Journal of Asia-Pacific Biodiversity xxx (2017) 1–6

Contents lists available at ScienceDirect

Journal of Asia-Pacific Biodiversity

journal homepage: http://www.elsevier.com/locate/japb

Original article

A taxonomic note on the genus *Nehemitropia* Lohse in Korea with a redescription of *Nehemitropia milu* Likovský (Coleoptera: Staphylinidae: Aleocharinae)

Seung-Gyu Lee [1], Kee-Jeong Ahn [2,*]

[1] *Division of Forest Biodiversity, Korea National Arboretum, Pocheon, Republic of Korea*
[2] *Department of Biology, Chungnam National University, Daejeon, Republic of Korea*

ARTICLE INFO

Article history:
Received 3 February 2017
Received in revised form
6 March 2017
Accepted 30 March 2017
Available online xxx

Keywords:
Aleocharinae
Athetini
Korea
Coleoptera
Nehemitropia
Staphylinidae

ABSTRACT

A taxonomic study of Korean *Nehemitropia* Lohse is presented. Two species, *Nehemitropia lividipennis* (Mannerheim) and *Nehemitropia milu* Likovský, are recognized and the latter one is new to the Korean fauna. A key, habitus photographs, and illustrations of diagnostic characters are provided.

Introduction

The genus *Nehemitropia* Lohse, 1971, contains nine species worldwide including five Palaearctic species (Schülke and Smetana 2015) and most, seven species, were sequentially described by Pace (1984, 1987, 1992, 1993, 1998, 2009a, 2009b). In East Asia, four species and two species were reported in China and in Japan, respectively. One of them, *Nehemitropia lividipennis*, is the cosmopolitan species (Schülke and Smetana 2015). Kim et al (1994) reported only a single species as *Atheta sordida* (*N. lividipennis*) in Korea. Little is known of their biology, but some were collected from decaying vegetables and straw.

In this study we recognized two species, *N. lividipennis* (Mannerheim) and *Nehemitropia milu* Likovský, in the Korean Peninsula and one of them, *N. milu*, is new to the Korean fauna. This species was described as a subspecies of *N. lividipennis* by Likovský (1977), but later the species was described to species level (Pace 1992, 1993; Schülke and Smetana 2015; Smetana 2004). Here, we present a redescription with illustrations of diagnostic characters of *N. milu* and provide habitus photographs and a key to Korean species of *Nehemitropia*.

Material and methods

The North Korean species were examined by the first author in the Institute of Systematics and Evolution of Animals (ISEA), Kraków, Poland. All the other examined specimens are deposited in the Chungnam National University Insect Collection, Daejeon, Korea. Type and voucher specimens of *Nehemitropia* species were borrowed from the Field Museum of Natural History, Chicago, IL, USA, Museum für Naturkunde, Berlin, Germany, and the Natural History Museum, London, UK.

Systematic accounts

Genus *Nehemitropia* Lohse, 1971

Nehemitropia Lohse, 1971: 83. Type species: *Staphylinus sordidus* Marsham, 1802 = *Oxypoda lividipennis* Mannerheim, 1830.
Hemitropia Mulsant and Rey, 1873: 179. Type species: *Oxypoda melanaria* Mannerheim, 1830 = *O. lividipennis* Mannerheim, 1830.

Diagnosis. Members of the genus *Nehemitropia* can be distinguished from other athetine genera by combination of the

* Corresponding author. Tel.: +82 42 821 5492; fax: +82 42 822 9690.
E-mail address: kjahn@cnu.ac.kr (K.-J. Ahn).

Peer review under responsibility of National Science Museum of Korea (NSMK) and Korea National Arboretum (KNA).

http://dx.doi.org/10.1016/j.japb.2017.03.001

Please cite this article in press as: Lee S-G, Ahn K-J, A taxonomic note on the genus *Nehemitropia* Lohse in Korea with a redescription of *Nehemitropia milu* Likovský (Coleoptera: Staphylinidae: Aleocharinae), Journal of Asia-Pacific Biodiversity (2017), http://dx.doi.org/10.1016/j.japb.2017.03.001

following characters: body oxypodine shape (Figure 1), convex dorsoventrally; antennomeres compactly close together, antennomere 3 longer than 2 (Figure 2B); hypomera invisible in lateral aspect; pronotum dilated basally (Figure 2C); mesoventrite with longitudinal carina at middle (Figure 2F); abdomen narrowed apically (Figure 1); posterior margin of each abdominal tergites slightly crenate (Figure 3C); abdominal tergites II–III without anterior macrosetae; VII distinctly longer than VI; abdominal sternite VII with transverse bend composited miliary punctures (Figures 3A and 3B; Benick and Lohse 1974; Yosii and Sawada 1976).

Distribution. Worldwide.

Key to Korean species of the genus Nehemitropia

1. Midline of pronotal pubescence directed anteriorly from apical half to apex, directed posteriorly from base to basal half … *N. lividipennis*
-. Midline of pronotal pubescence directed posteriorly (Figure 2C) … *N. milu.*

***Nehemitropia lividipennis* Mannerheim, 1830** (Figure 1A)

O. lividipenni Mannerheim, 1830: 70.
O. melanaria Mannerheim, 1830: 70.
Atheta (*Acrotona*) *sordida*: Palm, 1970: 283; Cho and Ahn, 2001: 32; Cho and Kim, 2003: 127 [misidentification].
Nehemitropia sordida: Benick and Lohse, 1974: 103; Pace, 1990: 63.
Acrotona (*Nehemitropia*) *sordida*: Yosii and Sawada, 1976: 91.
Atheta sordida: Kim et al, 1994: 144.
Nehemitropia sordida: Paśnik, 2001: 198.
See Klimaszewski et al (2007) and Schülke and Smetana (2015) for the detailed synonymy.

Description. See Yosii and Sawada (1976).

Material examined. Syntypes, 10 exx, labeled as follows: "sordida Marsh. Europ. Berol., 5489, lividipennis Er. Oxypoda L.than. livida soj". NORTH KOREA: 4 exx., Korea 16 v 1974 Phjongjang Exp. Inst. Zool. Cr. [North Korea, Pyeongannam Province, Pyeongyang-si, 16 v 1974, ISEA].

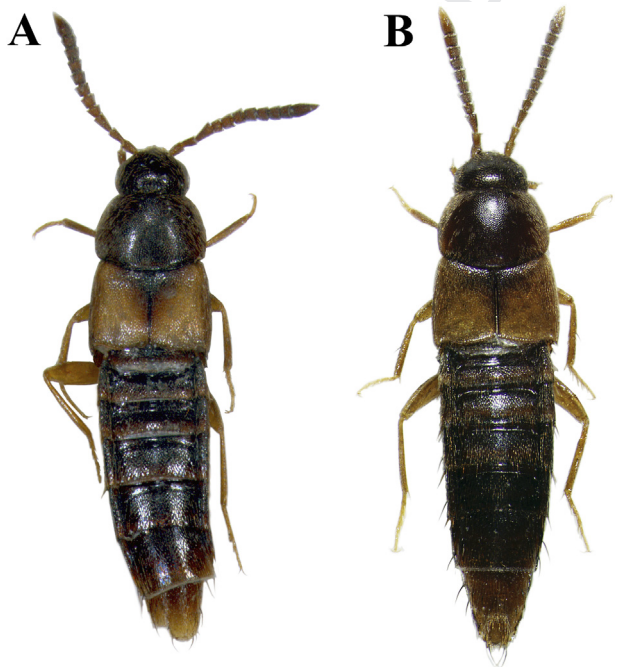

Figure 1. Habitus: A, *Nehemitropia lividipennis*, 3.8 mm; B, *Nehemitropia milu*, 4.1 mm.

Distribution. Korea (North), China (Beijing, Gansu, Hebei, Henan, Yunnan, Zhejiang), Japan, and Cosmopolitan.

Remarks. There are very few morphological differences between *N. lividipennis* and *N. milu*, but they can be distinguished by the character provided in the key and different shape and structure of aedeagus. We found that the South Korean record (*Atheta sordida*) of this species by Cho and Kim (2003) was an incorrect identification of *N. milu.*

***Nehemitropia milu* Likovský, 1977**
(Figures 1B, 2A–H, 3A–D, 4A–F, 5A–G)
Nehemitropia sordida milu Likovský, 1977: 209.
Atheta sordida: Sawada, 1972: 51 [misidentification].
Nehemitropia milu: Smetana, 2004: 412; Schülke and Smetana, 2015: 568.

Description. Length 2.8–3.5 mm. Body (Figure 1B) surface slightly glossy and densely pubescent, with microsculpture. Body reddish brown to dark brown; head darker than other parts; antennae and legs yellowish brown to reddish brown; elytra paler, yellowish; each abdominal segment paler toward apex. Head. Slightly transverse (Figure 2A), about 1.1–1.2 times as wide as long, widest behind eyes, distinctly narrower than pronotum; eyes large and prominent, about 1.5–1.6 times as long as temples; gular sutures moderately separated, diverged basally; infraorbital carina complete; cervical carina incomplete. Antennae (Figure 2B) long and slender; antennomeres 1–3 elongate, 4–10 quadrate, 11 longest, about as long as preceding two combined. Mouthparts. Labrum (Figure 4A) transverse, slightly emarginate in anterior margin, with reduced ε-sensillum and nine macrosetae on each side of midline; epipharynx (Figure 4B) with several sensilla, including two lateral sensory rows on each side of midline; α-sensillum long and setaceous, about 2.0 times as long as lateral sensory rows; β- and γ-sensilla short. Mandibles (Figures 4C and D) asymmetrical, subtriangular, decurved and pointed apically, approximately 1.4–1.5 times as long as basal width; right one (Figures 4C) with small internal tooth, internal margin slightly serrulate; prostheca developed, composited three portions; second portion longer. Galea and lacinia of maxilla (Figure 4E) long and slender; lacinia composited seven spines in distal comb region, two isolated spines present; maxillary palpus elongate and pubescent; palpomere 1 smallest, 2 about 3.0–3.2 times as long as wide, 3 slightly longer than 2, about 2.6–2.8 times as long as wide, 4 digitiform, filamentous sensilla not reaching to basal half. Labium (Figure 4F) with ligula divided into two lobes in basal half; prementum with two medial setae moderately separated; two basal pores close together, about 1.0 times width of basal pore; medial pseudopores, lateral pseudopores, one setal pore, and two real pores present on each side of midline; labial palpus elongate, with many setulae; palpomere 1 largest, about 1.8–2.0 times as long as wide, 2 shortest, about 1.4–1.6 times as long as wide, with γ-setula contiguous f-seta, 3 dilated apically and slightly shorter than 1, about 2.0–2.5 times as long as wide. Mentum (Figure 4F) trapezoidal, anterior margin slightly emarginate; v-seta relatively long. *Thorax.* Pronotum (Figure 2C) transverse, approximately 1.4–1.5 times as wide as long, widest in basal third to half; midline of pubescence directed anteriorly and anterolaterally in basal half, directed posteriorly and posterolaterally in other regions. Metanotal scutum (Figure 2E) with one long seta and about 4–6 short setae on each side of midline. Mesocoxal cavities narrowly separated, mesoventral process (Figure 2F) blunt at apex, contiguous with metaventral process; isthmus very short or absent; length ratio of mesoventral process and metaventral process 3:1. Elytra slightly longer and wider than pronotum; elytron (Figure 2H) approximately 1.4–1.5 times as long as wide, pubescence directed