

First record of the genus *Japanolaccophilus* Satô (Coleoptera: Dytiscidae) in Korea

Joong Youb Kim¹, Dae Hyun Lee² and Jong Eun Lee^{3,*}

¹Research Center for Endangered Species, National Institute of Ecology, Yeongyang 36531, Republic of Korea

²DASARI Research Institute of BioResources, Daejeon 35203, Republic of Korea

³Department of Biological Science, Andong National University, Andong 36729, Republic of Korea

*Correspondent: jelee@anu.ac.kr

The genus *Japanolaccophilus* Satô in small groups belonging to the subfamily Laccophilinae of the family Dytiscidae. However, members of this group have not been recorded in the Korea. The genus *Japanolaccophilus* Satô is characterized by the following features: suture between elytron and epipleuron visible dorsally, posterior angles of pronotum rounded, posterior margin of pronotum nearly straight, and posterior part of prosternal process triangula and with single tip in middle. We collected specimens from the edge of Osip Stream and identified the species of *Japanolaccophilus niponensis* (Kamiya, 1939) for the first time based on male genitalia. A habitus photograph, a description, illustrations of the aedeagus and information of habitat are provided.

Keywords: Coleoptera, Dytiscidae, *Japanolaccophilus niponensis*, Korea, taxonomy

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INTRODUCTION

The subfamily Laccophilinae is the third largest subfamily with in the Dytiscidae and comprises two tribes Agabetini and Laccophilini, containing two and 479 species, respectively (Nilsson and Hájek, 2019). In Palaearctic region, the tribe Laccophilini is only recorded. The genus *Japanolaccophilus* contains two described species with extinct †*J. beatificus* Balke & Hendrich worldwide (Balke and Hendrich, 2019). In East Asia, a single species *J. niponensis* is reported in Japan (Satô, 1972; Miller and Bergsten, 2016).

Members of *Japanolaccophilus* are characterized by combination of the following features: suture between elytron and epipleuron visible dorsally, posterior angles of pronotum rounded, posterior margin of pronotum nearly straight, and posterior part of prosternal process triangula and with single tip in middle (Balke and Hendrich, 2019).

In this paper, we report the genus and species [*J. niponensis* (Kamiya, 1939)] for the first time in Korea. We also provide a description, habitus photograph, illustrations of aedeagus and information of habitat.

MATERIALS AND METHODS

Adult specimens were collected using a scoop net

(mesh: 1 mm) at the edge of flowing water. After collection, samples were preserved in 95% ethanol and sorted by taxa, including the family Dytiscidae. The specimens used in this study are deposited in DASARI Research Institute of BioResources, Daejeon, Korea. Habitus photograph was prepared based on our former study (Lee and Ahn, 2015). The terms and measurements of specimens mainly followed Roughley and Larson (2001) and Balke (2005).

TAXONOMIC ACCOUNTS

Family Dytiscidae Leach, 1815 물방개과
Subfamily Laccophilinae Gistel, 1856
깨알물방개아과

Genus *Japanolaccophilus* Satô, 1972
방울물방개속 (신칭)

Japanolaccophilus Satô, 1972: 57. Type species: *Neptosternus niponensis*

***Japanolaccophilus niponensis* (Kamiya, 1939)**

방울물방개 (신칭) (Fig. 1)

Neptosternus niponensis Kamiya, 1939: 32

Japanolaccophilus niponensis Satô, 1972: 57

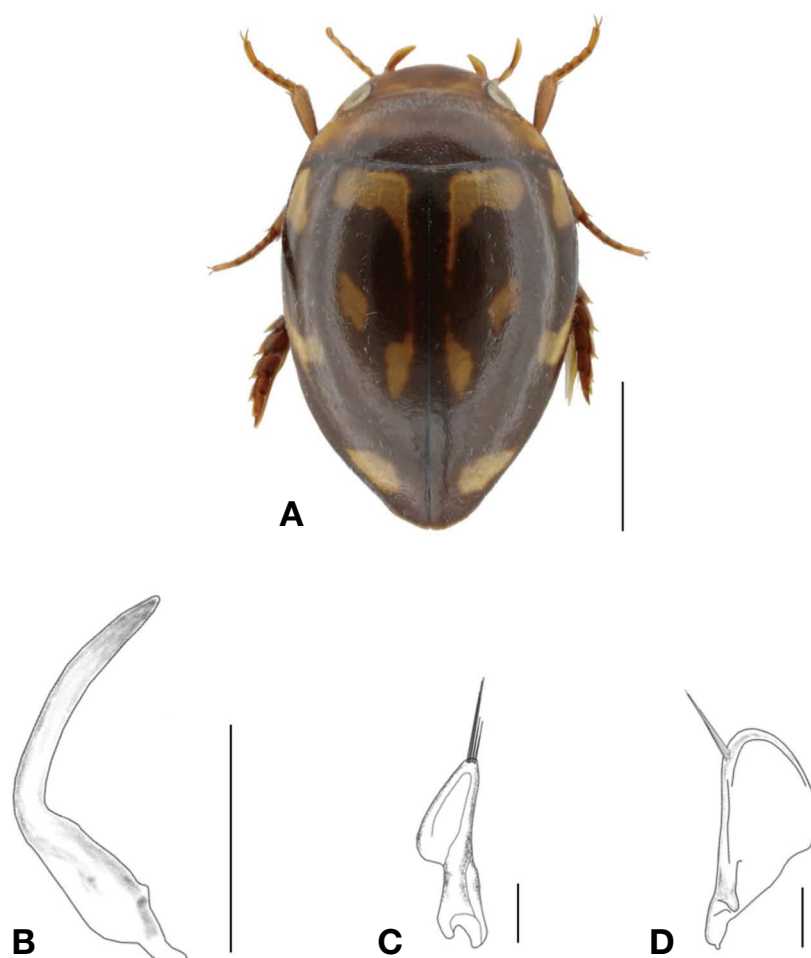


Fig. 1. *Japanolaccophilus niponensis* (Kamiya, 1939) A, habitus (dorsal aspect); B, median lobe (lateral aspect); C, left paramere (dorsal aspect); D, right paramere (dorsal aspect). Scales: 1 mm (A), 0.5 mm (B), 0.1 mm (C, D).

Description. Length. 3.0–3.2 mm. Body oval, reverse drop-shaped, shiny, strongly convex (Fig. 1A).

Color: Head yellow with black band on posterior margin; pronotum yellow with black bands on anterior and posterior margin; elytra dark brown with yellow markings; ventral surface yellow to brown.

Head: semicircular, about two times longer than wide. Clypeus transverse; anterior margin few setae present. Antennae long and slender; antennomere 1 shortest, 2–10 slightly apically and longer than wide, 11 long oval. Labrum transverse; anterior margin rounded and antero-medial part emarginate. Maxillary palpomere 1 broad apically, shortest; setae on subapical part; 2 broad apically, with setae on subapical part, 4 longest, 2.0 times as long as 3. Labial palpomere 1 broad apically, shortest; 2 and 3 about 3.0 times as long as 1.

Thorax: Pronotum broad trapezoidal, about 3.0 times as wide as long, widest at posterior corners, lateral margin few setae present; anterior margin round; anterior

corner slightly acute; lateral margins rounded; posterior corner rounded; posterior margin transverse V-shaped. Elytron widest at middle, slightly wider than pronotum. Prosternum transverse. Prosternal process long and straight, convex medially; posterior part acuminate, slightly convex, with thin lateral bead, apex acute. Procoxa rounded. Protrochanter subtriangular, with sparse setae on ventral part. Profemur with a row of spines on baso-dorsal part. Protibia with short spines, with a row of setae on dorsal part. Protarsomer 1 about 1.5 times as long as 2; 3 as long as 2; 4 slightly longer than 3; 5 about 1.5 times as long as 4. Protarsal claws shorter than tarsomere 5. Mesocoxa rounded. Mesotrochanter triangular, with sparse setae on ventral part. Mesofemur with a row of short spines on baso-ventral part. Mesotibia with short spines. Mesotibia shorter than femur, with short spines, with a row of setae on dorsal part. Mesotarsomer 1 slightly longer than 2; 3 as long as 2; 4 slightly longer than 3; 5 about 2.0 times as long as 4. Metacox-

al apex reversed V-shaped. Metatrochanter triangular. Metafemur as long as tibia. Metatibia with short spines. Metatarsomere 1 longest, 1.2 times as long as 2; 2 as long as 3; 4 slightly shorter than 3; 5 as long as 4. Metatarsal claw slightly shorter than tarsomere 5.

Abdomen: Sternite VI with few setae on medial part. Sternite VII semicircular with sparse setae on median and posterior part. Median lobe of aedeagus long and slender, widest at base, strongly curved at middle (Fig. 1B). Paramere asymmetrical (Fig. 1C, 1D). Right paramere slightly squamous, with a seta near apex (Fig. 1D). Left paramere crescentiform, with a seta apex (Fig. 1C).

Material examined. KOREA: 3♂ 6♀, Musa-ri, Miro-myeon, Samcheok-si, Gangwon-do, Korea (N37°25'5.09" E129° 07'7.05"; 2 VI 2021; 2♂ 1♀, same data as former except for VIII 2021; 3♂ 3♀, same data as former except for 1 VI 2022.

Habitat. The specimens were collected in Osip Stream. The mainly habitats are found under boulder at the edge of running water and at roots of *Salix* sp.

Distribution. Korea (new record), Japan.

CONFLICTS OF INTEREST

The author of this paper has no affiliation with any interests and is solely responsible for the paper.

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