



Three new species of the genus *Hylaeus* (Hymenoptera: Colletidae) from South Korea

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Abstract

Three new species, *Hylaeus* (*Nesoprosopis*) *dathei* **sp. nov.**, *H.* (*Nesoprosopis*) *jirisanensis* **sp. nov.** and *H.* (*Nesoprosopis*) *koreaensis* **sp. nov.** of the genus *Hylaeus* are described from South Korea. The diagnosis of each species is provided. Illustrations of male genitalia for these new species are also included.

Key words: new species, South Korea, *Hylaeus*, *Nesoprosopis*

Introduction

The genus *Hylaeus* Fabricius (Colletidae: Hylaeinae), which comprises 46 subgenera and about 600 species, is a worldwide genus, occurring in all continents, except Antarctica, and also on many islands (Michener 2007). In 1899, *Nesoprosopis* was proposed by R.C.L. Perkins as an endemic genus of bees in the Hawaiian Islands (Perkins 1899). This subgenus ranges widely in the Oriental and Palearctic regions, north to the Finland (61°N) and west to France, and south to the Philippines (Michener 2007). 60 species were recorded from Hawaii (Daly & Magnacca 2003), 9 species were recorded from Japan (Ikudome 1989, Ikudome 1998); a single species *H. pectoralis* Förster was recorded from Europe (Méhely 1935 in the subgenus *Imperfecta*; Dathe 1980 in the subgenus *Prosopis*, *Nesoprosopis* in Dathe in Michener, 2000: 192), later the species *H. dubitzkyi* was recorded from Taiwan (Dathe 2010), and a key was provided by Perkins (1910). Prior to this study, only one species *Hylaeus* (*Hylaeus*) *perforatus* (Smith, 1873) was recorded from Korea as the genus *Hylaeus* of South Korea is poorly studied taxonomically (Ascher & Pickering 2012).

The male Subgenus *Nesoprosopis* Perkins can be separated from all other subgenera of *Hylaeus* by the following character combination: S7 with two moderate-sized apical lobes, reduced, both hairless or with a few short hairs; apical process of S8 is long, its basal part directed more or less ventral from the body of the sternum before bending apical, and the apical part simple to strongly bifid, with few short hairs or with abundant long hairs; S6 emarginate in middle; thorax, particularly mesepisterna, strikingly coarsely and strongly punctuate (Dathe 2000; Michener 2007).

In the present paper we describe and illustrate three new species of *Hylaeus* (*Nesoprosopis*) in South Korea. The holotypes will be deposited in the Entomological Museum of China Agricultural University, Beijing, China.

Material and methods

The specimens were examined and measured under a digital microscope (Keyence VHX-1000, Osaka, Japan). Images were edited in Photoshop CS5 (Adobe Systems, San Jose, CA, USA). Terminology follows Dathe (1980). The description of punctures (size, density) mainly follows Snelling (1982). Abbreviations used in the text are BL, body length; WL, wing length; CI, clypeus index (clypeal length : distance of two anterior tentorial pits); HL, head length; HW, head width; OBL, propodeal oblique carina; SI, scape index (scape length : scape width); TRN, prop-