



A morphological and molecular description of a new *Teleopsis* species (Diptera: Diopsidae) from Thailand

MIHÁLY FÖLDVÁRI¹, ANDREW POMIANKOWSKI², SAMUEL COTTON³ & MARTIN CARR⁴

¹Hungarian Natural History Museum, Baross u.13, H-1088 Budapest, Hungary. E-mail: foldvari@nhmus.hu

²The Galton Laboratory, Department of Biology, and CoMPLEX, University College, London, 4 Stephenson Way, London, NW1 2HE, UK. E-mail: ucbhpom@ucl.ac.uk

³Department of Ecology & Evolution, University of Lausanne, Le Biophore, Lausanne, CH – 1015, Switzerland. E-mail: samuel.cotton@unil.ch

⁴Department of Biology, University of York, Heslington, York, YO10 5YW, UK. E-mail: mc528@york.ac.uk

Abstract

A new species of *Teleopsis* (Diptera, Diopsidae) from Chiang Mai, Thailand is described and illustrated. *Teleopsis thaii* Földvári & Carr is shown to be a member of a species group, termed the dalmanni species group, along with three previously described species. Presented here are a morphological description of *T. thaii* and an allometric comparison of the species with other members of the *Teleopsis* genus. We also present multi-gene phylogenetic analyses to highlight the possible position of *T. thaii* within the dalmanni species group.

Key words: Diopsidae, *Teleopsis*, Thailand, new species, eye span allometry, molecular phylogeny, dalmanni species group

Introduction

The diopsid stalk-eyed flies are a morphologically distinct family of the Schizophoran diptera, with both males and females of all species possessing laterally extended head morphologies. There are approximately 160 described species within the family, although this figure is increasing (Papp *et al.* 1997, Feijen 1999, Carr *et al.* 2006a) and the family is currently undergoing taxonomic revision (Baker *et al.* 2001, Kotrba & Balke 2006). Recent molecular studies have shown that the genera *Teleopsis* and *Cyrtodiopsis* are in fact paraphyletic with respect to each other, form a monophyletic group and should be considered as a single genus (Baker *et al.* 2001, Meier & Baker 2002). Under this revision, species previously named as *Cyrtodiopsis* are now termed *Teleopsis* species.

Species from the genus *Teleopsis* are mainly found in South East Asia (Feijen 1998). Many of the described *Teleopsis* species show sexual dimorphism within their eyespan, with males showing the greater exaggeration in head morphology, a trait strongly linked to sexual selection. Sexually dimorphic species from Malaysia have been the focus of much of the research in the study of sexual selection within the stalk-eyed flies (David *et al.* 2000, Hingle *et al.* 2001, Cotton *et al.* 2004).

Here we describe a new species of *Teleopsis* from the Doi Suthep, Chiang Mai, Thailand. A viable laboratory population has been established at University College, London from individuals collected from this region. Using phylogenetic analysis of four partial gene sequences we have placed this species within a newly termed species group along with *T. currani* (Shillito), *T. dalmanni* (Wiedemann) and *T. whitei* (Curran). This new group has been named the dalmanni species group (after the species, *T. dalmanni*). We have described the