A revision of the Chinese species of *Cyamophiliopsis* (Hemiptera: Psylloidea: Psyllidae) associated with *Spiraea* (Rosaceae)

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Abstract

*Cyamophiliopsis* is a small genus restricted to the Palaearctic Region and associated with *Spiraea* spp. (Rosaceae). In the present work, following five species are recognized in China: *C. pseudofasciata* sp. nov., *C. sarmatica*, *C. spinosa* sp. nov., *C. xinjiangana* sp. nov. and *C. zaisani*. *Cyamophiliopsis* is diagnosed, redescribed in detail, and its phylogenetic relationships are discussed. All the species are described or redescribed, and the fifth instar immature of *C. zaisani* is described for the first time. Nomenclatorial problems are discussed concerning the Far East Russian *Psylla spiraeae* which is transferred to *Cyamophiliopsis* as *C. spiraeae* comb. nov.

Key words: psyllid, jumping plant-lice, Palaearctic, taxonomy

Introduction

Psyllids are small phloem-sucking insects constituting the superfamily Psylloidea of the Sternorrhyncha. A minority of psyllid species causes damage to crop plants, directly by feeding or indirectly by transmitting pathogens (Halbert & Manjunath 2004; Hanson et al. 2008), but most psyllids feed on plants without economical importance. In the perspective of taxonomists, these taxa are as important as the pests with respect to their systematic significance. *Cyamophiliopsis* Li, 2011, for instance, a small, recently erected genus of Psyllinae, contains members which are associated on mostly uncultivated *Spiraea* spp. (Rosaceae). Li (2011) erected *Cyamophiliopsis* for *Psylla zaisani* Klimaszewski, 1963 (as type species), *P. sarmatica* Löw, 1882, and *P. fasciata* Löw, 1881, in the Cyamophilinae (Psyllidae), a subfamily which Li (2011) established to include *Cyamophila*, *Cyamophiliopsis*, and *Auchmerina* sensu Li (nec Enderlein). The Cyamophilinae was synonymized with the Psyllinae by Burckhardt & Ouvrard (2012). The generic name of *Cyamophiliopsis* was given to imply its close relationship with *Cyamophila*, which was based on the backwards curved vein Cu₁b, and the apex of the paramere which is “expanded as rectangular” (Li 2011). However, our research suggests that these constitute superficial resemblances rather than genuine synapomorphies. Geographically, the genus is recorded from the northern Palaearctic Region, north of 38° N, and from Volgograd, Transcaucasia and northeastern Turkey in the west, to the Russian Far East in the east.

Recent field work carried out by Luo Xinyu yielded more materials of *Cyamophiliopsis* including undescribed species and previously unknown immature of a described species. Nevertheless, we ran into troubles when identifying these materials and revising the old specimens—the descriptions and illustrations from all the currently available literatures are not specific enough to accurately identify these species. The present article seeks to retrospect the taxonomic history of the genus, give an exhaustive redescription of each species, and discuss about the relationship between the genus and its putative closely related taxa. The nomenclatorial history will be presented in each species’ own chapter.

As far as known, *Cyamophiliopsis* spp. are associated with the host plant genus *Spiraea*, the type genus of Rosaceae, Spiraeoideae, and the most primitive genus of the subfamily’s deciduous members (Lu, 1996). *Spiraea* contains 80–100 species worldwide, and 70 species in China, with 47 of them endemic (Lu & Alexander 2003).
References

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