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) refered 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 Hydrophoridae Lioy, 1864

*Thinophilus* Wahlberg, 1844

*Thinophilus* Wahlberg, 1844: 37. Type species: *Rhaphium flavipalpe* Zetterstedt, 1843 (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°39’06.29E), 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 Sirindhon 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 postoculcals are short, black; the lower postoculars twice as long and forming dense white whiskers (Fig. 2). Palpus yellow with black bristles.  
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; 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.
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 surstyla. 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 multiseriate
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) ………………………………………………… seticaxis 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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LITERATURE CITED


