



Notes on the genus *Procystiphora* Felt, 1915 (Diptera: Cecidomyiidae) with description of one new species inducing galls in branchlets of a bamboo in China

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Abstract

Procystiphora phyllostachys sp. nov., a gall midge inducing inconspicuous galls in branchlets of *Phyllostachys propinqua* McClure, a bamboo cultivated extensively in large areas of China, is described and illustrated based on specimens collected from Tianjin, China. Brief notes on its biology are given. The generic diagnosis of *Procystiphora* is broadened with the inclusion of all known *Procystiphora* species and a key to males of all known *Procystiphora* species is provided.

Key words: *Procystiphora phyllostachys*, new species, Lasiopteridi, Cecidomyiidae, Diptera, *Phyllostachys propinqua*, Poaceae

Introduction

Bamboos are known to host six nominal species of gall midges associated with bamboo (Gagné 1994; Sato *et al.* 2009). Two of them, “*Meinertomyia*” *inaequipalpis* Mani, 1935 (an unplaced species of Cecidomyiinae (Gagné 2004)) and *Kamptodiplosis ramanathi* Mani, 1963 (Cecidomyiidi), were obtained from unidentified bamboo species in India. The remaining four were recorded from Japan (Yukawa 1971; Sato *et al.* 2009): *Planetella bambusaei* (Felt 1932) (Cecidomyiidi), associated with *Bambusa* sp.; *Hasegawaia sasacola* Monzen, 1937 (Lasiopteridi), from bud galls on *Sasa ramose* Makino and *Sasa* spp.; *Geromyia nawai* (Monzen 1937) (Cecidomyiidi), from sword-shaped galls on stems of *Arundinaria simonii* (Carrière) A. Rivière & C. Rivière; and *Procystiphora uedai* Sato & Yukawa, 2009 (Lasiopteridi), from subglobular galls on *Sasa nipponica* Makino (Sato *et al.* 2009). In addition, Yukawa (1971) and Yukawa & Masuda (1996) mentioned some unidentified gall midge species in Japan that are responsible for bud galls on ten species of bamboos in six genera. The shape of these bud galls is similar to that induced by *H. sasacola* but more slender.

Procystiphora Felt (1915) belongs to the supertribe Lasiopteridi and previously included four species (Gagné 2004; Sato *et al.* 2009). The type species, *Procystiphora coloradensis* Felt from Colorado, USA, induces swollen branchlets on *Carex* sp. (Cyperaceae) (Felt 1915). *Procystiphora junci* Felt was recorded from Illinois, USA, inducing swollen branchlets on *Juncus* sp. (Juncaceae) (Felt 1922). *Procystiphora gerardi* Meyer was described from Germany, inducing inconspicuously swollen branchlets on *Juncus gerardi* Loisel (Juncaceae) (Meyer 1984). Sato *et al.* (2009) reported *Procystiphora uedai* from Japan as mentioned above.

Phyllostachys propinqua McClure is a very common native bamboo species in China. It is cultivated in large areas of China such as Anhui, Fujian, Guangxi, Guizhou, Henan, Hubei, Jiangsu, Jiangxi, Yunnan and Zhejiang (Wang & Stapleton 2006) and has been introduced successfully into Beijing, Hebei and Tianjin (Yang *et al.* 2006). Zeng *et al.* (2009) found a Chinese species of *Procystiphora* in Tianjin, China and reported its biology under the name *Procystiphora* sp.. The galls induced by this gall midge are inconspicuously swollen branches with one or more conspicuous white, tear-shaped membranes covering the presumptive exit hole of every chamber. The gall midge is considered to be a new species, *Procystiphora phyllostachys* sp. nov., based on unique morphological characters of adults, pupae and larvae that serve to broaden the generic diagnosis. We describe it and provide illustrations of the gall midge and gall in this paper including a key to males of all known *Procystiphora* species.