

Two Ciidae (Coleoptera: Tenebrionoidea) Species New to South Korea

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ABSTRACT

The family Ciidae, commonly known as minute tree-fungus beetles, encompasses approximately 640 species distributed among 43 genera, classified into two subfamilies (Ciinae and Sphidociinae). In South Korea, total 13 species in five genera are known: *Cis boleti* (Scopoli), *C. hieroglyphicus* Reitter, *C. jezoensis* Nobuchi, *C. mikagensis* Nobuchi & Wada, *C. sasajii* Kawanabe, *C. seriatopilus* Motschulsky, *Ennearthron chujoi* Nakane & Nobuchi, *E. ishiharai* Miyatake, *E. robusticorne* Kawanabe, *Neoenearthron bicarinatum* Miyatake, *Octotemnus japonicus* Miyatake, *O. laminifrons* (Motschulsky), and *Xylographus scheerpeltzi* Nobuchi. In this study, two Ciidae species, *Cis japonicus* Nobuchi, 1955 and *Orthocis nigrosplendidus* (Nobuchi, 1955), are reported for the first time in the Korean Peninsula. Diagnoses of two species, habitus photographs of adult and male genitalia are provided.

Keywords: taxonomy, minute tree-fungus beetle, Ciidae, new record, Korea

INTRODUCTION

The family Ciidae, commonly known as minute tree-fungus beetles, consists of approximately 640 species distributed among 43 genera, further classified into two subfamilies known as Ciinae and Sphidociinae (Lawrence and Lopes-Andere, 2010). The former subfamily comprises nearly all species of the family worldwide, while the latter contains only a single species, *Sphindocis dneticollis* Fall, which is confined to the coastal region of northern and central California. In South Korea, the family Ciidae was first reported by Jung (2010) when she collected two *Octotemnus* species from fungi on decaying trees. As of now, a total of 13 species in five genera are known to date (National Institute of Biological Resources, 2019; Hong, 2021; Jung and Seung, 2023): *Cis boleti* (Scopoli), *C. hieroglyphicus* Reitter, *C. jezoensis* Nobuchi, *C. mikagensis* Nobuchi & Wada, *C. sasajii* Kawanabe, *C. seriatopilus* Motschulsky, *Ennearthron chujoi* Nakane & Nobuchi, *E. ishiharai* Miyatake, *E. robusticorne* Kawanabe, *Neoenearthron bicarinatum* Miyatake, *Octotemnus japonicus* Miyatake, *O. laminifrons* (Motschulsky), and *Xylographus scheerpeltzi* Nobuchi.

During our investigation of fungivorous beetles in South Korea, we identified two previously unrecorded Ciidae species, *Cis japonicus* Nobuchi and *Orthocis nigrosplendidus* (Nobuchi). In this paper, we newly add these two species to the Korean fauna, along with habitus photographs and diagnostic character illustrations.

The specimens of both *C. japonicus* and *O. nigrosplendidus* used in this study are deposited in the National Institute of Biological Resources, Incheon, Korea (NIBR), and others are deposited in the insect collection of DASARI Research Institute of BioResources (DRIBR).

SYSTEMATIC ACCOUNTS

Order Coleoptera Linnaeus, 1758

Superfamily Tenebrionoidea Latreille, 1802

Family Ciidae Leach, 1819

¹**Cis japonicus* Nobuchi, 1955 (Fig. 1)

Cis (*Hadraule*) *japonicus* Nobuchi, 1955a: 57.

Cis japonicus Kurosawa et al., 1985: 282.

Korean name: ¹*애기버섯벌레 (신칭)

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Fig. 1. Habitus of *Cis japonicus* Nobuchi (dorsal aspect, 3.2 mm).

Material examined. South Korea: 1 ex., Gyeonggi Prov.: Pocheon-si, Gwanin-myeon, Jung-ri, 38°05'57.96"N, 127°11'29.54"E, 203 m, 3 Nov 2019, Lee SG, Lee SY, *ex fungus* on log (NIBR, VLYVIN0000010014).

Diagnosis. Body length about 3.2 mm; body (Fig. 1) elongate-oval, cylindrical and parallel-sided, about 2.15 times as long as wide, dorsal surface slightly glossy with fine and small punctures each bearing relatively long and distinct seta; body reddish black, antennae and legs brighter and reddish yellow. Head subquadrate, widest across eyes distinctly prominent laterally. Antenna about as long as head width; antennomeres 1–4 elongate, 1 large and swollen, 3 distinctly elongate, 4 slightly shorter than 3, 5–6 subquadrate, 7 transverse, 8–10 clubbed, 8–9 subquadrate, 10 longer than 9 and shorter than preceding two combined. Pronotum more or less dilated apically, about 1.3 times as wide as long, widest near base; lateral margin slightly arcuate; surface slightly glossy with large and fine punctures. Elytra about as wide as pronotum, widest near middle; elytron about 2.7 times as long as wide, surface slightly glossy with large and distinct punctures.

Distribution. South Korea (new record), Japan.

Remarks. This species is very similar to *Cis seriatopilosus* Motschulsky but can be distinguished by larger body (less than 3.0 mm in *C. seriatopilosus*); head and pronotum with large



Fig. 2. Habitus of *Orthocis nigrosplendidus* (Nobuchi) (dorsal aspect, 2.2 mm).

punctures (head and pronotum with small punctures in *C. seriatopilosus*). The only one Korean specimen was collected from fungus (*Trametes versicolor*) on log with many adults of *Cis boleti* (Scopoli).

¹**Orthocis nigrosplendidus* (Nobuchi, 1955)

(Figs. 2, 3A–F)

Cis (*Cis*) *nigrosplendidus* Nobuchi, 1955b: 105.

Orthocis nigrosplendidus: Lawrence, 1971: 484; Jelínek, 2008: 61.

Material examined. South Korea: Gangwon Prov.: 2 exx., Inje-gun, Girin-myeon, Jindong-ri, 38°02'19.2"N, 128°28'20.7"E, 728 m, 15 Aug 2011, Lee SG, Lee DH, light trap (DRIBR); ♂, ditto but deposited in NIBR (EOWQIN0000013459).

Diagnosis. Length about 2.2–2.5 mm; body (Fig. 2) elongate-oval, about 2.2–2.4 times as long as wide, distinctly convex dorso-ventrally, dorsal surface distinctly glossy with fine and distinct punctures each bearing short and simple seta; body black, anterior and lateral margins of pronotum brighter and reddish black, antennomeres (Fig. 3A) 1–6 and all tarsi yellow.

Korean name: ¹*반짝애기버섯벌레 (신칭)

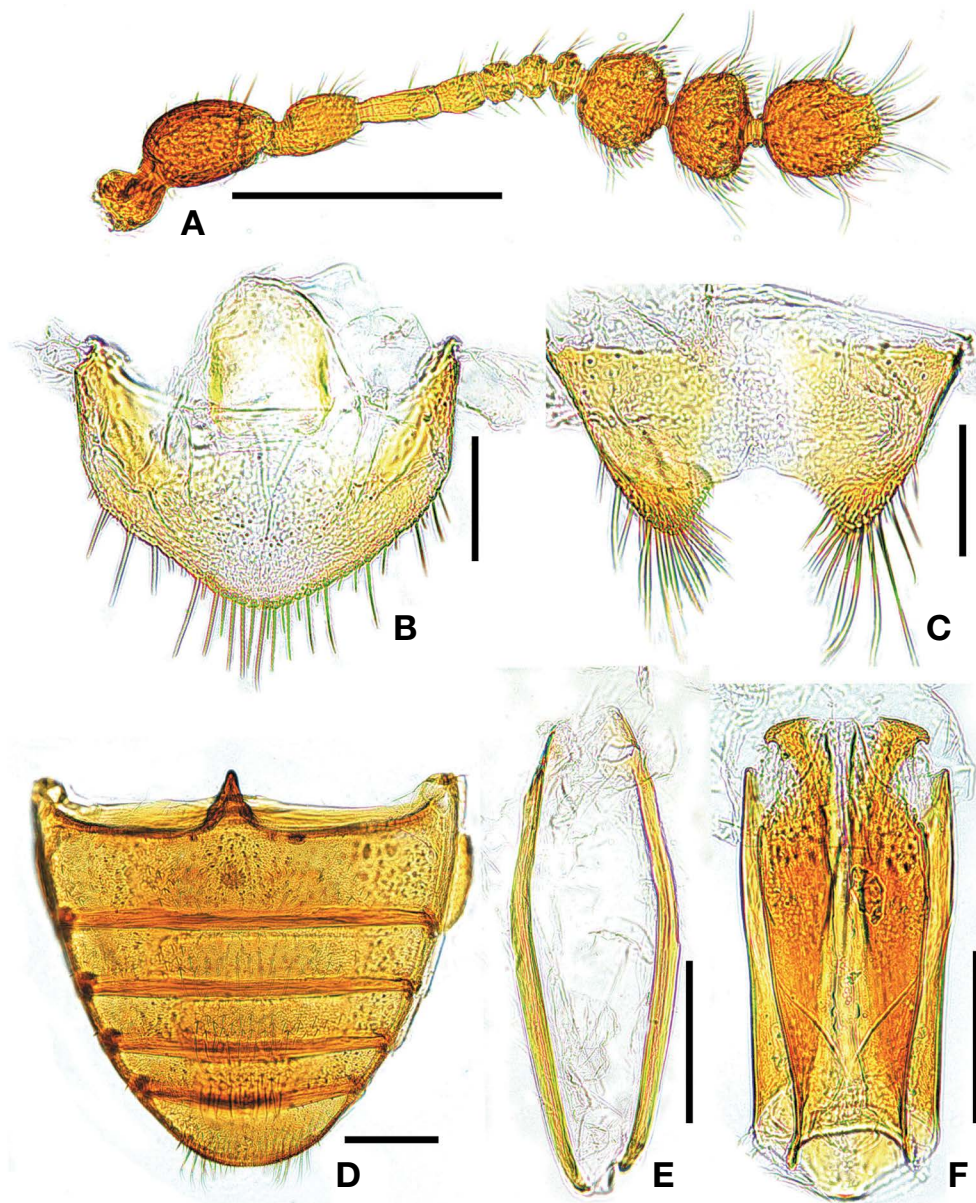


Fig. 3. *Orthocis nigrosplendidus* (Nobuchi): A, Antenna; B, Male tergite VIII (dorsal aspect); C, Male ventrite VIII (ventral aspect); D, Abdominal ventrite I (ventral aspect); E, Male lateroventrite IX (dorsal aspect); F, Male genitalia (dorsal aspect). Scale bars: A-F= 0.2 mm.

lowish brown, antennomeres 7–10 darker than other parts, reddish black. Head subquadrate, widest across eyes, about 1.05–1.15 times as wide as long; eyes distinctly prominent laterally, shorter than temples. Antenna slightly longer than distance between eyes; antennomeres 1–4 elongate, 1 large and swollen, 2 rectangular, 3 distinctly elongate, 4 shorter than 3, 5–6 subquadrate, 7 distinctly transverse, 8–10 clubbed, 8–9 subquadrate, 10 slightly longer than 9 and shorter than preceding two combined. Pronotum more or less dilated

apically, about 1.25–1.40 times as wide as long, widest near base; lateral margin slightly arcuate. Elytra slightly wider than pronotum, widest near middle; elytron about 3.00–3.25 times as long as wide, surface distinctly glossy with fine punctures. Secondary sexual characters. Male abdominal ventrite I (Fig. 3D) with fovea in median region; posterior margin of male tergite VIII (Fig. 3B) convex and slightly round; posterior margin of male ventrite VIII (Fig. 3C) subtruncate. Male genitalia as in Fig. 3E and F.

Distribution. South Korea (new record), Japan.

Remarks. All specimens were collected using light trap at night.

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CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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