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Records and Descriptions of Additional Scoliidae from New Guinea, Bismarck Archipelago, and Solomon Islands (Hymenoptera: Aculeata)

By Karl V. Krombein

Chairman, Department of Entomology

Several hundred Scoliidae have been obtained in New Guinea, Bismarck Archipelago, and Solomon Islands by field parties of the Bernice P. Bishop Museum, Honolulu, since those reported upon in my revisionary study of these wasps (Krombein, 1963). I am grateful to J. L. Gressitt and C. M. Yoshimoto for supplying me the specimens for study. I have prepared the following brief paper inasmuch as included among the specimens are several distinctive new species and subspecies of Campsomeris subgenera Laevicampsomeris and Phalerimeris, and Campsomeris, sensu lato, the previously unrecognized males of two other species belonging to the subgenus Laevicampsomeris, and the previously unknown female of Diliacos r. ribbei (Betrem). Also, many specimens came from a number of new localities and provide additional data on seasonal occurrence of many species.

The species are arranged in systematic order as in my revisionary paper. The nomenclature employed is also the same except for the changes necessitated by two recent papers on classification of the Scoliidae (Betrem, 1962, 1967; Bradley and Betrem, 1967).

Campsomeris (Laevicampsomeris) bonguensis Betrem

Northern District, Papua: 3 & Popondetta, 60 meters, 2 and 26 September 1963, P. Shanahan and J. Sedlacek, in Malaise trap.

Central District, Papua: 3 \circlearrowleft , Cape Rodney, 10 meters, 2-4 November 1960, J. L. Gressitt, 1 in Malaise trap. 2 \circlearrowleft , Otomata Plantation, east of Port Moresby, 1 meter, 2 November 1960, J. L. Gressitt, in Malaise trap. 1 \circlearrowleft , Brown River, 23 October 1960, J. L. Gressitt.

West New Guinea: 19, Dawai River, south-southeast of Sumberbaba, Japen Island, 3 November 1962, N. Wilson. 1 , Nabire, 5-50 meters, 25 August-2 September 1962, J. Sedlacek, in Malaise trap. 1 , Kebar valley, west of Manokwari, 550 meters, 4-31 January 1962, L. W. Quate.

Campsomeris (Laevicampsomeris) nigerrima (Smith)

Northern District, Papua: 19, Popondetta, 60 meters, 26 September 1963, P. Shanahan, in Malaise trap.

West New Guinea: 19, Dawai River, south-southeast of Sumberbaba, Japen Island, 3 November 1962, N. Wilson.

Bismarck Archipelago: 29, 1 &, Illugi, Upper Warangoi, Gazelle Peninsula, New Britain, 230 meters, 8–15 December 1962, J. Sedlacek. 1 &, Upper Warangoi, Gazelle Penin., 250–600 meters, 28–30 November 1962, J. Sedlacek. 2 &, Gaulim, Gazelle Penin., 130–140 meters, 23–28 October and 19–20 November 1962, J. Sedlacek. 1 9, Mt. Sinewit, Gazelle Penin., 900 meters, 7–16 November 1962, J. Sedlacek.

Males of nigerrima have not been recognized previously. These key to laglaizei Betrem, couplet 9 (Krombein, 1963, p. 553), and agree with that species in details of punctation and coloration. The genitalia of both laglaizei and nigerrima appear to be indistinguishable from those of bonguensis Betrem. The males of nigerrima recorded above are 18-23 mm long, and the forewing is 16-21 mm. It is presumed that the single bonguensis male recorded earlier from New Britain (Krombein, 1963, p. 568) is actually a specimen of nigerrima.

Campsomeris (Laevicampsomeris) laglaizei Betrem

West New Guinea: 19, Dawai River, south-southeast of Sumberbaba, Japen Island, 3 November 1962, N. Wilson.

Campsomeris (Laevicampsomeris) brandti Krombein

Bismarck Archipelago: 19, 1 o, Lelet Plateau, Schleinitz Mts., New Ireland, October 1959, W. W. Brandt.

This pair bears exactly the same label data as the female holotype (Krombein, 1963, p. 570), the only specimen known previously. The

male is 18 mm long with the forewing 16 mm. The genitalia are identical with those of bonquensis Betrem and other known Melanesian males of the subgenus Laevicamy someris. The male keys to solomonis Krombein, couplet 10 (Krombein, 1963, p. 553), and cannot be separated from males of that species except by reference to label data.

Campsomeris (Laevicampsomeris) solomonis solomonis, new status

I am reducing this taxon to subspecific rank because of the discovery of the distinctive new subspecies described below.

Solomon Islands: 1 o. Kukugai, Bougainville, 150 meters, November 1960, W. W. Brandt, 1 of, Ulo Crater, Vella Lavella Island, 10 meters, 16 December 1963, P. Shanahan, 1 o, Pepele, Kolombangara Island, 0-30 meters, 3 February 1964, P. Shanahan, 19, 18, Dala, Malaita Island, 50 meters, 9-14 and 21 June 1964, J. and M. Sedlacek. 2 of Tambalia, 30 km west of Honiara, Guadalcanal, 22-25 May 1964, R. Straatman, J. and M. Sedlacek. 1 9, Betikama River, Guadalcanal, August 1960, W. W. Brandt. 19, Wugiroga, San Cristoval, 9 August 1960, C. W. O'Brien, 1 o, Kira Kira, San Cristoyal, 0-50 meters, 10 November 1964, R. Straatman.

Campsomeris (Laevicampsomeris) solomonis sedlaceki, new subspecies

At first glance, this anomalous member of the subgenus Laevicampsomeris reminds one of a female of Campsomeris (Radumeris) extranea leveri Krombein without the narrow vellow bands on the first three abdominal terga: however, it has such Laevicampsomeris characters as the lack of a carina between the dorsal and lateral propodeal surfaces, the very short, impunctate, nontuberculate median area of the dorsal propodeal surface, the pronounced oblique furrow on the scapula, large impunctate areas on the front, vertex, and thoracic dorsum, and the lack of a second recurrent vein in the forewing. What makes it so distinctive among the taxa of Laevicampsomeris is the bright fulvous vestiture on the entire body and the yellowish wings, whereas the vestiture and wings are black in the more typical members of the subgenus.

In my key the female runs to solomonis, couplet 8, if one disregards the character of wing color in couplet 4. It is separated at once from

typical solomonis by the color of the vestiture and wings.

I assume that the male from Gizo Island, which I included in the type-series of typical solomonis, is actually the opposite sex of solomonis sedlaceki. It has the black integument, vestiture, and wings of solomonis males from other of the Solomon Islands. If this assumption is correct, we have in solomonis sedlaceki a taxon of Laevicampsomeris exhibiting a most unusual form of sexual dimorphism.

HOLOTYPE.—Q, Gizo Island, New Georgia Group, Solomon Islands, 100 meters, 16 July 1964, J. and M. Sedlacek, Bishop Museum.

Length 23 mm, forewing 18 mm. Exactly like typical solomonis in punctation and shape of longer hind tibial spur, but the vestiture fulvous, wings yellowish and lacking the green and blue reflections, and veins testaceous.

Male.—Presumably identical to typical solomonis in color of vestiture and integument.

PARATYPE.—1 \, same data as holotype, but 19 July 1964, USNM. It is very similar to the holotype but is only 20 mm long.

Campsomeris (Laevicampsomeris) quatei, new species

This is known from a single female from West New Guinea. It is unique among females of this subgenus in having the entire posterior half of the vertex, scutellum, postscutellum, and median area of dorsal surface of propodeum with rather close punctures. It keys to couplet 8 and is distinguished from nigerrima (Smith) and solomonis Krombein as noted above.

Holotype.—Q, Bokondini, 40 km north of Baliem Valley, ca. 1300 meters, West New Guinea, 16-23 November 1961, L. W. Quate, Bishop Museum.

Length 25 mm, forewing 22 mm. Integument black; wings dark brown with purplish reflections, the margin of forewing darker. Vestiture black except that on clypeus and a few hairs on vertex light brown.

Clypeus with only a small median area and the apical rim impunctate; area frontalis and spatium frontale coarsely and closely punctate, upper part of front with scattered punctures; a narrow space anteriorly on vertex impunctate, elsewhere closely punctate.

Pronotum with moderately large, close punctures bearing stout erect setae, a narrow strip along posterior margin and anterior declivity impunctate; scutum with large contiguous punctures on anterior half and lateral third posteriorly, the median posterior space nearly smooth except for some punctures near midline; disks of scutum and scutellum with moderately sized, subcontiguous punctures except along midline; metapleuron and propodeum devoid of large punctures except median area of dorsal surface of propodeum with mostly subcontiguous, moderately large punctures.

Longer spur of hind tibia spatulate at tip, about two-thirds as long as hind basitarsus.

MALE.—Unknown.

Campsomeris (Laevicampsomeris) papuana, new species

The presence of abundant pale hair on the front, sides, and venter of head, the sides and venter of thorax (dorsum also in male), legs,

and on part (female) or all (male) of the abdomen distinguish this handsome species at a glance from other Melanesian members of the subgenus Laevicampsomeris.

The female runs to couplet 8 of my key (Krombein, 1963, p. 553). It has spatulate hind tibial spurs and moderately dense punctures on scutellum and postscutellum. This combination of characters coupled with the distinctive vestiture separate it from nigerring (Smith) and solomonis Krombein, the two species keyed out in that couplet.

The male keys to couplet 9. It is separated from laglaizei Betrem and the species keying out in the subsequent couplet, solomonis and bonquensis Betrem, by a combination of characters such as the pale erect vestiture, lack of a propodeal tubercle, moderately dense punctation of the propodeal dorsum, and small vellow mark opposite the posteroventral margin of the eve. The genitalia, as is true in all Melanesian Laevicampsomeris, afford no differentiating characters.

Holotype.—Q. Karimui, south of Goroka, Eastern Highlands Dist., Terr. New Guinea, 1000 meters, 6 June 1961, J. L. and M.

Gressitt, Bishop Museum.

Length 29 mm, forewing 24 mm. Integument black; wings fuscous, the forewing with purplish reflections. Erect vestiture brown to black on clypeus, vertex, dorsum of thorax including scapulae, terga three to six, and sterna five and six, whitish with an ocherous cast on front, sides, and venter of head, sides and venter of thorax, legs, and first and second abdominal segments; appressed preapical fringes of sterna two to four pale, apical fringes on sterna dark except for a few pale intermixed setae on second; sides and venter of thorax with abundant, silvery, sericeous pubescence.

Clypeus contiguously punctate except middle; area frontalis, spatium frontale, and a narrow strip on lower half of front between eyes densely and coarsely punctate: vertex and occiput densely and coarsely punctate except for a longitudinal median strip on vertex; setae arising from frontal, vertexal and occipital punctures coarse, erect

and moderately long.

Scapulae, and anterior and lateral areas of scutum with dense, small punctures bearing conspicuous, erect setae, the impunctate median space on posterior half of scutum about a third as wide as scutal width and with a few scattered larger punctures; scutellum, postscutellum, and propodeal dorsum with subcontiguous punctures except for a narrow median strip; propodeum not tuberculate.

Posterior areas of terga and sterna shining; terga two to four mat

on anterior two-thirds.

Legs with spurs of hind tibia spatulate at apex as in bonguensis, the longer one two-thirds as long as basitarsus.

ALLOTYPE. - o, Karimui, 3 June 1961, J. L. and M. Gressitt, in Malaise trap, Bishop Museum.

Length 24 mm, forewing 20 mm. Integument mostly black, the dorsum of thorax and abdomen with weak blue reflections; the following creamy to yellowish: clypeus above and broadly on sides, narrow strip along inner eye margin to ocular sinus, short stripe adjacent to posteroventral eye margin, and apical half of foredistitarsus; wings fuscous, the forewing anteriorly with darker streak. Head, thorax, legs, and abdomen clothed with erect white setae except for a few intermixed dark setae on vertex and scutum, and the sixth and seventh terga with all dark setae; silvery sericeous pubescence on sides of thorax very conspicous, longer and denser than in female.

Propodeum with denser, larger punctures than in *bonguensis*, those on dorsal surface separated from each other by about the diameter of a puncture, tubercle absent; genitalia as in *bonguensis* (Krombein, 1963, p. 597, fig. 18).

PARATYPE.—1 6⁻¹, same data as holotype, but 5 June 1961, J. L. and M. Gressitt, in light trap, USNM. The paratype is 25 mm long and agrees with the allotype in vestiture, punctation, and coloration.

Couplets 9 and 10 of my key may be expanded to include the males of these additional species of *Laevicampsomeris* as follows:

- Campsomeris nigerrima (Smith)

 10. Head, thorax, and most of abdomen with long, erect white hair; punctures on dorsum of median area of propodeum larger and denser, usually separated by no more than the diameter of a puncture; New Guinea.
- 10a. Clypeus with a narrow yellow stripe along lateral margin; propodeal punctation fine and well separated; New Guinea.
- 10b. Foredistitarsus with a small yellowish spot; punctures on median area of propodeal dorsum finer and shallower, many of them separated by more than the diameter of a puncture; New Ireland.

Campsomeris (Laevicampsomeris) formosa (Guérin)

Northern District, Papua: 3 9, Popondetta, 25 meters, June 1966, P. Shanahan and Lippert, in light trap.

Central District, Papua: 1 Q, Bisianumu Station, 40 km northnorthwest of Port Moresby, 29 April 1960, C. W. O'Brien. 1 , Brown River, 23 October 1960, J. L. Gressitt.

Morobe District, Terr. New Guinea: 15 \(\text{9}, 6 \) \(\text{S}'\), Wau, 900-1300 meters, 25 February 1962, 23 March 1963 and 1964, 27-31 March 1964, 12 April 1963, 13 April 1964, 27 June 1961, 27 July 1964, 14, 15, 16, and 19 August 1964, 11 September 1964, 17 September 1961, 11 October 1962, 19 October 1965, 15 December 1961, J. and M. Sedlacek, C. Montieth, P. Shanahan, 3 \(\text{S}'\) in Malaise trap. 1 \(\text{S}'\), Mt. Kaindi, Wau, 900-1800 meters, 12-14 June 1963, P. Shanahan. 3 \(\text{S}, 2 \) \(\text{S}'\), Mt. Misim, Wau, 900-1100 meters, 16 February 1963, 14 August and 25 September 1964, J. and M. Sedlacek. 1 \(\text{S}'\), Bulldog Road, ca. 14 km south of Edie Creek, 2405 meters, 4-10 July 1966, G. A. Samuelson, in Malaise trap. 1 \(\text{S}, \) Pindiu, Huon Peninsula, 860 meters, 22 April 1963, J. Sedlacek. 1 \(\text{S}, \) Singaua River, Lae, 30 meters, 8 April 1966, O. R. Wilkes.

Eastern Highlands District, Terr. New Guinea: 9 &, Kassam, 48 km east of Kainantu, 1350 meters, 30 October 1959, T. C. Maa.

West New Guinea: 1 9, 1 3, Ifar, Cyclops Mts., 300-900 meters, 23-25 June 1962, J. L. Gressitt and J. Sedlacek. 1 3, Kampong Landbouw, 30 km northeast of airstrip, Biak Island, 16 July 1957, J. L. and M. Gressitt, in light trap. 1 3, Sucumi Camp, near head of Ransiki River, Vogelkop, 300 meters, 6 August 1957, D. E. Hardy.

Bismarck Archipelago: 1 9, Riat, Upper Warangoi, Gazelle Peninsula, New Britain, 250 meters, 1 November 1962, J. Sedlacek. 1 9, Illugi, Upper Warangoi, Gazelle Penin., 15 December 1962, J. Sedlacek. 1 7, Gaulim, Gazelle Penin., 130 meters, 23–28 October 1962, J. Sedlacek.

Solomon Islands: 1 &, Kokugai, Bougainville, 150 meters, October 1960, W. W. Brandt. 2 &, Gollifer's Camp, Kolombangara Island, 100-700 meters, 22-23 January 1964, P. Shanahan, one in Malaise trap. 1 &, Kolosulu, Guadalcanal, 20 May 1960, C. W. O'Brien. 1 &, Betikama River, Guadalcanal, August 1960, W. W. Brandt.

The male from Gaulim, New Britain, has more reduced yellow markings than in any specimens noted in my revision. The scutellar spots are reduced in size, the band on postscutellum is lacking, reduced posterolateral spots are present on the first two terga only, and the sternal spots are smaller on two and three. The Vogelkop male lacks yellow maculations on both the scutellum and postscutellum, but abdominal bands are present on the first three terga, only

those on the third being narrowly separated. The vestiture in the latter specimen is normal for formosa.

Campsomeris (Radumeris) tasmaniensis (Saussure)

Northern District, Papua: 1 9, 1 &, Popondetta, 20-60 meters, May 1966 and 2 September 1963, P. Shanahan and J. Sedlacek, & in Malaise trap.

Central District, Papua: 1 &, Boroko, Port Moresby, 6-7 November 1960, J. L. Gressitt, in Malaise trap. 1 &, Otomata Plantation, east of Port Moresby, 1 meter, 2 November 1960, J. L. Gressitt, in Malaise trap. 1 &, Bisianumu Station, 40 km north-northwest of Port Moresby, 29 April 1960, C. W. O'Brien.

Western District, Papua: 1 \circ , 1 \circ , Daru Island, 2-3 meters, 19 July 1964 and 24-25 October 1960, J. L. Gressitt and H. Clissold, \circ in Malaise trap. 1 \circ , Oriomo River, 6 meters, 14 February 1964, H. Clissold, in light trap.

Morobe District, Terr. New Guinea: 1 ♀, 1 ♂, Wau, 1200 meters, 12 April 1963 and 19 August 1964, J. Sedlacek.

West New Guinea: 7 &, Nabire, south of Geelvink Bay, 0-50 meters, 2-9 July and 25 August-20 September 1962, J. L. Gressitt, J. Sedlacek, H. Holtman, 1 in light trap and 6 in Malaise trap. 2 &, Enarotadi, Wisselmeeren, 1800-1900 meters, 27 July 1962, J. Sedlacek.

Campsomeris (Radumeris) extranea moluccensis Betrem

Bismarck Archipelago: 2 &, Kandan, New Britain, 24 December 1959, W. W. Brandt. 1 &, Talliligap, Gazelle Peninsula, New Britain, 300 meters, 17–18 December 1962, J. Sedlacek.

Solomon Islands: 1 9, Fauro, northeast Solomon Islands, 12 April 1964, P. Shanahan.

One of the males from New Britain has the yellow band on the fourth tergum narrowly interrupted in the middle; the other male bearing identical label data has the normal coloration for this subspecies.

In my revision (Krombein, 1963, p. 585) I recorded extranea moluccensis from localities in New Guinea, Bismarck Archipelago, and Solomon Islands. In the latter group it was present only on the northernmost island, Bougainville, and was replaced by extranea leveri Krombein on the more southern islands, Santa Ysabel, Russell, Ulawa, and Guadalcanal. The present shipment from the Bishop Museum includes a female and two males of extranea moluccensis labeled as having been taken at Kira Kira, San Cristoval, 27–28 July 1960, by C. W. O'Brien. I am of the opinion that these specimens are mislabeled because San Cristoval lies to the southeast of Guadalcanal,

and we would expect to find it occupied by extranea leveri. This record becomes even more suspect when we note that in this material there is a specimen of the eastern New Guinea race, Campsomeriella manokwariensis lanhami (Krombein), bearing a "Kira Kira, San Cristoval" label as well as several specimens of Austroscolia nitida nitida (Smith), another taxon occurring in New Guinea and the Bismarcks. Both Campsomeriella manokwariensis and Austroscolia nitida are represented by other races in the Solomons. It appears probable that some of these presumably mislabeled specimens may have been collected in eastern New Guinea because of the specimen of manokwariensis lanhami, a race that occurs on the Huon Peninsula, Markham River Valley, and at Port Moresby.

Campsomeris (Radumeris) extranea leveri Krombein

Solomon Islands: 1 &, Tambalia, 35 km west of Honiara, Guadalcanal, 30 meters, 22-25 May 1964, J. and M. Sedlacek.

Campsomeris (Radumeris) extranea shanahani, new subspecies

The single female of this previously unrecognized taxon from Gizo Island in the New Georgia group differs from females of the other races of *extranea* in lacking yellow integumental markings on the abdomen and in the very reduced yellow spot adjacent to the upper inner eye margin. Disregarding the lack of yellow abdominal markings it keys without difficulty to *extranea* (couplet 23).

The putative male, represented by a short series from Vella Lavella Island in the New Georgia group, runs to extranea (couplet 34) if one disregards the lack of a yellow band on the postscutellum. It differs from males of the other races of extranea in having a very tiny yellow spot adjacent to the upper inner eye margin and in lacking yellow

markings on the pronotum and postscutellum.

HOLOTYPE.—Q, Gizo Island, New Georgia group, Solomon Islands, 100 meters, 20 July 1964, J. and M. Sedlacek, in Malaise trap,

Bishop Museum.

Length 18 mm, forewing 14 mm. Black, yellow markings lacking except for a tiny spot adjacent to upper inner eye margin. Vestiture dark fulvous on head and thoracic dorsum, whitish on sides of thorax and first abdominal segment; apical fringes of all terga and of fourth and fifth sterna dark brown, of second and third sterna light brown; decumbent setae on pygidium dark brown. Wings and punctation as in extranea leveri.

ALLOTYPE.— , Pusisama, Vella Lavella Island, Solomons; November 1963, P. Shanahan, in Malaise trap, Bishop Museum.

Length 19.5 mm, forewing 14.5 mm. Black, abdomen with weaker blue reflections than in extranea leveri, pale yellow maculations as

follows: mandible at base, sides and apex of clypeus more narrowly than in extranea leveri, line along inner eye margin to top of antennal insertions, very tiny spot in ocellocular area, narrow streak along posterior eye margin on lower two-thirds, a pair of small transverse spots on scutellum, tiny posterolateral spot on first tergum, a somewhat larger, transverse posterolateral streak on outer fourth of second tergum, a similar but shorter posterolateral streak on second sternum, small spot at apex of anterior surface of mid and hind femora, exterior surface of foretibia, and outer surface of forebasitarsus and distitarsus. Erect vestiture dark brown, appressed pubescence on side of thorax silvery. Wings slightly more infumated than in extranea leveri.

PARATYPES.—2 &, same data as allotype. 1 &, same data as allotype but 25 November 1963, USNM and Bishop Museum. Paratypes are 17–19 mm long. The color pattern is the same as described for the allotype except that one specimen has larger spots on the scutellum that are separated only narrowly on the midline, and the third tergum has a short posterolateral streak on the outer fourth. The genitalia are identical with those of the other subspecies of extranea.

Campsomeris (subgenus?) oresbios oresbios Tuijn

Morobe District, Terr. New Guinea: 1 ♀, 2 ♂, Wau, 1200 meters, 10 November 1965, 9 December 1961, and 17 December 1965, J. and M. Sedlacek and P. Shanahan, in Malaise trap.

Bismarck Archipelago: 1 &, Gaulim, Gazelle Peninsula, New

Britain, 130 meters, 23-28 October 1962, J. Sedlacek.

This race has not been recorded previously from New Britain, although it has a wide distribution in New Guinea. This specimen agrees well with darker maculated and haired specimens from New Guinea except that there is slightly less yellow on the clypeus and the wings are darker. Additional material, especially of females, may demonstrate that the population occurring in the Bismarck Archipelago should be recognized as a race discrete from the New Guinea taxon.

Campsomeris (subgenus?) microspatulata Tuijn

Morobe District, Terr. New Guinea: 1 ♀, Wau, 1200 meters, 3 March 1963, J. Sedlacek. 1 ♂, Finschhafen, 14 April, J. and M. Sedlacek. 1 ♀, ca. 8 km west-northwest of Lab Lab, Umboi Island, 300 meters, 8–19 February 1967, G. A. Samuelson, in Malaise trap.

West New Guinea: 1 &, Nabire, south of Geelvink Bay, 10-40 meters, 7 October 1962, N. Holtmann, in Malaise trap in jungle.

Campsomeris (Phalerimeris) loriae loriae (Mantero)

Central District, Papua: 1 &, Laloki, 10 February, F. Muir. Eastern Highlands District, Terr. New Guinea: 1 &, Kassam, 48 km east of Kainantu, 1350 meters, 30 October 1959, T. C. Maa. West New Guinea: 3 \(\rho, \) 3 \(\sigma, \) Sibil Valley, Star Mts., 1250 meters, 18 October-8 November 1961, S. and L. Quate. 1 \(\sigma, \) Ifar, Cyclops Mts., 300-500 meters, 28-30 June 1962, J. L. Gressitt and J. Sedlacek, in light trap. 5 \(\rho, \) 4 \(\sigma, \) Bokondini, 40 km north of Baliem Valley, about 1300 meters, 16-23 November 1961, L. W. Quate. 1 \(\rho, 2 \sigma, \) Moanemani, Kamo Valley, Wisselmeeren, 1500 meters, 15 August 1962, J. Sedlacek. 1 \(\rho, \) Itouda, Kamo Valley, Wisselmeeren, 1500-1700 meters, 18 August 1962, J. Sedlacek. 1 \(\rho, \) Dawai River, south-southeast of Sumberbaba, Japen Island, October 1962, N. Wilson.

Campsomeris (Phalerimeris) loriae millironi Krombein

Solomon Islands: 1 9, Buin, Bougainville, 2 June 1956, J. L. Gressitt. 1 9, Pusisama, Vella Lavella, 17–18 November 1963, L. and M. Gressitt. 3 9, 1 3, Betikama River, Guadalcanal, August 1960, W. W. Brandt. 1 3, Tambalia, 35 km west of Honiara, Guadalcanal, 30 meters, 20 May 1964, J. and M. Sedlacek.

Campsomeris (Phalerimeris) loriae kolombangarensis, new subspecies

This distinctive melanic race of loriae, known only from males, is separated from the other races of loriae by the reduced yellow markings. Although it is now known to occur only on Kolombangara in the New Georgia group, it is quite likely that it will be found on the other islands in that group when more extensive collecting has been accomplished. The closest congener, loriae millironi Krombein, is known from Guadalcanal, Florida, Rendova, Vella Lavella, and Bougainville Islands in the Solomons, and from New Britain in the Bismarck Archipelago. It differs from loriae millironi in having the clypeus black except sides, yellow markings very reduced or lacking on the pronotum, and the postscutellum, abdomen (almost entirely), and legs black. The genitalia are identical with those of the other subspecies.

Holotype.—♂, Iriri, Kolombangara, New Georgia group, Solomon Islands, 2 meters, 3 July 1964, J. and M. Sedlacek, Bishop Museum.

Length 14 mm, forewing 12 mm. Black, abdomen with faint blue reflections, yellow as follows: mandible on basal two-thirds, spot at lower corner of clypeus, short stripe along inner eye margin to antennal insertion, a pair of tiny spots anteriorly on pronotal disk, and short posterolateral streak on second tergum; tip of mandible and lower edge of clypeus reddish.

PARATYPES.—3 , same data as holotype, USNM and Bishop Museum. These are uniform in size. Two of them lack yellow spots on the pronotum.

Campsomeris (Phalerimeris) ferrugineipes ferrugineipes (Mantero)

West New Guinea: 3 9, Moanemani, Kamo Valley, Wisselmeeren, 1500 meters, 15 August 1962, J. Sedlacek.

Campsomeris (Phalerimeris) ferrugineipes pembertoni Krombein

Bismarck Archipelago: 7 o⁷, Talliligap, Gazelle Peninsula, New Britain, 300 meters, 17–18 December 1962, J. Sedlacek.

Campsomeriella (Campsomeriella) manokwariensis manokwariensis (Cameron)

West New Guinea: 6 & Hollandia [Kota Baru], 25–28 June 1962, N. Wilson. 1 & Bokondini, 40 km north of Baliem Valley, about 1300 meters, 16–23 November 1961, S. and L. Quate. 1 & Itouda, Kamo Valley, Wisselmeeren, 1500–1700 meters, 18 August 1962, J. Sedlacek. 3 & Enarotadi, Wissel Lakes, 1800–2000 meters, 2–11 and 27 July 1962, N. Wilson and J. Sedlacek, 2 by sweeping. 1 & Dawai River, south-southeast of Sumberbaba, Japen Island, 3 November 1962, N. Wilson. 2 & Biak Island, 22–30 June 1962, J. L. Gressitt and J. Sedlacek, in light trap. 1 & southeast Biak Island, 1 July 1962, J. L. Gressitt. 9 & 16 & Nabire, south of Geelvink Bay, 0–50 meters, 2–9 July, 25 August–2 September, 1–4, 7, and 17 September, 4, 7, 10, and 13 October 1962, J. Sedlacek, J. L. Gressitt, H. Holtmann, N. Wilson, 1 each in Malaise and light traps.

Bismarck Archipelago: 1 9, Kerawat, New Britain, 6 May 1956, G. Dun.

Campsomeriella (Campsomeriella) manokwariensis lanhami (Krombein)

The Bishop Museum material included one female of this eastern New Guinea race undoubtedly mislabeled as being from Kira Kira, San Cristoval, Solomon Islands, 27 July 1960, C. W. O'Brien (see my earlier remarks on these presumably mislabeled specimens under Campsomeris extranea moluccensis). This particular female agrees with the eastern New Guinea race in having the more lightly infuscated basal two-thirds of the forewing and white tergal fringes on the first four terga in contrast to the Solomon Islands race manokwariensis manni (Krombein), which has similarly colored wings but only the first three tergal fringes white, that on the fourth being brown.

Campsomeriella (Campsomeriella) manokwariensis manni (Krombein)

Solomon Islands: 1 9, Pusisama, Vella Lavella Island, 29 November 1963, P. J. Shanahan.

Trisciloa saussurei Gribodo

Morobe District, Terr. New Guinea: 1 ♂, Wau, 1250 meters, 3 January 1963, J. Sedlacek. 1 ♂, Lae, 26 November 1961, J. Sedlacek. 1 ♂, Zenag-Lae, 200 meters, 15 January 1965, J. Sedlacek.

West New Guinea: 1 σ , Ifar, Cyclops Mts., 300-500 meters, 28-30 June 1962, J. L. Gressitt and J. Sedlacek, in light trap. 19,

5♂, Kebar Valley, west of Manokwari, 550 meters, 4-31 January 1962, L. W. Quate. 1 ♂, Oransbani, south of Manokwari, February 1962, L. Richards.

Liacos fulgidipennis (Smith)

Northern District, Papua: 1 , Popondetta Mission, 60 meters, 18 October 1963. P. Shanahan.

Morobe District, Terr. New Guinea: 1 9, 2 7, Wau, 1050-1400 meters, 26 May 1965, 9 July 1963, and 11 September 1961, P. Shanahan, J. and M. Sedlacek, 1 7 in Malaise trap. 1 9, Finschhafen, Huon Peninsula. 20-150 meters, 15 April 1963, J. Sedlacek.

West New Guinea: 1 9, Kebar Valley, west of Manokwari, 550

meters, 4-31 January 1962, S. Quate.

Diliacos quadriceps (Smith)

In my revision (1963, pp. 613-616) I used the name Scolia (Diliacos) larradiformis Smith, 1863, for a polytypic species occurring in New Guinea and the Admiralty Islands, and I suggested the possibility that the taxon I regarded as typical larradiformis might be identical with quadriceps Smith, 1859, from Aru. Betrem has restudied these types subsequently and has found that they are indeed identical (Bradley and Betrem, 1967, p. 311). The correct names for the taxa, therefore, that I placed under larradiformis are as follows:

Diliacos quadriceps grandiceps (Micha), p. 613 Diliacos quadriceps quadriceps (Smith), p. 615 Diliacos quadriceps manus (Krombein), p. 615

Diliacos quadriceps grandiceps (Micha)

Morobe District, Terr. New Guinea: 4 9, 2 3, Wau, 1050-1200 meters, 27 January 1966, 24 May 1965, and 16 September, 22 October, 9 November 1965, and 19 November 1961, J. and M. Sedlacek, 1 9, 3 3 in Malaise trap. 3 3, Kunai Creek, Wau, 1250-1500 meters, 28-30 May and 26 August 1963, P. Shanahan and J. Sedlacek, 1 in Malaise trap.

Diliacos ribbei stueberi (Krombein)

Eastern Highlands District, Terr. New Guinea: $3 \, \circ$, $13-20 \, \text{km}$ southeast of Okapa, $1650-2250 \, \text{meters}$, $24 \, \text{and} \, 26 \, \text{August} \, 1964$, J. and M. Sedlacek.

West New Guinea: 3 $\,^{\circ}$, Hollandia, 0-300 meters, 22 December 1961-21 January 1962, S. and L. Quate. 1 $\,^{\circ}$, Bokondini, 40 km north of Baliem Valley, ca. 1300 meters, 16-23 November 1961, L. W. Quate. 1 $\,^{\circ}$, Oransbari, northwest of Geelvink Bay, 16 February 1963, R. Straatman.

Diliacos ribbei ribbei (Betrem)

Bismarck Archipelago: 2 9, 1 8, Illugi, Upper Warangoi, Gazelle Peninsula, New Britain, 230 meters, 8-11 and 12-15 December 1962, J. Sedlacek. 1 9, Gaulim, Gazelle Penin., 140 meters, 21-26 October 1962, J. Sedlacek.

Females of the typical subspecies of ribbei were unknown previously. These specimens from New Britain key to couplet 62 (Krombein. 1963, p. 563). Females of typical ribbei are intermediate in density of punctation between ribbei stueberi (Krombein) from northern New Guinea and ribbei hurdi (Krombein) from the Solomon Islands. As in ribbei stueberi the front between the spatium frontale and the anterior ocellus is impunctate except for a few scattered punctures in the ocular sinus and along the inner eve margin, but the ocellar triangle has one or two punctures instead of being impunctate and the posterior half of the scutum has 15-20 scattered punctures between the parapsidal furrows instead of being impunctate. In contrast, the more densely punctate ribbei hurdi has about 30 punctures on the front between the spatium frontale and anterior ocellus, the ocellar triangle has half a dozen punctures, and the posterior half of the scutum has 44-50 punctures between the parapsidal furrows. Each female of ribbei ribbei has only two discoidal cells in the forewing. They are 13-15 mm long, and the forewing is 10-12 mm long.

Diliacos ribbei hurdi (Krombein)

Solomon Islands: 1 \circ , Pepele, Kolombangara Island, 0-30 meters, 3 February 1964, P. Shanahan. 1 \circ , Iriri, Kolombangara, New Georgia Group, 2 meters, 3 July 1964, J. and M. Sedlacek. 1 \circ , Nalimbu River, 29 km southeast of Honiara, Guadalcanal, 5 June 1960, C. W. O'Brien.

Diliacos glabrata glabrata (Micha)

Northern District, Papua: 1 9, Popondetta Mission, 60 meters, 18 October 1963, P. Shanahan. 1 9, Gona Road, Popondetta District, 60 meters, 30 October 1963, H. W. Clissold.

Morobe District, Terr. New Guinea: 3 \circ , 1 \circ , Wau, 1200–1300 meters, 1 and 14–17 January 1963, 17 May 1965, and 14 November 1965, J. and M. Sedlacek and P. Shanahan, 2 \circ in Malaise trap. 1 \circ , 24 km west of Bulolo, Upper Watut River, 760 meters, 5–6 March 1963, J. Sedlacek. 1 \circ , ca. 8 km west-northwest of Lab Lab, Umboi Island, 300 meters, 8–19 February 1967, G. A. and S. L. Samuelson, and P. H. Colman.

West New Guinea: 1 9, Genjam, 40 km west of Hollandia, 100–200 meters, 1–10 March 1960, T. C. Maa.

Diliacos glabrata praslini (Bradley)

Bismarck Archipelago: 1 9, Illugi, Upper Warangoi, Gazelle Peninsula, New Britain, 230 meters, 12–15 December 1962, J. Sedlacek.

Solomon Islands: 1 &, Kukugai, Bougainville, 150 meters, October 1960, W. W. Brandt. 1 &, 1 &, Gizo Island, New Georgia Group, 50–120 meters, 16–26 April 1964, J. Sedlacek, in Malaise trap. 6 &, Pepele, Kolombangara Island, New Georgia Group, 30 meters, 7–9 February 1964, P. Shanahan, in Malaise trap. 2 &, Kow, Vella Lavella, 30 meters 28 November 1963, P. Shanahan, in Malaise trap. 7 &, Ulo Crater, Vella Lavella, 10 meters, 16–21 December 1963, P. Shanahan, 4 in Malaise trap. 1 &, Kolotuve, Santa Ysabel, 21 June 1960, C. W. O'Brien. 1 &, Takopekope, Florida Group, 12 November 1960, C. W. O'Brien, in light trap. 1 &, Guadalcanal, 12–20, J. A. Kusche. 3 &, 4 &, Betikama River, Guadalcanal, August and September 1960, W. W. Brandt. 1 &, Kiwi Creek, Guadalcanal, 18 September 1944, H. E. Milliron. 2 &, Napagiwae, San Cristoval, 19 August 1960, C. W. O'Brien.

Microscolia maindroni (Betrem)

West New Guinea: 1 ♂, Oransbari, northwest of Geelvink Bay, 16 February 1963, R. Straatman.

Carinoscolia lorentzi (Cameron)

Morobe District, Terr. New Guinea: 1 &, Wau, 1050 meters, 18 December 1961, J. and J. H. Sedlacek. 1 &, Lae, 26 November 1961, J. Sedlacek. 1 &, Finschhafen, Huon Peninsula, 150 meters, 15 April 1963, J. Sedlacek.

Carinoscolia foveifrons (Cameron)

Bismarck Archipelago: 1 $\, \circ$, Illugi, Upper Warangoi, Gazelle Peninsula, New Britain, 230 meters, 8–11 December 1962, J. Sedlacek. 1 $\, \circ$, Lelet Plateau, Schleinitz Mts., New Ireland, October 1959, W. W. Brandt.

Solomon Islands: 1 &, Ulo Crater, Vella Lavella Island, 10 meters, December 1963, P. Shanahan. 1 &, Dala, Malaita Island, 50 meters, 22 June 1964, J. and M. Sedlacek, in Malaise trap. 1 &, Betikama River, Guadalcanal, August 1960, W. W. Brandt.

The present records extend the range of this species considerably to the south in the Solomons, the only previous record from that group being from Bougainville.

Austroscolia pulchripennis pulchripennis (Cameron)

Western Highlands District, Terr. New Guinea: 2 o, Tomba, 2450 meters, 24 May 1963, J. Sedlacek.

Bismarck Archipelago: 1 9, 5 σ , Illugi, Upper Warangoi, Gazelle Peninsula, New Britain, 230 meters, 8–15 December 1962, J. Sedlacek. 2 σ , Gaulim, Gazelle Penin., 140 meters, 21–27 October 1962, J. Sedlacek. 1 σ , Talliligap, New Britain, 300 meters, 17–18 December 1962, J. Sedlacek. 1 σ , Lelet Plateau, Schleinitz Mts., New Ireland, October 1959, W. W. Brandt.

Solomon Islands: 21 &, Dala, northwest Malaita, 6-22 June 1964, R. Straatman, J. and M. Sedlacek, 1 in MV light trap.

In my revision (Krombein, 1963, p. 638) I questioned the occurrence of this taxon in New Guinea on the basis of an old, possibly mislabeled specimen from West New Guinea. The two males recorded above from Tomba in the western part of the Territory of New Guinea definitely establish the presence of this subspecies in New Guinea as well as in the Bismarcks and on Malaita Island alone of the Solomons.

Austroscolia pulchripennis franclemonti (Krombein)

Morobe District, Terr. New Guinea: 1 9, 1 km north of Awelkom, Umboi Island, 600 meters, 21-28 February 1967, S. L. and G. A. Samuelson.

Solomon Islands: 2 &, Kukugai, Bougainville, 150 meters, October and December 1960, W. W. Brandt. 1 &, 4 &, Gizo Island, New Georgia Group, 30–120 meters, 16–26 April and 19 July 1964, J. and M. Sedlacek, & in Malaise trap. 1 &, Iriri, Kolombangara Island, 2 meters, 29 June 1964, J. and M. Sedlacek. 2 &, Kolotuve, Santa Ysabel, 21 June 1960, C. W. O'Brien. 1 &, Betikama River, Guadalcanal, August 1960, W. W. Brandt.

The female from Umboi Island is only 24 mm long. The smaller male is only 17 mm long. Both of these are smaller by a millimeter or two than the previously recorded minimal length.

Austroscolia betremianus (Krombein)

Bismarck Archipelago: 1 9, 3 $^{\circ}$, Mt. Sinewit, Gazelle Peninsula, New Britain, 900–1200 meters, 5–16 November 1962, J. Sedlacek. 1 $^{\circ}$, Upper Warangoi, Gazelle Penin., 250–600 meters, 28–30 November 1962, J. Sedlacek. 1 $^{\circ}$, Illugi, Upper Warangoi, 230 meters, 12–15 December 1962, J. Sedlacek. 2 9, 2 $^{\circ}$, Lelet Plateau, Schleinitz Mts., New Ireland, October 1959, W. W. Brandt.

The present series establishes the range of length in females as 20-25 mm.

Austroscolia nitida nitida (Smith)

Northern District, Papua: 1 9, 1 7, Popondetta, 5-60 meters, June 1966 and 26 September 1963, P. Shanahan, Gressitt and Tawi, 7 in Malaise trap.

Central District, Papua: 1 o, Port Moresby, 6-7 November

1960, J. L. Gressitt, in Malaise trap.

Morobe District, Terr. New Guinea: 1 o. 35 km south of Lae. 120 meters, 6 August 1964, J. and M. Sedlacek, 1 o. Markham River, 60 meters, 8 August 1964, J. Sedlacek, in Malaise trap. 9 9, 36 d. Wau, 650-2400 meters, 9-12 January 1962, 15, 21-25, and 26 January 1963, 3 and 27-31 March 1964, 2 April 1966, 16-20 April 1962, 14 and 18 May 1965, 12-14 June 1963, 15 and 29 August 1961, 2, 10, 12, 17, 19, and 30 September 1961, 16-18 September 1964, 4 and 5 October 1962, 12 October 1965, 19 and 30 October 1961, 6-7 November 1961, 3 December 1962, and 18 December 1961, J., J. H., and M. Sedlacek, C. Monteith, P. Shanahan, and a native. several in Malaise trap, 3 on lucerne, 1 in light trap. 2 9, 10 o, Mt. Misim, Wau, 950-1600 meters, 13 and 16 February 1963, 14 August and 25 September 1964, J. and M. Sedlacek, 7 of in Malaise trap. 1 9, Kunai Creek, Wau, 1500 meters, 28-30 May 1963. P. Shanahan. 1 9, 11.2 km north of Bulolo, 600 meters, 11 March 1962, J. H. Sedlacek, 1 of Adelbert Mts., 800-1000 meters, 25 October 1958, J. L. Gressitt.

Eastern Highlands District, Terr. New Guinea: 1 \circlearrowleft , Goroka, 1500 meters, 22 May 1961, J. L. Gressitt. 1 \circlearrowleft , 1 \circlearrowleft , Karimui, 1080 meters, 10 and 15 July 1963, J. and M. Sedlacek. 5 \circlearrowleft , 12 \circlearrowleft , Purosa, 20–26 km southeast of Okapa, 1700–2020 meters, 17–25 May 1966 and 28 August 1964, J. and M. Sedlacek, Gressitt and Tawi.

Western Highlands District, Terr. New Guinea: 9 9, 1 σ , Tambul, 1200 and 2250 meters, 26 May and 2 June 1963, J. Sedlacek. 1 σ , 6-12 km west of Wabag, 2020-2400 meters, 13 June 1963, J. Sedlacek.

West New Guinea: 3 Q, Sibil Valley, Star Mts., 1245 meters, 18 October-8 November 1961, S. and L. W. Quate. 1 &, Hollandia, 13 March 1960, T. C. Maa. 7 &, Hollandia to Kotanica, 25-28 February 1960, T. C. Maa. 1 Q, Ifar, Cyclops Mts., 300-500 meters, 26-28 June 1962, J. Sedlacek. 3 &, Bokondini, 40 km north of Baliem Valley, ca. 1300 meters, 16-23 November 1961, S. and L. Quate. 4 Q, 20 &, Wamena, 1700 meters, 10-25 February 1960, T. C. Maa. 1 Q, Moanemani, Kamo Valley, Wisselmeeren, 1500 meters, 15 August 1962, J. Sedlacek. 1 &, Nabire, south of Geelvink Bay, 10-40 meters, 12 October 1962, N. Wilson.

There is also before me a series of one female and six males of typical *nitida* labeled as having been taken at Kira Kira, San Cristoval, Solomon Islands, 27 and 28 July 1960, by C. W. O'Brien. The *nitida*

population occurring elsewhere in the Solomons is nitida punctatissima (Kirby). I regard these San Cristoval specimens as being mislabeled and suspect that they were actually collected in eastern New Guinea as discussed in my remarks earlier under Campsomeris extranea moluccensis Betrem.

Austroscolia nitida varifrons (Cameron)

Morobe District, Terr. New Guinea: 8 km west-northwest of Lab Lab, Umboi Island, 300 meters, 8-9 February 1967, S. L. and G. A. Samuelson, P. H. Colman.

Eastern Highlands District, Terr. New Guinea: 1 &, Simbai, Bismarck Range, 1850 meters, 27 May 1966, J. L. Gressitt.

Western Highlands District, Terr. New Guinea: 1 o, Tomba, 2450 meters, 24 May 1963, J. Sedlacek.

Bismarck Archipelago: 1 &, Illugi, Upper Warangoi, Gazelle Peninsula, New Britain, 230 meters, 8-11 December 1962, J. Sedlacek. 2 &, Talliligap, Gazelle Penin., 300 meters, 17-18 December 1962, J. Sedlacek. 1&, Mt. Sinewit, Gazelle Penin., 1100-1200 meters, 15-16 November 1962, J. Sedlacek. 1 &, Lelet Plateau, Schleinitz Mts., New Ireland, October 1959, W. W. Brandt.

Austroscolia nitida punctatissima (Kirby)

Solomon Islands: 1 7, Kokugai, Bougainville, 150 meters, December 1960, W. W. Brandt. 1 9, 2 8, Pusisama, Vella Lavella Island, 17-29 November 1963, L. and M. Gressitt, P. Shanahan, 19,3 of, Munda, New Georgia, 1-30 meters, 21 July 1959, J. L. Gressitt. 1 7, Iriri, Kolombangara, New Georgia Group, 2 meters, 3 July 1964, J. and M. Sedlacek. 3 of, Sandfly Harbor, Kolombangara, 5-200 meters, 6-8 July 1964, J. and M. Sedlacek, 1 in light trap. 1 of, Gollifer's Camp, Kolombangara, 700 meters, 24 January 1964, P. Shanahan. 1 3, Pepele, Kolombangara, 30 meters, 15 February 1964, P. Shanahan. 1 &, Buala, Santa Ysabel, 27 June 1960, C. W. O'Brien. 1 &, Molao, Santa Ysabel, 29 June 1960, C. W. O'Brien. 1 &, Kolotuve, Santa Ysabel, 21 June 1960, C. W. O'Brien. 1 J, Dala, northwest Malaita Island, 30 June 1964, R. Straatman, in Malaise trap. 1 o, Denda, Small Nggela, Florida Group, 17 September 1960, C. W. O'Brien. 1 9,5 8, Guadalcanal, 13 June and 16 July 1944.6 8, Betikama River, Guadalcanal, August 1960, W. W. Brandt. 1 7, Honiara, Guadalcanal, 22 April 1964, R. Straatman. 2 o, Kira Kira, San Cristoval, 0-50 meters, 29 July 1960, C. W. O'Brien, and 13 November 1964, R. Straatman, in Malaise trap. 3 &, Wugiroga, San Cristoval, 8-9 August 1960, C. W. O'Brien. 1 & Napagiwae, San Cristoval, 19 August 1960, C. W. O'Brien.

References

Betrem. J. G.

1962. The taxon Dielis and its type. Ent. News, vol. 73, pp. 205-207.

1967. The natural groups of Campsomeriella Betr., 1941. Ent. Ber., vol. 27, pp. 25-29.

BRADLEY, J. C., and BETREM, J. G.

1967. The types of Scoliidae described by Frederick Smith. Bull. British Mus. (Nat. Hist.), Ent., vol. 20, pp. 287-327.

KROMBEIN, K. V.

1963. The Scoliidae of New Guinea, Bismarck Archipelago and Solomon Islands. Nova Guinea, Zool., vol. 22, pp. 543-651, 46 figs., 1 table.

¹ In this publication, the following errata appeared:

Page 552—second alternative of couplet 2 should lead to 43.

Page 617—figure reference to female head of ribbei stueberi should be 15 not 5.

Page 638—line 14 from bottom should read "New Britain, Bismarcks. 19,10"; Kinigunang (C. Ribbe) [CU]. 3 6";".