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Revision of the subgenus *Stigmatodipogon* Ishikawa of the genus *Dipogon* Fox (Hymenoptera: Pompilidae: Pepsinae)

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Abstract

The systematics of the subgenus *Stigmatodipogon* Ishikawa of the genus *Dipogon* Fox is revised. Six species are listed. Two new species, *Dipogon* (*Stigmatodipogon*) *kurokawai* Shimizu, **sp. nov.** (Honshu, Japan) and *D*. (*S*.) *lao* Loktionov & Lelej, **sp. nov.** (Laos) are described and illustrated and other four species from Japan, the Russian Far East and Eastern Siberia are redescribed. A new combination is proposed for *D*. (*S*.) *budrisi* (Loktionov & Lelej, 2014), **comb. nov**. Nesting records of *D*. (*S*.) *kurokawai* and prey records of *D*. (*S*.) *macrostigmatus* Ishikawa, 1959 and *D*. (*S*.) *petiolatus* Lelej, 1986 are presented. These are the first records of biology for this subgenus. A key to species is provided.

Key words: Japan, Laos, new species, Pompilidae, Russia, spider wasps, *Stigmatodipogon*, systematics

Introduction

The subgenus *Stigmatodipogon* Ishikawa, 1965 of the genus *Dipogon* Fox, 1897 belongs to the subfamily Pepsinae of the family Pompilidae. Ishikawa (1965) created this taxon based on *D*. (*S*.) *macrostigmatus* Ishikawa, 1959 (type species) and *D*. (*S*.) *tanakai* Ishikawa, 1965. In that paper, he recognized three other Japanese subgenera of *Dipogon*: *Nipponodipogon* Ishikawa, 1965, *Myrmecodipogon* Ishikawa, 1965 and *Deuteragenia* Šustera, 1912. Lelej (1986) and Loktionov & Lelej (2014) described two new species from the Russian Far East and Eastern Siberia, i.e., *D.* (*S.*) *petiolatus* Lelej, 1986 and *Stigmatodipogon budrisi* Loktionov & Lelej, 2014. Thus, four species of *Stigmatodipogon* were known in the Eastern Palaearctic Region. Recently we found two more undescribed species of this taxon from Japan and Southeast Asia.

Lelej and Loktionov (2012b) cladistically analyzed the phylogenetic relationships of seven genera of the *Dipogon* genus-group, including *Stigmatodipogon*, based on 13 species, adding *Priocnemis japonica* Gussakovskij, 1930 as an outgroup and using 24 morphological characters. They recognized that *Stigmatodipogon* is the most basal taxon of the group, i.e., *Stigmatodipogon* + {(*Deuteragenia* + *Mesagenia* Haupt, 1959) + [(*Winnemanella* Krombein, 1962 + *Nipponodipogon*) + (*Myrmecodipogon*) + *Dipogon*]}]. Later, *Mesagenia* was synonymized with *Deuteragenia* by Loktionov and Lelej (2014). Waichert *et al*. (2015) conducted a molecular analysis of the family Pompilidae and showed that a species of *Dipogon sensu stricto* was nested among *Deuteragenia* species; this result is different from that of Lelej and Loktionov's (2012b) morphological analysis. Because species of *Stigmatodipogon* were not included in molecular analyses, their phylogenetic position remains unclear.

The biology of *Stigmatodipogon* was previously unknown. Recently, however, we obtained nesting records of a new species and prey records of two known species. We found that the new species nests in bamboo cane trap nests. The structure of the nests is typical of other species of *Dipogon sensu lato* that have recorded biological data,

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