



On the species-group taxa of Taiwanese social wasps (Hymenoptera: Vespidae) described and/or treated by J. Sonan

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Table of contents

Abstract

Taiwanese social wasps described and/or treated by Jinhaku Sonan are revised based on specimens housed in the Taiwan Agricultural Research Institute. A checklist of the Taiwanese social wasp species is provided, recognizing 13 *Polistes*, two *Ropalidia*, three *Parapolybia*, eight *Vespa* and three *Vespula* species in the Taiwanese fauna. The lectotypes are designated for *Polistes mandarinus* var. *eboshinus* Sonan, 1943, *Polistes shirakii* Sonan, 1943, *Polistes takasagonus* Sonan, 1943 and *Vespa formosana* Sonan, 1927. *Parapolybia takasagona* Sonan, 1944 is treated as a valid species and its status is resurrected. A key to valid species of Taiwanese *Polistes* is provided. A record of *Vespa* (*Provespa*) *dorylloides* [= *Provespa anomala*] from Taiwan is based on incorrect labeling. The holotypes of *Polistes yamanakai* Sonan, 1937 and *Vespa matsumurai* Sonan, 1935 described from Japan are examined.

Key words: *Polistes*, *Parapolybia takasagona*, *Ropalidia*, *Vespa*, *Vespula*, lectotype, Taiwan, Japan

Introduction

Jinhaku Sonan (1892–1984) was a Japanese entomologist, who lived and engaged in entomological research in Taiwan from 1908 to 1947. His research was mainly on biology of insect pests and their control, but he also described a fair number of species-group taxa in the Lepidoptera and Hymenoptera (mainly parasitic Ichneumonidae), having contributed greatly to understanding of Taiwanese insect fauna (Japanese Society of Applied Entomology and Zoology 1984). Sonan, possibly based on his scientific interest, worked intensively on social wasps; he described 17 nominal species-group taxa in the social wasp subfamilies Polistinae and Vespinae. Of them, three were from Japan [*Polistes yamanakai* Sonan, 1937 (= *Polistes nipponensis* Pérez, 1905); *Vespa matsumurai* Sonan, 1935 (= *Vespa ducalis* Smith, 1852) and *Vespa esakii* Sonan, 1935 (= *Vespa ducalis*)], and one from the Philippines (*Ropalidia horni* Sonan, 1938), and the other 13 were all described from Taiwan. The name-bearing type specimens (holotypes and/or syntypes) of all the 13 taxa described from Taiwan and two from Japan (*Polistes yamanakai* and *Vespa matsumurai*) are in the collection of the Taiwan Agricultural Research Institute at Wofeng (hereafter abbreviated as “TARI”). Sonan did not designate the holotypes for some of his social wasp species-group taxa, and his type specimens (holotypes, paratypes and syntypes) have seldom been referred to in taxonomically proper ways since the original descriptions. Accordingly, taxonomic status, valid or synonymous, of some of Sonan's social wasp taxa has been discussed without referring to the objective references, namely the name-bearing type specimens.

In his review of the Taiwanese social wasps, Starr (1992) failed to properly treat the Sonan's syntypes (for the case of *Polistes formosanus*, see also Saito *et al.* 2007). Yamane *et al.* (1995) referred to the holotype of *Parapoly-*