

Three New Species and Range Extensions of the Genus *Styringomyia* from the South Pacific and Southeast Asia (Diptera: Tipulidae)

C. Dennis Hynes¹

ABSTRACT

Three new species of the genus *Styringomyia* are described, 2 from the Solomon Islands, 1 from Malaysia. New records are reported for *S. melanopinax*, *S. sinensis*, and *S. spathulata*. Additionally, the hypopygia of *S. halavana* and *S. solomonensis* are illustrated.

INTRODUCTION

The following are descriptions of new species and range extensions concerning the genus *Styringomyia* Loew in the collections of the Bishop Museum (Honolulu). They include forms from the Solomon Islands and Sabah, Malaysia (formerly British North Borneo). All specimens are in Bishop Museum (BPBM).

The critical features for distinguishing *Styringomyia* species are found in the male genitalia. There appear to be no distinctive, proven features in the females that separate species. I have found several cases in which a description based on the female for one species adequately describes females of what must be other species. This is contrary to statements made about female characters by Edwards (1914) and by Alexander (1972). I have, therefore, assigned allotype specimens only in those cases where the female was found in copulo with an identifiable male.

SYSTEMATICS

Styringomyia bualae Hynes, new species

Fig. 1

MALE. Length 4.7 mm; wing 3.7 mm. Antennal scape light yellow above, brown ventrally; pedicel light yellow, remainder of antennae broken. Palpi yellowish brown. Rostrum and head yellow. Pronotum brown laterally, with a bright yellow median stripe. Remainder of mesonotum and metanotum light brown variegated with yellow. Coxae and trochanters yellow. All legs with femur yellow, incomplete rings of brown at $\frac{2}{3}$ and $\frac{3}{4}$ length. Tibia light yellow with dark brown ring at tip. Remainder of tarsi white, except last segment dark brown. Abdomen with 1st and 2nd segments brownish yellow, remaining segments yellow, with light brown spots at posterolateral edges. Wing light yellow with brown markings at junction of r-m and R, junction of m-cu to M, m, and curve of 2A. Venation with cell 2nd M₂ sessile; 2A slightly curved to edge of wing. Hypopygium with 9th sternite forked; the tips of 2 tines show remains indicating presence of 1 strong seta at tip of each (as indicated by dotted lines on Fig. 1). Ninth tergite truncate at tip, with 2 bands of very fine setae; several elongate and much thicker setae along anterior band. Hypopygium yellow. One modified seta extending from apex of basistyle. Outer dististyle

1. Department of Biological Sciences, California Polytechnic State University, San Luis Obispo, CA 93407, USA.

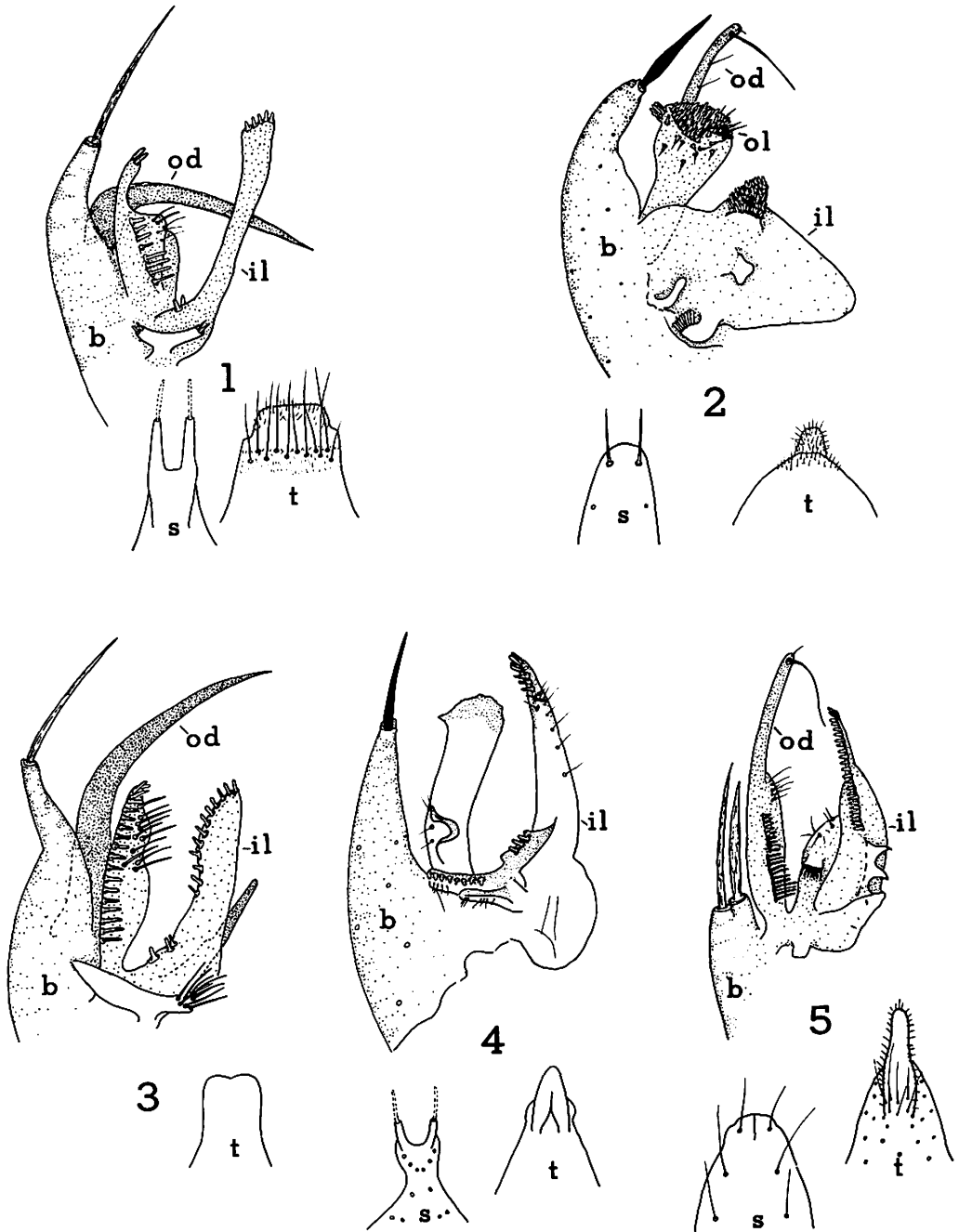


Fig. 1-5. Hypopygia: 1, *Styringomyia bualae*; 2, *S. kalabakanensis*; 3, *S. trifurciscutata*; 4, *S. halavana*; 5, *S. solomonensis*. (b = basistyle, t = 9th tergite, s = 9th sternite, od = outer dististyle, il = inner lobe of inner dististyle, ol = outer lobe of inner dististyle, p = phallosome.)

a curved blade, sclerotized at tip. Inner dististyle with outer lobe fleshy at base, expanded into thick plate with 8-9 thick, cylindrical teeth on outer edge; dorsal inner face and edge with several strong, clear setae; at $\frac{3}{4}$ length, abruptly narrowing into a slightly curved arm with 2 cylindrical teeth at tip. Inner lobe an elongate, flat, slightly curved blade, with 2

cylindrical teeth at base, and 5 teeth on apical edge. What appears to be a smaller, 3rd lobe at base of other 2 is anvil-shaped with 2 dark, thick setae at either end.

Type data. Holotype ♂ (BPBM 13745), SOLOMON IS: Santa Isabel: Buala, 21.VIII.1964 (R. Straatman) genitalia on BPBM slide 2068. Paratypes: 2♂, same data as holotype.

***Styringomyia kalabakanensis* Hynes, new species**

Fig. 2

MALE. Length 4.9 mm; wing 3.6 mm. Palpi and rostrum yellow brown. Antennal scape dark brown ventrally, yellow dorsally; pedicel brown, flagellomere light yellow. Vertex yellow. Pronotum with center yellow, becoming light yellow posteriorly; lateral edges brown. Mesonotum dark brown anteriorly, becoming yellow posteriorly. Light yellow spots on scutal lobes; scutellum yellow centrally, lateral edges brown. Metanotum dark brown. First abdominal segment yellow with dark brown anterior and posterior margins. Stems of halteres yellow, knobs brown. Paratergites light yellow with a conspicuous brown spot halfway between anterior edge and wing base. Area around spiracle brown, remainder of pleura yellow. Coxae and trochanters yellow. Front legs missing. Middle legs yellow; femur with incomplete brown rings at $\frac{1}{2}$ and $\frac{3}{4}$ length, the latter much darker; tibia with brown rings at $\frac{1}{2}$ length and tip, the latter darker; tarsi light yellow, tip of 1st and entire last segment dark brown. Hind legs yellow; femur with incomplete brown rings at $\frac{1}{2}$ and $\frac{3}{4}$ length, the former darker; tibia with brown rings at $\frac{1}{2}$ length and tip, the former darker; tarsi light yellow, apex of 1st segment and entire last segment brown. Wing light yellow, veins scarcely darker, with brown markings at r-m, base of m-cu, fork of M_{3+4} , m, and last portion of 2A. Venation with 2nd cell M_2 sessile, 2A strongly or sharply curved to edge of wing. Hypopygium of ♂ brownish yellow; outer edge of 9th tergite rounded, with a short, obtuse extension; entire surface covered with fine yellow setae. One very thick seta, subequal in length to basistyle from which it emerges. Outer dististyle a thin, elongate blade with 1 short, and 1 very long seta at tip. Inner dististyle 2 lobed; outer lobe with distal inner surface having numerous peglike setae with obtuse tips, extending mesad. Inner lobe a flat, brown, clear triangular plate, from which extend 4 processes; the dorsal extension triangular, outer face covered with peglike setae directed caudad; middle extension a small, brown, clear rectangular plate directed mesad; medioventral extension curved cephalad then laterad; the tip with approximately 7-9 long, peglike setae; 4th extension an elongate, rectangular, glabrous blade, directed caudad, located near inner base of lobe.

Type data. Holotype ♂ (BPBM 13746), MALAYSIA: SABAH: Forest Camp, 19 km N of Kalabakan, 17.X.1962 (K.J. Kuncheria), genitalia on BPBM slide 2176. Allotype ♀, same data as holotype, genitalia on BPBM slide 2053. Paratypes, 2♂, same data as holotype.

Remarks. The allotype was mounted on a tab in copulo with the genitalia and portion of the abdomen of a male specimen considered to be a paratype. The very distinctive and large triangular plate of the inner dististyle found in *S. kalabakanensis* readily separates it from all other species.

***Styringomyia trifurciscutata* Hynes, new species**

Fig. 3

MALE. Length 5.5 mm; wing 4.4 mm. Antennae with scape and pedicel brown, flagellomeres missing. Palps yellowish brown. Vertex dark brown, remainder of head yellowish brown. Pronotum dark brown. Prescutum pruinose gray with 2 dark brown stripes on either side, continuing back to level of wing base and over posterior scutum. A dark yellow triangle from pseudosutural fovea to base of wing extending down to paratergites and epimeron; remainder of pleura dark brown. Scutellum dark brown with a gray median

stripe that becomes yellow at posterior central margin. Postscutellum dark brown. Haltere brownish yellow, slightly darker at apex. Coxae and trochanters dark brown. Hind leg with femur yellow, incomplete brown rings at $\frac{1}{2}$ and $\frac{3}{4}$ length; tibia yellow with brown rings at $\frac{1}{2}$ length and at tip; first tarsal segment yellow at base, remainder of tarsi brown. Remainder of legs missing. Wing with brownish-yellow tinge, brown spots at r-m, m, and base of m-cu. Venation with 2nd cell M_2 sessile; 2A curved sharply to edge of wing. Abdomen brownish yellow, with brown on posterior margins of each segment. Ninth tergite a flattened plate, slightly emarginate at apex. Ninth sternite slender, elongate, forked, with 3 tines at posterior margin, middle tine short; outer tines elongate and tipped with 1 seta each. Hypopygium yellow with 1 modified seta extending from basistyle. Outer dististyle curved, sclerotized at tip. Inner dististyle 2-lobed; outer lobe with 17 peglike teeth along outer margin, inner face with 10 clear setae. Inner lobe composed of 3 flat blades; outer blade simple, obtuse at tip; middle blade with 12 peglike teeth on upper margin, a short space, then 2 more peglike teeth followed by a large single tooth; the inner blade with divergent arms, 7 setae on tip of inner arm.

Type data. Holotype ♂ (BPBM 13747), SOLOMON IS: Santa Isabel: Buala, 6.VII.1960 (C.W. O'Brien) genitalia on BPBM slide 2067.

Remarks. The name of this fly is derived from *trifurco* (=3 forked) and *scutato* (=plate), referring to the 9th sternite. Superficially, this species is very similar to the widespread *Styringomyia didyma* Grimshaw and to *S. tablasensis* Alexander from the Philippine Islands, but comparisons with the genitalia of these species, especially in the number and arrangement of peglike setae in the inner dististyle, show *trifurciscutata* to be a different fly.

***Styringomyia melanopinax* Alexander, 1947**

Specimens examined. MALAYSIA: SABAH: 1♂, Forest Camp, 19 km N of Kalabakan, 13.XI.1962 (K.J. Kuncheria) genitalia on BPBM slide 2174. 1♂, same data except 17.X.1962 (Kuncheria) BPBM slide 2175.

Remarks. This species was originally described from Kokoda, Papua New Guinea. The records above indicate a greater distribution than previously suspected.

***Styringomyia sinensis* Alexander, 1930**

Specimens examined. MALAYSIA: SABAH: 1♂, Ranau, West Coast Residency, 500 m, 28.IX-7.X.1958 (T.C. Maa), genitalia on BPBM slide 2043. 1♂, Labuana I, 24-29.XI.1958 (L.W. Quate) genitalia on BPBM slide 2057.

Remarks. The holotype was collected from Mount Omei, Sichuan, China; paratypes are from Hassennan, Taiwan. The new records suggest that the species may be found throughout the Orient.

***Styringomyia spathulata* Alexander, 1937**

Specimens examined. PHILIPPINE IS: 2♂, 2♀, Los Banos, 19.II.1926 (Pemberton) "ex. therevid shipment."

Remarks. This record greatly extends the range of *S. spathulata*, originally described from Ngrilip, Java. The label, reading "ex therevid shipment" was apparently added by someone other than the collector. I assume that the labels indicating locality, date, and collector are correct, but question that the specimens were collected from a shipment of therevid flies.

SUPPLEMENTAL ILLUSTRATIONS

I am including drawings of the hypopygia of *Styringomyia halavana* Alexander, 1951, and *S. solomonensis* Alexander, 1951 (Fig. 4 and 5, respectively). Alexander did not provide illustrations with his original descriptions. I find the descriptions inadequate without the illustrations.

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