

Synonymy of *Cryptopsocus* Li with *Trichadenotecnum* Enderlein (Insecta: Psocodea: 'Psocoptera': Psocidae) and description of three new species

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Abstract

The genus *Cryptopsocus* Li, 2002 is synonymized with *Trichadenotecnum* Enderlein, 1909. The type species of *Cryptopsocus*, *T. cynostigmus* (Li, 2002) n. comb., is considered to be a close relative of *T. marginatum* New & Thornton, 1976. These species cannot be assigned to any species group previously established in *Trichadenotecnum* so that the *marginatum* species group is here proposed for them. Three new species belonging to this species group are described: *T. tigrinum* and *T. sharkeyi* from Thailand and *T. sabahense* from Sabah, Malaysia. The phylogenetic position of the *marginatum* group is discussed using morphological data.

Key words: Psocini, Trichadenotecnini, Ptyctini, new species, Thailand, Sabah

Introduction

The monotypic genus *Cryptopsocus* was established by Li (2002) for a single species, *C. cynostigmus* Li, 2002, known only from a single male. Its superficial similarity to *Trichadenotecnum*, a diversified and widely distributed genus, was already pointed out by Li (2002), but he considered these genera as distantly related and classified them in different tribes. He assigned *Cryptopsocus* to the tribe Psocini and *Trichadenotecnum* to the Trichadenotecnini (now synonymized with Ptyctini; see Yoshizawa & Johnson, 2008). However, their differences mentioned by Li (2002) are mostly minute (roof of areola postica straight and forewing with marginal cloud in *Trichadenotecnum*; roof of areola postica slightly angulated and forewing margin clear in *Cryptopsocus*). Absence of the clunial lateral processes, the presence of which is a unique feature of *Trichadenotecnum*, is also pointed out by Li (2002) to differentiate *Cryptopsocus* from *Trichadenotecnum*. However, lack of the clunial lateral processes is quite frequent in the basal lineages or even among the more derived members of *Trichadenotecnum* (Yoshizawa, 2003; Yoshizawa *et al.*, 2008, 2014). Furthermore, Yoshizawa *et al.* (2014) pointed out that a species of *Trichadenotecnum* from Malaysia, *T. marginatum* New & Thornton, 1976, might be a close relative of *Cryptopsocus cynostigmus*. Therefore, the delimitation of these genera becomes obscure and it is highly desirable to clarify their phylogenetic relationship and taxonomic status.

Recently, we had the chance to examine specimens from Thailand and Sabah which are obviously closely related to *C. cynostigmus* and *T. marginatum*. By examination of these specimens and by morphology-based phylogenetic analysis, it became evident that *Cryptopsocus* is imbedded within *Trichadenotecnum* and thus should be synonymized with it. In this paper, we discuss the placement and status of *Cryptopsocus* and describe three new species which are close to the type species of *Cryptopsocus*.

For methods, terminologies, and abbreviations used in the paper, see Yoshizawa (2001).

Trichadenotecnum Enderlein

Trichadenotecnum Enderlein, 1909: 329. Type species *Hemerobius sexpunctatus* Linnaeus, 1758 (by original designation).