

***DOCOSIA HEIKKII*, SP. NOV., THE FIRST ORIENTAL RECORD OF
DOCOSIA (DIPTERA: MYCETOPHILIDAE)**

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Abstract. A new species of *Docosia* Winnertz, 1863 (Diptera: Mycetophilidae), *Docosia heikkii*, sp.nov., is described from Doi Inthanon of northern Thailand. This is the first record of the principally Holarctic *Docosia* from the Oriental Region. The new species is characterized by its apically clouded wings with all the veins dark, vein ta being relatively short and oblique, long palpi, setose laterotergites, yellow coxae and peculiar male terminalia. It has a rather distinct position within the genus with some characters typical of the subfamily Gnoristinae rather than Leiinae.

Key words: *Docosia*, new species, Sciaroidea, fungus gnats, Oriental region.

Introduction

The genus *Docosia* Winnertz, 1863 (Diptera: Mycetophilidae) comprises medium-sized dark fungus gnats with rather uniform appearance. About 30 species have been described from Europe (e.g. Chandler et al., 2006, Lastovka & Sevcik, 2006, Sevcik & Lastovka, 2008) but only a few from the Nearctic and Neotropical regions (Laffoon, 1965; Papavero, 1978), Mongolia (Lastovka & Matile, 1974), China (e.g. Xu et al., 2003) and Kazakhstan (Kurina, 2006). The Chinese species are, however, insufficiently described and it is possible that some of these belong to different genera. The biology of most species is poorly known, with the exception of the common Palaearctic *Docosia gilvipes* (Walker, 1856), whose larvae are associated with sporophores of various species of fungi. The first Oriental species of *Docosia* is described herein, based on the material from Doi Inthanon in northern Thailand. The type specimen was collected in a Malaise trap within the “Thailand Inventory Group for Entomological Research (TIGER)” project and it is stored in ethanol. Its terminalia were cleared in a 10 % solution of KOH. The morphological terminology principally follows Sjøli (1997).

***Docosia heikkii*, sp. nov.**

Male. Head black with white bristles. Three ocelli, lateral one not touching eye margin, separated by almost its dia. Antenna blackish brown, except pedicel yellow. Flagellomeres relatively long, about 2x as long as broad, first flagellomere shorter. Palpus whitish yellow, relatively long, slightly longer than height of head. Apical palpomere >10x as long as wide, subapical palpomere 5x as long as wide. Thorax black, scutum covered with fine pale setae, mainly along its lateral margins. Scutellum about 3x as broad as long. Mediotergite bare. Laterotergite with pale setae on its posterior half. Wings without markings, with all veins dark and well demarcated and with distal half slightly clouded (Fig. 1); length 3.2 mm; costa extends about 0.66x the distance from R₅ to M₁. Sc bare, dark brown, ending in R. R1 about 4x as long as ta. Ta slightly longer than the stem of M-fork. Base of Cu-fork almost at the level of the base of M-fork. Halteres whitish yellow. Legs almost

entirely yellow; hindlegs of the holotype missing (except coxae); femora slightly darkened on ventral margin; tibiae basally darkened, but without dark markings; tarsi brownish yellow; foretarsus about 1.2x as long as foretibia. Tibiae and tarsi with black setae and setulae, tibial spurs brownish yellow. Abdomen dark brown, with fine hairs.

Terminalia as in Figs 2–4. Tergite 9 2x as long as wide, pear-shaped, with several laterocaudal projections bearing dark megasetae apically; gonocoxites about as broad as long, posterior margin of gonocoxites with a long forked medial projection and a pair of narrow lateral projections, almost as long as gonocoxites, all projections with black thorns apically; gonostylus curved, apically bifid, with a blunt basal lobe half as long as the gonostylus.

Female. Unknown.

Holotype: ♂, THAILAND: Chiang Mai, Doi Inthanon NP, Kew Maepan Trail, 18°33.162'N 98°28.81'E, 2200 m, Malaise trap, 17-24.xi.2006, Y. Areeluck leg., T1860 (in Queen Sirikit Botanic Garden, Chiang Mai).

Etymology: This species is named in honour of Prof. Heikki Hippa (Swedish Museum of Natural History, Stockholm) to acknowledge his great contribution to the study of the Oriental Sciaroidea.

Distribution: Northern Thailand.

Biology: Unknown. Probably a rare montane species as the holotype was collected at the elevation above 2000 m.

Comments: This species shares characters, namely, almost entirely yellow legs, lateral ocelli not touching eye margin and long flagellomeres, with three European species, viz., *Docosia chandleri* Sevcik & Lastovka, *D. matilei* Sevcik & Lastovka and *D. montana* Lastovka & Sevcik. All these, however, have laterotergites bare and veins Sc, M and Cu indistinct. *D. chandleri* has also yellow pedicels like *D. heikkii*. In the key to the Central European species (Lastovka & Sevcik, 2006), it would run to *D. flavicoxa* Strobl, but if we follow the option- bare laterotergite, it would reach *D. montana*. In any case, *D. heikkii* can be safely distinguished by its characteristic terminalia. Also, wing venation of *D. heikkii* is slightly different from all other species of the genus; the apically clouded wings suggest that it is distinct. Vein ta (= r-m of some authors) is rather short and oblique, reminding the situation in the subfamily Gnoristinae rather than Leiinae, where this genus has traditionally been placed. The phylogenetic position of *Docosia* has been most recently discussed by Rindal et al. (2009) who demonstrated its close relationships to some genera of the subfamily Gnoristinae.

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References

- CHANDLER, P.J., BECHEV, D.N. & CASPERS, N. 2006. The fungus gnats (Diptera: Bolitophilidae, Diadocidiidae, Keroplatidae and Mycetophilidae) of Greece, its islands and Cyprus. *Studia Dipterologica* 12 (2005): 255-314.
- KURINA, O. 2006. Three new species of *Docosia* Winnertz (Diptera: Mycetophilidae) from Kazakhstan. *Entomologica Fennica* 17: 110-117.
- LAFFOON, J. L. 1965: Superfamily Mycetophiloidea. In Stone, A. et al. (eds): A catalog of the Diptera of America north of Mexico. U. S. Dept. Agric. Handbook 276: 196-229.
- LASTOVKA, P. & MATILE, L. 1974. Mycetophilidae (Diptera) de Mongolie. *Acta Zoologica Hungarica* 20: 93-135.
- LASTOVKA, P. & SEVCIK, J. 2006. A review of the Czech and Slovak species of *Docosia* Winnertz (Diptera: Mycetophilidae), with atlas of the male and female terminalia. *Casopis Slezského Zemského Muzea Opava (A)*, 55: 1-37.
- PAPAVERO, N. 1978. A Catalogue of the Diptera of the Americas south of the United States. Family Mycetophilidae. Sao Paulo, 78 pp.
- RINDAL, E., SØLI, G.E.E. & BACHMANN L. 2009. Molecular phylogeny of the fungus gnat family Mycetophilidae (Diptera, Mycetophiliformia). *Systematic Entomology* 34: 524-532.
- SØLI, G.E.E. 1997. The adult morphology of Mycetophilidae (s.str.), with a tentative phylogeny of the family (Diptera, Sciaroidea). *Entomologica Scandinavica. Suppl.* 50: 5-55.
- SEVCIK, J. & LASTOVKA, P. 2008. Two new European species of *Docosia* (Diptera: Mycetophilidae). *Biologia* 63: 117-119.
- XU, H., WU, H. & YU, X.X. 2003. New Chinese record of the genus *Docosia* with a description of a new species (Diptera, Mycetophilidae). *Acta Zootaxonomica Sinica* 28: 343-348.

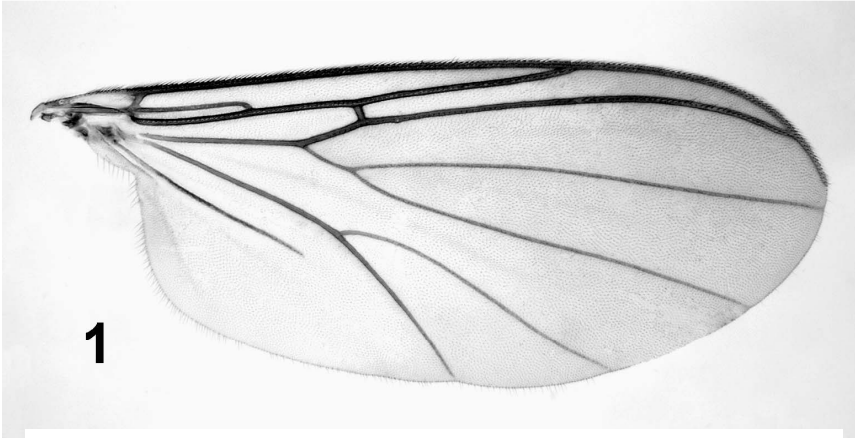
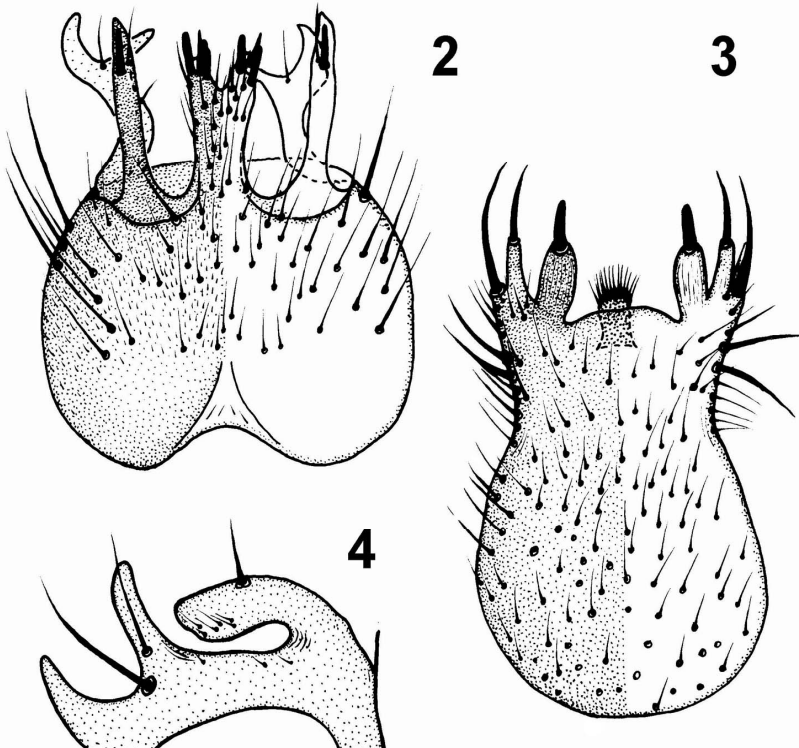


Fig. 1. *Docosia heikkii*, sp. nov., holotype: wing venation.



Figs 2-4. *D. heikkii*, sp. nov., holotype male: 2, gonocoxites, ventral view, 3, tergite 9, dorsal view & 4, gonostylus.