A NEW SPECIES AND NEW RECORDS OF BLACK FLIES (DIPTERA: SIMULIIDAE) FROM THAILAND

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Received May 24, 1996/Accepted June 21, 1996

Abstract: *Simulium* (*Byssodon*) *siripoomense* sp. nov. is described based on two mature larval specimens collected from Thailand. This species is distinguished from the other known species of this subgenus by the pupal gill histoblast with six slender filaments. Four other simuliid species are newly recorded from this country: i.e., *S. (Gomphostilbia) decuplum* Takaoka and Davies, *S. (G.) parahiyangum* Takaoka and Sigit, *S. (Simulium) brevipar* Takaoka and Davies, and *S. (S.) quinquestriatum* (Shiraki). Two known species, which had been tentatively identified as *S. (S.) sakishimaense* Takaoka and *S. (S.) nitidithorax* Puri, are treated to be conspecific to *S. (S.) fenestratum* Edwards and *S. (S.) tani* Takaoka and Davies, respectively. *Simulium* (*G.*) sp. C, one of the five unnamed species previously reported, is found to conform to *S. (G.) asakoe* Takaoka and Davies.

Key word : black fly, Simuliidae, *Simulium*, Diptera, Thailand

Takaoka and Suzuki (1984) reported 19 species of black flies (Diptera: Simuliidae) from Thailand, including seven new species. No other simuliid species have since been recorded from this country.

The present paper reports the result of black fly collections made in 1989 by the junior author. The material examined consists of larvae, pupae and reared adult specimens preserved in 70 % ethanol. Here identified are a total of 16 simuliid species, including one new and four newly recorded species. Three of the other known species, previously reported as *Simulium* (*Gomphostilbia*) sp. C, *S. (Simulium) nitidithorax* Puri, and *S. (S.) sakishimaense* Takaoka, are newly identified as *S. (G.) asakoe*, *S. (S.) tani* and *S. (S.) fenestratum*, respectively, the former two described from Peninsular Malaysia (Takaoka and Davies, 1995) and the last from Sumatra (Edwards, 1934).

GENUS *SIMULIUM* LATREILLE SUBGENUS *BYSSODON* ENDERLEIN

1. *Simulium* (*Byssodon*) *siripoomense* sp. nov.

The adult female, male and pupal specimens of this species were not available. However this is here de-

scribed as a new species on the basis of two mature larvae, which show remarkable characters as noted below.

DESCRIPTION. Female, male and pupa. Unknown.

Mature larva. Body length 3.3-3.8 mm. Body pale yellowish, somewhat brownish dorsally on posterior abdominal segments. Head capsule pale yellowish with weak positive head pattern on cephalic apotome; cervical sclerites separated and faint. Antenna longer than stem of labral fan, with 3 segments and apical sensillum; proportional lengths of 3 segments from base to tip 1.0 : 1.2 : 1.0. Labral fan with 35 main rays. Mandible (Fig. 1) with comb-teeth decreasing in size from 1st to 3rd; mandibular serrations composed of 1 large and 1 small teeth, without supernumerary serrations. Hypostomium (Fig. 2) with a row of 9 apical teeth; each corner tooth prominent; lateral margin serrate; hypostomal bristles 4 in number lying subparallel to lateral margin on each side. Postgenal cleft (Fig. 3) deep, reaching posterior border of hypostomium. Thoracic cuticle bare. Histoblast of pupal gill with 6 slender filaments in pairs; all filaments tapering toward apex and with minute tubercles on surface. Abdominal cuticle almost bare except sides of anal sclerite of last segment moderately covered with colorless setae; abdominal segments 1-4 each with

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Figs. 1-4. Larva of *Simulium* (*Byssodon*) *siripoomense* sp. nov. 1, apex of mandible; 2, hypostomium; 3, head capsule (ventral view), showing deep postgenal cleft; 4, whole body (lateral view), showing protuberances on the abdomen.

6 pairs of subconical protuberances (1 dorsally, 1 dorsolaterally, 2 laterally, 1 ventrolaterally and 1 ventrally), although those on segment 1 are much less distinct; segments 5 and 6 each with 3 pairs of similar protuberances (1 dorsally, 1 dorsolaterally and 1 laterally); segments 7 and 8 each with 1 or 2 pairs of similar protuberances (1 dorsally and 1 dorsolaterally) (Fig. 4). Rectal papilla compound, each of 3 lobes with 7 or 8 finger-like secondary lobules. Anal sclerite of usual X-shape, with anterior arms ca. $1/2 \times$ as long as posterior arms, broadly sclerotized between arms at base. Last abdominal segment somewhat bulged laterally but without ventral papillae. Posterior circlet with 66 rows of up to 14 hooklets per row.

TYPE SPECIMENS. Holotype mature larva (BMNH), slide-mounted, Siripoom Water Fall, near Chiang Mai, 14.VIII.1989. Paratype 1 mature larva, in alcohol, Ban Tapa, near Chiang Mai, 15.VIII.1989.

ECOLOGICAL NOTES. The holotype larva of this species was collected from a rapidly-flowing mountainous stream which was 3-6 m wide and 0.3-0.5 m deep, together with *S. (Himalayum) nigrogilvum* Summers, *S. (S.) rufibasis* Brunetti, *S. (S.) tani* Takaoka and Davies

and *S. (S.) chamlongi* Takaoka and Suzuki. The water temperature of this stream was 18°C. The paratype larva was collected from a slow-flowing, unshaded stream, 3-4 m wide and 0.1-0.2 m deep. The water temperature was 24°C. This species was caught together with *S. (G.) asakoae* Takaoka and Davies, *S. (G.) decuplum* Takaoka and Davies, *S. (G.) parahiyangum* Takaoka and Sigit, *S. (S.) nodosum* Puri, *S. (S.) quinquestriatum* (Shiraki), and *S. (S.) tani*.

DISTRIBUTION. Thailand.

ETYMOLOGY. The species name *siripoomense* refers to the place name Siripoom from where this species was collected.

REMARKS. This new species is tentatively assigned to the subgenus *Byssodon*, defined by Crosskey (1969), because of its very large postgenal cleft reaching the posterior border of the hypostomium, and subconical prominent protuberances at least ventrally on the abdominal segments 1 to 4, as shown in Figs. 3 and 4. The larva of this species appears to be indistinguishable from that of *S. (B.) maculatum* (Meigen) and its varieties of the *meridionale*-group (Rubtsov, 1959-1964),

from which it differs by the pupal gill histoblast with six filaments, instead of 22-26.

The subgenus *Byssodon* is widely distributed in the Palaearctic, Nearctic and Ethiopian Regions. In the Oriental Region only one *Byssodon* species, *S. (B.) languidum*, was described from Sri Lanka (Davies and Györkös, 1988), which showed several characters resembling this new species, including the deep postgenal cleft. However, *S. (B.) languidum* lacks protuberances on the larval abdomen, and bears three somewhat inflated pupal gill filaments on each side.

The larva of this species resembles that of *S. (S.) nobile* de Meijere by having the deep postgenal cleft, dorsal protuberances on the abdomen, and the pupal histoblast with six slender filaments, but the latter species lacks ventral and lateral protuberances on the abdomen and has prominent spinous scales on the dorsal surface of the abdomen. By sharing the deep postgenal cleft and dorsal protuberances on the abdomen in the larval stage, this species is also similar to *S. (G.) parahiyangum* originally described from Java (Takaoka and Sigit, 1992). However, *S. (B.) siripoomense* differs from the latter by the shape and angle of the main tooth of mandibular serrations, the serrate lateral margins of the hypostomium, the pupal gill histoblast with six filaments and the absence of the ventral papillae.

SUBGENUS *GOMPHOSTILBIA* ENDERLEIN

(A) *batoense*-group

2. *Simulium (Gomphostilbia) siamense* Takaoka and Suzuki, 1984

Simulium (Gomphostilbia) siamense Takaoka and Suzuki, 1984: 14-18 (female, male, pupa and mature larva).

SPECIMENS EXAMINED. 2 ♀, 1 pupa and 2 pupal exuviae, Ban Thung Pong, 16.VIII.1989; 1 pupa, 1 pupal exuvia and 1 mature larva, Loaw River, 17.VIII.1989 (both localities near Chiang Mai).

DISTRIBUTION. Thailand.

3. *Simulium (Gomphostilbia) decuplum* Takaoka and Davies, 1995

Simulium (Gomphostilbia) decuplum Takaoka and Davies, 1995: 46-50 (female, pupa and mature larva).

SPECIMENS EXAMINED. 1 ♀ and 4 mature larvae, Ban Tapa, 15.VIII.1989; 1 ♂, Huai Kaeo, 15.VIII.1989 (both localities near Chinag Mai).

DISTRIBUTION. Peninsular Malaysia and Thailand (new record).

REMARKS. The female, pupae and mature larvae collected from Thailand are in accordance with the original description given by Takaoka and Davies (1995). This species is readily separated from the other *Gomphostilbia* species from Thailand by the 10 short pupal gill filaments per side. The description of the male of this species will be given elsewhere on the basis of specimens recently collected from Peninsular Malaysia (unpublished data).

4. *Simulium (Gomphostilbia) parahiyangum* Takaoka and Sigit, 1992

Simulium (Gomphostilbia) parahiyangum Takaoka and Sigit, 1992: 135-142 (female, male, pupa and mature larva); Takaoka and Davies, 1995: 50-51.

SPECIMENS EXAMINED. 1 mature larva, Ban Tapa, 15.VIII.1989; 1 mature larva, Hoy Nam Kam, 15.VIII.1989 (both localities near Chiang Mai).

DISTRIBUTION. Java, Peninsular Malaysia and Thailand (new record).

REMARKS. The morphological characters of the mature larvae collected from Thailand agree well with the original description given by Takaoka and Sigit (1992). This species is readily distinguished from most of other *Gomphostilbia* species in the pupa by the eight short, slender filaments per side, and antennal sheath with nine well marked ridges on the outer margin, each covered with several cone-shaped tubercles, and in the larva by the prominent dorsal protuberances on the abdominal segments 1-5, several dark stout spines on the abdominal segments 6-8, and the deep postgenal cleft reaching the posterior margin of the hypostomium (Takaoka and Sigit, 1992).

(B) *ceylonicum*-group

5. *Simulium (Gomphostilbia) asakoe* Takaoka and Davies, 1995

Simulium (Gomphostilbia) asakoe Takaoka and Davies,

1995: 55-60 (female, male, pupa and mature larva); Takaoka, Davies and Dudgeon, 1995: 192-193.

Simulium (*Gomphostilbia*) sp. C Takaoka and Suzuki, 1984: 21-22 (male).

SPECIMENS EXAMINED. 1 ♂, Doi Inthanon, 14.VIII.1989; 1 ♂, Ban Tapa, 15.VIII.1989; 1 mature larva, Hoy Nam Kam, 15.VIII.1989; 6 ♀, 6 ♂, 1 pupa, 6 pupal exuviae and 10 mature larvae, Ban Thung Pong, 16.VIII.1989 (all localities near Chiang Mai).

DISTRIBUTION. Peninsular Malaysia, Hong Kong and Thailand.

REMARKS. The male of *S.* (*G.*) sp. C reported from Thailand (Takaoka and Suzuki, 1984) has proved to be the same as that of *S.* (*G.*) *asakoe* described from Peninsular Malaysia (Takaoka and Davies, 1995). It should be however noted that the present reared male specimens slightly differ from those of the Malaysian specimens by having the large eye facets in 15 horizontal rows and in 12 vertical columns (not in 13 horizontal rows and in 10 or 11 vertical columns as in Malaysian specimens and *S.* (*G.*) sp. C).

SUBGENUS *HIMALAYUM* LEWIS

6. *Simulium* (*Himalayum*) *nigrogilvum* Summers, 1911

Simulium (*Himalayum*) *nigrogilvum* Summers, 1911: 586-588 (female); Takaoka and Suzuki, 1984: 22-27 (female, male, pupa and mature larva).

SPECIMENS EXAMINED. 1 ♀, 1 ♂ and 6 mature larvae, Siripoom Water Fall, near Chiang Mai, 14.VIII.1989.

DISTRIBUTION. Thailand.

SUBGENUS *NEVERMANNIA* ENDERLEIN

(A) *ruficorne*-group

7. *Simulium* (*Nevermannia*) *aureohirtum* Brunetti, 1911

Simulium aureohirtum Brunetti, 1911: 283-288 (male); Edwards, 1934: 134-137 (female, pupa and mature

larva).

Simulium (*Eusimulium*) *aureohirtum*: Puri, 1933: 1-7 (female, male, pupa and mature larva); Takaoka, 1976: 170-171; Takaoka, 1979: 382-384 (female, male, pupa and mature larva); Takaoka, 1983: 15-16.

Simulium (*Nevermannia*) *aureohirtum*: Ogata, 1956: 61-62; Ogata, 1966: 129; Takaoka and Roberts, 1988: 194-195; Takaoka and Davies, 1995: 87-88.

SPECIMENS EXAMINED. 11 ♀, 13 ♂, 1 pupal exuvia and 10 mature larvae, Ban Mae Kanin, near Chiang Mai, 16.VIII.1989.

DISTRIBUTION. China, Hong Kong, India, Japan, Java, Peninsular Malaysia, Philippines, Sabah, Sri Lanka, Sulawesi, Sumatra, Thailand and Taiwan.

SUBGENUS *SIMULIUM* LATREILLE

(A) *multistriatum*-group

8. *Simulium* (*Simulium*) *fenestratum* Edwards, 1934

Simulium (*Simulium*) *fenestratum* Edwards, 1934: 110-111 (female, male, pupa and mature larva)

Simulium (*Simulium*) *sakishimaense* (*nec* Takaoka, 1977): Takaoka and Suzuki, 1984: 39-40.

SPECIMENS EXAMINED. 1 ♀, Chiang Dao, 13.VIII.1989; 1 ♀ and 1 ♂, Hoy Nam Kam, 15.VIII.1989; 1 ♂ and 2 mature larvae, Huai Kaeo, 15.VIII.1989; 1 ♀, Loaw River, 17.VIII.1989; 1 ♂, Doi Steps, 17.VIII.1989; 2 pupal exuviae, Ban Pongyame, 16.VIII.1989 (All localities near Chiang Mai).

DISTRIBUTION. Sumatra and Thailand.

REMARKS. Takaoka and Suzuki (1984), while identifying this species as *S.* (*S.*) *sakishimaense* Takaoka originally described from the Ryukyu Islands, pointed out several characters of the Thailand specimens differing from those of the specimens from the type locality. The most remarkable difference was found in the male hind basitarsus which was mostly darkened except for the basal 1/3 somewhat paler or yellowish in the Thailand specimens but darkened only on the distal 1/2 in the Ryukyu specimens. The difference was also found in the larval stage: the Thailand larvae had more secondary lobules of the rectal papilla (10-15 vs. 5-8 per each lobe). In the original description

of *S. (S.) fenestratum* (Edwards, 1934) the male hind basitarsus was not observed for its coloration, although the number of secondary lobules of the larval rectal papilla was given as 15-20. Recent collections made in Sumatra by the senior author have revealed that the Thailand specimens are almost the same as those of *S. (S.) fenestratum* from Sumatra in many characters, including the male and larval characters mentioned above (unpublished data). The male of *S. (S.) hirtinervis* Edwards described from Peninsular Malaysia (Takaoka and Davies, 1995) has a hind basitarsus similar to *S. (S.) sakishimaense*. *Simulium (S.) malayense*, also described from Peninsular Malaysia (Takaoka and Davies, 1995), shows a darker coloration on the male hind basitarsus as in *S. (S.) fenestratum* according to the reared male specimens recently collected (unpublished data), but differs from the latter by having its cocoon without windows anteriorly.

(B) *nobile*-group

9. *Simulium (Simulium) nodosum* Puri, 1933

Simulium (Simulium) nodosum Puri, 1933: 813-817 (female, pupa and mature larva); Takaoka and Suzuki, 1984: 38 (pupa and mature larva); Datta, 1988: 6 (male); An, 1989: 187; Takaoka, Davies and Dudgeon, 1995: 195.

SPECIMENS EXAMINED. 2 ♀, 2 ♂, 4 pupae and 3 mature larvae, Chiang Dao, 13.VIII.1989; 1 pupa and 3 mature larvae, Hoy Mae Aem, 14.VIII.1989; 3 mature larvae, Ban Tapa, 15.VIII.1989; 1 ♀, 3 ♂, 2 pupae, 1 pupal exuvia and 2 mature larvae, Hoy Nam Kam, 15.VIII.1989; 1 ♀, 1 ♂ and 5 mature larvae, Ban Mae Kanin, 16.VIII.1989; 5 ♀, 9 ♂ and 6 mature larvae, Ban Mae Ha, 16.VIII.1989; 2 pupae, 3 pupal exuviae and 2 mature larvae, Bang Thung Pong, 16.VIII.1989; 1 ♂, 3 pupae, 2 pupal exuviae and 3 mature larvae, Ban Pongyame, 16.VIII.1989; 3 ♀ and 2 ♂, Mae Sa Water Fall, Ban Nie, 16.VIII.1989; 2 ♀ and 9 ♂, Ban Sobpong, 17.VIII.1989; 1 ♀ and 1 mature larva, Loaw River, 17.VIII.1989 (all localities near Chiang Mai).

DISTRIBUTION. China, Hong Kong, India and Thailand.

REMARKS. The reared female and male specimens of this species were obtained for the first time from Thailand. The female characters are almost the same as originally described (Puri, 1933) except the posteriorly produced round robes which are well separated in the

middle from each other (their apices not so converged and approximating as originally illustrated). The male genitalia of the Thailand specimens are also the same as illustrated by Datta (1992). The larval characters, such as the dorsal protuberances and chisel-shaped spines on the abdomen present in the Thailand specimens (Takaoka and Suzuki, 1984) but not mentioned in the original description, have been suggested to be present also in the Indian specimens according to Datta (1992).

(C) *striatum*-group

10. *Simulium (Simulium) chiangmaiense* Takaoka and Suzuki, 1984

Simulium (Simulium) chiangmaiense Takaoka and Suzuki, 1984: 38-39 (female, male and pupa); An, 1989: 186.

SPECIMENS EXAMINED. 2 ♀ and 5 mature larvae, Chiang Dao, 13.VIII.1989; 1 ♀, Loaw River, 17.VIII.1989 (both localities near Chiang Mai).

DISTRIBUTION. China and Thailand.

11. *Simulium (Simulium) nakhonense* Takaoka and Suzuki, 1984

Simulium (Simulium) nakhonense Takaoka and Suzuki, 1984: 33-37 (female, male, pupa and mature larvae); Chen, 1985: 308.

SPECIMENS EXAMINED. 1 pupal exuvia, Hoy Mae Aem, 14.VIII.1989; 1 pupal exuvia, Water Fall, 14.VIII.1989; 1 pupal exuvia, Maeklang Fall, 14.VIII.1989; 1 ♀, Hoy Nam Kam, 15.VIII.1989; 1 ♀ and 3 ♂, Ban Pongyame, 16.VIII.1989; 4 ♀ and 7 ♂, Mae Sa Water Fall, Ban Nie, 16.VIII.1989 (all localities near Chiang Mai). 12 ♀ and 8 ♂, Saeng, 20.VIII.1989; 1 ♂, Nan Long, 20.VIII.1989 (both localities in Nakhon Nayok).

DISTRIBUTION. China and Thailand.

12. *Simulium (Simulium) quinquestriatum* (Shiraki, 1935)

Stilboplax 5-striatum Shiraki, 1935: 27-33 (female).

Simulium (Simulium) quinquestriatum: Anonym, 1974: 192; Takaoka, 1977: 205-209 (female, male, pupa and mature larva); Takaoka, 1979: 396-399 (female, male, pupa and mature larva); An, 1989: 187; Takaoka, Davies and Dudgeon, 1995: 195-196.

SPECIMENS EXAMINED. 1 ♀, 3 ♂, 1 pupa, 1 pupal exuvia and 6 mature larvae, Hoy Mae Aem, 14.VIII.1989; 2 ♀ and 3 mature larvae, Ban Tapa, 15.VIII.1989; 4 ♀ and 2 ♂, Mae Sa Water Fall, Ban Nie, 16.VIII.1989 (all localities near Chiang Mai). 1 pupa and 1 pupal exuvia, Nan Long, in Nakhon Nayok, 20.VIII.1989.

DISTRIBUTION. China, Hong Kong, Japan, Korea, Thailand (new record) and Taiwan.

REMARKS. The female, male, pupal and mature larval specimens collected from Thailand morphologically agree well with the redescription of this species (Takaoka, 1979). This species is distinguished from the other three Thailand species of the *striatum*-group (i.e., *S. (S.) Chiangmaiense*, *S. (S.) nakhonense* and *S. (S.) thailandicum*) by the pupal gill with 10 slender filaments per side, which are all subequal in thickness, and are arranged in 2+3+3+2 filaments.

(D) *tuberosum*-group

13. *Simulium (Simulium) brevipar* Takaoka and Davies, 1995

Simulium (Simulium) brevipar Takaoka and Davies, 1995: 132-137 (female, male, pupa and mature larva).

SPECIMENS EXAMINED. 1 ♂ and 1 mature larva, Doi Steps, near Chiang Mai, 17.VIII.1989.

DISTRIBUTION. Peninsular Malaysia and Thailand (new record).

REMARKS. The morphological characters of the male, pupa and mature larvae collected from Thailand are almost the same as those originally described (Takaoka and Davies, 1995). The presence of a pit-like cuticular organ at the base of pupal gill filaments separates this species from all the other simuliid species from Thailand.

14. *Simulium (Simulium) rufibasis* Brunetti, 1991

Simulium rufibasis Brunetti, 1911: 282-288 (female); Rubtsov, 1959-1964: 554.

Simulium (Simulium) rufibasis: Puri, 1932: 899-903 (female, male and pupa); Takaoka, 1977: 213-216 (female, male, pupa and mature larva); Takaoka and Suzuki, 1984: 41-42; An, 1989: 187-188.

SPECIMENS EXAMINED. 2 ♂, 2 pupae, 2 pupal exuviae and 1 mature larva, Siripoom Water Fall, near Chiang Mai, 14.VIII.1989.

DISTRIBUTION. China, India, Japan, Korea, Myanmar, Pakistan, Thailand and Taiwan.

15. *Simulium (Simulium) tani* Takaoka and Davies, 1995

Simulium (Simulium) tani Takaoka and Davies, 1995: 137-141 (female, male, pupa and mature larva).

Simulium (Simulium) nitidithorax (nec Puri, 1932): Takaoka and Suzuki, 1984: 40-41 (mature larva).

SPECIMENS EXAMINED. 1 pupa and 5 mature larvae, Siripoom Water Fall, 14.VIII.1989; 2 ♀, 1 ♂, 2 pupal exuviae and 2 mature larvae, Water Fall, 14.VIII.1989; 1 ♀, 2 ♂, 1 pupa, 1 pupal exuvia, 10 mature larvae, Ban Tapa, 15.VIII.1989; 3 pupal exuviae, Huai Kaeo, 15.VIII.1989; 1 ♂ and 5 mature larvae, Doi Stops-Tai, 17.VIII.1989 (all localities near Chiang Mai).

DISTRIBUTION. Peninsular Malaysia and Thailand.

REMARKS. This species was previously reported from Thailand as *S. (S.) nitidithorax* Puri originally described from India (Takaoka and Suzuki, 1984). This species closely resembles the latter species, but differs from it by several characters, including the short-stalked pupal gill filaments (not sessile as in *S. (S.) nitidithorax*), as already discussed by Takaoka and Davies (1995).

(E) *variegatum*-group

16. *Simulium (Simulium) chamlongi* Takaoka and Suzuki, 1984

Simulium (Simulium) chamlongi Takaoka and Suzuki, 1984: 27-30 (female, male, pupa and mature larva); An, Zhang and Deng, 1990: 106.

SPECIMENS EXAMINED. 5 ♀, 7 ♂, 5 pupae, 7 pupal exuviae and 3 mature larvae, Siripoom Water Fall, 14.VIII.1989; 10 ♀, 9 ♂, 6 pupae and 4 mature larvae, Water Fall, 14.VIII.1989 (both localities near Chiang Mai).

DISTRIBUTION. China and Thailand.

Appendix. The list of Simuliidae from Thailand

Genus *Simulium* LatreilleSubgenus *Byssodon* Enderlein*meridionale*-group

S. (B.) siripoomense Takaoka and Saito, sp. nov.

Subgenus *Gomphostilbia* Enderlein*batoense*-group

S. (G.) decuplum Takaoka and Davies, 1995

S. (G.) parahiyangum Takaoka and Sigit, 1992

S. (G.) siamense Takaoka and Suzuki, 1984

ceylonicum-group

S. (G.) asakoe Takaoka and Davies, 1995

[= *S. (G.)* sp. C Takaoka and Suzuki, 1984]

S. (G.) inthanonense Takaoka and Suzuki, 1984

Subgenus *Himalayum* Lewis

S. (H.) nigrogilvum Summers, 1911

Subgenus *Nevermannia* Enderlein*feuerborni*-group

S. (N.) sp. B Takaoka and Suzuki, 1984

ruficorne-group

S. (N.) aureohirtum Brunetti, 1911

vernum-group

S. (N.) sp. A Takaoka and Suzuki, 1984

Subgenus *Simulium* Latreille*griseifrons*-group

S. (S.) digrammicum Edwards, 1928

multistriatum-group

S. (S.) fenestratum Edwards, 1934

[= *S. (S.) sakishimaense*: Takaoka and Suzuki, 1984 (*nec* Takaoka, 1977)]

nobile-group

S. (S.) nodosum Puri, 1933

striatum-group

S. (S.) Chiangmaiense Takaoka and Suzuki, 1984

S. (S.) nakhonense Takaoka and Suzuki, 1984

S. (S.) quinquestriatum (Shiraki, 1935)

S. (S.) thailandicum Takaoka and Suzuki, 1984

tuberosum-group

S. (S.) brevipar Takaoka and Davies, 1995

S. (S.) rufibasis Brunetti, 1911

S. (S.) tani Takaoka and Davies, 1995

[= *S. (S.) nitidithorax*: Takaoka and Suzuki, 1984 (*nec* Puri, 1932)]

S. (S.) sp. D Takaoka and Suzuki, 1984

S. (S.) sp. E Takaoka and Suzuki, 1984

variegatum-group

S. (S.) barnesi Takaoka and Suzuki, 1984

S. (S.) chamlongi Takaoka and Suzuki, 1984

ACKNOWLEDGEMENTS

This study was supported by the Grant-in-Aid from the Ministry of Education, Science and Culture, Japan for International Scientific Research Program titled "Studies on the medically important Diptera in South-east Asia" (no. 63041058; representative, Dr. K. Kamimura). We thank Ms C. Aoki, Division of Medical Zoology, Oita Medical University, Oita for her help in preparing the manuscript.

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