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Review of the East-Asian genus *Reticulaphis* (Aphididae: Hormaphidinae), with two new species

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Abstract

Reticulaphis species (Aphididae: Hormaphidinae: Nipponaphidini) feed mainly on *Ficus* species as secondary hosts, and are endemic to eastern Asia. The fauna of this genus was surveyed in Taiwan, and material from East Asian countries borrowed from the Natural History Museum, London. Taxonomic problems associated with variation between samples are discussed, and as a result four subspecies of *R. distylii* (van der Goot) are recognized as independent species: *asymmetrica* Hille Ris Lambers & Takahashi, *fici* (Takahashi), *foveolatae* (Takahashi), and *rotifera* Hille Ris Lambers & Takahashi. *R. distylii* subsp. *minutissima* Hille Ris Lambers & Takahashi is synonymised with *R. foveolatae* (Takahashi); the taxonomic position of subsp. *similis* remains '*incertae sedis*'. Two new species are described based on apterous adult females: *R. inflata* **sp.n.** from Taiwan and Hong Kong, and *R. septica* **sp. n.** from Taiwan. An illustrated key is provided to the eight recognized species, but excluding the type species, *R. shiiae* Takahashi that remains known only from its description.

Key words: *Reticulaphis*, Hormaphidinae, Nipponaphidini, *Ficus*, new species

Introduction

Species of *Reticulaphis* are heteroecious, that is they alternate between a primary host, *Distylium stellare* (Hamamelidaceae), on which they are known to induce galls, and the leaves of their secondary hosts that are various species of *Ficus* (Moraceae) (Hille Ris Lambers & Takahashi, 1959). *R. distylii* is the only member known to induce conical or fingertip-like galls on *D. stellare* (Hille Ris Lambers & Takahashi, 1959), but detailed life cycles of the others are poorly known. However *D. stellare* is not recorded in Taiwan, we consider that host alternation is not necessary when the primary hosts are sparse, and alate adults can accommodate to suitable secondary hosts. Moreover, we suppose that other members of *Distylium* might be adequate primary hosts for different species of *Reticulaphis*, but this requires confirmation through further investigations.

On the secondary host, a newly emerged larva vigorously seeks a suitable feeding position, but later instars are less active. Apterous adult females are sessile and adhere to leaves usually near veins on the under surface of a leaf. The bodies of these adults are strongly sclerotized, and some species have waxy fringes around the body margin. Preparing such sclerotized individuals onto microscope slides for critical taxonomic study is difficult. In this study we have modified mounting techniques for rendering these aphids translucent without damaging subtle characters.

Reticulaphis was erected by Takahashi (1958) with *shiiae* as the type-species, and he also transferred *Thoracaphis fici* Takahashi, *T. fici* var. *foveolatae* Takahashi, and *T. mirabilis* Takahashi to this genus. Subsequently, Hille Ris Lambers and Takahashi (1959) transferred *Schizoneuraphis distylii* van der Goot to this

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