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Notes on the Japanese Species of the Genus *Usechus* (Coleoptera, Zopheridae)

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Abstract A new zopherid beetle of the genus *Usechus* is described from central Honshu, Japan, under the name of *U. sasajii* sp. nov. The Japanese species of the genus is enumerated, and a key to them is given.

The genus *Usechus* consists of six species; two of them are distributed in North America and the others in East Asia. In Japan, three species of the genus *Usechus* have been known: *U. chujoi* KULZER, *U. tsushimensis* H. KAMIYA and *U. ohdaiensis* SASAJI. *Usechus tsushimensis* from Is. Tsushima off Kyushu and *U. ohdaiensis* from the Kii Peninsula, Honshu, seem to be good species in view of stable morphological characters and their restricted distribution. On the other hand, *U. chujoi* from Honshu, Shikoku and Kyushu involves some taxonomical problems (SASAJI, 1988).

After a careful study, I have come to realize that the populations of *U. chujoi* occurring in lowland of Honshu are not appreciably different from those of Shikoku, in which lies the type locality, but the populations occurring on high mountains of central Honshu are markedly different from them and should be regarded as a new species.

In this paper, I am going to describe the new species from high mountains of central Honshu under the name *Usechus sasajii*. A key to the Japanese species is provided.

Before going further, I wish to express my deep gratitude to Professor Hiroyuki SASAJI (Fukui University, Fukui) for his continuous advice and encouragement, and to Dr. Masahiro ÔHARA (Hokkaido University, Sapporo) for critically reading the manuscript of this paper. Hearty thanks are also due to Messrs. Koichi HOSODA (Yamanashi), Shunsaku MANO (Tokushima), Nobuyuki NARUKAWA (Mie), Katsumi AKITA (Mie) and Toshiaki FUTAMI (Shizuoka) for their kind help in offering materials.

Genus ***Usechus*** MOTSCHULSKY, 1845

Usechus MOTSCHULSKY, 1845, Bull. Soc. imp. Natural. Mosc., **18**(1): 79; type species: *Usechus lacerta* MOTSCHULSKY, 1845.

Usechus chujoi KULZER, 1960

[Japanese name: Yokomizo-kobu-gomimushidamashi]

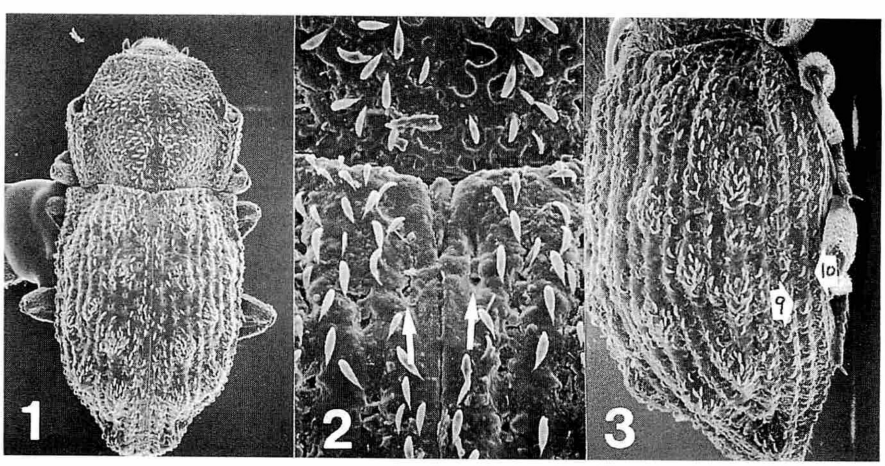
(Figs. 1–3, 15)

Usechus chujoi KULZER, 1960, Ent. Arb. Mus. Frey, **11**: 304–305; type locality: Mt. Tsurugi, Awa, Shikoku, Japan. —— NAKANE, 1963, Icon. Ins. Japon. Col. nat. ed., Tokyo, **2**: 235, pl. 118, fig. 4 [*partim*]. —— KAMIYA, 1963, Mushi, Fukuoka, **37**: 19–26, fig. 2–B, G, I. —— SASAJI, 1985, Coleopt. Japan Col., Osaka, **3**: 344, pl. 58, fig. 20.

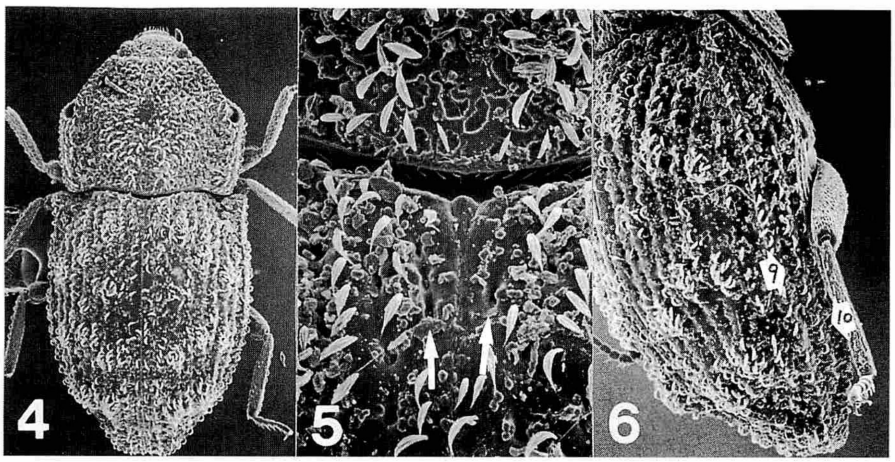
Notes. Through this study, I have confirmed that the populations occurring in the lowland of Honshu are not appreciably different from that of Mt. Tsurugi in Shikoku. Previous records of the species may probably contain misidentifications and are in need of revision. This species can be collected from dead leaves of trees. NAKANE (1963) recorded *U. chujoi* from Kyushu, but I have been unable to examine any specimen from that island.

Specimens examined. 5 exs., Mt. Tsurugi-san, Higashiiya-mura, Tokushima Pref., 20–VII–1997, M. SAITÔ leg.; 9 exs., Mt. Ohtaki-san, Waki-machi, Tokushima Pref., 16–IX–1996, S. MANO leg.; 1 ex., Mt. Takashiro-yama, Kisawa-son, Tokushima Pref., 5–VI–1988, R. TOYOSHIMA leg.; 1 ex., same locality, 2–VII–1988, O. YAMAJI leg.; 7 exs., Mt. Sobatsubu-yama, Haibara, Shizuoka Pref., 28–IX–1996, M. SAITÔ leg.; 2 exs., Mt. Mitsugamine, Shizuoka-shi, Shizuoka Pref., 30–V–1990, T. FUTAMI leg.

Distribution. Japan (Honshu, Shikoku, Kyushu?).



Figs. 1–3. *Usechus chujoi* KULZER. —— 1, Dorsal view; 2, elytra around scutellum (scutellar striole is indicated by arrows); 3, elytra in right dorso-lateral view (arrow 9 indicates 9th stria, arrow 10 indicates 10th stria).



Figs. 4–6. *Usechus tsushimensis* H. KAMIYA. —— 4, Dorsal view; 5, elytra around scutellum (scutellar striole is indicated by arrows); 6, elytra in right dorso-lateral view (arrow 9 indicates 9th stria, arrow 10 indicates 10th stria).

Usechus tsushimensis H. KAMIYA, 1963

[Japanese name: Tsushima-yokomizo-kobu-gomimushidamashi]

(Figs. 4–6, 15)

Usechus tsushimensis KAMIYA, 1963, Mushi, Fukuoka, **37**: 19–26, figs. 1, 2 A, C–F, H; type locality: Izuhara–Ariakeyama, Tsushima, Japan. —— SASAJI, 1985, Coleopt., Japan Col., Osaka, **3**: 344, pl. 58, fig. 21.

Notes. The body of this species is the largest and thickest in size of the Japanese members of the genus. The posterior halves of the lateral sides of pronotum are nearly parallel (maximum width / basal width less than 1.1, but more than 1.2 in other Japanese species). The prosternal process is provided with a keel at the center. These character states seem to indicate that this species is more apomorphic than the other Japanese species.

Specimens examined. 5 exs., Tashi, Tsushima Is., Nagasaki Pref., 9–VII–1988, N. NARUKAWA leg.; 3 exs., Mine, Tsushima Is., Nagasaki Pref., 9–VII–1988, N. NARUKAWA leg.; 2 exs., Sasuna, Tsushima Is., Nagasaki Pref., 9–VII–1988, N. NARUKAWA leg.

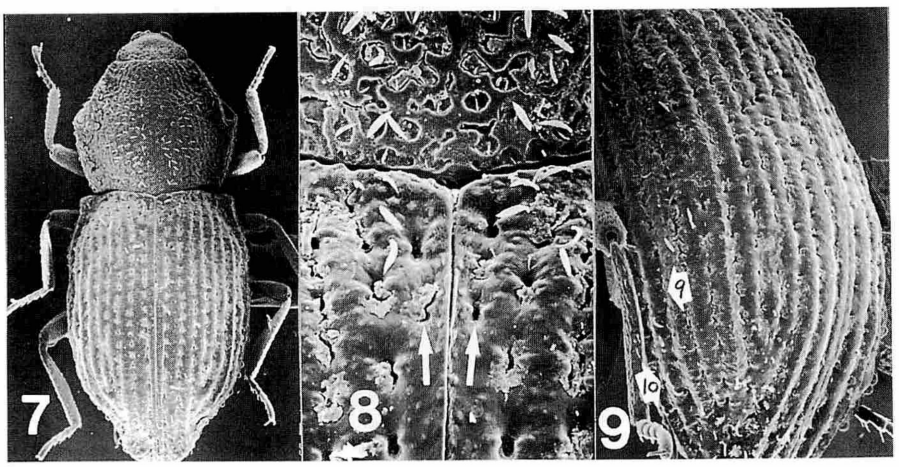
Distribution. Japan (Tsushima Is.).

Usechus ohdaiensis SASAJI, 1987

[Japanese name: Ohdai-yokomizo-kobu-gomimushidamashi]

(Figs. 7–9, 15)

Usechus ohdaiensis SASAJI, 1987, Mem. Fac. Educ., Fukui Univ., (2), (37): 52–54, fig. 13; type locality: Ohdaigahara, Nara Pref., Japan.



Figs. 7–9. *Usechus ohdaiensis* SASAJI. —— 7, Dorsal view; 8, elytra around scutellum (scutellar striole is indicated by arrows); 9, elytra in left dorso-lateral view (arrow 9 indicates 9th stria, arrow 10 indicates 10th stria).

Notes. Smallest of the Japanese species. The tubercles on the elytra are not developed, which can be regarded as a plesiomorphic state shown by this species.

Specimens examined. 1 ex., Mt. Ohdaigahara-zan, Yoshino, Nara Pref., 10–X–1984, N. NARUKAWA leg.; 1 ex., same locality, 6–VII–1985, N. NARUKAWA leg.; 3 exs., same locality, 3–IX–1988, M. SAITÔ leg.

Distribution. Japan (Kii Peninsula in Honshu).

Usechus sasajii M. SAITÔ, sp. nov.

[Japanese name: Miyama-yokomizo-kobu-gomimushidamashi]

(Figs. 10–15)

Description. Body oblong-oval, weakly convex on dorsum, flat on underside; surface rather sparsely covered with yellowish brown scale-like hairs which are shorter and denser on abdomen, antennae and legs than on dorsal surface of body. Body dark blackish brown; antennae, mouth parts and legs dark reddish brown.

Head small, usually retracted in pronotum, coarsely and roughly sculptured on surface; antennal sockets weakly carinate. Eyes large, flat, sharply incurved under front edge. Anterior margin of clypeus straight; fronto-clypeal furrow indistinct. Antennae stout, somewhat short, a half as long as pronotal width; 2nd segment as long as and stouter than 3rd; 3rd segment about 1.5 times as long as wide, longest of the segments from 3rd to 8th; 3rd to 8th shortening distally; 8th about 1.75 times as wide as long; 3 apical segments forming a very distinct club; 9th about 1.5 times as wide as and about 1.2 times as thick as 8th, slightly flatter than 10th; terminal segment strongly transverse oval. Terminal segment of maxillary palpus spindle-shaped with a narrowly

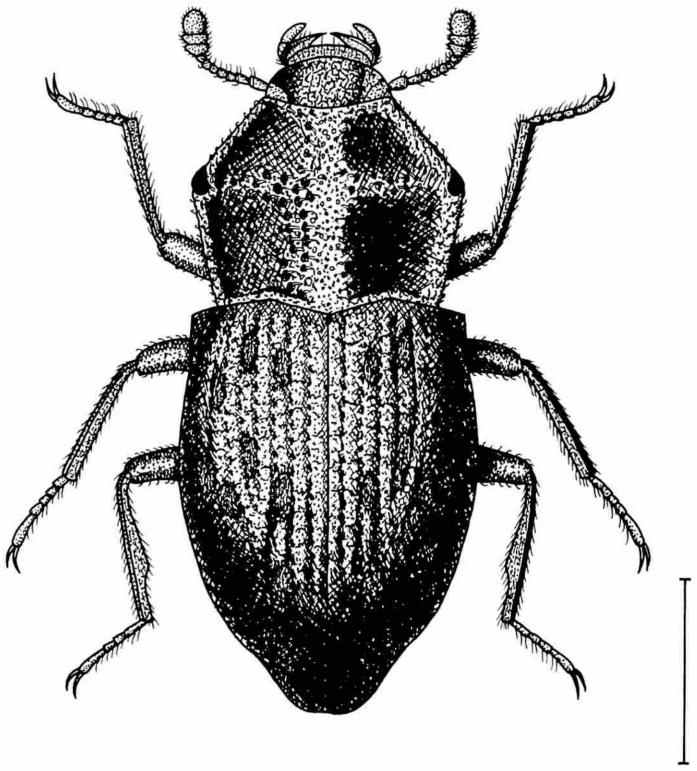


Fig. 10. *Usechus sasajii* M. SAITÔ, sp. nov., male in dorsal view (scale: 1.0 mm).

rounded tip, slightly outcurved at outer margin.

Pronotum hexagonal, about 1.2 times as wide as long, widest at middle; anterior margin slightly emarginate, indistinctly carinate; lateral margins strongly angulate at middle where the antennal grooves end, straightly narrowed posteriad and more strongly narrowed anteriad than posteriad; ridge of lateral sides distinctly carinate, with sublateral carina along the inner side of lateral carina; interval between lateral and sublateral carinae as wide as funicle of antenna in the area along the antennal grooves; basal margin strongly sinuate, indistinctly carinate, about 1.8 times as wide as anterior marginal width; hind angles obtuse. Surface of pronotum coarsely and setiferously punctate, central longitudinal area and lateral depressions impunctate but coarsely sculptured; each lateral side with a wide depression which is interrupted at middle; basal margin weakly grooved and sometimes with feeble depression at the middle. Scutellum invisible.

Elytra oval, slightly more convex than pronotum, widest a little before the middle of elytral length; humeral area strongly depressed and adjoining lateral depression of pronotum; basal margin strongly bisinuate, corresponding to basal margin of pronotum; humeral corners obtusely but distinctly angulate; lateral margins weakly arcuate,

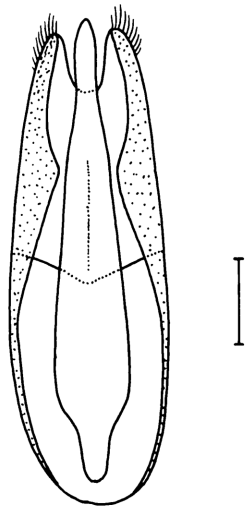


Fig. 11. *Usechus sasajii* M. SAITÔ, sp. nov., male genitalia in dorsal view (scale: 0.1 mm).

and strongly and arcuately narrowed posteriad from the basal three-fourths of sutural length; apices roundly produced; ten punctate striae (partly joining) present on each elytron, interstices between striae elevated with several tubercles, but without scutellar striole, 10th interstice vanished in anterior half because the 9th stria is united with 10th stria at middle.

Prosternal process with depressions along lateral sides, the depressions slightly weaker than in the other Japanese species, and without keel at the center of the tip.

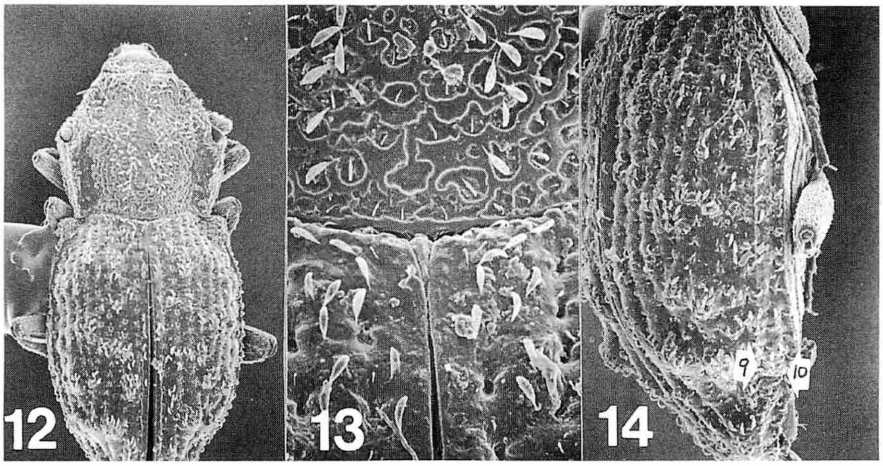
Aedeagus as shown in Fig. 11.

Length: 3.0–3.9 mm (3.4 in the holotype).

Type series. Holotype: Mts. Hohwoh-san, Nirasaki-shi, Yamanashi Pref., 12–VIII–1992, M. SAITÔ leg. Paratypes: 5 exs., same data as the holotype; 2 exs., same locality, 3–VI–1991, K. HOSODA leg.; 3 exs., same locality, 12–VII–1992, M. SAITÔ leg.; 4 exs., same locality, 25–VII–1992, M. SAITÔ leg.; 1 ex., same locality, 27–VII–1993, K. HOSODA leg.; 3 exs., same locality, 13–VIII–1993, M. SAITÔ leg.; 5 exs., same locality, 27–VII–1996, M. SAITÔ leg.; 5 exs., near Pass Mugikusa-tôge, Chino-shi, Nagano Pref., 28–VIII–1988, K. EMOTO leg.; 2 exs., same locality, 29–VII–1989, K. EMOTO leg.; 4 exs., Pass Mugikusa-tôge, Chino-shi, Nagano Pref., 29–VII–1996, M. SAITÔ leg.; 1 ex., Pass Ohdarumi-tôge, Makioka-cho, Yamanashi Pref., 23–VII–1991, K. AKITA leg.; 5 exs., Mt. Senjo-dake, Yabusawa-mura, Nagano Pref., 28–VII–1991, K. AKITA leg.; 1 ex., Pass Kitazawa-tôge, Hase-mura, Nagano Pref., 21–VII–1992, K. AKITA leg.; 1 ex., Mt. Ontake-san, Ohtaki-mura, Nagano Pref., 24–VII–1994, K. AKITA leg.

The holotype is preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Distribution. Japan (Honshu).



Figs. 12–14. *Usechus sasajii* M. SAITÔ, sp. nov. —— 12, Dorsal view; 13, elytra around scutellum; 14, elytra in right dorso-lateral view (arrow 9 indicates 9th stria, arrow 10 indicates 10th stria).

Notes. The present new species somewhat resembles the other members of the genus *Usechus* from Japan, but can be distinguished by the interval between lateral and sublateral carinae as wide as funicle of antenna in the area along the antennal grooves, the elytron with a vanished 10th interstice in the anterior half through the fusion of 9th stria with the 10th stria at the middle, and without scutellar striole. No distinguishing characters are found in the the aedeagus of the species. This new species can be collected from dead coniferous trees on high mountains. It was named after Prof. Hiroyuki SASAJI, Fukui University, under whose supervision I have learned about beetles. The Japanese name is proposed by SASAJI (1988).

Key to the Japanese Species of the Genus *Usechus*

1. Elytra with 10th interval vanished on the anterior half through fusion of 9th stria with the 10th at middle, and without scutellar striole. . . . . *U. sasajii* M. SAITÔ, sp. nov.
— Elytra with complete 10th interval, and with short scutellar striole. 2
2. Elytra without distinct tubercle. . . . . *U. ohdaiensis* SASAJI
— Elytra with several distinct tubercles. 3
3. Prosternal process without keel at the center of the tip. Basal margin of pronotum as wide as or narrower than the length of pronotum. . . . . *U. chujoi* KULZER
— Prosternal process with a keel at the center. Basal margin of pronotum distinctly wider than the length of pronotum. . . . . *U. tsushimensis* H. KAMIYA

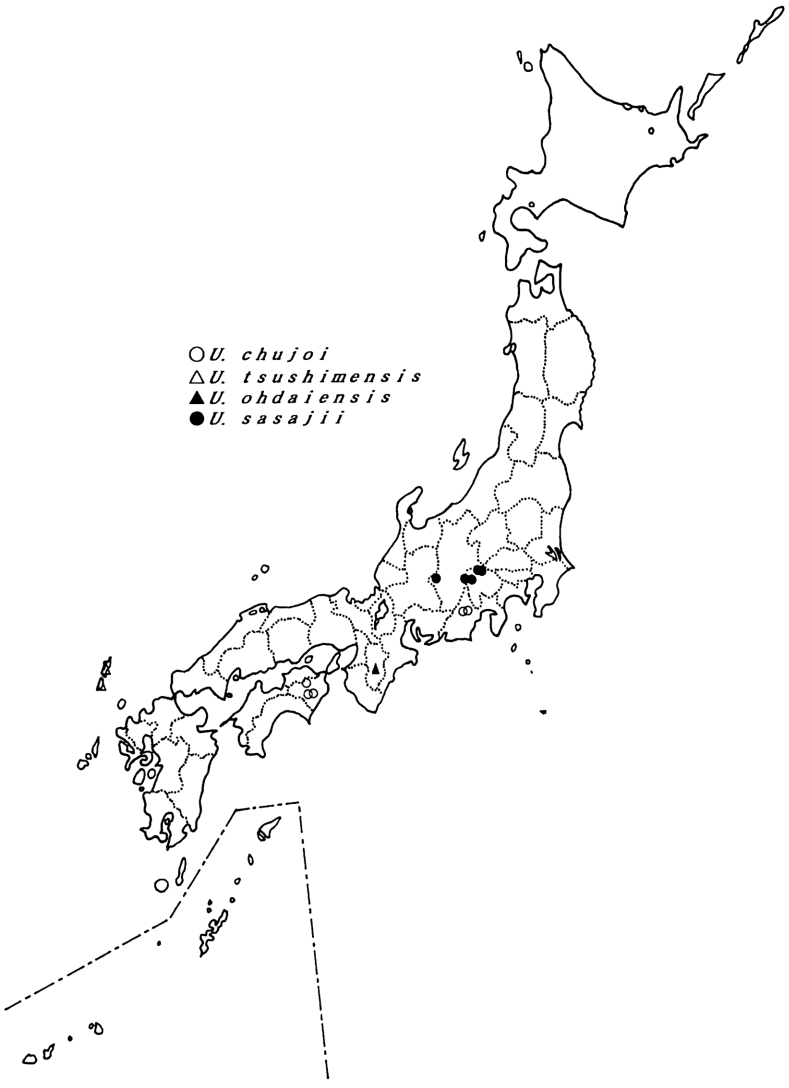


Fig. 15. Collecting sites of *Usechus* spp. in Japan.

要　　約

斎藤昌弘:日本産ヨコミゾコブゴミムシダマシ属について．—— 日本のヨコミゾコブゴミムシダマシ属には従来3種が知られている．今回，ヨコミゾコブゴミムシダマシ*U. chujoi* KULZER の本州産集団と四国産集団を比較調査したところ，本州低地に分布する集団は基準産地である四国産集団と同種であり，一方，本州中部高地に分布する集団は別種であると判断された．それで，後者をミヤマヨコミゾコブゴミムシダマシ*U. sasajii* M. SAITÔ として記載した．さらに本属に含まれる日本産の種について検索表を示した．

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Elytra, Tokyo, **27** (1): 111–112, May 15, 1999

Notes on the Distribution of *Paracyathiger fujiyamai* (KUBOTA) (Coleoptera, Staphylinidae, Pselaphinae)

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Paracyathiger fujiyamai (KUBOTA) belonging to the tribe Cyathigerini was described from Honshu, Japan, and also recorded from South Korea by NOMURA and LEE (1993). As to the distribution of this species in Shikoku, TANOKUCHI (1979) suggested it without exact data. Later, YAMAMOTO (1993) reported it from Mt. Odamiyama, Ehime Pref. in a newsletter. In the present report, I am going to add a record from Shikoku, and also to record this species for the first time from Beijin, China and the Ryukyus, Southwest Japan.

Paracyathiger fujiyamai (KUBOTA)

Cyathiger fujiyamai KUBOTA, 1943, Trans. Kansai ent. Soc., **9**: 7–8.

Paracyathiger fujiyamai: JEANNEL, 1958, Mém. Mus. Hist. nat., Paris, (A), **18**: 111 (see NOMURA & LEE, 1993, for other references).