

Description of Two New Species of the Genus *Stilpon* Loew (Diptera: Hybotidae) from Cambodia

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ABSTRACT.– Two new species of the genus *Stilpon* Loew (Diptera: Hybotidae) are described from Cambodia: *Stilpon goesi* sp. nov. and *Stilpon angkorensis* sp. nov.

KEY WORDS: Diptera, Empidoidea, Hybotidae, *Stilpon*, new species, Orient, Cambodia.

INTRODUCTION

The Oriental fauna of the fly genus *Stilpon* Loew has been recently reviewed and the group includes currently 17 species known from this realm (Shamshev & Grootaert, 2004). In the present paper we describe two new *Stilpon* species that is the first record of this genus from Cambodia

The study is based on the Diptera material deposited in the Entomology Department of the Royal Belgian Institute of Natural Sciences. For details of the methods, including morphological terms and descriptive format, we refer to the paper published recently by the authors (Shamshev & Grootaert, 2004). In the descriptions, right and left sides 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. The male terminalia are figured in their unrotated position.

Stilpon goesi sp. nov. (Figs 1-5)

Material examined.– Holotype male: Cambodia, Angkor, Preah Khan Temple, 15-31.I.04, Mal. trap, leg. F. Goes IG 30.191. Coll. I.R.Sc.N.B.

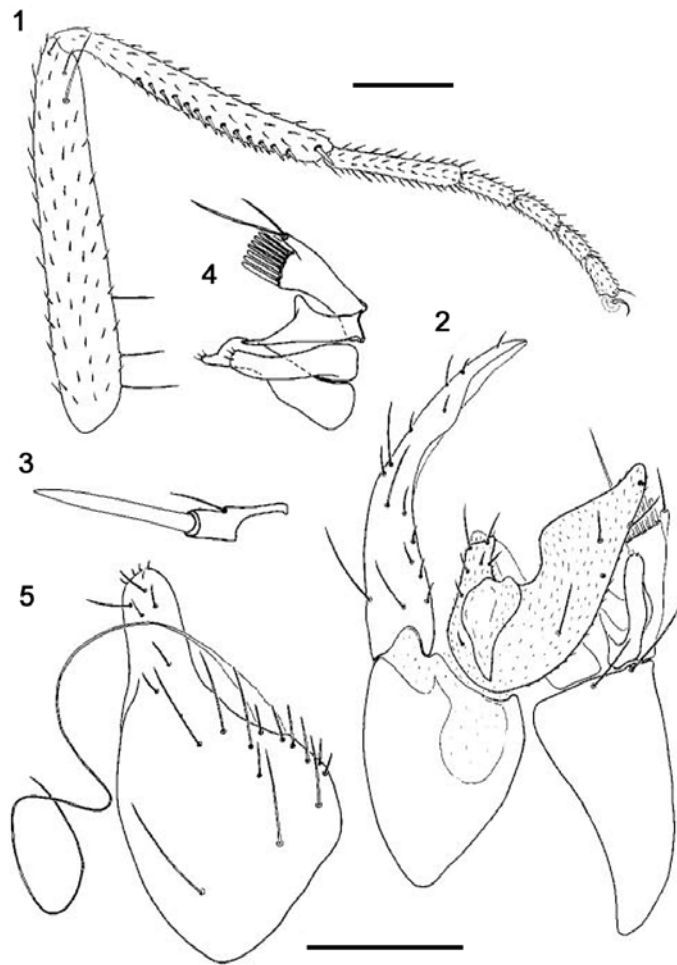
Paratypes. 1 female, same data as in holotype.

Diagnosis.– Species with wholly black thorax; legs almost wholly yellow, only tarsomere 5 of all legs black; wing deeper infusate along veins R4+5 and CuA1. Male: mid femur with 3 moderately long, ventral, brownish bristles in basal 1/3; abdominal gland-like structures not prominent; terminalia lacking spines, with markedly developed surstyler comb.

Male: Body length 1.6 mm, wing length 1.4 mm. Head black in ground-colour. Occiput subshining, finely greyish pollinose. Two short, black, vertical bristles present. Frons linear with sides nearly parallel, rather broad, nearly 3.5 times as broad as anterior ocellus, entirely tomentose. Antenna with scape and pedicel reddish yellow, postpedicel and style brown. Palpus yellow, with moderately long, black, subapical bristle.

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FIGURES 1-5. *Stilpon goesi* sp. nov., male. 1. Mid leg, anterior view; 2. Hypopygium, ventral view; 3. Subapical bristles on hypandrium, dorsal view; 4. Left surstylus, right lateral view; 5. Right surstylus, dorsal view. Bar 0.1 mm.

Thorax black in ground-colour. Scutum entirely tomentose. Postpronotal bristle moderately long, inclinate. Dorsocentral bristles in multiple rows, complete posteriorly. Acrostichal bristles 2-serial, complete posteriorly.

Legs almost wholly yellow, only tarsomere 5 of all legs black. Hind trochanter lacking spinules. Fore femur markedly thickened, with rows of moderately long antero- and posteroventral bristles. Mid femur (Fig. 1) slender, with 3 moderately long, ventral, brownish bristles in basal 1/3, bearing 1 long subapical bristle anteriorly. Hind femur (viewed

laterally) evenly thickened toward middle, with 1 row of short anteroventral bristles in apical part (2 bristles longer) and some prominent dorsal bristles near base. Fore tibia spindle-like, with ordinary setation. Mid tibia with row of black, ventral spinules and 1 longer subapical spinule. Hind tibia with unmodified posterior apical comb, clothed in ordinary setulae. Tarsomeres of fore and mid legs unmodified, tarsomere 1 of hind leg thickened.

Wing normally developed, covered with uniform microtrichia; deeper infuscate along veins R4 + 5 and CuA1. Costal vein with short setulae along anterior margin. Vein R2 + 3

about 3 times longer than Rs. Distance between apices of veins R2 + 3 and R4 + 5 longer (1.3 times) than distance between apices of veins R1 and R2 + 3. Veins R4 + 5 and M1 + 2 divergent and evenly arcuate in apical part. Halter with brownish yellow knob and yellow stem.

Abdomen with weakly sclerotised, largely yellow brown tergites and sternites clothed mostly in scattered setulae; segment 8 darker, with 2 long bristles. Intersegmental gland-like structures not prominent.

Hypopygium (Fig. 2) rather large, brown. Hypandrium (Fig. 3) with 1 long spine and 1 short bristle in apical part. Epandrium completely divided. Left epandrial lamella small, fused to hypandrium, bearing 2 long bristles in apical part. Left surstylus (Fig. 4) with upper lobe undivided, with markedly developed surstyler comb. Right surstylus (Fig. 5) rather large, subtriangular, rounded apically, lacking spines. Left cercus unbranched, subtriangular in apical part, rather broad in middle, lacking spines, ventral bristle and marginal bristles in basal part. Right cercus unbranched, small, subrectangular in apical part, lacking spines.

Female: Body length 2.0 mm, wing length 1.4 mm. Mid femur with 3 long, ventral, yellow bristles. Mid tibia lacking ventral black spinules. Halter with brown knob. Otherwise as in male, except for sexual differences. Terminalia elongate. Segment 8 strongly sclerotised. Cercus elongate oval, brown.

Etymology.— The new species is named after the collector Mr. Frédéric Goes.

Distribution and seasonal occurrence. — Cambodia. Actually only known from January.

Remarks.— Within the key to the Oriental species (Shamshev & Grootaert, 2004) *S. goesi* sp. nov. could be included as it is given below. The relationships of the new species are unclear beyond inclusion within the *Stilpon* lineage sharing the elongate female terminalia.

Male:

11.- Hind femur yellowish brown to brownish in apical 2/3. Halter with contrastingly black knob and pale yellow stem. Abdomen with gland-like structures between tergites 4-3 and 3-2.....*S. lek* Shamshev & Grootaert, 2004

- Hind femur wholly yellow. Halter with paler knob. Abdominal gland-like structures not prominent or present between tergites 5-4, 4-3 and 3-2.....11a

11a.- Mid femur with row of 4 brownish yellow bristles in basal 1/3 and 2 spines just beyond middle. Abdominal gland-like structures present between tergites 5-4, 4-3 and 3-2.....*S. lekwar* Shamshev & Grootaert, 2004

- Mid femur with 3 bristles in basal 1/3 only. Abdominal gland-like structures not prominent.....*S. goesi* sp. nov.

Female:

23.- Hind femur yellowish brown to brownish in apical 2/3.....*S. lek* / *S. paradoxus* Shamshev & Grootaert, 2004

- Hind femur entirely yellow.....23a

23a.- Hind femur with 6-7 long, anteroventral bristles in apical part. Halter with paler knob.....*S. lekwar*

- Hind femur with short anteroventral bristles in apical part (2 bristles longer). Halter with darker knob.....*S. goesi* sp. nov.

Stilpon angkorensis sp. nov.
(Figs 6-9)

Material examined.— Holotype male: Cambodia, Angkor, Preah Khan Temple, 15-31.I.04, Mal. trap, leg. F. Goes IG 30.191. Coll. I.R.Sc.N.B.

Paratypes. 3 females, same data as in holotype.

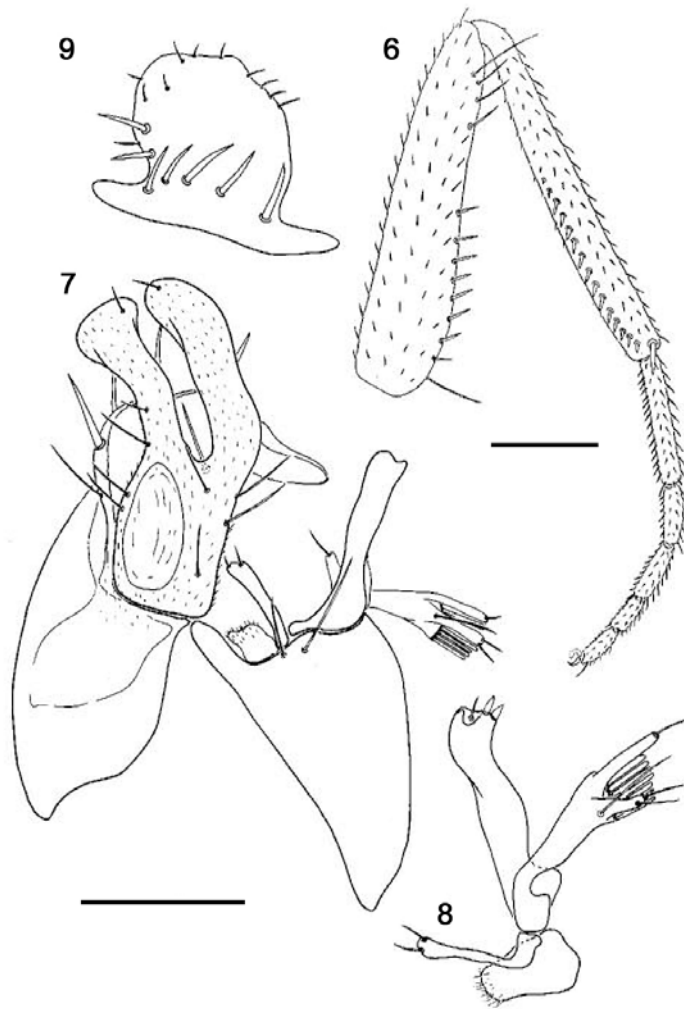


FIGURE 6-9. *Stilpon angkorensis* sp. nov., male. **6.** Mid leg, anterior view; **7.** Hypopygium, ventral view; **8.** Left surstylus, right lateral view; **9.** Right surstylus, dorsal view. Bar 0.1 mm.

Diagnosis.— Species with wholly black thorax; legs almost wholly yellow, only tarsomere 5 of all legs and tarsomere 1 of hind leg brownish; wings lacking pattern. Male: mid femur with 1 black, posteroventral spine beyond middle and 1 row of 7 moderately long, spine-like bristles in basal part; abdominal gland-like structures present between tergites 2-3 and 3-4; right surstylus with several long, spine-like bristles, left surstylus with markedly developed comb.

Male: Body length 1.6 mm, wing length 1.4 mm. Head black in ground-colour. Occiput subshining, finely greyish pollinose. Two long, black, vertical bristles present. Ocellar bristles equally very short. Frons linear with sides nearly parallel, rather broad, nearly 3 times as broad as anterior ocellus, entirely tomentose. Antenna with scape and pedicel yellow, postpedicel and style brownish. Palpus yellow, with moderately long, black, subapical bristle.

Thorax black in ground-colour. Scutum entirely tomentose. Postpronotal bristle long, inclinate. Dorsocentral bristles in multiple rows, complete posteriorly. Acrostichal bristles 2-serial, complete posteriorly.

Legs almost wholly yellow, only tarsomere 5 of all legs and tarsomere 1 of hind leg brownish. Hind trochanter lacking spinules. Fore femur markedly thickened, with rows of moderately long antero- and posteroventral bristles. Mid femur (Fig. 6) slender, with 1 black, posteroventral spine beyond middle, 1 row of 7 moderately long, spine-like bristles in basal part, 1 long, yellowish bristle near base, 3 anteroventral and 1 anterior bristles near apex. Hind femur (viewed laterally) evenly thickened toward middle, with 1 row of at least 5 moderately long, anteroventral bristles in apical part and some prominent dorsal bristles near base. Fore tibia spindle-like, with ordinary setation. Mid tibia with row of black, ventral spinules and 1 longer subapical spinule. Hind tibia with unmodified posterior apical comb, clothed in ordinary setulae. Tarsomeres of fore and mid legs unmodified, tarsomere 1 of hind leg thickened.

Wing normally developed, covered with uniform microtrichia; more or less evenly infusate. Costal vein with moderately long setulae along anterior margin. Vein R2 + 3 about 2.5 times longer than Rs. Distance between apices of veins R2 + 3 and R4 + 5 subequal to distance between apices of veins R1 and R2 + 3. Veins R4 + 5 and M1 + 2 divergent and evenly arcuate in apical part. Halter with brown knob and yellow stem.

Abdomen with weakly sclerotised, largely yellow brown tergites and sternites clothed mostly in scattered setulae; segment 8 darker, with longer bristles. Intersegmental gland-like structures present between tergites 2-3 and 3-4.

Hypopygium (Fig. 7) rather large, brown. Hypandrium lacking bristles in apical part. Epandrium completely divided. Left epandrial lamella small, fused to hypandrium, bearing 2 long bristles in apical part. Left surstylus (Fig. 8) with upper lobe undivided, with markedly developed surstyler comb. Right surstylus (Fig.

9) bent inside of hypopygium, rather small, rounded apically, with 7 long, spine-like bristles in basal part. Left cercus unbranched, rather digitiform, long, lacking spines, with 1 ventral and 2 marginal bristles in basal part. Right cercus unbranched, similar in shape and size to left cercus, somewhat broadened at apex, lacking spines. Phallus long, hair-like, curved.

Female: Body length 1.9 mm, wing length 1.4 mm. Mid femur with 3 long, ventral, yellow bristles. Mid tibia lacking ventral black spinules. Intersegmental gland-like structures absent. Otherwise as in male, except for sexual differences. Terminalia elongate. Segment 8 strongly sclerotised. Cercus elongate oval, brown.

Etymology.– The name of the new species refers to its type locality, Angkor Vat, the famous world heritage site.

Distribution and seasonal occurrence. – Cambodia. Actually only recorded from January.

Remarks.– Within the key to the Oriental species (Shamshev & Grootaert, 2004) the new species could be included as it is given below. The relationships of the new species are unclear beyond inclusion within the *S. divergens* species group.

Male:

- 4. - Hind tarsomere 1 brown.....4a
- Hind tarsomere 1 yellow.....5
- 4a. - Mid femur with 2 ventral, yellowish spines nearer to middle. Distance between apices of veins R2+3 and R4+5 nearly 1.5 times shorter than distance between apices of veins R1 and R2+3.....*S. khorngeun* Shamshev & Grootaert, 2004
- Mid femur with 1 black, posteroventral spine beyond middle and 1 row of 7 spine-like bristles in basal part. Distance between apices of veins R2 + 3 and R4 + 5 subequal to distance between apices of veins R1 and R2 + 3...*S. angkorensis* sp. nov.

Female:

23. - Hind femur yellowish brown to brownish in apical 2/3.....*S. lek* / *S. paradoxus*
- Hind femur entirely yellow.....23a
- 23a. - Hind tarsomere 1 yellow. Halter with brownish to yellowish brown knob.
[Here belong *S. lekwar* and *S. goesi* sp. nov.]
- Hind tarsomere 1 brown. Halter with black knob.....*S. angkorensis* sp. nov.

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LITERATURE CITED

Shamshev, I.V. & Grootaert, P. 2004. A review of the genus *Stilpon* Loew (Empidoidea: Hybotidae) from the Oriental Region. The Raffles Bulletin of Zoology, 52(2): 169-200.

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