THE GENUS SPHEGINOBACCHA DE MEIJERE
(DIPTERA: SYRPHIDAE)

BY
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THE GENUS *SPHEGINOBACCHA* DE MEIJERE  
(DIPTERA: SYRPHIDAE)

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**INTRODUCTION**

*Spheginobaccha* was described by de Meijere (1908) for an aberrant syrphid fly, *macropoda* Bigot, which Bigot had tentatively placed in *Sphegina*. The phylogenetic position of *Spheginobaccha* has always been in doubt. Until recently the genus was considered to include only four species: *macropoda* Bigot, a widespread and variable Oriental species; *melancholia* Hull, a rare species known only from Vietnam; and *funeralia* and *dexioides* Hull, both rare species known only from South Africa. Van Doesburg (1968), in the first revisionary study ever done on the group, split *macropoda* of authors into three species on the basis of the overall coloration and shape of the vertical triangle of the males. Unfortunately van Doesburg overlooked Prey’s (1946) earlier transfer of *Doros humeralis* Sack to *Spheginobaccha* and he did not study the male genitalia or wing microtrichia, two important characters used in syrphid fly taxonomy. Thus, a review of van Doesburg’s work, with a consideration of these other characters, was needed. This study has revealed an additional five new species, three more overlooked senior synonyms, and a new interpretation of the phylogenetic position of *Spheginobaccha*.

Ever since Bigot first described the species that later became the type-species of *Spheginobaccha*, the phylogenetic position of these flies has been an enigma. Bigot tentatively assigned his new species to *Sphegina* (*Spheginina, Chrysogasterini, Milesinae*). Since *macropoda* Bigot definitely did not belong to *Sphegina*, de Meijere (1908) erected a new genus for it. While de Meijere’s name implies a relationship with both *Sphegina* and *Baccha*, de Meijere thought his new genus was related to *Neoascia* and *Sphegina*. Brunetti (1923) did not know the genus, *per se*, and merely included a translation of Bigot’s and de Meijere’s original
Thorax. — Distinctly longer than broad; pile extremely short, microscopic, except usually long on pro-anepisterna; transverse suture extending completely across mesonotum; proanepisterna enlarged, flatten on anterior portion, convex posteriorly, usually with a row of long curved hairs along edge between flattened anterior half and convex posterior half; anterior mesopleuræ not differentiated from posterior mesopleuræ; microscopic pile present on posterior mesopleuræ, dorsal portion of sternopleuræ, anterior pteropleuræ, and metathoracic epímera; metasterna underdeveloped, bare or with a few long bristles; postmetacoxal bridge incomplete; scutellum without ventral pile fringe, frequently with two apical bristles. Legs. — All femora without basal patches of black setulae, hind femora usually with an apical ventral row of strong spines, hind tibiae with weak but distinct median transverse scar. Wings. — Anterior crossvein basal, straight, at level of basal third of discal cell; marginal cell open; apical cell petiolate, with petiole longer than humeral crossvein, acute; spurious vein present; distinct spur on 4th vein, extending into apical cell.

Abdomen. — Elongate, petiolate, without lateral margins on terga; first abdominal spiracle free from metathoracic epímeron. Male genitalia. — 9th tergum unmodified, bare; cerci simple, unmodified, long fine pilose; surstyli usually simple, symmetric, without lobes, only rotundiceps with inner lobe and vandoesburgi with asymmetric and notched surstyli; 9th sternum short, about as broad as long, subcylindrical ventrally and flatten dorsally except flatten dorso-ventrally in perialla, bare; lingula absent; superior lobes fused to 9th sternum, usually forming almost the complete dorsal surface of 9th sternum, only in perialla not forming dorsal surface of 9th sternum; aedeagus simple, unsegmented, tubular apically.

Discussion. — Spheginobaccha is readily distinguished from all other syrphid genera by the creases on the occiput (1). Other distinctive generic characters are: 2) the complete transverse suture; 3) the non-differentiated mesopleuræ; 4) the enlarged proanepisterna, usually with a row of long stiff hairs; and 5) the spur on the 4th vein. Also, the following important phylogenetic character states in the basic ground plan of Spheginobaccha should be noted: a) pilose humeri (plesiomorphic); b) 4 pre-genital segments in male (apo-); c) straight basal anterior crossvein (plesio-); d) lack of a notched oral margin (plesio-); e) hind femoral spines absent (plesio-); f) fusion of superior lobes to 9th sternum (plesio-); g) simple, non-segmented, tubular aedeagus (plesio-); h) lack of complete postmetacoxal bridge (plesio-); i) straight third vein (plesio-); j) lack of basal femoral setal patches (plesio-); k) lack of femoral scars (plesio-); and 1) 1st
specializations listed below for the macropoda group and is thereby considered plesiomorphic to the macropoda group. The Oriental species of Spheginobaccha (= macropoda group) are distinguished from all other syrphids by a few unique modifications of the male genitalia: 1) a partial fusion of aedeagus and aedeagal apodeme; 2) a dorsal infolding of 9th sternum and its fusion to the aedeagus-aedeagal apodeme complex; and 3) a fusion of the base of ejaculatory sac to inner anterior wall of 9th sternum (synapomorphy). Hull (1949) described a subgenus, Dexiosyrphus, based on rotundiceps (= funerallis Hull). If Dexiosyrphus is to be recognized, then a subgenus would have to be erected for the perialla group. However, I feel that the three species groups here recognized are sufficient for the proper segregation of the species and that the introduction of a new name is unjustified.

With probably less than half the species of Spheginobaccha described and most of those described poorly known, it is premature to discuss the zoogeography of the genus. However, the restriction of the two plesiomorphic species groups of Spheginobaccha to southern Africa is a strong indication that the genus as a whole arose in Africa and later dispersed to the Oriental region.

**KEY TO THE SPECIES GROUPS AND SPECIES OF SPHEGINOBACCHA DE MEIJERE**

A. Alula bare on apical 2 (figs. 1-2) (S. Africa) ... rotundiceps group

<table>
<thead>
<tr>
<th>Alula microtrichose (figs. 3-6)</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proanepisterna with a row of long stiff hairs; anterior ocellus not sunken into a cleft and divided (Oriental species) ... macropoda group</td>
<td>1</td>
</tr>
<tr>
<td>Proanepisterna without such a row of hairs, with short decumbent pile; anterior ocellus sunken into a cleft and divided into two parts (Malawi) ... perialla group</td>
<td>perialla n. sp.</td>
</tr>
</tbody>
</table>

1. Wings smoky black (fig. 3) (Thailand, Vietnam) ... melancholia Hull Wings hyaline (figs. 4-6) ... 2

2. Anterior four tibiae and tarsi yellow (Borneo) ... vandoesburgi n. sp. Anterior tarsi and apical third or more of tibiae dark brown or black ... 3

3. Wings extensively microtrichose, only basal fourth of basal cells and anal cell bare (fig. 4) ... 4

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Wings extensively bare, 1st basal cell completely bare, 2nd basal cell bare on basal \( \frac{1}{3} \) or more (figs. 5, 6) ................................................. 5

4. Antennae orange; anterior four femora almost completely yellow, only tips brownish orange (Burma) ............................................. aethusa (Walker)
Antennae mostly brownish black, basal segments completely brownish black, 3rd segment black on dorsal and apical \( \frac{1}{3} \); anterior four femora mostly black with a slight yellowish tinge at joints (S. China) ....
........................................................................................................... knutsoni n. sp.

5. 2nd basal cell almost completely bare (fig. 6); vertical triangle of male very narrow ................................................................. 6
2nd basal cell microtrichose on apical third or fourth (fig. 5); vertical triangle of male broad (India, Burma, Thailand, Malaya, Vietnam, China). ................................................................. macropoda (Bigot)

6. Trochanters black; anterior four femora with apical \( \frac{2}{3} \) black; males with subcontiguous eyes; face completely pollinose (Nepal) ................................................................. chillcottii n. sp.
Trochanters yellow; anterior femora mostly yellow, only with apical tip dark; eyes of males distinctly separated; face pollinose or shiny mediately ................................................................. 7

7. Scutellum and pro-anepisterna yellow; hind femora with six or more strong ventral spines; eyes sparsely pilose; face without distinct medial shiny stripe. (Java, ?Sumatra) \(^1\) .......... demejierei van Doesburg
Scutellum and pro-anepisterna dark; hind femora without distinct ventral spines or at the most, with only one or two weak ventral spines; eyes densely pilose; face with a distinct medial shiny stripe (Malaya) .... ................................................................. duplex (Walker)

8. Wings completely microtrichose except bare alula (Fig. 1) .................
........................................................................................................... rotundiceps (Loew)
Wings extensively bare basally, all of 1st basal cell, most of 2nd basal and anal cells, and parts of apical, discal and cubital cell bare (figs. 2, 43) ................................................................. 9

9. Face golden pilose; anal cell with an extensive medial patch of microtrichia (fig. 43); 3rd antennal segment oval, about as long as broad (fig. 44) ....................................................... dubia n. sp.
Face black pilose; anal cell bare or at the most with a few microtrichia on ventral surface (fig. 2); 3rd antennal segment elongate, about twice as long as broad (fig. 45) ........................................... dexioides Hull

The macropoda group

Shiny metallic bluish to black flies with two pairs of yellow lateral spots and usually one pair of silvery spots on abdomen. Eyes pilose, hind femoral spines distinct, alula microtrichose. Male genitalia.—ceri low, in situ usually hidden from lateral view; surstyli elongate, about twice as long

\(^1\) Mainland specimens which key here are macropoda, see text discussion.

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1946:172 (note).

liejtincki Van Doesburg, 1968:160, figs. 3 & 4 (head), 8 (hind leg), pl. 2 (habitus). Type-locality: Malaya, Perak, Ipoh, Sungai Raia. Type δ RNHNL. New synonymy, erroneous citation to *macropoda*: de Meijere (1908, 1914, 1918 and 1919) refers to *demeijerei*; Curran (1928) in part refers to *duplex*, (1931a) in part to *aethusa*, (1931b) to *vandoesburgi*, (1942) to *Baccha* species (see below); Frey (1946) refers to *demeijerei*.

**Length.** — Body, male 10.6-11.9mm (11.5mm, #4), female 9.4-13.2mm (11.4mm, #5); wing, male 7.5-9.7mm (8.8mm, #5), female 7.8-10.9mm (9.5mm, #7).

**Male-Head.** — black to bluish black; face silvery-white pollinose, white pilose, without bare medial stripe although tubercle may be sparsely pollinose; frontal triangle shiny bluish black except narrowly silvery-white pollinose along eye margins, black pilose on shiny area, white pilose on pollinose areas; vertical triangle shiny bluish black, slightly less than twice as long as broad, black pilose; occiput silvery-white pollinose except more brownish pollinose on upper third, white pilose except for a few black hairs intermixed on upper i. Antennae orange, with a slight brownish tinge on dorsal part of third segment, with black bristle-like pile on first two segments: 3rd segment oval, as long as broad, about twice as long as first two segments. Eyes distinctly dichoptic, separated by about length of 2nd antennal segment.

**Thorax.** — bluish black except yellowish orange on humeri, notopleurae, postalar calli, and frequently pro-anepisterna and scutellum; sparsely pollinose except thickly pollinose on dorsal portion of sternopleurae, posterior mesopleurae and anterior pteropleurae; pollinosity mainly silvery white, more bronzy and with two faint sublateral vittae of lighter pollinosity on mesonotum; pile white.

**Legs.** — coxae bluish black, silvery-white pollinose; hind coxae with black bristle-like pile; trochanters orangish yellow, white pilose; anterior four femora yellowish, frequently with more darker orange tinge on apical half, apical fourth usually with a distinct dark brownish cast, white pilose on basal half, black pilose on apical half; hind femora yellowish orange on basal half, black on apical half except orange tip, with pile mainly black, but with some white pile on yellow basal half, with an apical row of half dozen or more strong black spines on both anterior and posterior edges; anterior tibiae yellow except black apical third, black pilose; hind tibiae yellow except black apical half, black pilose; tarsi black, black pilose. Squamae and plumulae white. **Wings.** — hyaline; microtrichose except bare 1st costal cell, basal third of 2nd costal cell, area between Rl and branch point of Rs, 1st basal cell, area in apical cell below spurious vein and above spurious vein on basal sixth, basal two-thirds an-

2 The format for the measurements is, the range followed by the average and number of specimens measured in parentheses.
Figs. 12-17. — Figs. 12-16. male genitalia of *Spheginobaccha chillcottii*, new species (holotype); 12. 9th tergum, lateral view; 13. 9th sternum, lateral view; 14. 9th sternum and associated structures, lateral view with slight dorsolateral bals; 15. aedeagus and apodeme; 16. 9th sternum, dorsal view. Fig. 17. head of male of *S. melanocholia* Hull, lateral view. ae = aedeagus; ap=aedeagal apodeme; e=ejaculatory apodeme; o=outer prongs; i=inner prongs.
poda and thus it is reasonable to accept Hervé-Bazin’s synonymy. The type series of lieftincki van Doesburg consists of a mixed series of duplex Walker and macropoda Bigot. However, P. J. van Helsdingen informs me that the holotype of lieftincki is a specimen of macropoda Bigot.

The specimen on which Curran’s (1942) distributional record from Sarawak, “Peurissen” [Mt. Penrissen], was based is in The American Museum of Natural History and is in very poor condition, completely covered by a fungus growth. However, it is clearly a specimen of Baccha, s. l., not Spheginobaccha.

Spheginobaccha demeijerei van Doesburg
Figs. 6, 21-22
demeijerei van Doesburg, 1968:161, figs. 5 & 6 (head), 9 (hind leg), pl. 3 (habitus). Type-locality: Java, Depok. Type δ van Doesburg Collection.

macropoda, de Meijere, 1908:327 taf. 8, fig. 43 (wing) (description, distributional records); 1914:167 (descriptive note, distributional records); 1918:318 (citation); 1919:29 (distributional record). Frey, 1946:172 (distributional record).

Length.
— body, male 9.1-9.4mm (9.4mm, #4), female 8.8-10.6mm (9.8 mm, #5); wing, male 6.6-7.3 (7.2mm, #4), female 6.6-8.4 (7.6mm, #5).

Head.
— pollinosity more golden in color; antennae completely orange, without a trace of brownish tinge; 3rd segment small, slightly longer than broad; upper ⅓ of occiput more extensively brownish pollinose and black polline; eyes of male narrowly separated by about the length of 2nd antennal segment; vertical triangle of male long and narrow.

Thorax.
— more brownish black in color, always with proanepisterna and scutellum yellow or yellowish orange, frequently yellowish on anterior mesopleurae, dorsal sternopleurae, and anterior pteropleurae. Wings.
— more extensively bare, 2nd basal cell bare, extensively bare on both sides of 2nd, 3rd, 4th and 5th veins out to apical fifth of wing.

Abdomen.
— black and yellowish orange; 2nd & 3rd terga always with broad medial black vittae, black vittae on 3rd tergum expanded on anterior margin, frequently with yellowish orange coloration under pollinose spot on 4th tergum. Male genitalia.
— 9th sternum bare and without accessory prong; outer prongs apical and medial, symmetric, curved posterodorsally; superior lobes extending apically beyond bases of outer prong and with blunt tip; inner prongs apically fused, curved dorsally, left inner prong slightly shorter than right; membranous pouches only beneath superior lobe apices; aedeagus broad.

Material examined.
— JAVA: 1♀ (ZMA); Depok, Oct 1907, 1♂ (ZMA); Semarang, Oct. 1905, 1♂, 1♀ (ZMA); Nongkodjadjar, Feb 1911,
Figs. 18-25. — male genitalia of *Spheginobaccha* species. Figs. 18-20. *S. humeralis* (Sack) (Lectotype); 18. 9th tergum, lateral view; 19. 9th sternum, right side, lateral view; 20. 9th sternum, left side, lateral view. Figs. 21-22. *S. demelijerei* van Doesburg; 21. 9th sternum and aedeagus, dorsolateral view; 22. 9th sternum, dorsal view. Figs. 23-25. *S. macropoda* (Bigot); 23. 9th sternum and aedeagus, dorsolateral view; 24. outer prongs, caudal view; 25. tip of superior lobe, dorsal view. i=inner prongs; o=outer prong.
sented by the Singapore material \((\text{duplex})\) and have designated and so labelled the male in the Sack collection as the lectotype. Figures 18-20 were made from this lectotype.

**Spheginobaccha knutsoni** new species

*Figures 18-20 were made from this lectotype.*

**Spheginobaccha melancholia** Hull

*Figures 3, 26, 27*
Spheginobaccha vandoesburgi new species  Figs. 8, 9-11

macropoda, Curran, 1931b:362 (distributional records).

Length. — Body, male 10.6mm, female 10.7mm; wing, male 8.8mm, female 8.1mm.

Head. — Bluish black; pollinosity of face golden; antennae completely orange except brownish arista; 3rd antennal segment longer than broad, about three times as long as first two segments; eyes of male broadly separated, eye margins not strongly angulate at junction of front and vertex.

Thorax. — Pro-anepisterna yellow, scutellum light brownish yellow. Anterior legs of male yellowish orange, except brownish apical half of femora.

Figs. 26-30. — Male genitalia of Spheginobaccha species. Figs. 26-27. S. melanocholia Hull; 26. 9th sternum and aedeagus, lateral view; 27. 9th sternum and aedeagus, dorsal view. Figs. 28-30. S. knutsoni, new species (holotype); 28. 9th sternum and aedeagus, lateral view with a slight dorsal bias; 29. 9th sternum and aedeagus, dorsal view; 30. a = accessory prong; i = inner prongs; o = outer prong; inner prongs, left side, lateral view.

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Thorax. — dark except yellowish tinge on humeri and postalar calli; trochanters black; femora black except yellow basal third; tibiae yellow except black apical 1/3 of anterior tibiae, apical 1/3 of middle and apical 1/3 of hind; legs black pilose; wings more extensively bare, 2nd basal cell bare, narrowly bare on both sides of 2nd, 3rd, 4th and 5th veins out to apical fourth of wings.

Abdomen. — black and yellow, medial vitta on 2nd and 3rd terga well developed and expanded on basal margins of terga; 1st segment completely black; lateral and hind margin of terga black. Male genitalia. — surstyli shorter and broader than in other species; 9th sternum pilose all along dorsolaterally surface and on outer prong, without accessory prong; outer prongs slightly asymmetric, directed posteriorly, left outer prong curved ventrally; inner prongs strongly asymmetric, apical position, right inner prong directed posteriorly and left inner prong curved dorsally; membranous pouches only beneath outer prongs and without sclerotized lancets; aedeagus narrow, strongly curved dorsally, with tip recurved.

Material examined. — holotype male from NEPAL, Katmandu, Balaju, 4,500 ft., 10 June 1967, Canadian Nepal Expedition; in Canadian National collection.

Discussion. — This species is dedicated to the late Dr. J. G. Chillcott, the initiator and leader of the Canadian Nepal Expedition and an outstanding Dipterist in his own right (see Shewell, 1967). Chillcotti may be the unnamed species figured by Hull (1949:237, figs. A & B) since chillcotti is the only Spheginobaccha known to me with subcontiguous eyes in the male. Hull's figures agree well with chillcotti except chillcotti as well as all other species of Spheginobaccha, has a facial tubercle which is lacking in Hull's figure (error?).

Spheginobaccha aethusa (Walker)

macropoda, Curran, 1931a:328 (distributional records, in part).

Length. — body, female 12.3mm; wing, female 9.4mm. Apparently differing from macropoda only in having a completely orange antennae and almost completely microtrichose wing.

Material examined. — BURMA: Moulmein, 1 ♀, Clerk (holotype; BM (NH)); South Shan States, road 40 km east of Taunggyi, 25 Sept — 13 Oct 1934, 1 ♂, Malaise (NRS); South Shan States, Taunggyi, 1500 m, 1 Aug — 22 Sept 1934, 1 ♂, Malaise (NRS). SOUTH CHINA SEA:
F. CHRISTIAN THOMPSON

Spheginobaccha dextoides Hull

Figs. 2, 45, 46-49

dextoides Hull, 1944:131. Type-locality: South Africa, Pondoland, Port St. John. Type $\delta$ BM(NH).

Length. — Body male 18.3-18.6mm (18.5mm, $\#2$), female 16.3-17.2mm (16.8mm, $\#2$); wing, male 12.4-12.7mm (12.6mm, $\#2$), female 12.3-13.1mm (12.7mm, $\#2$).

Head. — Face brown to dark brown, golden pollinose laterally, dull medially, dark brown to black pilose, rarely with a few brownish hairs; front and vertex shiny reddish brown, black pilose; occiput black, silvery gray pollinose, golden pilose below becoming intermixed with black pile on upper $\delta$. Eyes narrowly dichoptic in males, separated by less than width of 2nd antennal segment in males. Antennae short; 1st two segments reddish brown to brown, always distinctly darker than 3rd segment; 3rd reddish brown, small, elongate, about (1.7) twice as long as broad; arista brown, about as long as antenna.

Thorax. — Dark brownish black; humeri brownish yellow; mesonotum sparsely brownish pollinose, very short black pilose; pleurae sparsely silvery pollinose except densely pollinose on posterior mesopleurae and dorsal sternopleurae, very short white pilose; scutellum brownish yellow, black pilose; proanepisternal hairs golden. Legs. — Black pilose; mainly dark brown to brownish black; yellow on bases of femora, basal $\frac{1}{2}$ of tibiae; light reddish brown on apical $\frac{1}{2}$ of anterior four femora. Squamae white. Halter yellowish orange. Wings. — Hyaline except light brown along anterior edge, microtrichose except base 1st and usually all of 2nd basal and anal cells, bases of apical and discal cells, alula and area behind basal portion of anal cell; rarely with a few microtrichia along posterior edge of 2nd basal cell and in middle of anal cell.

Abdomen. — Brownish black to black; sterna yellow to white pilose; terga black pilose except white pilose on pollinose spots and frequently yellow pilose on 4th and 5th terga of female; silvery pollinose spots extending obliquely from lateral margins of 2nd, 3rd and 4th terga; 1st pair starting at basal $\frac{1}{2}$ of tergum, extending back to posterior $\frac{1}{2}$, broad separated medially by $\frac{1}{2}$ width of segment, frequently reduced to only one pair of sublateral spots near mid point of tergum; 2nd and 3rd pairs starting at posterior $\frac{1}{2}$, extending forward almost to basal margin medially, narrowly separated by twice or less than that of their widths. Male genitalia. — Cerci with large pits; surstyli without a large dorsomedial extension, elongate, about 3 times as long as broad, with a distinct dorsomedial ridge, without inner lobe, with truncate tip; prong of superior lobe broad, blunt tipped, with dorsal subapical tooth, only slightly curved laterally; basoventral tooth of superior lobe broadly rounded.

Material examined. — SOUTH AFRICA: Pondoland, Port St. John, Nov. 1923, 1 $\delta$, R. E. Turner (holotype; BM(NH)); Port St. John, 20-25 Nov. 1961, 1 $\delta$, B. & P. Stuckenberg (NM); Natal, Pinetown District, Gillits, TRANS. AMER. ENT. SOC., VOL. 100
Hull but it can be contrasted as follows: 1) the face is mainly golden pilose, with a few brown hairs medially, not brown nor black pilose; 2) the front golden pilose, not black; 3) the 3rd antennal segment more oval, just slightly longer (1.3) than broad, not more elongate and about twice (1.7) as long as broad; 4) the wings more extensively microtrichose, the anal cell with extensive medial patch of microtrichia, not completely bare nor with just a few microtrichia; 5) the surstyli are broader, about twice as long as broad, not 3 times as long as broad; 6) the surstyli without a prominent dorsomedial ridge, not with such a ridge; 7) the prong of the superior lobe is more slender and has a sharp point, not

Figs. 40-45. — Figs. 40-42. *Spheginobaccha perialla*, new species; 40. head, male, lateral view; 41. head, male, oblique dorsal view; 42. apical half of wing. Fig. 43. *S. dubia*, new species, wing. Figs. 44-45. antenna of *Spheginobaccha* species, 44. *dubia*, new species; 45. *dexioides* Hull.
Figs. 46-54. — male genitalia of *Spheginobaccha* species. Figs. 46-49. *S. dextoides* Hull; 46. 9th tergum and associated structures, lateral view; 47. right surstylus, dorsal view; 48. 9th sternum, lateral view; 49. right superior lobe, dorsal view. Figs. 50-54. *S. dubia*, new species; 50. 9th tergum and associated structures, lateral view; 51. right surstylus, dorsal view; 52. 9th sternum, lateral view; 53. right superior lobe, dorsal view; 54. aedeagus and apodeme, lateral view.

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VARIATION IN SPECIES OF SPHEGINOBACCHA

Of the material studied, the 38 specimens of demeierei were uniform in respects to the taxonomic characters used and described here. However, in the 20 specimens of macropoda there was considerable variation in the extent of light coloration and slight variation in the male genitalia. This color variation was restricted to scutellum, proanepisterna and terga; proanepisterna ranging from yellowish orange to bluish black; scutellum from light yellowish orange to dark brownish orange; abdominal pattern from complete yellowish-orange broad uninterrupted bands on 2nd and 3rd terga to bands broadly interrupted by medial black vittae.

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