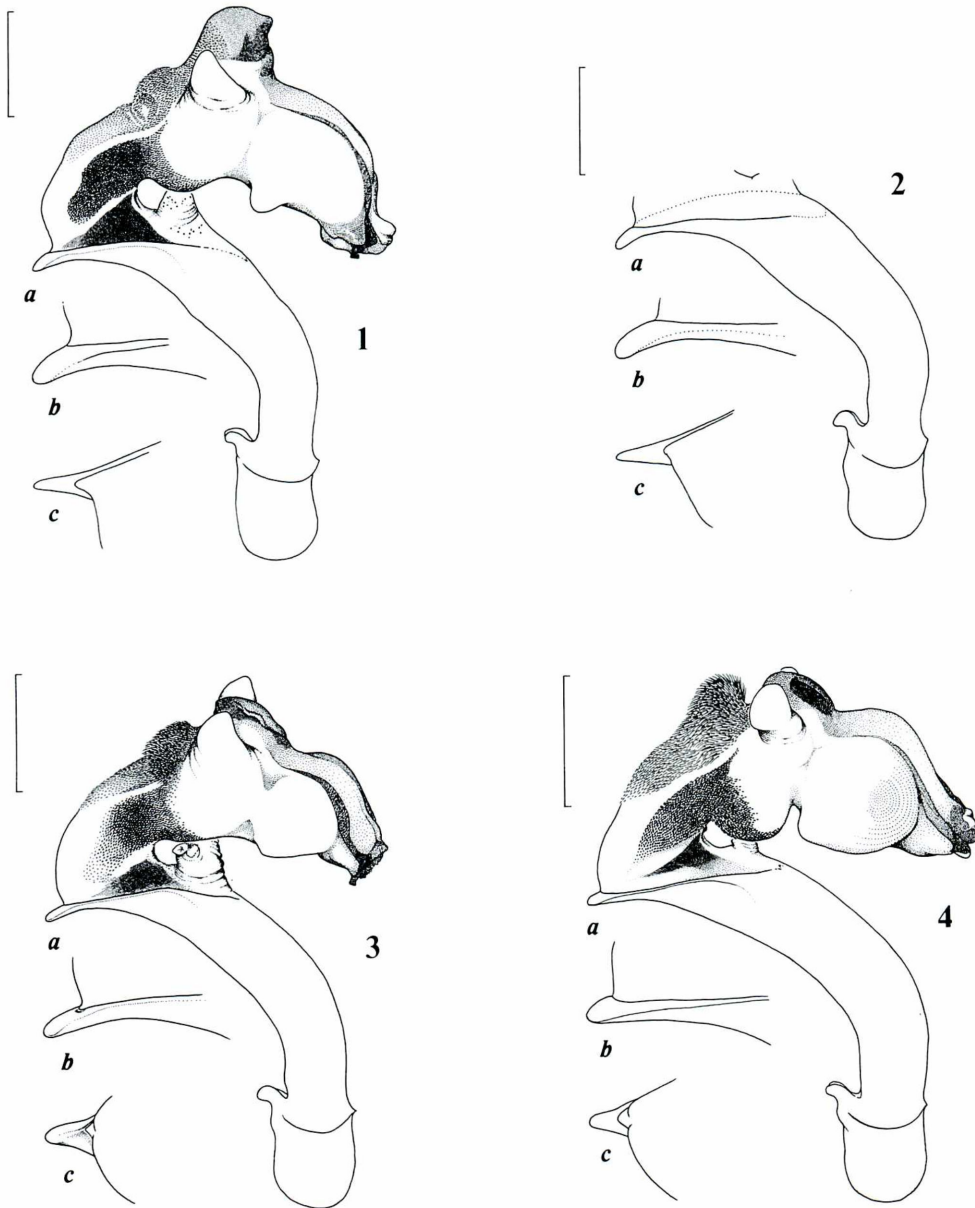
Carabus (*Cupreocarabus*) *lixianensis* ssp.: IMURA & MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371), p. 27, fig. 11.

Description. Length: 23.0 mm (including mandibles). Differs from the nominotypical subspecies (type locality: Lixian, Zhegushan 4,100 m) in the following points: 1) coloration of tibiae and tarsi much darker; 2) hind angles of pronotum more sharply pointed; 3) elytra a little more roughly sculptured, with the secondaries longitudinally contiguous, tertiaries more clearly recognized as rows of larger granules; 4) apical lobe of aedeagus definitely different in shape, much shorter and robuster in lateral and dorsal views.

Holotype. ♂, above Caigai, 2,900 m in altitude, in the Kalong-gou Valley, in northeastern Heishui Xian of northern Sichuan, Southwest China, 12–VI–2001, Y. IMURA leg., in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

8. *Pseudocranion gansuensis kalongensis* IMURA, subsp. nov.

Carabus (*Pseudocranion*) *gansuensis* ssp.: IMURA & MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371), p. 27,



Figs. 1-4. Male genital organ of the Carabina from northern Sichuan. — 1, *Megodontoides erwini heishuiensis* subsp. nov. (below Zhimulin in central Heishui Xian); 2, *M. e. maoxianensis* subsp. nov. (below Shuigouzi near Huilong in central Mao Xian); 3, *Neoplesius lixianensis caigaiensis* subsp. nov. (above Caigai in northeastern Heishui Xian); 4, *Pseudocranion gansuensis kalongensis* subsp. nov. (above Caigai in northeastern Heishui Xian). — a, Aedeagus with fully everted endophallus in right lateral view; b, apical part of aedeagus in the same view; c, ditto in dorsal view. Scale: 2 mm for a, 1 mm for b & c.

fig. 12.

Description. Length: 19.7–23.7 mm (including mandibles). Most closely allied to subsp. *tiro* SEMENOV (type locality: Sun-pan=Songpan), but discriminated from that race by the following respects: 1) coloration of dorsal surface lighter and more reddish in most specimens, tibiae and tarsi more strongly yellow-brownish; 2) body much slenderer with narrower pronotum and more effaced elytral shoulders; 3) aedeagus longer and slenderer in median portion, less strongly concave right-laterad on the ventral side at about apical third, with the apex hardly bent right laterad in dorsal view, ostium lobe smaller, PRE also smaller with the left lobe larger than the right, PAR much smaller and obviously constricted at base, median hemispherical inflation on the inflexed side of endophallus much larger.

Type series. Holotype: ♂, above Caigai, 3,020–3,070 m in altitude, in the Kalong-gou Valley, in northeastern Heishui Xian of northern Sichuan, Southwest China, 12~15-VI-2001, Y. IMURA leg., in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes: 28♂♂, 11♀♀, same data as for the holotype; 2♂♂, 5♀♀, above Caigai, 2,900 m in altitude, in the Kalong-gou Valley, in northeastern Heishui Xian, 12~15-VI-2001, Y. IMURA leg., in colls. Y. IMURA, K. MIZUSAWA, B. BŘEZINA and P. CAVAZZUTI.

9. *Coptolabrus formosus sunpanensis* SEMENOV, 1898

Carabus (Coptolabrus) formosus sunpanensis: IMURA & MIZUSAWA, 2002, Gekkan-Mushi, Tokyo, (371), p. 27, fig. 15.

Specimen examined. 1♀, below Shuigouzi, 1,700–1,750 m in altitude, near Hui-long, on the southern bank of the Riv. Heishui He, in central Mao Xian of northern Sichuan, Southwest China, 15-VI-2001, Y. IMURA leg., in coll. Y. IMURA.

Notes. A single female specimen of *Coptolabrus formosus* collected from the above locality is identified with subsp. *sunpanensis*. This race is rather widely distributed in northern Sichuan, but is recorded for the first time from Mao Xian. It is sympatric with *Megodontoides erwini maoxianensis* on an arid slope along the Riv. Heishui He (see IMURA & MIZUSAWA, 2002, p. 22, fig. 1).

要 約

井村有希：中国四川省黒水县と茂县におけるオサムシの記録。——中国四川省北部の黒水县と茂县から7種のオサムシを記録し、5新亜種を記載した。

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Two New Synonyms of Taiwanese *Onthophagus* (Coleoptera, Scarabaeidae) Described by BALTHASAR

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On the occasion of my entomological research in Europe made in March, 2002, I had the opportunity of examining the BALTHASAR collection preserved in the Department of Entomology, National Museum, Prague, Czech Republic. I examined several problematical coprophagous beetles from East Asia and confirmed the following new synonyms of Taiwanese *Onthophagus* species.

Onthophagus (*Matashia*) *yubarinus* (MATSUMURA, 1937)

Onthophagus yubarinus MATSUMURA, 1937, Ins. matsum., Sapporo, **11**: 168.

Matashia mushana MATSUMURA, 1938, Ins. matsum., **12**: 63.

Onthophagus (s. str.) *ivae* BALTHASAR, 1963, Mon. Scarab. Aphod. palaearkt. orient. Reg., **2**: 602. (*Syn. nov.*)