

## TWO NEW SPECIES OF THE GENUS *TACHYDROMIA* MEIGEN (DIPTERA: HYBOTIDAE) FROM MALAYSIA

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**ABSTRACT.** – First data on the genus *Tachydromia* from Malaysia are provided including two new species for science: *T. malaysiensis*, new species, *T. pahangiensis*, new species.

**KEY WORDS.** – Diptera, Hybotidae, *Tachydromia*, new species, Malaysia, Oriental.

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### INTRODUCTION

The present paper is a contribution to the world revision of the genus *Tachydromia* Meigen that was recently initiated by the authors (Shamshev & Grootaert, 2008). The group is almost worldwide in distribution and currently includes 110 species (Yang et al., 2006). *Tachydromia* radiated in the Palaearctic Region with about 73 species known so far (Yang et al., loc. cit). At the moment only 16 species are known from the Oriental region (Grootaert & Shamshev, 2009; Saigusa & Yang, 2002; Shamshev & Grootaert, 2005, 2008; Yang & Grootaert, 2006) and all except one are present in mountain and submountainous areas mainly on the northern transition zone between the Oriental and Palaearctic regions. *Tachydromia luang* Shamshev & Grootaert, 2005 is the exception in that it occurs in mountains as well as tropical lowlands. It is the only *Tachydromia* known in Singapore so far (Shamshev & Grootaert, 2008) where it is quite common in secondary forest as well as in mangrove. No *Tachydromia* species have been reported from Malaysia yet and that is why we describe the only two new species we could find during our world revision of *Tachydromia*. They were taken from a mountain in the Cameron Highlands in Pahang province of Malaysia.

### MATERIALS AND METHODS

This study is based on material housed in the Canadian National Collection of Insects, Ottawa, Ontario, Canada [CNC]. Terms used for adult structures primarily follow those of McAlpine (1981), although the terminology

for the antenna follows Stuckenberg (1999); and for the male terminalia follows Sinclair & Cumming (2006). To facilitate observations, the terminalia were macerated in hot 10 % KOH and immersed in glycerine. Drawings of morphological features were made with a camera lucida attached to a compound microscope. In description, right and left side of the male terminalia are based on the unrotated position viewed posteriorly, such that in the illustrations the right surstylus appears on the readers left side and vice versa. In Hybotidae, the male genitalia are rotated to the right, but they are figured in their unrotated position.

### SYSTEMATIC ACCOUNT

#### *Tachydromia malaysiensis*, new species

(Figs. 1–3)

**Material examined.** – Holotype – male, MALAYSIA: Pahang, Tanah Rata, 1,460 m, 7 Jan.1990, coll. J. R. Vockeroth [CNC].

**Diagnosis.** – Recognised by yellow body, small palpus bearing very long subapical seta, entirely tomentose thorax, almost entirely yellow legs, wings with faint bands and yellow halteres.

**Description.** – **Male.** Body about 1.6 mm, wing 1.8 mm. Head brown. Eyes extending beyond ocellar tubercle and almost touching on vertex. Frons short, narrow, pollinose, almost parallel-sided. Ocellar tubercle pollinose, ocellars minute. Occiput entirely pollinose, bearing 2 short closely

set brownish vertical setae, covered with scattered short pale setae longer near mouth-opening. Antenna with scape, pedicel and postpedicel yellow, stylus brown; postpedicel short, subtriangular; stylus apical, very long, short pubescent. Proboscis yellow. Palpus small, truncate, yellow, bearing very long black subapical seta, with scattered pale yellow setulae.

Thorax almost entirely yellow, subshining, finely tomentose, prescutellar depression, scutellum and mediotergite somewhat darker. Postpronotal lobe very large, lacking conspicuous setae. Mesonotum with 2 notopleurals (posterior seta much longer and stronger) and 2 short closely set scutellars (shorter than posterior notopleural seta); acrostichal and dorsocentral setae minute, the former arranged in 1–2 irregular rows, lacking on prescutellar depression; the latter uniserial, 1 prescutellar pair somewhat longer.

Legs long, slender, almost entirely yellow, hind femur brownish yellow apically, hind tibia with brown ring on apical 1/6. Fore coxa subshining, with numerous unmodified setae anteriorly. Fore femur thickened, with rows of short anteroventral and posteroventral yellowish setae. Fore tibia spindle-shaped. Mid femur rather slender, with rows of brownish yellow anteroventral and posteroventral spinule-like setae becoming longer basally, bearing 1 long posteroventral seta near base. Mid tibia with hardly prominent ventral spinules (more distinct subapically) but with 2 black apical spinules. Hind leg unmodified, without prominent setae. Tarsi of all legs unmodified.

Wing normally developed, with two very faint infusate broad bands separated throughout. Costal seta absent. Vein  $R_1$  meeting costa near wing midway. Proximal section of vein  $R_{4+5}$  considerably longer than  $R_s$ . Veins  $R_{4+5}$  and  $M_{1+2}$  parallel toward wing-apex. Crossveins r-m and bm-cu separated. Cells br and bm extending to wing midway. Halter yellow.

Abdomen almost entirely yellow, subshining, mostly with short yellowish setulae, tergites broadly brownish yellow dorsally, sternite 8 with long posteromarginal setae.

Terminalia (Figs. 1–3) large, brownish, subshining. Right cercus with deep apical excision, bearing several moderately long unmodified setae. Left cercus shorter than right cercus, slightly concave apically, with several unmodified setae of different lengths. Right epandrial lamella conical, with several long unmodified setae, bearing large subglobular ventral projection. Right surstylus differentiated from epandrium, long, narrow, with several spines on inner face. Left epandrial lamella small, with several short unmodified setae. Left surstylus differentiated from epandrium, with several unmodified subapical setae.

**Female.** Unknown.

**Etymology.** – The new species is named after Malaysia.

**Distribution and seasonal occurrence.** – Malaysia. Known from a single locality in mountains of Pahang Province. The record is from the beginning of January.



Figs. 1–3. *Tachydromia malaysiensis*, new species, male. 1, right epandrial lamella, lateral view, 2, hypopygium, dorsal view, 3, left epandrial lamella, lateral view. Scale 0.1 mm.

**Remarks.** – The relationships of *T. malaysiensis* are unclear beyond inclusion within the *T. luang* species group. In the key to *Tachydromia* species of the Oriental Region the new species runs to *T. luang*, which is known from Singapore and Thailand (Shamshev & Grootaert, 2008). Besides distinctive differences in the male terminalia *T. malaysiensis* can be readily distinguished from *T. luang* by entirely yellow fore tibiae (vs. contrastingly black on apical third in *T. luang*).

***Tachydromia pahangiensis*, new species**

**Material examined.** – Holotype – female, MALAYSIA: Pahang, Brinchang, 24 Nov.–2 Dec. 1977, coll. B. Bendell [CNC].

**Diagnosis.** – Recognised by silvery white flattened setae on occiput, black body and legs, wings almost entirely uniformly brownish infuscate and halteres with yellow knob.

**Description.** – **Female.** Body about 2.3 mm, wing 2.8 mm. Head black. Eyes extending beyond ocellar tubercle and almost touching on vertex. Frons short, narrow, pollinose, almost parallel-sided. Ocellar tubercle pollinose, ocellars minute. Occiput entirely pollinose, bearing 2 moderately long closely set black verticals, 2 similar setae and some scattered dark setulae on upper part, covered with numerous silvery white flattened setae on lower part closer to neck and mouth-opening. Antenna brown, postpedicel short, subtriangular; stylus apical, very long, short pubescent. Proboscis brown. Palpus small, truncate, transparent, almost lacking pubescence, with 1 very long subapical seta and some pale yellow setulae.

Thorax black, prosternum and anterior margin of proepisternum finely greyish tomentose, antepnotum, postpronotal lobe (except outer face), scutum, scutellum, mediotergite, meron (= hypopleuron) and laterotergite (= metapleuron) finely brownish tomentose, otherwise thorax shining. Postpronotal lobe very large, lacking conspicuous setae. Mesonotum with 2 subequally strong, moderately long black notopleurals and 4 scutellars (apical pair shorter than notopleurals, lateral pair minute); acrostichal and dorsocentral setae minute, the former arranged in 3–4 irregular rows, lacking on prescutellar depression; the latter uniserial.

Legs long, slender, largely shining, almost entirely black, knees of fore legs, hind tibiae broadly before middle (but except narrow space basally), fore and mid tarsomeres 1–2, hind basitarsus (except apex) and most part of hind tarsomere 2 (except apex) yellow. Fore coxa subshining, finely tomentose anteriorly, shining laterally, with numerous unmodified dark setae anteriorly. Fore femur strongly thickened, whitish pubescent ventrally, with several black anteroventral spinules on about basal half. Fore tibia somewhat spindle-shaped, with row of ventral spinules. Fore basitarsus with ventral spinules. Mid femur slender, with rows of black anteroventral and posteroventral setae becoming longer basally. Mid tibia with hardly prominent

ventral spinules, lacking subapical projection. Hind leg very long and slender, without prominent setae. Mid and hind basitarsi with unmodified setation.

Wing normally developed, almost uniformly brownish infuscate, darker anteriorly, paler near base. Costal seta short. Vein R<sub>1</sub> meeting costa somewhat beyond wing midway. Proximal section of vein R<sub>4+5</sub> considerably longer than Rs. Veins R<sub>4+5</sub> and M<sub>1+2</sub> parallel toward wing-apex. Crossveins r-m and bm-cu separated. Cells br and bm extending to wing midway. Halter with yellowish knob and brownish stem.

Abdomen black, subshining, with scattered setae longer laterally. Cercus long, slender, brown.

**Male.** Unknown.

**Etymology.** – The epithet refers to the type locality, Pahang.

**Distribution and seasonal occurrence.** – Malaysia. Known from a single locality in Pahang Province. The record is from the end of November to the beginning of December.

**Remarks.** – The relationships of *T. pahangiensis* are unclear beyond inclusion within the *T. luang* species group. In having silvery white flattened setae on occiput, largely shining thorax, black legs, almost entirely uniformly brownish infuscate wings and halteres with yellow knob the new species can be readily distinguished from all other species of the *T. luang* group, which are currently known from the Orient (Shamshev & Grootaert, 2008).

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