

Records of the Carabina (Coleoptera, Carabidae) from the
Micang Shan Mountains in Northeastern Sichuan, China,
with Descriptions of Five New Subspecies

Yûki IMURA

Department of Gynecology, Tôkyû General Hospital, Kita-senzoku,
1–45–6, Ôta-ku, Tokyo, 145–0062 Japan

and

Zhi-Hui SU

JT Biohistory Research Hall, 1–1 Murasaki-Cho,
Takatsuki, Osaka, 569–1125 Japan

Abstract Six species of the subtribe Carabina (=genus *Carabus* s. lat.) are recorded from the Micang Shan Mountains in northeastern Sichuan, China, and five of them are described as new subspecies. The male genitalia of *Carabus* (*Shenocoptolabrus*) *osawai* are illustrated and described for the first time.

The Micang Shan Mountains are relatively small-scaled mountain range stretching along the borders of Northeast Sichuan and Southwest Shaanxi in Southwest China. They are the northwestern continuation of the Daba Shan Mountains, but have never been investigated before by entomologists.

Early in the summer of 1999, we visited the mountains under the cooperation of the Chinese Academy of Science, and succeeded in obtaining a long series of carabid beetles belonging to the subtribe Carabina. In this paper, we are going to record all the six species collected during our investigation, and describe five of them as new subspecies. The abbreviations used herein are the same as those explained in previous papers of the first author, Y. IMURA, and the holotypes of all the newly described taxa will be deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Before going into further details, we wish to express our heartfelt thanks to Dr. Syozo OSAWA, Dr. Keiko NAKAMURA and Dr. Tokindo OKADA of the JT Biohistory Research Hall, Osaka, for their kind help in preparing and conducting our investigation to China. Also we thank Mr. FAN Ting of the Chengdu International Academic Exchange Centre of the Chinese Academy of Science, who spared no effort to support our field researches. Special thanks are due to Dr. Shun-Ichi UENO of the National Science Mu-

seum, Tokyo, for kindly reviewing the manuscript of this paper.

1. *Carabus (Archaeocarabus) vigil guangwushanus* IMURA et SU, subsp. nov.

(Fig. 1)

Carabus (Archaeocarabus) vigil ssp.: IMURA, 1999, Gekkan-Mushi, Tokyo, (345), pp. 14–15, fig. 12.

Length: 18.7–23.8 mm (including mandibles).

Most closely allied to subsp. *dabashanus* IMURA of the Daba Shan Mountains, but readily distinguished from that race by the following respects: 1) size a little smaller; 2) dorsal surface of body not bearing bluish tinge as in *dabashanus*, but with faint brownish tinge; 3) pronotum a little smaller and narrower; 4) lateral sides of pronotum a little more strongly sinuate before hind angles; 5) hind angles of pronotum less strongly protrudent posteriad with the tips less sharply pointed; 6) elytra a little shorter and robuster, with the primary foveoles smaller and hardly invading the adjacent tertiaries; 7) apical lobe of aedeagus obviously slenderer in both lateral and dorsal views; 8) endophallus with the podian lobes smaller, digitulus a little more deeply concave at the median portion.

Type series. Holotype: ♂, Pass on the road between Shanliangqu [上两区] to Taoyuan [桃园], ca. 1,750 m in altitude, on ENE slope of Mt. Guangwu Shan [光雾山],

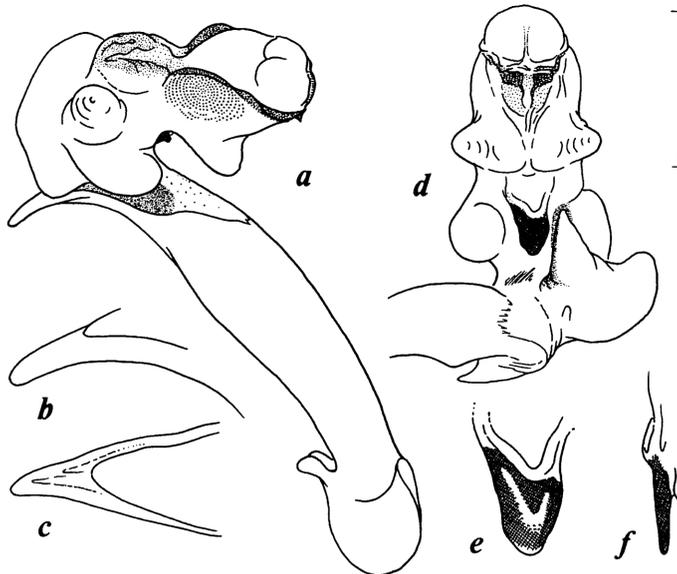


Fig. 1. Male genital organ of *Carabus (Archaeocarabus) vigil guangwushanus* subsp. nov., from ENE slope of Mt. Guangwu Shan. — a, Aedeagus with fully everted endophallus in right lateral view; b, apical part of aedeagus in right lateral view; c, ditto in dorsal view; d, endophallus in basal view; e, digitulus in basal view; f, ditto in left lateral view. Scale: 2 mm for a & d; 1 mm for b–c & e–f.

in Nanjiang [南江] Xian of northeastern Sichuan, China, 3–VI–1999. Paratypes: 46 ♂♂, 41 ♀♀, same data as for the holotype, 30–V~4–VI–1999; 1 ♀, ca. 1 km distant to SSE from the type locality, 1,550 m in altitude, 3–VI–1999; 6 ♂♂, 8 ♀♀, northwestern slope of Mt. Guangwu Shan, 1,520–1,580 m in altitude. All collected by Y. IMURA & Z.-H. SU.

2. *Carabus (Apotomopterus) cyanopterus shanliangensis*

IMURA et SU, subsp. nov.

Carabus (Apotomopterus) cyanipennis ssp.: IMURA, 1999, Gekkan-Mushi, Tokyo, (345), pp.14–15, fig. 14.

Length: 26.4 mm (including mandibles).

Most closely allied to subsp. *dabamontanus* IMURA of the Daba Shans, but discriminated from the latter by the following respects: 1) pronotum with the hind angles narrower and more sharply pointed, and the disc less strongly convex above; 2) elytra shorter and robuster, with the shoulders a little more remarkably prominent, primary intervals wider and more strongly convex above, primary foveoles wider to form more remarkable chain striae; 3) appendages, above all palpi and tarsi a little shorter.

Holotype: ♀, southern side of the pass on the road from Shanliangqu [上两区] to Taoyuan [桃园], ca. 1,600 m in altitude, on ENE slope of Mt. Guangwu Shan [光雾山], in Nanjiang [南江] Xian of northeastern Sichuan, China, 30–V–1999, Y. IMURA & Z.-H. SU leg.

3. *Carabus (Apotomopterus) hupeensis buycki* HAUSER, 1924

Carabus (Apotomopterus) hupeensis buycki: IMURA, 1999, Gekkan-Mushi, Tokyo, (345), pp. 14–15, fig. 15.

Specimens examined. 2 ♂♂, 4 ♀♀, northwestern slope of Mt. Guangwu Shan [光雾山], 1,520–1,580 m in altitude, in Nanjiang [南江] Xian of northeastern Sichuan, China, 3–VI–1999; 3 ♂♂, 2 ♀♀, Micang Shan Mountains, below Daba [大坝], ca. 1,350 m in altitude, on the southern bank of the Riv. Jiaojia He [焦家河] (=the uppermost stream of the Riv. Dong He [东河]), in Nanjiang [南江] Xian of northeastern Sichuan, China, 4–VI–1999. All collected by Y. IMURA & Z.-H. SU.

4. *Carabus (Leptocarabus) yokoe nanjiangensis* IMURA et SU, subsp. nov.

(Fig. 2)

Length: 26.0–27.5 mm (including mandibles).

Allied to subsp. *chengkouensis* IMURA of the Daba Shans, but distinguishable from that race by the following features: 1) pronotum more remarkably cordiform; 2) elytra a little shorter and robuster; 3) aedeagus more strongly bent ventrad at both basal and apical portions, apical part broader in lateral view, ostium lobe shorter and narrower, prepraeputial lobes and praeputial pad more strongly prominent, and aggenoporus a little more strongly developed.

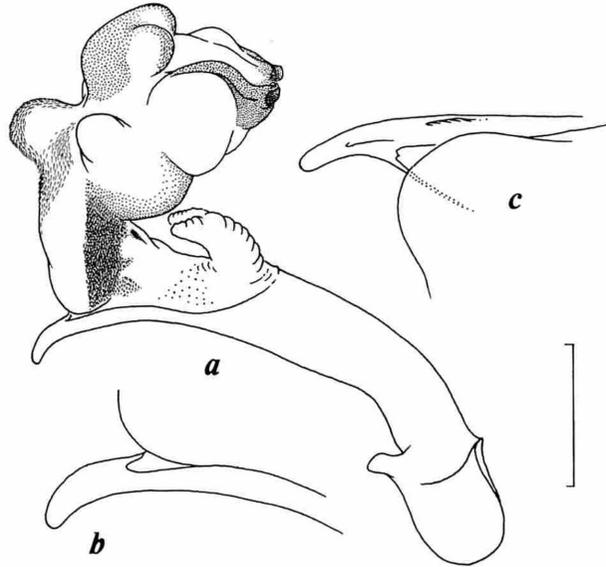


Fig. 2. Male genital organ of *Carabus (Leptocarabus) yokoae nanjiangensis* subsp. nov., from NW slope of Mt. Guangwu Shan. — a, Aedeagus with fully everted endophallus in right lateral view; b, apical part of aedeagus in right lateral view; c, ditto in dorsal view. Scale: 2 mm for a; 1 mm for b & c.

Type series. Holotype: ♂, northwestern slope of Mt. Guangwu Shan [光雾山], 1,520 m in altitude, in Nanjiang [南江] Xian of northeastern Sichuan, China, 3–VI–1999. Paratypes: 1 ♀, same data as for the holotype; 1 ♂, Micang Shan Mountains, below Daba [大坝], ca. 1,350 m in altitude, on the southern bank of the Riv. Jiaojia He [焦家河] (=the uppermost stream of the Riv. Dong He [东河]), in Nanjiang Xian of northeastern Sichuan, China, 4–VI–1999. All collected by Y. IMURA & Z.-H. SU.

5. *Carabus (Shenocoptolabrus) osawai micangshanus*

IMURA et SU, subsp. nov.

(Fig. 3)

Carabus (Shenocoptolabrus) osawai ssp.: IMURA, 1999, Gekkan-Mushi, Tokyo, (345), pp. 14–15, figs. 17 a–b.

Length: 33.0–41.0 mm (including mandibles).

Differs from the nominotypical subspecies, known from only a single female specimen, in the following features: 1) coloration of dorsal surface a little darker, with the elytral surface between intervals almost black though bearing a faint bluish or green-purplish tinge; 2) pronotum slenderer and more strongly elongate, above all in the anterior portion before the widest part, and lateral sides faintly but obviously constricted just before front angles; elytra also slenderer, with the primary callosities a little larger on an average, and the primary foveoles a little more deeply concave.

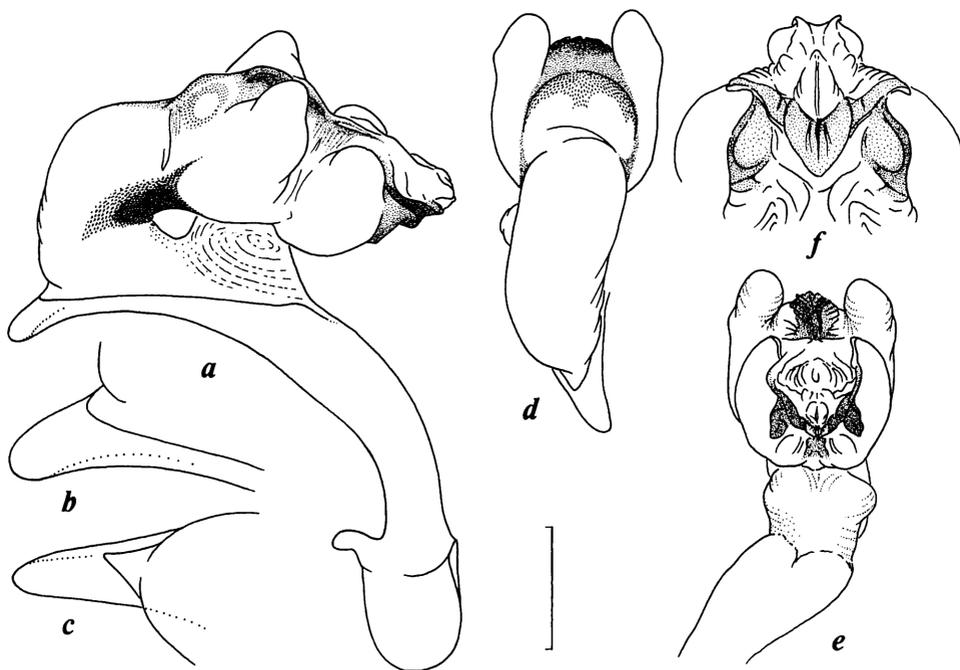


Fig. 3. Male genital organ of *Carabus (Shenocoptolabrus) osawai micangshanus* subsp. nov., from Daba. — a, Aedeagus with fully everted endophallus in right lateral view; b, apical part of aedeagus in right lateral view; c, ditto in dorsal view; d, endophallus in posterior view; e, ditto in anterior view; f, apical part of endophallus in ventral view. Scale: 2 mm for a, d & e; 1 mm for b–c & f.

Male. Apical segments of palpi more widely and triangularly dilated than in female. Antennae longer than in female, extending obviously beyond the middle of elytra. Pronotum a little slenderer and a little less strongly cordate than in female. Basal three segments of foretarsi dilated and associated with hair pads on the ventral surface.

Male genitalia:— Aedeagus long and slender, almost evenly arcuate throughout, with the median portion subcylindrical, apical portion rather short, moderately compressed laterad, and roundly shaped at tip; ostium lobe unusually large, robust, and only slightly bilobed at tip; neither paraligula nor basal lateral lobe recognized, median lobe also absent; ligulum indicated by longitudinally arranged assemblage of pigmented granules; prepraeputial lobes unclear, parpraeputial lobes moderately developed and almost symmetrical, both apical and podian lobes rather weakly inflated; aggonoporus not strongly sclerotized nor pigmented but obviously protruded ventrad at the centre to form a gonoporal plate with the shape like a strawberry.

Type series. Holotype: ♂, below Daba [大坝], ca. 1,350 m in altitude, on the southern bank of the Riv. Jiaojia He [焦家河] (=the uppermost stream of the Riv. Dong He [东河]), on the Micang Shan Mountains, in Nanjiang Xian of northeastern Sichuan, China, 4–VI–1999. Paratypes: 22♂♂, 12♀♀, same data as for the holotype; 2♂♂, 1♀.

northwestern slope of Mt. Guangwu Shan [光霧山], 1,580 m in altitude, in Nanjiang Xian of northeastern Sichuan, China, 3–VI–1999. All collected by Y. IMURA & Z.-H. SU.

Notes. This astonishing species was described very recently by IMURA *et al.* (1999, pp. 2–5) based upon only a single female specimen collected on the eastern slope of the Dashennongjia Massif of western Hubei. A new subgenus was established at the same time under the name *Shenocoptolabrus*, in view of both morphology and molecular phylogeny. However, the discovery of *Shenocoptolabrus* from the Micang Shan Mountains was unexpected, since nothing has been known on this strange carabid from the Daba Shan Mountains situated between the Micang Shans and the Dashennongjia, from where numerous carabid specimens have been brought forth by the late Mr. Wako KITAWAKI. All the type specimens of the present new subspecies were collected from rather humid floor of the deep forest composed of both deciduous and evergreen broadleaved trees. They are sympatric with *C. (Apotomopterus) hupeensis buycki* and *C. (Leptocarabus) yokoae nanjiangensis* nov.

6. *Carabus (Coptolabrus) pustulifer xiongi* IMURA et SU, subsp. nov.

Carabus (Coptolabrus) pustulifer ssp.: IMURA, 1999, Gekkan-Mushi, Tokyo, (345), pp. 14–15, fig. 19.

Length: 38.0 mm (including mandibles).

Most closely allied to subsp. *wakoi* IMURA of the Daba Shans, but distinguished from that race in the following respects: 1) colour of elytra brilliant green except for elevated parts; 2) pronotum a little narrower; 3) elytra more spindle-like in shape, with the shoulders more effaced and the lateral sides more acutely narrowed towards apices; 3) primary intervals less strongly raised with each callosity longer; 4) elytral surface between intervals more sparsely granulate.

Holotype: ♀, southern side of the pass of the road from Shanliangqu [上兩区] to Taoyuan [桃園], ca. 1,600 m in altitude, on ENE slope of Mt. Guangwu Shan [光霧山], in Nanjiang [南江] Xian of northeastern Sichuan, China, 3–VI–1999, Y. IMURA & Z.-H. SU leg.

Derivatio nominis. This new subspecies is named after Mr. XIONG Zhen-Jiang, a skillful driver who was indispensable to our collecting trip to China.

要 約

井村有希・蘇 智慧：中国四川省米倉山におけるオサムシの記録と5新亜種の記載。——米倉山は中国四川省北東部と陝西省南部とを境する大巴山脈の北西方向への延長部に当たる小山脈で、これまでにオサムシ類の記録がまったくない処女地であった。1999年の初夏に行われたJT生命誌研究館と中国科学院との合同調査で同山脈を訪れたわれわれは、6種のオサムシを採集することに成功したので、本論文においてそれらすべてを記録し、ヴィギルアカガネオサムシ、アオバネトゲオサムシ、ヨウコクロナガオサムシ、クビナガモドキ、イボカブリモドキの5種についてはそれぞれ新亜種と認めて命名記載した。クビナガモドキの♂交尾器所見は

本論文においてはじめて図示，記載された。

References

- BREUNING, S., 1932-'37. Monographie der Gattung *Carabus* L. *Best.-Tab. eur. Coleopt.*, (104–110): 1–1610, 41 pls. Reitter, Troppau.
- IMURA, Y., 1995. New or least known carabid beetles (Coleoptera, Carabidae) from the Dabashan Mountains at the northeastern end of Sichuan Province, Central China. *Elytra, Tokyo*, **23**: 119–128.
- 1996. Three new taxa of the genus *Carabus* (s. lat.) from Sichuan Province, Central China. *Nature & Insects, Tokyo*, **31**(3): 34–38. (In Japanese, with English title and description.)
- 1999. Findings from my collecting trip to the Micang Shan Mountains in Northeast Sichuan and Liuba Xian in Southwest Shaanxi, China. *Gekkan-Mushi, Tokyo*, (345): 8–15. (In Japanese, with English title.)
- , H.-Z. ZHOU & Z.-H. SU, 1999. A remarkable new Procrustimorphi carabid beetle (Coleoptera, Carabidae) from Shennongjia in western Hubei, Central China. *Ibid.*, (341): 2–5. (In Japanese, with English title and description.)

Elytra, Tokyo, **28** (1): 7–8, May 15, 2000

A New Record of *Themus ishigakiensis* (Coleoptera, Cantharidae) from Iriomote-jima Island, Southwest Japan

Yûichi OKUSHIMA¹⁾ and Masataka SATÔ²⁾

¹⁾Kurashiki Museum of Natural History, Chûô 2–6–1, Kurashiki-shi,
Okayama Pref., 710–0046 Japan

²⁾Laboratory of Nature Conservation, Graduate School of Nagoya Women's University,
Mizuho-ku, Nagoya, 467–8610 Japan

Themus (Haplothemus) ishigakiensis OKUSHIMA, 1991, was described from Ishigaki-jima Island, Southwest Japan. This species has never been recorded from other localities until now, though it has a large-sized body and beautiful blue elytra.

Recently, we were able to examine one male specimen of this species from Iriomote-jima Island, lying to the west of Ishigaki-jima Island. We compared it with the type series from Ishigaki-jima Is., and found no remarkable morphological difference between them, including the male genitalia. This is the first record of the genus *Themus* MOTSCHULSKY from Iriomote-jima Is.

We thank Mr. Masaaki KIMURA of Naha City for his kindness in supplying us with the interesting material.