

**A NEW SPECIES OF *RHAMPHOMYIA* (*PARARHAMPHOMYIA*)  
(DIPTERA: EMPIDIDAE) FROM THAILAND**

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**ABSTRACT.** *Rhamphomyia* (*Pararhamphomyia*) *thaiciliata*, sp. nov. from Thailand is described and illustrated. This is the southernmost species of the *ciliatopoda* group. A key to the species of *R. (P.) ciliatopoda* group is provided.

Key words: Empididae, *Rhamphomyia* (*Pararhamphomyia*), new species, Thailand, taxonomy.

### Introduction

Species of the large genus *Rhamphomyia* mostly occur in the Holarctic Region. A new species, *R. (Pararhamphomyia) thaiciliata*, sp. nov. is described from Thailand. This is the southernmost species of the *ciliatopoda* species group, first mentioned by Saigusa (1963: 236). Species of this group are small (wing length 3.3–4.8 mm), with acrostichals present, both prosternum and proepisternal depression bare, complete anal vein ( $A_1$ ), and uniserial dorsocentrals. Male legs (especially mid tibiae) with very long setae, the longest about half as long as mid tibia. Females are known only for *R. rotundicauda* Saigusa, 1964 and *R. thaiciliata*, sp. nov. and they have pennate legs. All known species of this group are distributed in Southeast Asia (Fig. 3).

### Materials and Methods

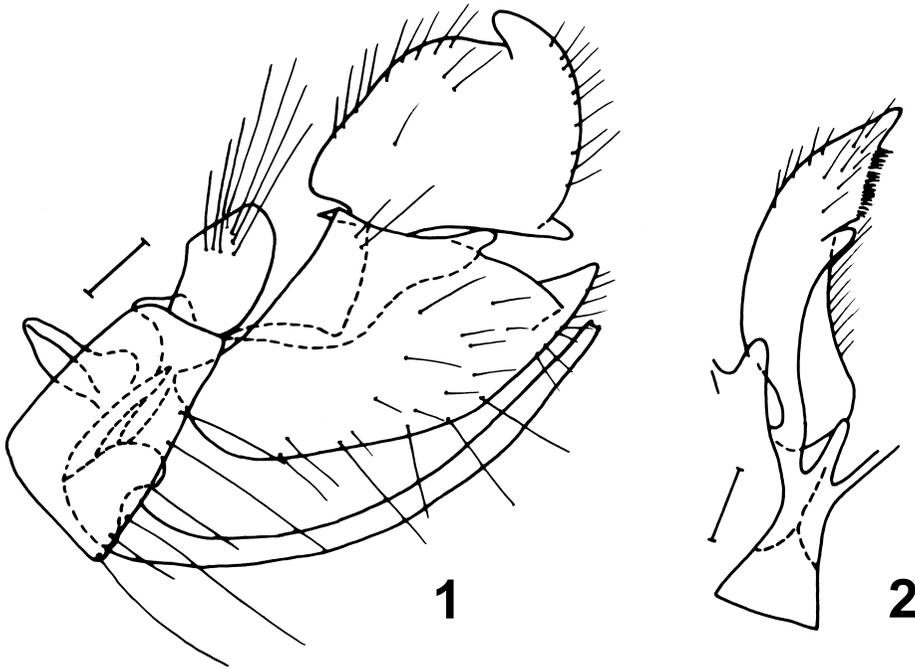
The specimens studied are deposited in the following collections: CULSP (Czech University of Life Sciences, Prague – formerly Czech University of Agriculture) and MHNG (Muséum d'Histoire Naturelle, Geneva).

The genitalia were macerated in 10 % KOH (24 hours, room temperature) and stored together with specimens in plastic microvials with glycerine. The morphological terms used here follow Merz & Haenni (2000) and Sinclair (2000). Abbreviations: T11, T21, T31 = length of fore, mid, hind tibiae; B11, B21, B31 = length of fore, mid, hind basal tarsomeres; B1w, B2w, B3w = width of fore, mid, hind basal tarsomeres; M2/D = length of vein M2: greatest length of discal medial cell (discal cell); M3/Db = length of apical: preapical sections of vein  $CuA_1$ ; lw: ww = greatest length of wing: greatest width of wing. Ratio of antennal segments = length of segment 1: length of segment 2: length of segment 3: length of style (in 0.01 mm scale). Characters marked with ? are unclear (e.g. width of face or frons may be difficult to measure when shrunken, or length of setae when broken).

***Rhamphomyia (Pararhamphomyia) thaiciliata*, sp. nov. (Figs. 1–2)**

*Male*: Eyes holoptic, facets in ventral half of eye much smaller than in dorsal half. Frons black, grey microtrichose, bare. Ocellar setae black, 1/3 as long as frons, ocellar triangle with several short additional setae in caudal part. Face black, grey microtrichose, about 0.14 mm broad ventrally and 0.17 mm long, bare. Occiput brownish-black, grey microtrichose, sparsely covered with fine black setae dorsally and pale setae ventrally, postocular row almost absent. Antennae black, ratio of antennal segments = 7: 6: 23: 6, both basal antennomeres rather short setose (the longest setae about 0.07 mm long). Labrum brownish-yellow, polished, 3/4 as long as head is high. Palpus brown and very short, with a few pale setae. Genae very narrow and microtrichose, clypeus microtrichose. Thorax brownish-black, mesoscutum grey or brownish-grey, with two (scarcely visible) darker brown stripes between rows of setae. Chaetotaxy: 3-4 fine pale setae on proepisternum; prosternum and proepisternal depression bare; about 6-8? (broken in all male specimens) 1-2 serial, very short and fine dark acrostichals; 6-7? uniserial, very fine dark dorsocentrals (probably longer than acrostichals, about 0.10 mm long in middle of rows), ending in 2 prescutellars; intrahumeral absent; 1 strong posthumeral (no other setae laterad of dorsocentrals); postpronotum with 1 strong and long seta and several much shorter and mostly pale setae; 3 notopleurals (front part of notopleura with 1-3 fine setae); 1 short supraalar and no setae in prealar area; 1 postalar; 2 long and 2 much shorter scutellars; laterotergite (metapleura) with pale setae. Coxae yellow, microtrichose, with both pale and brown setae. Legs with all femora yellow, tibiae to various extent brownish, tarsi brown except paler basal tarsomeres (in some specimens), legs microtrichose (hind femur polished), covered mostly with brown setae. One short seta present in comb at tip of hind tibia. Fore femur with very short setae. Fore tibia with homogeneous and fine, rather dense posterodorsal setation as long as tibia is deep, anterodorsal row consists of more prominent setae especially in apical half, ventral setation short and pale. Mid femur with sparse row of anteroventral setae in middle nearly twice as long as femur is deep and with similar row of slightly longer posteroventral setae, the longest of them in middle of femur about 0.40 mm long (4 times as long as femur is deep). Mid tibia with single long preapical anterodorsal and shorter preapical posterodorsal and with very long submedian anteroventral seta (nearly half as long as tibia), two ventral rows consist of setae slightly longer than tibia is deep. Hind femur with rows of fine anteroventral and posteroventral setae short on proximal part and nearly as long as femur is deep on distal part, also with several equally long anterodorsal setae, otherwise short setose. Hind tibia with 4-5 anterodorsal setae nearly twice as long as diameter of tibia, posterodorsals short except preapical, ventral setae somewhat longer than tibia is deep, posteroventral area in basal third with peculiar microtrichosity. Basal tarsomere of fore leg very slightly swollen, with conspicuously long preapical pair of dorsal setae, remaining setae on both sides slightly longer than this tarsomere is deep, T1l: B1l = 2.2-2.3, B1l: B1w = 4.0-4.1, basal tarsomere of mid leg slender and short setose, with several spine-like setae ventrally near base, preapical setae not strikingly long, T2l: B2l = 2.0, B2l: B2w = 9.0, basal tarsomere of hind leg long, almost not swollen, with 5-6 dorsal setae (including preapicals) nearly 0.30 mm long, ventral setae twice longer than this tarsomere is deep, hind tarsomere 2 with several prominent setae dorsally, T3l: B3l = 1.5-1.7, B3l: B3w = 8.5. Wing clear, iridescent, stigma brown, veins brown, anal vein (A1) almost complete, weakened about middle. Costal seta present, axillary angle right-angled. M2/D = 1.2-1.4, M3/Db = 1.4-1.7, 1w: ww = 2.9-3.0. Halter yellow, calypter brownish-yellow with pale fringes. Abdomen brownish-black, polished, dorsum of tergites microtrichose, but pruinosity broad on

basal segments and narrowed apically, thus, tergite 6 only with narrow pruinose stripe and tergite 7 entirely lustrous, genital lamellae subpolished. Abdominal setae mostly pale, dorsum of tergites, last segments and genital lamellae with additional dark setae; hind marginal setae on sides of tergites 2-3 slightly longer than their corresponding segments, subsequent segments gradually shorter setose, discal setae shorter than marginals; dorsum of tergites short setose. Terminalia as in Figures 1 and 2: cercus conspicuously large, with dorsal and apical finger-like processes and short spine-like setae apically; epandrium with finger-like process dorsally; phallus with conspicuous subbasal swelling; hypandrium strip-like. Length of body 2.6-2.7 mm (without genitalia), wing 3.5-3.8 mm.



Figs. 1-2. *Rhamphomyia thaiciliata*, sp. nov.: 1, male genitalia, lateral view (macerated); 2, ventral epandrial sclerite. Scales = 0.1 mm.

*Female*: Similar to male but with the following exceptions. Eyes broadly dichoptic, all facets subequal in size. Frons brown, polished, 0.16 mm broad in middle and 0.20 mm long, with several fine setae on each side. Face pruinose, 0.14? mm broad and 0.12? mm long. Ratio of antennal segments = 7: 7: 21: 5. Ocellar setae lost in female paratype. Labrum subequally long as head is high. Thorax similarly colored and setose as in male, only setae darker (laterotergite with brownish setae). Legs including coxae similarly colored as in male, but setae on legs almost all dark. Fore femur and tibia short setose. Mid femur with short dorsal pennation and also posteroventral setae are distinctly flattened, anteroventral area almost bare. Mid tibia short setose. Hind femur with broad dorsal and ventral pennate setation, otherwise (anterior and posterior surfaces) almost bare, no anteroventral setae. Hind tibia with flattened anterodorsal setae, ventral setae slightly flattened only on basal part. Basal tarsomeres of all legs thin and short setose, with short ventral spine-like setae, T1l: B1l = 1.8-1.9, B1l: B1w = 9.0, T2l: B2l = 2.1, B2l: B2w =

9.0, T3l: B3l = 1.7-1.8, B3l: B3w = 10.6. Wing light brown, stigma brown, veins brown, M2/D = 1.3, M3/Db = 1.7-1.8, lw: ww = 2.8-2.9. Calypter with brown fringes. Abdomen brown, polished, only the first two tergites and two apical segments pruinose. Hind marginal setae on sides of tergites scarcely 1/3 as long as their corresponding segments. Length of body 2.8 mm, wing 3.6 mm.

*Comparison:* Males of *Rhamphomyia* (*Pararhamphomyia*) *thaiciliata*, sp. nov. somewhat resemble *R. rotundicauda* in having enlarged and globular cercus (remaining species of this group have small and bilobate cercus). However, both species differ in many characters: *R. rotundicauda* has an entirely dark setose body, relatively short ventral setae on mid femora, long submedian anterodorsal seta on mid tibia, and different male terminalia. Within the *R. ciliatopoda* group of species, females are known only for *R. rotundicauda* and *R. thaiciliata*. The female of the former species has subpennate setae on fore basal tarsomere, no pennation on the mid femur dorsally, and the femora apically darkened. Beside these differences, the latter species has a polished frons; however, this character is unknown to us for the former species.

*Etymology:* The specific name is composed of *thai-* (= Thailand) and *ciliata* because it belongs to the *R. ciliatopoda* group of species.

*Holotype:* ♂, THAILAND: Chiang Mai Province: Doi Suthep-Pui NP: near Doi Suthep summit, 1550 m, 18.82 N, 98.89 E, 1.xi.2000, Coll. Merz & Schwendinger (MHNG). *Paratypes:* Thailand: 1♂, 1♀, same data as the holotype (CULSP).

Distribution: Thailand.

#### Key to males of the *R. ciliatopoda* group

- 1 Legs at least partly yellow (late autumn species) .....2
- Legs brown (spring to early summer species) .....6
- 2 Male cercus very large, globular or almost globular .....3
- Male cercus smaller, C-shaped (concave dorsally).....4
3. Body with black setae. Long submedian anterodorsal seta on mid tibia present .....  
.....*rotundicauda* Saigusa
- Body partly with pale setae (on laterotergite, abdomen). Long submedian anterodorsal seta on mid tibia absent.....*thaiciliata*, sp. nov.
4. Legs completely yellow. Cercus elongated, only slightly concave above.....  
.....*maai* Saigusa
- Legs partly dark. Cercus deeply concave above.....5
5. Male fore tibia with at least one prominent anterodorsal seta near middle. Wings brownish .....*yasumatsui* Saigusa
- Male fore tibia short setose dorsally, with only subbasal and preapical setae. Wings greyish .....*ciliatopoda* Saigusa
6. Phallus swollen basally, slender apical section short, subequally long as thickened part. Cercus with basal lobe almost as high as long, apical process on its ventral side prominent. (Additional character: mid tibia sinuate).....*curvitibia* Saigusa
- Phallus long and subequally thin throughout. Cercus elongated, twice as long as high, without prominent process ventrally .....*tachulanensis* Saigusa

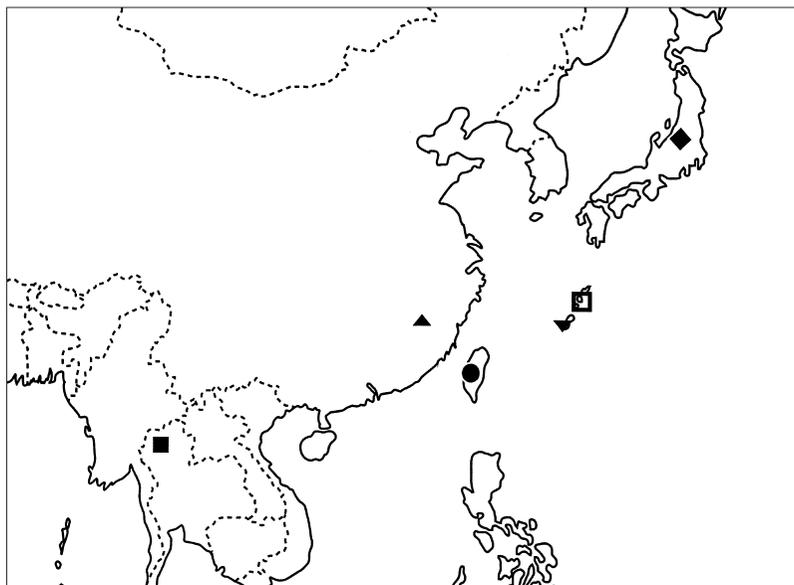


Fig. 3. Distribution of species of the *R. (P.) ciliatopoda* group. ◆ = *R. rotundicauda*, ▼ = *R. yasumatsui*, ▲ = *R. tachulanensis* and *R. maai*, ◻ = *R. ciliatopoda*, ● = *R. curvitibia*, ◼ = *R. thaiciliata*.

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