



A review of *Schiodytella formosana*, with some remarks on the genus *Schiodytella* and description of a Japanese new species (Hemiptera: Heteroptera: Cydnidae)

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Abstract

Schiodytella formosana (= *Stibaropus formosanus*) in Taiwan and Japan is studied taxonomically. Taiwanese specimens are identified as ‘true’ *Sc. formosana*, whereas Japanese specimens represent a new species described herein as *Sc. japonica* sp. nov. This new species shows obvious variation in the hemelytra and tarsi, and can be distinguished from *Sc. secunda* by the larger eyes and a more developed conjunctival appendage of the penis. *Schiodytella formosana* was originally described as lacking tarsi from all legs, whereas all subsequent descriptions mention their presence in all legs. Consequently, the definition of *Schiodytella* is revised, because the affinity of many significant characteristics between *Sc. formosana* and other congeners is recognized. The availability of characteristics for a generic definition is discussed.

Key words: Cydnidae, Scaptocorini, *Schiodytella*, new species, definition of genus

Introduction

The burrower bug species *Neostibaropus formosanus* from Taiwan was first described by Takano and Yanagihara in 1939 as a new genus and species of the family Thyreocoridae Amyot & Serville, 1843 (Takano & Yanagihara 1939). After once being combined with the genus *Stibaropus* Dallas, 1851 (Esaki & Ishihara 1951), this species is currently placed in the genus *Schiodytella* Signoret, 1882, belonging to the tribe Scaptocorini Froeschner, 1960 of the cydnid subfamily Cephalocteinae Mulsant and Rey, 1866 (Lis 1991a, 1999, 2006). Since the original description, it has been recorded in mainland China (Esaki & Ishihara 1951) and Japan (Hasegawa 1960) and is recognized as an important pest of certain crops, especially sugarcane (e.g., Takano & Yanagihara 1939; Lis *et al.* 2000). Due to its economic importance, the name of this species has been repeatedly referred to in several papers, some of which were accompanied by a description and figures on the basis of the specimens obtained from subsequently added locations such as China (Esaki & Ishihara 1951; Hsiao *et al.* 1977; Zhang 1985; Lis 1994) and Japan (Miyamoto 1965). These other authors seem to have provided more recognizable or available information on the morphology or taxonomy of the species than the original description, which was written in Japanese. However, these later descriptions (and figures) disagreed with the original in their mention of leg tarsi; that is, the tarsi are shown as ‘present’ in the former and ‘absent’ in the latter. This suggests that the initial and later descriptions of the species were based on specimens from more than one species.

Recently, we had the opportunity to examine several Taiwanese and Japanese specimens identified as *Sc. formosana* in the respective areas. The morphologically based examination of these specimens resulted in the recognition of two distinct species. The specimens from Taiwan were identical with the ‘true’ *Sc. formosana*, owing to their strong agreement with the morphological characteristics of the original description, including the absence of tarsi. The Japanese specimens did not correspond to any of the described *Schiodytella* species, or to any congeners of other cydnid genera. However, the Japanese specimens strongly agreed with the