A new Oriental species of Gnoristinae (Diptera: Mycetophilidae) from Borneo

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Abstract: A new species of Mycetophilidae (Diptera), tentatively placed in Dziedzickia Johannsen, is herein described as D. longistyla sp. nov. (Malaysia: Sarawak). The species described herein differs from the two previously known Oriental species included in Dziedzickia in having simple antennae, laterotergite with long setae and extended, apically pointed gonostyle. A brief discussion of the relationships among some genera of Gnoristinae is also presented.

Keywords: Dziedzickia, fungus gnats, Malaysia, new species, Oriental Region, Sciaroidea

Introduction

Hitherto, 56 recent species have been placed in Dziedzickia Johannsen, 1909 (Diptera: Mycetophilidae: Gnoristinae): 40 Neotropical, 6 Nearctic, 5 Afrotropical, 3 Palaearctic and 2 Oriental (Bechev, unpublished database), apparently belonging to different genera (Ševčík et al., 2011). The previously described two Oriental species, remarkable with the presence of pectinate antennae, are tentatively placed in the genus (Ševčík et al., 2011). Here we describe a new species, also tentatively placed in Dziedzickia pending a generic revision of the Gnoristinae (see Discussion). The new species differs from the other two Oriental species of Dziedzickia in having simple antennae, laterotergite with long setae and gonostyle narrow, extended, apically pointed, with a relatively clearly visible tooth.

Material and methods

The studied material has been collected by S. Kazandzhieva in Kubah National Park, Borneo (Malaysia: Sarawak) in a mixed dipterocarp forest habitat by Malaise trap and was preserved in ethanol. The habitus photos (specimen in alcohol) were taken by a digital camera Canon EOS 750D with Canon 100 mm Macro lens. The terminalia of the specimen were removed and subsequently macerated in 10% warm KOH. Dissections and temporary slides were made in glycerol. The slides were photographed with the Canon EOS 750D fit to the compound microscope. The terminalia were afterwards transferred to microvial with glycerine and stored together with the specimen. The habitus and male terminalia photos were combined using the Helicon Focus 5 software from multiple gradually
focused images. The morphological terminology follows Soli (2017).

The studied material is deposited in Regional Natural History Museum of Plovdiv, Plovdiv, Bulgaria (RNHMP).

**Results**

*Dziedzickia longistyla* sp. nov. (Figs 1‒7)


**Diagnosis.** Male antennae simple, flagellomeres 1 to 8 yellow, 9 to 11 brown, 12 to 14 pale brown; laterotergite with long setae; Sc short, ending in R, R_{2+3} absent; tergite 9 short, gonostylus narrow, extended, apically pointed and with a relatively clearly visible tooth. Basic difference from the type species of *Dziedzickia* s. str., *D. marginata* Dziedzicki, 1885, is absence of R_{2+3}. Differs from the other Oriental species included in *Dziedzickia* (*D. bifida* and *D. pectinata*) in having simple antennae, laterotergite with long setae and narrow, extended gonostyle.

**Description.** Male. Wing length 2.8 mm.

Head. Yellowish. Three ocelli, almost in one line. Laterals separated from eye margin more than their diameter. Scape and pedicel yellow. Flagellomeres 1 to 8 yellow, 9 to 11 brown, 12 to 14 pale brown (Fig. 1). Clypeus ovate, distal part triangular. Mouthparts yellowish, short.


Wing (Figs 2‒3). Hyaline unmarked, membrane covered only with microtrichia, without macrotrichia. Costa produced beyond R_{4+5} to about 1/3 of the distance between the tips of R_{4+5} and M_{1}. Sc short, bare, ending in R, R_{4+5} about 0.6 of length of R_{4+5}. R-m about 2 times as long as Rs, and 1.4 times as long as stem of M-petiole. Sc-r and R_{2+3} absent. Base of Cu-fork before the base of M-fork. CuP as long as CuA-petiole. Setulae present on C, upper side of R, R_{i} and R_{5}. Other veins bare. Halteres yellow.


Abdomen. Yellow with dark bristles. Tergites 1 to 7 with brown dorsal marks in posterior part, semitrangular in dorsal view and better visible on tergites 1 to 4 (Fig. 2). Sternites yellow, without median sclerotised concave fold.

**Terminalia** (Figs 4‒7). Brown. Tergite 9 short, trapeziform. Cerci placed caudally to tergite 9. Gonocoxites not fused ventrally. Dorsally with apical part rounded, enveloping the base of the gonostylus, and with numerous dark spines and bristles from the inside around the middle. Aedeagus elongate, sclerotized. Gonostylus narrow, extended, apically pointed and with a relatively clearly visible tooth.

Female. Unknown.

**Etymology.** The specific epithet is derived from Latin, longus [long] and stylus [stylus], referring to the narrow, extended gonostyle.

**Notes.** Mesonotum of the type specimen cracked. Setae on mesonotum and scutellum broken. Right fore and mid legs, left hind leg and fore tarsomeres absent.

**Discussion**

Being previously pointed out by several authors (Hutson, 1979; Ševčík & Chandler, 2008; Ševčík et al., 2011), a heterogeneous group of species, apparently belonging to different genera, is placed in *Dziedzickia* sensu lato. The type species of the genus, *Dziedzickia marginata* Dziedzicki, 1885, is distinguished by the presence of the following combination of characters: mediotergite bare, laterotergite haired, C extending beyond apex of R_{5}, Sc ending in R, R_{2+3} present, point of furcation of posterior fork distinctly before point of furcation of anterior fork. However, subsequently some authors placed in this genus, also, species with bare laterotergite, Sc ending free or without R_{2+3},...
A new Oriental species of Gnoristinae (Diptera: Mycetophilidae) from Borneo apparently belonging to different genera (see Ševčík et al., 2011: 694).

*Dziedzickia* s. lat. is very similar and shares several characters, mainly of wing venation, with *Hadronoeura* Lundström, 1906 and *Palaeodocosia* Meunier, 1904. In *Hadronoeura* species with well-documented male genitalia (*kamtshatica* Stackelberg, 1943; *huron* Taber, 2018; *martini* Ševčík, Hippa & Burdíková, 2021), tergite 9 is densely covered with long setae. In the species of *Palaeodocosia*, tergite 9 is large, and gonostyle has several lobes (see Hutson et al., 1980; Taber, 2017). Because of the absence of long setae coverage on short tergite 9 and the presence of simple gonostyle, as in some Neotropical *Dziedzickia* (see Oliveira, 2009), we place the new species in *Dziedzickia* s. lat. pending a generic

Figs 1–3. *Dziedzickia longistyla* sp. nov.: 1 – habitus, ventral view; 2 – habitus, dorsal view; 3 – wing venation.
revision of the Gnoristinae. According Ševčík (in Ševčík et al., 2011) at least ten additional undescribed species of *Dziedzickia* s. lat. from the Oriental Region exist.

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References


