

A New Species of the Genus *Thinophilus* Wahlberg from the River Banks of the Mekong River in Thailand (Diptera: Dolichopodidae)

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ABSTRACT.— *Thinophilus mekongensis* sp. nov. recorded from the banks of the Mekong river is described and illustrated. A key to the Oriental freshwater species of *Thinophilus* is given.

KEY WORDS: Dolichopodidae, *Thinophilus*, Thailand.

INTRODUCTION

The genus *Thinophilus* Wahlberg, 1844 belongs to the Dolichopodidae subfamily Hydrophorinae and is one of the most diverse dolichopodid fly genera inhabiting coastal environments (Grootaert et al., 2015; Samoh et al., 2017). They are adapted to and thrive in marine habitats such as front mangroves, along creeks in the back mangroves, on sandy beaches and on rocky shores. Generally, they forage along the water edge in areas fully exposed to the sun. Males usually have typical Male Secondary Sexual Characters (MSSC's) consisting of flags on the tarsi, whiskers, typical bristles and long hairs on the legs in all shapes and possible colours. Sometimes the tarsi are deformed with a shield like appendage as in *Thinophilus parmatus* and *T. parmatoides* (Grootaert & Meuffels, 2001; Samoh et al., 2017).

Rather few *Thinophilus* are known from Thailand. The first three species of *Thinophilus* were recorded and described from peninsular Thailand: *T. parmatus* Grootaert & Meuffels, 2001, *T. nitens* Grootaert & Meuffels, 2001 and *T. setiventris* Grootaert & Meuffels, 2001.

Although the title of the paper (Grootaert and Meuffels, 2001) referred to marine dolichopodid flies, the latter two species *T. nitens* and *T. setiventris* were found in a dry riverbed and are only occasionally found in marine habitats (Grootaert, unpubl.). Hence, they can be considered as fresh water species. In a recent paper, Samoh et al., 2017 described eight new species from mangroves in peninsular Thailand. All these species are true mangrove species and have not been reported from terrestrial habitats.

In the Oriental region very few *Thinophilus* have been reported from terrestrial habitats until now. In Indonesia, we know of five *Thinophilus* species *sensu stricto* and if one considers *Schoenophilus* as a subgenus of *Thinophilus*, which is very likely, then we should add *Thinophilus* (*Schoenophilus*) *acutifacies* (Hollis, 1964). Thus the following six species are considered as terrestrial in Indonesia: *T. androegenus* Hollis, 1964, *T. phollae* Hollis and *T. (Schoenophilus) acutifacies* Hollis, 1964 all described from Fort de Kock (now Bukittingi on Sumatra at 920m above sea level) (Hollis, 1964). In addition, Hollis (1964) reported *T. seticoxis* Becker, 1922 from Fort de Kock, without further

specification of the characters. This species was originally described from Taiwan without specification of its habitat. Another two species were described by de Meijere (1916) *T. cuneatus* De Meijere, 1916 and *T. pectinipes* De Meijere, 1916, from Wonosobo on Java. These localities are not marine and no saline waterbodies are known from the surroundings.

It is not clear if the species described by Becker (1922) from Taiwan are all strictly mangrove species. As mentioned above *T. seticoxis* Becker, 1922 might be a freshwater species.

In the present paper a small *Thinophilus* species is described that was found along some temporary pools in the dry riverbed of the Mekong river near the city of Chiang Khan in North Thailand. Including this new species, nine fresh water species are now recorded for the Oriental Realm.

RESULTS

Class Insecta Linnaeus, 1758
Order Diptera Linnaeus, 1758
Superfamily Empidoidea Latreille, 1804
Family Dolichopodidae Latreille, 1809
Subfamily Hydrophorinae Lioy, 1864

Thinophilus Wahlberg, 1844

Thinophilus Wahlberg, 1844: 37. Type species: *Rhaphium flavipalpe* Zetterstedt, 1843 (monotypy).

Parathinophilus Parent, 1932: 161. Type species: *Parathinophilus expositus* Parent, 1932 (monotypy).

Thinophilus mekongensis sp. nov.

Figs 1–9

Diagnosis.— A medium-sized species with yellow fore coxa bearing long black bristles. Tip of all apical tarsomeres black. Male with hind femur with a double row of long fine ventral bristles with curly tips, nearly twice as long as femur is wide. Sternite 4 with 2 clusters of 4–5 long bristles on the lateral margin.

Etymology.— Being discovered along the banks of the Mekong river, the name *mekongensis* is proposed.

Type material

Holotype male.— THAILAND, Loei province, Chiang Khan, bank of Mekong river (17°53'40.18"N, 101°39'06.29"E), 11 February 1999 (reg. 99023; leg. P. Grootaert; on pin, collections of the Royal Belgian Institute of Natural Sciences, Brussels).

Paratypes.— 8 males, 4 females from same origin (RBINS); 1 male, 1 female also from the same origin in the collections of the Princess Maha Chakri Sirindhorn Natural History Museum of the Prince of Songkla University (NHM-PSU), Hat Yai, Songkhla, Thailand.

Description

Male (Fig. 1)

LENGTH.— Body 4.0 mm; wing 3.5 mm.

HEAD.— Face and frons metallic blue in ground-colour but dulled by a brownish dusting. Antenna entirely yellow with black arista. A pair of long ocellars, somewhat shorter verticals and shorter but strong postverticals. The 6 upper postoculars are short, black; the lower postoculars twice as long and forming dense white whiskers (Fig. 2). Palpus yellow with black bristles.

THORAX.— Thorax and scutellum with coppery and purple reflections. No dull black spots. Bristles on thorax black.

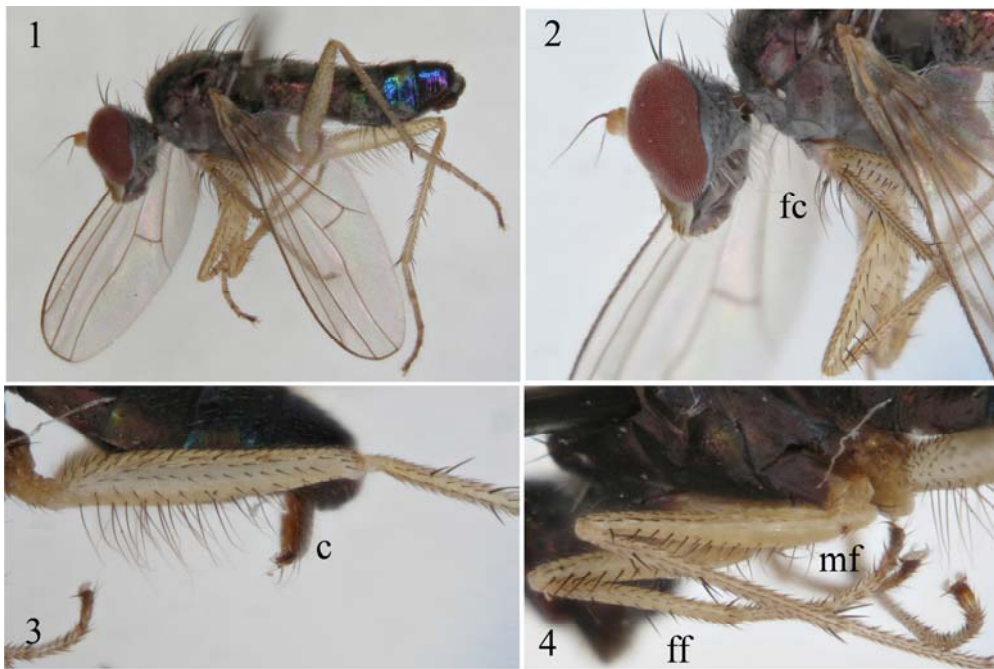


FIGURE 1-4. *Thinophilus mekongensis* sp. nov. male: 1. habitus; 2. head, anterior part thorax and fore leg in lateral view. fc: fore coxa; 3. hind femur in anterior view. c: cercus; 4. Fore and mid femur in posterior view. ff: fore femur; mf: mid femur.

Acrostichals lacking; 6 dorsocentrals: 4 being equally long, but preceded by a short bristle and ending with a prescutellar that is twice as long as the preceding bristle. Scutellum with 2 long marginals, with a short bristle at each side. One white upper propleural bristle and 2 longer lower propleural bristles.

LEGS.— Yellow including fore coxa but mid and hind coxa brown. Apical tarsomere of fore leg brown; tip of apical tarsomere of mid leg brown; tip of apical tarsomere of hind leg yellow.

Fore leg. Coxa anteriorly set with very long black bristles, some as long as coxa is long (Fig. 1). Femur in apical third with about 6 posterior bristles as long as femur is wide (Fig. 4); ventrally with a double row of short bristles (less than half as long as femur is wide), basal bristle longest. Tibia with 2

anterior, 2 posterodorsal bristles and an apical circlet of short bristles.

Mid leg. Coxa with a long black exterior. Femur with a double row of short ventrals, but basal 3 bristles as long as femur is wide (Fig. 4). Tibia with 2 anterodorsal bristles.

Hind leg. Coxa with a long black exterior. Hind femur nearly twice as wide as mid femur, ventrally with a double row of long fine brownish bristles with curly tips, nearly twice as long as femur is wide (Fig. 3), the longest bristles at the middle of the femur; 2 anterior bristles near middle. Tibia with 3 anterodorsal and 3 posterodorsal bristles.

WINGS.— Uniformly brownish tinged, without spots. Posterior cross vein straight, apical part of M_{3+4} 1.5 times as long as posterior cross vein. Anal vein not reaching wing margin. Squama white with white cilia. Haltere white.

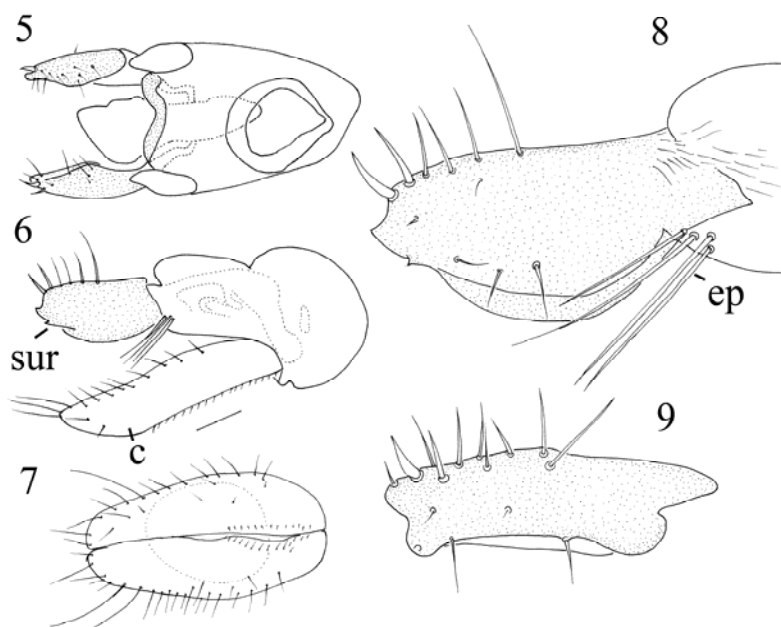


FIGURE 5-9. *Thinophilus mekongensis* sp. nov. male terminalia. 5. Genital capsule ventral; 6. Genital capsule lateral; c: cercus; sur: surstylus. 7. Cerci dorsal; 8. Detail surstylus; ep: epandrial bristles. 9. Surstylus obliquely showing the bifid apex. Scale 0.1 mm.

ABDOMEN.— Abdomen blackish brown in ground-colour with tergites 5 and 6 shining metallic blue (Fig 1). Sternite 4 with at least 4-5 long bristles on lateral margin (Fig. 1). Lateral side and apical margin of sternite 5 also with a few long black bristles.

Male terminalia (Figs 3, 5-9). Surstylus dark brown, short and wide (Figs 5, 8, 9). Apical half of surstylus ventrally set with a double row of bristles (Fig. 9); distal bristles strongest, spine-like (Fig. 8). Tip of surstylus bifid when viewed obliquely as can be seen when tilted (Fig. 9). Epandrial lobe absent, not produced into a papilla or tubercle, but the area set with 4 strong bristles (Fig. 8). Cerci large, brown, reaching apex of surstyli. Boat-shaped forming a ventral cavity to cover the long coiled phallus. Cerci dorsally touching but not fused (Fig.7).

Female

Same body and wing size as in male.

Bristles on fore coxa shorter and all other bristles on legs shorter. No long ventral bristles on hind femur. Colour of the apical tarsomere of all legs variable: in some females all are darkened, but in others the apical tarsomere is not darkened at all. Tergite 5 not shining blue but blackish brown like the other tergites.

Remarks

Thinophilus mekongensis sp. nov. is quite unique in having very long ventral bristles on the hind femora of the male. No other freshwater species have this character. In the key below a key is presented to all Oriental freshwater species of *Thinophilus* species.

Key to male Oriental freshwater species of *Thinophilus*

The present key is limited to the freshwater species from the Oriental region. A number of species that might occur in freshwater habitats in Taiwan can be found in Becker's key (1922). Keys to the species of southern China can be found in Grootaert et al. (2015). The marine species from peninsular Thailand are keyed in Samoh et al. (2017).

Species from Japan have been keyed by Negrobov et al. (2014) and moreover Negrobov et al. (2016) provide a key for all the East Palaearctic species.

1. - Arista apical, antenna entirely black; 2 mm (Java, Indonesia) *Thinophilus (Schoenophilus) acutifacies* Hollis
 - Arista dorso-apical *Thinophilus sensu stricto* 2.
2. - Wing with dark spots on veins R_{4+5} , M_{1+2} and the posterior cross vein (Tp); sternite 3 with a cluster of long bristles (Thailand, Singapore) *setiventris* Grootaert & Meuffels
 - Wing without dark spots; sternite 3 lacking ventral bristles 3.
3. - Mesonotum with a long dull black spot; fore femur and tibia with a dense multiseriata comb-like row of equally long bristles (Java, Indonesia) *pectinipes* de Meijere
 - Mesonotum without dull black spots; not the above combination of characters 4.
4. - All coxae black, 3 mm (Java, Indonesia) *cuneatus* de Meijere
 - Fore coxa yellow except for base 5.
5. - Fore coxa with long white anterior bristles 6.
 - Fore coxa with only black bristles 7.
6. - Apical 2 tarsomeres of fore and mid leg broadened and darkened. Fore coxa with a single black bristle at the outside of the long white hairs and a row of black apical bristles (Thailand, Singapore) *nitens* Grootaert & Meuffels
 - Only tarsomere 5 of mid leg is widened and black. Fore coxa with only long white hairs (Indonesia; Taiwan) *seticoxis* Becker
7. - Hind femur with ventral bristles twice as long as femur is wide (Thailand) *mekongensis* sp. nov.
 - Hind femur with shorter ventral bristles 8.
8. - Mid femur with 3 ventral rows of long bristles; only short bristles on fore and hind femur; prothoracic bristles black; 3 mm (Sumatera, Indonesia) *androegenus* Hollis
 - All femora with only short bristles (Sumatera, Indonesia) *phollae* Hollis

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