

Six New Taxa of *Carabus* (Coleoptera, Carabidae) Discovered in the Alpine Regions of Southwest China

Yûki IMURA

Shinohara-chô 1249–8, Kôhoku-ku, Yokohama, 222–0026 Japan

Abstract Six new taxa of the genus *Carabus* (s. lat.) are described from Southwest China: *Carabus* (*Rhigocarabus*) *itzingeri choguy* subsp. nov., *C. (R.) handelmazzettii virginalis* subsp. nov., *C. (Neoplesius) hengduanicola crassedorsum* subsp. nov., *C. (N.) ludmilae zayuensis* subsp. nov., *C. (Pseudocoptolabus) taliensis zhongdianicus* subsp. nov. and *C. (P.) nosei taronensis* subsp. nov.

In this paper, I am going to describe six new subspecies of the genus *Carabus* (s. lat.) collected from the alpine regions of Southwest China (Northwest Yunnan and Southeast Xizang). I am grateful to Dr. Shun-Ichi UÉNO of the National Science Museum, Tokyo, for revising the manuscript of this paper. Special thanks are due to Mr. Kiyoyuki MIZUSAWA (Yokosuka) and Mr. & Mrs. Roman BUSINSKÝ (Prague) for their kind cooperation in various ways.

1. *Carabus* (*Rhigocarabus*) *itzingeri choguy* IMURA, subsp. nov.

(Figs. 1, 7)

Length: 17.7–18.2 mm (including mandibles). Black or reddish coppery.

Readily distinguishable from all the hitherto known races of *itzingeri* BREUNING (nominotypical subspecies, *rugulosior* DEUVE and *tanakai* IMURA) by much more degenerated elytral sculpture. Otherwise, the new subspecies is most closely allied to subsp. *rugulosior* described from the Hengduan Mountains, but is distinguishable from that race by the following points: 1) vertex more sparsely punctate; 2) front angles of pronotum a little more obtusely rounded; 3) basal foveae of pronotum deeper; 4) pronotal disc not strongly rugulose but more obviously punctate; 5) apical third of aedeagus much more deeply concave latero-ventrad at the right side.

Type series. Holotype: ♂, 18–25 km distant to the east-southeast from Zayü [察隅], 4,400–4,600 m in altitude, near the divide between the Riv. Sang Qu [桑曲] (=the upper part of the Zayü Qu [察隅曲]) and the Riv. Jiada Qu [夏达曲] (=the upper part of the Drung Jiang [独龙江]=Riv. Ayeyarwady=Irrawaddy), in Zayü Xian of Nyingchi Diqu [林芝地区], Southeast Tibet (Xizang), 27~28-VI-1999, in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes (including allo-

type): 3♂♂, 1♀. same data as for the holotype, in colls. Y. IMURA and K. MIZUSAWA; 1♂, the basin along the eastern branch of the Riv. Jiada Qu, 3,800 m in altitude, 22–VI–1999, in coll. Y. IMURA.

Derivatio nominis. *Choguy* is a common name for the male horse in Southeast Tibet.

2. *Carabus (Rhigocarabus) handelmazzettii virginalis* IMURA, subsp. nov.

(Fig. 2)

Length: 18.4 mm (including mandibles). Dark coppery with weak greenish tinge on head.

Differs from subsp. *handelmazzettii* MANDL (type locality: Hsiao Dschungdien (=Xiao Zhongdian), 3,500 m) in the following points: 1) a little smaller in size with shorter antennae; 2) vertex hardly rugulose and only sparsely scattered with fine punctures; 3) pronotum narrower, with the lateral sides more strongly sinuate before hind angles, and the disc strongly rugulose; 4) elytra with the shoulders more effaced, secondary and tertiary intervals more evidently recognized as irregularly segmented low costae.

Holotype: ♀, ca. 17 km distant to the northwest from Zhongdian [中甸], 4,300 m in altitude, in Zhongdian Xian, Northwest Yunnan, 19–V–1999, in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

3. *Carabus (Neoplesius) hengduanicola crassedorsum* IMURA, subsp. nov.

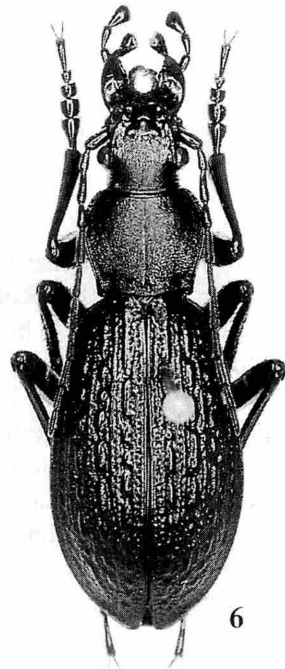
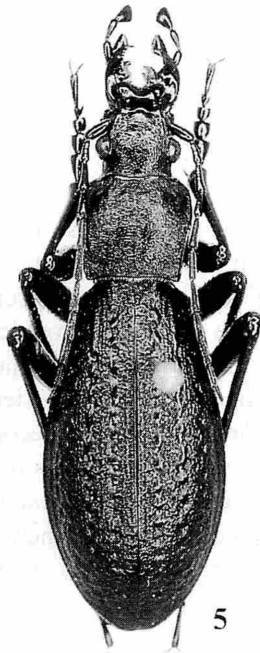
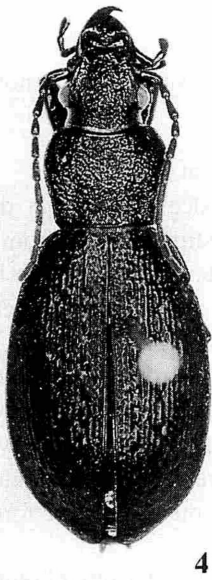
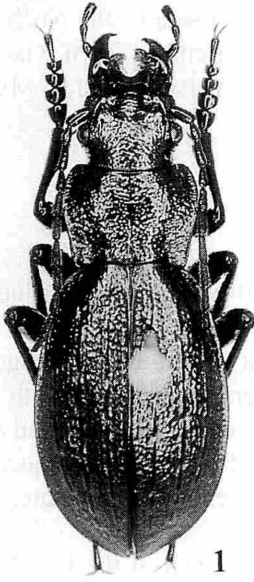
(Figs. 3, 8)

Length: 18.2–20.2 mm (including mandibles). Black with weak bronze tinge.

Distinguishable from subsp. *hengduanicola* DEUVE (type locality: Mt. Hengdian Shan, environs de Yanmen, 3,700 m) by the following points: 1) dorsal surface of head and pronotum more strongly and coarsely rugulose; 2) pronotum a little wider, less strongly sinuate before hind angles, with the basal foveae shallower; 3) elytra more roughly sculptured, with the tertiary intervals obviously weaker than the secondaries; 4) aedeagus with the apical lobe narrower and the ostium lobe smaller.

Type series. Holotype: ♂, southern slope of Mt. Meilixue Shan [梅里雪山], 4,200–4,300 m in altitude, on the eastern side (=the Lancang Jiang [澜沧江] side) of the Hengdian [横断] Mountains, in Dêqên Xian [德钦县], Northwest Yunnan, 4–VI–1999, in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Figs. 1–6. *Carabus* spp. from Southwest China. — 1, *Carabus (Rhigocarabus) itzingeri choguy* subsp. nov. (♂, holotype); 2, *C. (R.) handelmazzettii virginalis* subsp. nov. (♀, holotype); 3, *C. (Neoplesius) hengduanicola crassedorsum* subsp. nov. (♂, holotype); 4, *C. (N.) ludmilae zayuensis* subsp. nov. (♀, holotype); 5, *C. (Pseudocoptolabus) taliensis zhongdianicus* subsp. nov. (♂, holotype); 6, *C. (P.) nosei taronensis* subsp. nov. (♂, holotype).



Paratypes (including allotype): 1 ♂, 1 ♀, same data as for the holotype; 1 ♂, southern slope of Mt. Meilixue Shan, 3,700 m in altitude, on the western side (=the Nu Jiang [怒江] side) of the Hengduan Mountains, near the southeastern end of Zayü Xian of Nyingchi Diqu, Southeast Tibet (Xizang), 5–VI–1999, in colls. Y. IMURA and K. MIZUSAWA.

4. *Carabus (Neoplesius) ludmilae zayuensis* IMURA, subsp. nov.

(Fig. 4)

Length: 18.5–20.4 mm (including mandibles). Black with weak greenish blue or greenish coppery tinge.

Distinguishable from subsp. *ludmilae* DEUVE (type locality: nord-est de Nyingchi, 4,300 m) by the following points: 1) antennae a little shorter; 2) pronotum with the front margin less deeply emarginate, lateral sides less strongly convergent anteriorly and hind angles hardly protruded posteriorly; 3) primary intervals of elytra more frequently segmented, secondaries a little more weakly raised and more frequently crenulate, tertiaries a little more prominently recognized.

Type series. Holotype: ♀, the basin along the western branch of the Riv. Jiada Qu (=the upper part of the Drung Jiang= Riv. Ayeyarwady=Irrawaddy), 3,950 m in altitude, in Zayü Xian of Nyingchi Diqu, Southeast Tibet (Xizang), 25–VI–1999, in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes: 2 ♀♀, same data as for the holotype, in colls. Y. IMURA and K. MIZUSAWA.

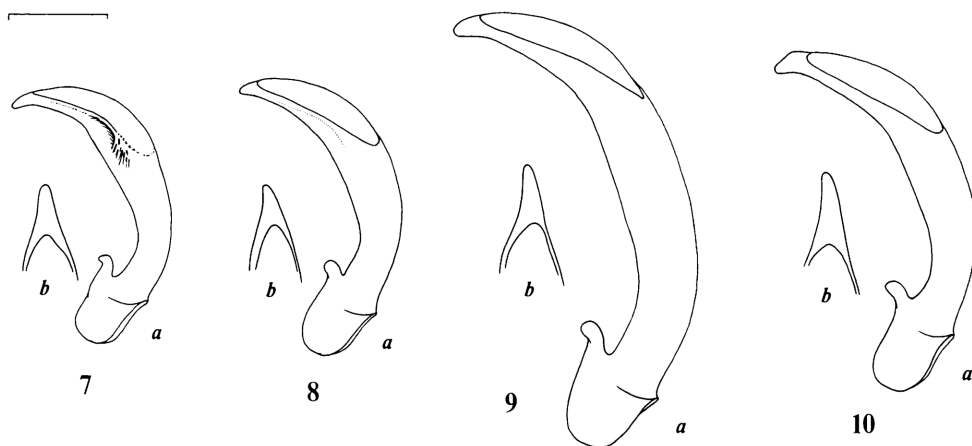
5. *Carabus (Pseudocoptolabus) taliensis zhongdianicus* IMURA, subsp. nov.

(Figs. 5, 9)

Length: 32.0–35.5 mm (including mandibles). Black and mat.

Most closely allied to subsp. *lijiangensis* DEUVE (type locality: District de Lijiang, Ganhaizi, 3,000–3,600 m), but this new subspecies is distinguishable from it by the following points: 1) head a little more hypertrophic; 2) vertex scattered with larger punctures; 3) pronotum wider, with the lateral sides much less strongly convergent towards apex, hind angles less strongly protruded posteriorly; 4) primary intervals more frequently segmented, tertiaries more prominently recognizable as rows of granules; 5) fourth segments of male foretarsi without hair pads on the ventral surface; 6) median portion of aedeagus much longer. From subsp. *yanmenensis* DEUVE (type locality: Mt. Hengduan Shan, environs de Yanmen, 3,700), the new race is readily discriminated by larger body, wider pronotum, absence of hair pads on fourth segments of male foretarsi and differently shaped aedeagus.

Type series. Holotype: ♂, ca. 17 km distant to the northwest from Zhongdian, 3,700–4,000 m in altitude, in Zhongdian Xian, Northwest Yunnan, 16–21–V–1999, in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes (including allotype): 1 ♀♀+3 exs., same data as for the holotype, in colls. Y. IMURA, K.



Figs. 7–10. Aedeagus of *Carabus* spp. from Southwest China. — 7, *Carabus (Rhigocarabus) itzingeri chogyi* subsp. nov.; 8, *C. (Neoplesius) hengduanicola crassedorsum* subsp. nov.; 9, *C. (Pseudocoptolabrus) taliensis zhongdianicus* subsp. nov.; 10, *C. (P.) nosei taronensis* subsp. nov.; a, right lateral view; b, apical lobe in dorsal view. Scale: 2 mm for a, 1 mm for b.

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6. *Carabus (Pseudocoptolabrus) nosei taronensis* IMURA, subsp. nov.

(Figs. 6, 10)

Length: 23.3–25.5 mm (including mandibles). Black, rather mat, with faint bluish tinge mainly on the depressed parts of pronotum and elytra.

Differs from subsp. *nosei* IMURA (type locality: NE of Putao, near the northern end of Myanmar) by the following points: 1) dorsal surface of head and pronotum much smoother; 2) pronotum a little more transverse, with the front angles more obtusely rounded, lateral sides more roundly arcuate, hind angles shorter and less sharply protruded; 3) tertiary intervals of elytra a little more remarkably recognized as irregularly set rows of granules or narrow costae; 4) apical lobe of aedeagus much wider and obviously hooked ventrad in lateral view.

Type series. Holotype: ♂, the basin along the eastern branch of the Riv. Jiada Qu (=the upper part of the Drung Jiang=Riv. Ayeyarwady=Irrawaddy), 3,800–4,000 m in altitude, in Zayü Xian of Nyingchi Diqu, Southeast Tibet (Xizang), 22~23-VI-1999, in coll. Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Paratypes (including allotype): 5♂♂, 1♀+1 ex. (elytra only), same data as for the holotype, in colls. Y. IMURA, K. MIZUSAWA and B. BŘEZINA (Prague).

Derivatio nominis. The new subspecific name is derived from “Taron” which is the alias of the upper part of the Riv. Irrawaddy.

要 約

井村有希：中国南西部の高山帯から発見されたオサムシの6新分類単位。——中国云南省北西部と西藏自治区南東部の高山帯から得られたオサムシのなかに6新亜種（ドウガネオサムシ、チベットオサムシおよびヌバタマキンオサムシの各亜属）を認め、記載した。

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