# SYSTEMATIC NOTES ON SOME SRI LANKAN SCOLIIDAE (HYMENOPTERA: ACULEATA)

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Abstract.—Campsomeriella litoralis Krombein, new species, is described from both sexes, Scolia (Discolia) lankensis Krombein, new species, is described from a male, and the previously unknown female of Scolia (Discolia) gunawardaneae Krombein is also described. Distributional and systematic notes are added for 20 other species obtained since the family was revised in 1978.

Key Words: Wasps, Scoliidae, Sri Lanka, systematics, distribution

A revision of 25 taxa of Ceylonese Scoliidae (Krombein 1978) was based on specimens collected during the Smithsonian's "Ceylon Insect Project," 1969-1976, augmented by material borrowed from other collections. Additional specimens were collected from 1977 to 1981 by teams that included a specialist from the United States and two or more Sri Lankan technicians. Personnel who participated during this last 5-year period of the Smithsonian's "Ceylon Insect Project" were as follows in alphabetical order: D. W. Balasooriya, P. Fernando, T. Gunawardane, V. Gunawardane, M. D. Hubbard, M. Jayaweera, L. Jayawickrama, P. B. Karunaratne, S. Karunaratne, M. Kosztarab, K. V. Krombein, P. A. Panawatta, P. Leonage, S. Siriwardane, L. Weeratunge, N. V. T. A. Weragoda, and T. Wijesinhe. Two specimens are also included from my recent field work in Sri Lanka during 1993.

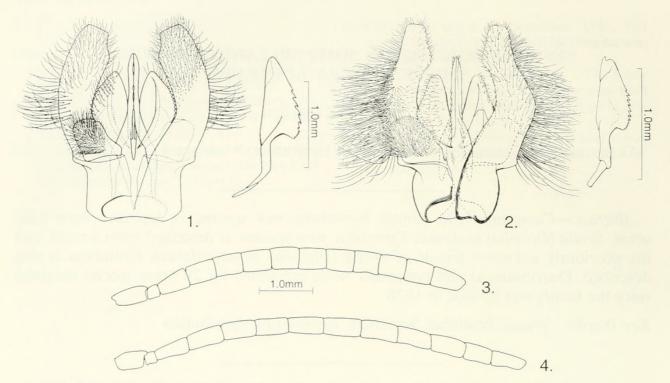
Two new species and the previously unknown female of another species were collected. Descriptions of these are followed by new distributional data and a few systematic notes on other species arranged in the systematic sequence used in my revision. The abbreviations T 1–7 and S 1–7 are used in the descriptions to denote abdominal terga and sterna 1–7.

### Campsomeriella litoralis Krombein, New Species Figs. 1, 3, 5

Campsomeriella collaris collaris Betrem. Krombein, 1978, in part: 18–19 (Ja-Ela specimens only).

Etymology.—From the Latin *litoralis*, of the seashore.

Male.—Length 14.0 mm, forewing 11.5 mm. Black, the following pale yellow: narrow streak on basal two-thirds of outer mandibular surface, clypeus except narrowly at apex and a spot on basal two-thirds, narrow at upper end and expanding into a quadrate spot in middle, small narrow streak along lower inner eye orbit, pronotum with a narrow apical streak interrupted for a short distance toward scapula and a narrow streak adjacent to propleuron, small anterior spot on tegula, tiny anterolateral spot on scutellum, streak posteriorly on apical half of foreand midfemora and on most of hindfemur, outer surface of tibiae except apices, outer surface of forebasitarsus, broad band cov-



Figs. 1–4. 1–3, Campsomeriella species. 1, C. litoralis, n. sp., genitalia, ventral aspect at left, dorsal aspect in middle, aedeagus, lateral aspect at right; 2, C. c. collaris (Fabricius), genitalia, oriented as in 1 (Krombein 1978: fig. 15, by M. C. Druckenbrod); 3, C. litoralis, n. sp., antenna, lateral aspect. 4, Micromeriella m. marginella (Klug), antenna, lateral aspect.

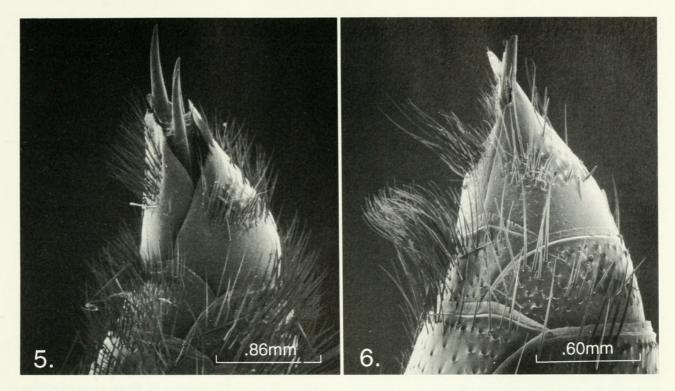
ering most of dorsum of T 1 shallowly emarginate anteriorly in middle and narrowing laterally, broad bands on apical three-fourths of T 2-3 emarginate anteriorly in middle and narrowing laterally, band on apical half of T 4, a pair of transverse spots on apical half of T 5 narrowly separated at midline, and a pair of small posterolateral spots on S 2. Erect vestiture abundant, glittering white except black on seventh abdominal segment, S 6 without a median tuft of longer, dense, black setae as in C. c. collaris (Fabricius) (cf. Figs. 5, 6); head and thorax with silvery tomentum, especially dense on thorax as in C. c. collaris. Wings slightly infumated with weak yellowish reflections. Genitalia as figured, paramere broader and volsella not so setose as in C. c. collaris (cf. Figs. 1, 2).

Female.—Length 15.3–18.2 mm, forewing 11.3–13.4 mm. Integument black. Vestiture white except becoming infuscated on apical abdominal segments, erect on occiput and dorsum of thorax anteriorly form-

ing a distinct dense ruff, sparse and recumbent on abdomen; temple, vertex posteriorly, pronotal dorsum and anterior third of scutum with dense, short, appressed setae as in *C. c. collaris*. Wings brown, not so dark as in *C. c. collaris*, basal two-thirds lighter than apex, with weak bluish reflections. Punctation much as in *C. c. collaris*, differing as follows: vertex with a few more scattered punctures, although still mostly smooth; and lower metapleural plate with fewer punctures.

Holotype. − ∂, Sri Lanka, Col[ombo] Dist[rict], Pamunugama, seashore, 16 March 1981, K. V. Krombein, T. Wijesinhe, L. Weeratunge (USNM).

Paratypes (all USNM).  $-2 \delta$ ,  $\circ$ , same label data as holotype;  $4 \delta$ ,  $2 \circ$ , same locality, but 16 January 1977, K. V. Krombein, P. Fernando, D. W. Balasooriya, V. Gunawardane.  $2 \delta$ , same locality, but 26 July 1993, K. V. Krombein, A. W. Norden, P. B. Karunaratne.  $\delta$ , Col[ombo] Dist[rict], Uswetakeiyawa, seashore, same date and collec-



Figs. 5, 6. Campsomeriella species, apex of abdomen, lateral aspect. 5, C. litoralis, n. sp.; 6, C. c. collaris (Fabricius).

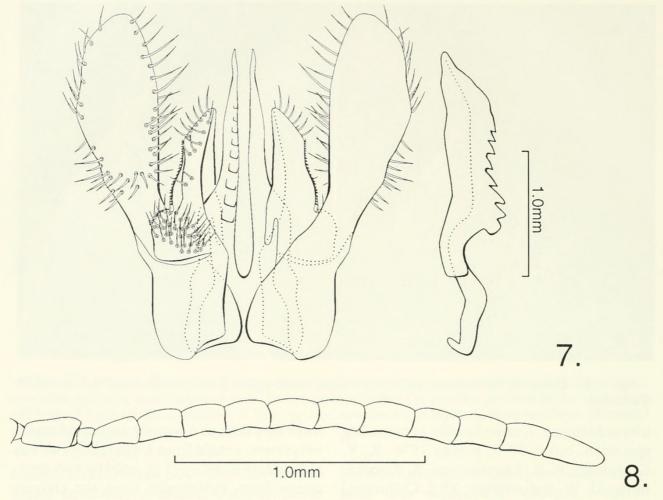
tors as holotype. ô, same locality as preceding specimen, but 0-50 ft, 8 May 1976, K. V. Krombein, P. B. Karunaratne, S. Karunaratne, D. W. Balasooriya. 25 &, Col[ombo] Dis[trict], Ja-Ela, Old Dutch Canal, sea level, 8 May 1976, K. V. Krombein, P. B. Karunaratne, S. Karunaratne, D. W. Balasooriya. 2 8, Sri Lanka, Ham[bantota] Dist[rict], Palatupana, W[ild] L[ife and] N[ature] P[rotection] S[ociety] Bungalow, 0-50 ft, 18-21 January 1979, K. V. Krombein, P. B. Karunaratne, T. Wijesinhe, S. Sirawardane, T. Gunawardane. A pair of paratypes have been deposited in the National Museum, Colombo, and a male paratype in the Natural History Museum (BMNH), London, and in the Staatliches Museum für Naturkunde, Stuttgart.

Variation.—Male paratypes are 10.1–13.9 mm long. Coloration is variable: the least maculated specimen from Pamunugama has reduced pronotal markings, lacks the lateral spots on scutellum, and the bands on T 2–3 are about half the width of tergum, and spots are lacking on T 5; on other specimens from Pamunugama, the spots on T 5 range

from tiny dots to narrowly separated transverse bars; a male from Uswetakeiyawa has a complete band on T 5; and the two specimens from Palatupana have the clypeus yellow except extreme apex and small median and basal spots, scutellar spots are larger, almost meeting on midline in one specimen which also has a median spot on metanotum, T 5 has an apical band narrowly emarginate anteriorly on midline, spots on S 2 are larger, and S 3 has a pair of small posterolateral spots.

Discussion.—Campsomeriella litoralis is known from only four localities in Sri Lanka, all on the seashore, one in the extreme southeastern part of the country, the other three about a third of the distance northward on the west coast. I expect that C. litoralis is more widely distributed in sandy parts of the litoral area in Sri Lanka, and that it may also occur in similar habitats in southern India. It should be noted that C. c. collaris (Fabricius) has not been collected in the litoral area, although it is otherwise widely distributed in Sri Lanka.

The female runs to C. c. collaris in my



Figs. 7, 8. Scolia (Diliacos) lankensis, n. sp. 7, genitalia, ventral aspect at left, dorsal aspect in middle, aedeagus, lateral aspect at right; 8, antenna, lateral aspect.

key (1978), and is distinguished by having the basal two-thirds of the forewing lighter and with weak bluish reflections, the mostly pale, sparse vestiture of the abdomen, and the smaller average size (14–27 mm in *C. c. collaris*).

The male also runs to *C. c. collaris*, but with some difficulty because of the frequent maculations on T 5. It is separated from *C. c. collaris* by the absence of a relatively long tuft of dense, erect, long, black setae ("copulation brush" of Betrem 1967) on S 6 (cf. Figs. 5, 6), and markedly by the conformation and vestiture of the male genitalia (cf. Figs. 1, 2). The more abundantly maculated specimens will run to *Micromeriella m. marginella* (Fabricius). The antennae are shorter in both *C. c. collaris* and *C. litoralis* than in *M. m. marginella* (cf. Figs. 3, 4), and

the apical flagellar segments are two-thirds as wide as long rather than half as long. The genitalia of *M. m. marginella* are also markedly different (Krombein 1978: fig. 12)

### Scolia (Discolia) lankensis Krombein, New Species Figs. 7, 8

Etymology.—From Lanka, the ancient Sinhalese name for Sri Lanka.

Male.—Length 22.4 mm, forewing 19.3 mm. Black, the following orange: upper half of clypeus, lower half of area frontalis; large area on face including narrow line along lower inner eye orbits, ocular sinus, and front to posterior edge of fore ocellus, small mark behind and between posterior ocellus and upper eye margin narrowing to a streak along

upper two-thirds of outer eye orbit; oblique rectangular mark on scapula extending from anterolateral margin to tegula; a pair of large, transverse, anterolateral marks on T 3; wide bands on T 4–6; a pair of small, anterolateral spots and a narrow median band on T 6; and a narrow, median band on T 7. Vestiture black, reddish on orange areas except scapula, apical fringes of T 2–6 and S 2–6 and base of S 7. Wings dark brown with golden reflections, anterior third of forewing more strongly infuscated, microtrichiae present on wing membrane beyond marginal and submarginal cells.

Antenna long, tapering gradually at apex (Fig. 8); spatium frontale with small, contiguous punctures; front with somewhat larger punctures except for a small, smooth area between median patch and punctate ocular sinus, well developed fissura frontalis extending to anterior ocellus; vertex with more scattered, small punctures.

Scapula except narrow, micropunctate posterior margin with small, mostly subcontiguous punctures; scutum with somewhat larger, mostly subcontiguous punctures except a small, median, posterior area with slightly more separated punctures; scutellum similarly punctate but more sparsely along midline and a small, wider posterior area; metanotum similarly punctate except a narrow, median strip; upper metapleural plate with punctures as on scutum except lower anterior area smooth and micropunctate; punctation of dorsal propodeal surface similar to that on scutum; lateral propodeal surface contiguously punctate on upper third, elsewhere with most punctures separated by about a puncture width.

Apical fringes of T 1–6 and S 2–6 with a single row of tiny, contiguous punctures; T 1–2 with small punctures mostly separated by half a puncture width; T 3–6 with small, more dispersed punctures; genitalia (Fig. 7).

Female. - Unknown.

Holotype.—Sri Lanka, Kan[dy] Dist[rict], Udawattakele Sanct[uary], 510–580 meters, 2-5-XI-1977, K. V. Krombein, P. B. Ka-

runaratne, T. Wijesinhe, M. Jayaweera. Deposited in National Museum of Natural History (USNM).

Remarks.—This species runs to couplet 21 in my key (1978), but is distinguished from *S. picteti* Saussure and *S. ceylonicola* Betrem, both members of the *S. erythrocephala* group, by the dark brown rather than yellowish or slightly infumated wings, lack of pale thoracic markings except on scapula, and the orange rather than yellow maculations of the abdomen. The genitalia differ from those of other Scoliinae in lacking setae on the dorsal surface of the paramere.

In Betrem's key (1928: Tabelle III, pp. 256–263) S. lankensis runs to S. pseudosinensis Betrem from Sidapur, Coorg, India, a member of the S. pekingensis group. The unique male allotype of S. pseudosinensis in the Agricultural Station, Pusa, India, is not available for study, and I am not certain that S. lankensis belongs to this group of species. Betrem did not figure the genitalia, and his description indicates the following differences in coloration and punctation between S. pseudosinensis and S. lankensis: area frontalis all black in the former species, orange on the lower half in the latter; spatium frontale and tegula posteriorly orange in former, black in latter; thorax beneath and legs with reddish brown setae in former, black in latter; pronotum not thickly, finely punctate in former, scapula mostly contiguously punctate in latter; and metanotum not thickly punctate in former, most of punctures on latter separated by half the diameter of a puncture.

Betrem characterized females of the *S. pekingensis* group as follows: front and vertex mostly yellow or red, and mostly or entirely smooth with very few punctures; laminae frontales short, broader below than above; thorax entirely black; propodeum densely and deeply punctate; abdominal terga often finely punctate posteriorly; and at least T 3 with pale markings. The unknown female of *S. lankensis* should agree

in most of these details if the taxon is, indeed, a member of the S. pekingensis group.

#### Scolia (Discolia) gunawardaneae Krombein

Scolia (Discolia) gunawardaneae Krombein, 1978: 23, fig. 30.

I described this rare species of the Dry Zone from a single male from Tennamaravadi, Trincomalee District, on the northeast coast. We collected a second male and three females on the southeast coast. The specimens are unworn and appear to have eclosed recently. They were visiting a flowering plant for nectar, and all specimens bear a few to many pollen grains especially beneath the head.

Female.-Length 14.7-19.0 mm, forewing 12.8-16.2 mm. Black, the following light red: largest female with a narrow stripe behind eye on vertex, and a diffuse, narrow spot anteriorly on scapula; broad bands on T 3-5, largest female also with a pair of small, rounded, sublateral spots on middle of 2; sterna black in smallest female, S 2 of intermediate female with a diffuse, narrow reddening anteriorly and a pair of small, elliptical spots laterally at midline, S 3 of largest female with broad anterior band and a pair of transverse spots posterolaterally, and S 4 and 5 with successively smaller, paired posterolateral spots. Wings dark brown, forewing with blue reflections, anterior third darker than rest of membrane, microtrichiae confined to cells except a small patch adjacent to marginal cell. Erect vestiture black except white on occiput, narrowly on anterolateral margin of pronotum and more widely anterodorsally.

Anterior margin of clypeus rounded, flat anterior rim with dense, small punctures, raised upper area glossy, with scattered micropunctures and a few larger ones laterally; area frontalis with a few, large punctures laterally; spatium frontale with large, mostly subcontiguous punctures; front with large punctures separated by less than the width of a puncture narrowly along midline and along upper eye margin, scattered elsewhere; fissura frontalis lacking; vertex with scattered medium punctures, narrow patch of close punctures behind ocelli extending toward upper inner eye margin; occiput with close, subcontiguous punctures.

Scapula mostly subcontiguously punctate; scutum with a smooth, more or less U-shaped area on posterior half, anterior third with small, subcontiguous punctures, narrow area inside parapsidal furrows with larger subcontiguous punctures, area laterad of parapsidal furrows with larger scattered punctures, posterior margin with 2-3 rows of close, smaller punctures; scutellum mostly with larger, subcontiguous punctures, and a few small, scattered, impunctate areas; median area of metanotum similarly punctate, lateral areas with smaller, contiguous punctures; mesopleuron with moderate, subcontiguous punctures except anterior half of anterior slope below tubercle smooth with numerous micropunctures, and posterior half of posterior slope and tubercle similarly micropunctate; upper plate of metapleuron smooth with numerous micropunctures except for a few larger punctures dorsally, lower plate with larger punctures separated by about half the diameter of a puncture except a narrow, subtriangular posterior area densely micropunctate; median horizontal area of propodeum punctate as on scutellum except a narrow median strip impunctate; lateral horizontal area of propodeum smooth on inner anterior fourth, with somewhat smaller, subcontiguous punctures elsewhere; lateral surface of propodeum with mostly medium size punctures separated by no more than half a diameter and with scattered small impunctate areas; median area of posterior propodeum with medium size, frequently subcontiguous punctures on upper half, more scattered punctures on lower half; lateral area of posterior propodeum with mostly subcontiguous punctures except a small, smooth, micropunctate area at upper inner angle.

Dorsal surface of T 1 with a small tubercle, small area immediately posterad with scattered punctures of medium size, punctures elsewhere subcontiguous to contiguous especially laterally.

Discussion. - The female of S. gunawardaneae runs to couplet 28 in my key (1978), sharing the distinction with S. keiseri Krombein and S. karunaratnei Krombein of having the occiput partly or entirely clothed with white setae. It differs from both in having broad, light red bands on T 3-5; neither of the other species has red on T 5, and T 3 has a pair of spots rather than a band. The female of S. keiseri also differs in having abundant white setae on the entire body rather than just on the occiput and neck, the fissura frontalis is present on lower half of front, and the scutellum has most of the surface devoid of large punctures. The female of S. karunaratnei also differs in having a fissura frontalis on the lower part of the front, the upper front virtually devoid of large punctures, the scutum with a large, quadrate, impunctate area posteriorly, and the scutellum also is less punctate posteri-

The male agrees well with the holotype in coloration and punctation, and in the characteristic genitalia.

Additional locality data.—3 ♀, ♂; Hambantota District, Palatupana, 29 Mar–2 Apr 1981, K. V. Krombein, T. Wijesinhe, L. Weeratunge. One female has been placed in the National Museum, Colombo, Sri Lanka. The unique male holotype which was on loan to USNM has now been returned to the National Museum in Colombo.

### Phalerimeris phalerata turneri (Betrem)

Additional localities.—Trincomalee District: Tennamaravadi, 3 &, 20 Mar. Anuradhapura District: Amarivayal, 12 &, 21 Mar; Padaviya, 6 &, 12–22 Mar; and Galkadawala, &, 13 Mar. Kurunegala District: Kurunegala, Badegamuwa Jungle, 3 &, 14–15 Mar, and \( \frac{9}{2}, 2 \) &, 20 Sep. Kandy District:

Ulhitiya Oya, 15 mi NNE of Mahiyangana,  $\delta$ , 5–6 Sep; and Thawalamtenne,  $\delta$ , 16–18 Sep. Ratnapura District: Sinharaja Jungle, 2–3 mi S of Weddagala,  $\delta$ , 8–12 Feb, and 4  $\delta$ , 22–23 Sep; Belihul Oya, Rest House,  $\delta$ , 23 Mar, and 24  $\delta$ , 9–11 Apr; and Ambame Hena, 8 mi N of Kalawana,  $\delta$ , 4 Apr. Monaragala District: Angunakolapelessa,  $\delta$ , 17–19 June.

# Colpacampsomeris indica eliformis (Saussure)

Additional localities.—Ratnapura District: Gilimale, Induruwa Jungle, &, 12–15 Mar; and 2 mi S of Weddagala, Sinharaja Jungle, &, 8–12 Feb.

# Sericocampsomeris pseudindica (Betrem)

Additional localities.—Kegalla District: Kitulgala, Bandarakele Jungle, &, 17–18 Mar. Ratnapura District: 2 mi S of Weddagala, Sinharaja Jungle, 3 &, 8–12 Feb.

# Campsomeriella collaris collaris (Fabricius)

The paired lateral spots on T 5 of the male may occasionally coalesce medially to form a narrow strip.

Additional localities.—Mannar District: Kondachchi, Ma Villu, \$\, 6 \, \delta\$, \$11-12 Apr, and \$\delta\$, \$19 Sep. Trincomalee District: Tennamaravadi, \$9 \, \delta\$, 20 Mar. Colombo District: Katunayaka, \$\delta\$, \$16 June. Kegalla District: Kitulgala, Bandarakele Jungle, \$\delta\$, \$15 Apr, and \$\delta\$, \$25-26 Oct. Ratnapura District: Belihul Oya, Rest House, \$\delta\$, \$10-11 Apr. Galle District: Kanneliya section, Sinharaja Jungle, \$\delta\$, \$2-5 Oct. Monaragala District: Angunakolapelessa, \$3 \delta\$, \$17-19 June.

# Micromeriella marginella marginella (Klug)

A large male from Colombo, 12 mm long, has abnormally broad bands on T 1–3, similar in extent to those of *Campsomeriella collaris collaris* (Fabricius). Unlike *C. c. collaris*, it has the usual apical band on T 5,

and the genitalia are normal for *M. m. mar-ginella*.

Additional localities.—Mannar District: Kondachchi, Ma Villu, &, 22–28 Jan, \, \, 17–21 Feb, \, \, 13 \, \, 11–12 Apr, and \, 16–19 Sep. Colombo District: Pamunugama, sea shore, \, \, 16 Jan, and \, \, 16 Mar; and Gampaha Botanical Garden, \, \, \, 27 Sep. Hambantota District: Bundala Sanctuary, Circuit Bungalow, 5–50 ft, 8 \, \, 17 \, \, 22–24 Aug.

# Megacampsomeris ceylonica ceylonica (Kirby)

The male from Thawalamtenne is very small (10.5 mm) and has reduced yellow markings: head with only clypeus mostly yellow, elsewhere black; thorax entirely black; apical bands of T 1–3 narrower, those of 2 and 3 separated in middle; and legs with normally red areas brownish.

Additional localities.—Kandy District: Thawalamtenne,  $\circ$ ,  $\delta$ , 12–13 Mar; and Adams Peak Trail, 4.5 mi W of Maskeliya, 1610–1690 m, 14  $\delta$ , 20–21 Oct. Kegalla District: Kitulgala, Makande Mukalana,  $\delta$ , 3–4 Feb, and  $\delta$ , 25–26 Oct.

Liacos erythrosoma cruszi Krombein

Additional locality.—Trincomalee District, Thiriyaya, &, 14 Mar.

# Megascolia (Regiscolia) azurea michaae (Betrem)

Additional localities.—Anuradhapura District: Galapitawewa, 2 &, 19 Mar; and Amarivayal, 3 &, 21 Mar. Trincomalee District: Thiriyaya, 7 &, 14 Mar. Kandy District: Thawalamtenne, &, 7–8 Sep. Colombo District: Handapangoda Timber Reserve, Q, 18 Jan.

### Microscolia hydrocephala (Micha)

Additional localities.—Kandy District: Thawalamtenne, & 21 Mar, and 11 & 7–8 Oct. Monaragala District: Angunakolapelessa, Q, 17–19 June.

#### Austroscolia ignota (Betrem)

Additional localities.—Mannar District: Cashew Corporation, Ma Villu, 2 &, 17–21 Feb. Trincomalee District: Tampalakaman Naval Head Works, ♂, 29 Jan; and Tennamaravadi, ♂, 20 Mar. Amparai District: Ekgal Aru Sanctuary Jungle, ♀, 9–11 Mar. Galle District: Kanneliya, Sinharaja Jungle, 2 ♂, 24–26 Jan.

#### Austroscolia ruficeps henryi Krombein

This is the second known male of this rare taxon. It agrees very well with the description of the allotype, but it is smaller, only 14.5 mm long rather than 20 mm.

Additional locality.—Trincomalee District: Tampalakaman Naval Head Works, &, 29 Jan.

#### Scolia (Discolia) cyanipennis Fabricius

Additional localities.—Matale District: Sigiriya,  $\varphi$ , Aug. Hambantota District: Palatupana,  $3 \varphi$ ,  $\delta$ , 29 Mar–2 Apr.

#### Scolia (Discolia) affinis Guérin-Méneville

Additional localities.—Anuradhapura District: Padaviya Archeological Site, &, 11–14 Oct. Colombo District: Labugama Reservoir, \( \varphi \), \( \delta \), 11 Jul. Ratnapura District: Gilimale, Induruwa Jungle, \( \delta \), 7–8 Mar, and \( \delta \), 16–19 Apr. Galle District: Kanneliya section, Sinharaja Jungle, \( \delta \), 2–5 Oct.

### Scolia (Discolia) trivandrumensis Betrem

Additional localities.—Mannar District: Kondachchi, Ma Villu, 3 &, 11–12 Apr; and 0.5 mi NE Kokmotte Bungalow, Wilpattu Natl. Park, 2 &, 22–23 Jan. Trincomalee District: China Bay, Ridge Bungalow, 2 &, 8–11 Oct. Galle District: Kanneliya section, Sinharaja Jungle, &, 2–5 Oct. Hambantota District: Palatupana, Q, 29 Mar–2 Apr.

### Scolia (Discolia) aureipenniformis Betrem

Additional localities.—Trincomalee District: Trincomalee, China Bay, 2 &, 8–11 Oct. Colombo District: Labugama Reservoir, 10 &, 11 Jul. Galle District: Kanneliya section, Sinharaja Jungle, 2 &, 2–5 Oct.

### Scolia (Discolia) fasciatopunctata Guérin-Méneville

Additional localities.—Mannar District: Kondachchi, Ma Villu, &, 11–12 Apr. Anuradhapura District: Galkadawala, &, 13 Mar. Amparai District: Ekgal Aru Sanctuary Jungle, &, 9–11 Mar. Kegalla District: Kitulgala, &, 3–5 Feb. Ratnapura District: Gilimale, Induruwa Jungle, &, 13–15 Mar. Galle District: Hiniduma, Q, 15 Jul.

# Scolia (Discolia) bipunctata bipunctata Fabricius

Additional localities.—Trincomalee District: Nilaweli, 9 &, 19–20 Nov; and Tennamaravadi, 5 &, 20 Mar.

### Scolia (Discolia) karunaratnei Krombein

Additional localities.—Mannar District: Ma Villu, Cashew Corporation,  $\mathfrak{P}$ ,  $\mathfrak{F}$ , 17–21 Feb. Puttalam District: Pannika Wila, Wilpattu Natl. Park,  $\mathfrak{F}$ , 1 Nov. Colombo District: Colombo,  $\mathfrak{F}$ , 27 June. Hambantota District: Palatupana, WLNPS Bungalow, 3  $\mathfrak{F}$ , 18–21 Jan.

Scolia (Discolia) keiseri Krombein Additional locality.—Mannar District: Kondachchi, Ma Villu, 8, 11–12 Apr.

Scolia (Discolia) picteti Saussure

Additional locality.—Mannar District: 0.5 mi NE of Kokmotte, Wilpattu Natl. Park,  $\delta$ , 15–16 Feb.

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#### LITERATURE CITED

Betrem, J. G. 1928. Monographie der Indo-Australischen Scoliiden (Hym. Acul.) mit zoogeographischen Betrachtungen. Treubia, 9 (supplementary volume), 398 pp.

Betr., 1941 (Hymenoptera Scoliidae). Entomolo-

gische Berichten 27: 25-29.

Krombein, K. V. 1978. Biosystematic studies of Ceylonese wasps, II: A monograph of the Scoliidae (Hymenoptera: Scolioidea). Smithsonian Contributions to Zoology 283: 1–54.



Krombein, Karl V. 1995. "SYSTEMATIC NOTES ON SOME SRI LANKAN SCOLIIDAE (HYMENOPTERA: ACULEATA)." *Proceedings of the Entomological Society of Washington* 97, 77–85.

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