

## Additions to the Japanese Fauna of the Subfamily Baridinae (Coleoptera, Curculionidae)

### I. Discovery of the Genus *Lophobaris*

Kazumi YOSHIHARA<sup>1)</sup> and Hiraku YOSHITAKE<sup>2)</sup>

<sup>1)</sup> 3–18–102, Tsushima-fukui 2-chôme, Kita-ku, Okayama, 700–0080 Japan

<sup>2)</sup> Kyushu Okinawa Agricultural Research Center (Itoman residence), NARO,  
820 Makabe, Itoman, Okinawa, 901–0336 Japan

**Abstract** An Oriental baridine, *Lophobaris philippina* HELLER, 1929, is newly recorded from Tokunoshima Island in the central Ryukyus, as the first representative of the genus in Japan. Adults were collected from *Piper kadsura* (Piperaceae) climbing tree trunks, suggesting an association of the weevil with that plant.

### Introduction

Presently, the Japanese fauna of the subfamily Baridinae consists of 23 genera, 53 species and one subspecies (YOSHIHARA, 2016). In September 2017, the second author and Mr. Naomichi TSUJI discovered a species of unusual appearance obviously new to the Japanese fauna. It was collected from *Piper kadsura* (Piperaceae) on Tokunoshima Island in the Ryukyus, southwestern Japan.

After close examination, we recognized the species as *Lophobaris philippina* HELLER, 1929. *Lophobaris* was established by MARSHALL (1927) for a single new species, *L. serratipes*, from Java and Malaya. HELLER (1929) added three more species from the Philippines, i.e. *L. philippina*, *L. intermedia* and *L. manoba*, and provided a key to all four species known by then. MARSHALL (1930) added a fifth species, *L. piperis*, from Sumatra and Java. *Lophobaris serratipes* was bred from pepper seeds (MARSHALL, 1927), and *L. piperis* is known to be injurious to pepper as a stem borer (MARSHALL, 1930; VECHT, 1940). SUPRAPTO (1986) found *L. piperis* to be oligophagous on at least seven pepper species in Indonesia. Biological information about the three species described by HELLER (1929) has not been reported. In addition, there are two undescribed species from Taiwan and Thailand (MORIMOTO & YOSHIHARA, 1996).

In this paper, we record *L. philippina* for the first time from Japan, as the first representative of the genus from the country. In addition, we describe our specimens in detail, including the male genitalia, to promote future studies.

### Material and Methods

This study was based on specimens preserved in the Institute for Agro-Environmental Sciences, NARO, Tsukuba (NIAES) and Kyushu University Museum, Fukuoka (KUM).

Photographs of dorsal and lateral habitus were taken with a Pentax K-3 II digital camera equipped with macro-photographic lens (LAOWA 60 mm F2.8 2 × Ultra Macro) and extension tube (Pentax Helicoid Extension Tube K). Each final image was assembled from a series of photographs with different focal planes, using the imaging software CombineZP (HADLEY, 2010). Body length was

measured between the anterior margin of pronotum and apices of closed elytra, while body width was measured as the maximum width across elytra. The methods used for dissections and drawings of male genitalia were explained in YOSHITAKE (2015). Plant nomenclature follows YONEKURA and KAJITA (2003–).

### New Record from Japan and Description of Japanese Specimens

#### *Lophobaris philippina* HELLER, 1929

[Japanese name: Fûtôkazura-hime-zômushi]

(Figs. 1–8)

*Lophobaris philippina* HELLER, 1929: 14 (type locality: Philippines, Luzon, “in montibus Makiling et Banahao”). — HUSTACHE, 1938: 95 (cataloged).

Length: 3.2–3.4 mm (male); 3.4–3.6 mm (female). Width: 1.7–1.8 mm (male); 1.9–2.0 mm (female). Habitus as shown in Figs. 1 & 2.

**Male.** Body oval. Integument dull black; antennae, femora and tibiae dark reddish brown; rostrum moderately shiny; dorsal surface of body with yellowish gray and blackish scales nearly all over.

Head finely punctured. Rostrum sharply separated from head by deep depression, as long as head and pronotum combined, evenly and weakly curved throughout; dorsal and lateral surfaces with minute punctures, covered with yellowish gray scales dorsally at base. Antennae inserted at apical 1/4 of rostrum, scape not reaching eye, funicle with 1st segment a little longer than 2nd, 2nd twice as long as 3rd, 3rd to 7th subequal in length and successively dilated distally, club as long as 3rd to 7th funicular segments combined.

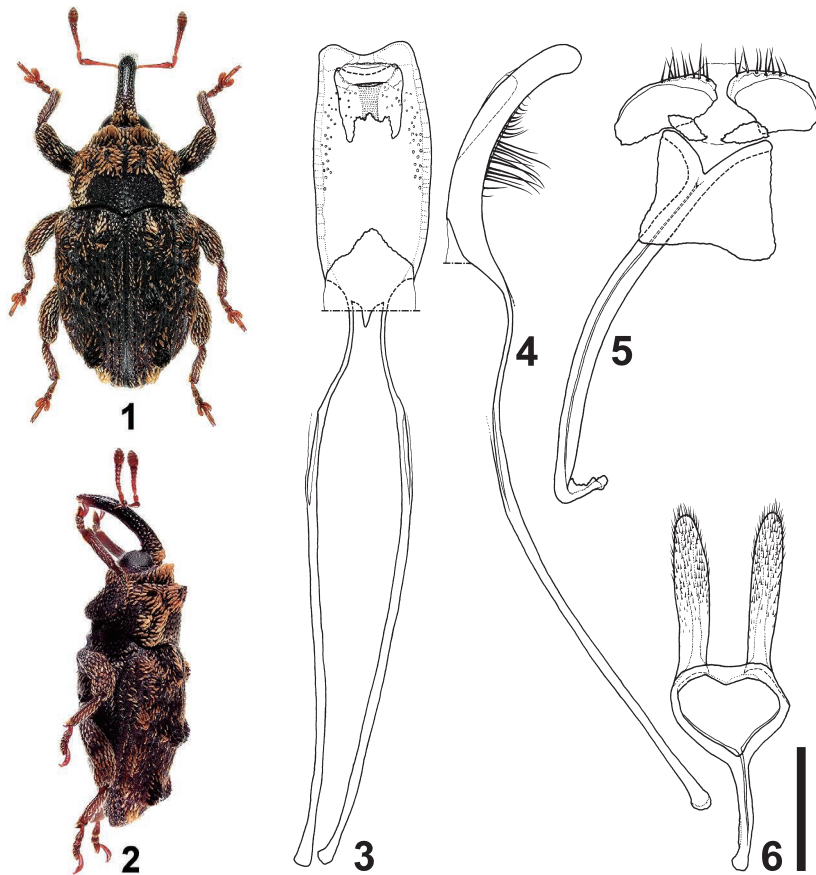
Pronotum transverse, ca 1.3 times as wide as long, widest at basal 3/10; sides slightly curved from base to apical 2/5, then abruptly and strongly straightened to subapical constriction; basal margin bisinuate; apical margin shallowly sinuate at middle; disk flat in profile, with two pairs of tufts of dense scales in apical half, one in middle and the other on sides, each composed centrally of suberect black scales and peripherally of yellowish scales; apical margin with pair of dense suberect yellowish scales in middle; lateral surface of pronotum with dense yellowish scales; basal half of pronotum with large elliptic glabrous area.

Scutellum moderately large, circular.

Elytra ca 1.3 times as long as wide and ca 2.0 times as long as pronotum, each with the following six scaly tufts: 1) small basal tuft of suberect yellowish and blackish scales on 3rd interval, 2) larger median tuft of erect blackish scales on 3rd interval, 3) large subapical tuft of erect blackish scales between 4th and 5th intervals, 4) small apical tuft of short suberect yellowish scales between 3rd and 5th intervals, and 5) small sublateral tuft of short suberect blackish scales on 7th interval just behind humeri, and 6) small lateral tuft of short suberect blackish scales on 9th interval behind humeri; sides subparallel between humeri and middle, gently narrowed posteriorly; striae narrow, each with row of punctures; intervals flat, a little broadened at scaly tufts, with irregular row of much smaller yellowish scales.

Legs with femora denticulate, with small tooth and one or two indistinct minute teeth beyond middle of ventral surface; tibiae only weakly angulate near base; claws free.

Pygidium transversely subpentagonal, with lower margin arched upward. Prosternum coarsely punctured, with relatively shallow median sulcus from apical margin to apical 1/3 of fore coxae, flat



Figs. 1–6. Habitus and male genitalia of *Lophobaris philippina* HELLER. — 1–2, Female habitus; 3–6, male genitalia. — 1, Dorsal habitus; 2, lateral habitus; 3, aedeagus in dorsal view; 4, ditto in lateral view; 5, sternite IX in dorsal view; 6, tegmen in dorsal view. Scale bar: 0.25 mm for 3–6.

in basal 1/3, projections absent. Meso- and metathoraces coarsely punctured; metasternum flat on disc. Venter with basal two ventrites flattish on disc; 5th ventrite roundly projected at middle of apical margin.

Genitalia as shown in Figs. 3–6.

**F e m a l e.** Similar to male but rostrum longer, slenderer and more shiny; antennae inserted at apical 1/3 of rostrum; pygidium smaller, with lower margin shallowly arched downward; basal two ventrites slightly inflated; median projection of apical margin of 5th ventrite vestigial.

**Specimens examined.** Japan: 2 males and 2 females, Amami Isls., Tokunoshima Is., Tokunoshima-chô, Kametsu, Hagedake-rindô, 17.IX.2017, H. YOSHITAKE leg. (NIAES); 1 female, same locality and date, N. TSUJI leg. (KUM).

**Distribution.** Japan: the Ryukyus (Amami Isls.: Tokunoshima Island) — new record; Philippines (southern Luzon: Mt. Banahaw and Mt. Makiling).

**Biology.** The examined specimens were collected from *Piper kadsura* (Piperaceae) climbing tree trunks in a secondary evergreen broad-leaved forest (Figs. 7 & 8).



Figs. 7–8. Habitat and associated plant of *Lophobaris philippina* HELLER. — 7, Collecting site; 8, *Piper kadsura* on a tree trunk, from which the weevil adults were collected.

*Remarks.* The original material at Senckenberg Naturhistorische Sammlungen Dresden was not examined by us. Identification was based on dorsal and lateral habitus images of one of the two syntypes provided by Dr. Jens PRENA. As the Ryukyuan population is rather isolated from the type locality, further morphological comparison with Philippine specimens including ventral structures and male genitalia is needed to confirm the taxonomic identity of the Japanese specimens.

### Acknowledgments

With sincere gratitude, we dedicate this paper to the late Dr. K. MORIMOTO. We wish to express our thanks to Dr. J. PRENA (Rostock, Germany) for his constructive comments on the draft, Mr. N. TSUJI (Kyushu University, Fukuoka) for assistance during YOSHITAKE's field survey, and to Dr. M. SAKAI (Ehime University, Matsuyama) for critically reading the draft of this paper. Our thanks are also due to Naoko NAKAHARA (Tsukuba) for her assistance while preparing the manuscript.

### 要 約

吉原一美・吉武 啓：日本産ヒメゾウムシ亜科（鞘翅目ゾウムシ科）への追加種。I. 日本における *Lophobaris* 属の発見。—— ヒメゾウムシ族 Baridini に属するコショウヒメゾウムシ属（和名新称）*Lophobaris* MARSHALL は、東洋区産 5 種から構成される小属であり、うち 2 種はコショウの害虫として知られている。これまで日本における本属の記録はなかったが、今回、中琉球の徳之島から発見されたフウトウカズラヒメゾウムシ（和名新称）*Lophobaris philippina* HELLER, 1929 を日本初記録種として報告した。また、原記載文以外に本種の形態情報がなかったことから、日本産の標本に基づいて形態記載を行うとともに雄交尾器を図示した。なお、全検視標本がフウトウカズラ（コショウ科）から得られていることから、本種はこの植物を食草としている可能性が高いと思われる。

## References

- HADLEY, A., 2010. CombineZP [freeware]. Available from: <https://combinezp.software.informer.com/> (downloaded on February 2019).
- HELLER, K. M., 1929. Neue Rüsselkäfer von den Philippinen und von Borneo nebst einem Verzeichnis entomologischer Sammler und Sammelplätze auf den Philippinen. *Abhandlungen und Berichte der Museen für Tierkunde und Völkerkunde zu Dresden, Leipzig und Berlin*, **17** (3): 1–22.
- HUSTACHE, M. A., 1938. Curculionidae Barinae. In SCHENKLING, S. (ed.), *Coleopterorum Catalogus*, 30 (163). 219 pp. W. Junk, Berlin.
- MARSHALL, G. A. K., 1927. New injurious Curculionidae (Col.). *Bulletin of Entomological Research, London*, **17**: 199–218 + 1 pl.
- MARSHALL, G. A. K., 1930. New Curculionidae, with notes on synonymy. *Annals and Magazine of Natural History, London*, (10) **6**: 551–577.
- MORIMOTO, K., & K. YOSHIHARA, 1996. On the genera of the Oriental Baridinae (Coleoptera, Curculionidae). *Esakia, Fukuoka*, (36): 1–59.
- SUPRAPTO, 1986. Host range for the stem borer of pepper (*Lophobaris piperis* MARSH). *Pemberitaan Penelitian Tanaman Industri, Bogor*, **12** (1–2): 1–11. (In Indonesian, with English title & summary.)
- VECHT, J. VAN DER, 1940. De kleine pepersnuitkever (*Lophobaris piperis* MARSH.). *Mededeelingen van het Algemeen Proefstation voor den Landbouw, Batavia*, **16**: 323–366.
- YONEKURA, K., & T. KAJITA, 2003–. BG Plants Japanese–Scientific Name Index (YList) [online]. Available from: <http://ylist.info> (accessed on 29 February 2020).
- YOSHIHARA, K., 2016. Coleoptera, Curculionidae, Baridinae. *The Insects of Japan*, **6**. 171 pp. Touka Shobo, Fukuoka. (In English & Japanese.)
- YOSHITAKE, H., 2015. A new *Hainokisaruzo* (Coleoptera: Curculionidae) discovered from a Taiwan beech forest in Mt. Taipingshan, Taiwan. *Japanese Journal of Systematic Entomology, Matsuyama*, **21**: 235–239.

Manuscript received 29 February 2020;  
revised and accepted 5 April 2020.