

drical, greatest diameter slightly less than diameter of segment 1, segments 3 and 4 about two-thirds diameter of segment 2; bucculae very slightly enlarged; gula about as long as diameter of antennal segment 1, inclined; apex of labium reaching or surpassing base of mesocoxae; pronotum flattened, only slightly inclined posteriorly; calli weak, rather widely separated medially; pronotum with anterior margin finely carinate, upturned, weakly sinuate, lateral margins nearly straight, weakly convergent anteriorly, posterior margin straight or shallowly excavated across flat mesoscutum; mesoscutum one-quarter to one-third length of flat scutellum, separated from the latter by shallow, transverse impression; lateral corial margins weakly convexly rounded; cuneal incisure shallow or obsolete, fracture slightly angled anteromedially; membrane with 2 cells; abdomen reaching to about middle of cuneus; legs moderately long; only metatibiae with longitudinal rows of tiny, closely-spaced spines; metatarsal segment 1 about one-third length of segment 2, segment 3 about three-fourths length of segment 2; claws very long, slender, weakly curved, only slightly broadened basally; parempodia hair-like, parallel; pulvilli minute.

MALE GENITALIA: Figures 238–244. Vesica similar in structure to *Odhiamboella* and *Capecapsus*, with a single coil and apically with one or two attenuated spines subtended by well developed gonopore; structure of claspers and phallosome relatively constant, but left clasper in *C. transvaalensis* with a thorn-like projection dorsally.

BRACHYPTEROUS FEMALE: See *Coatonocapsus sweeti*.

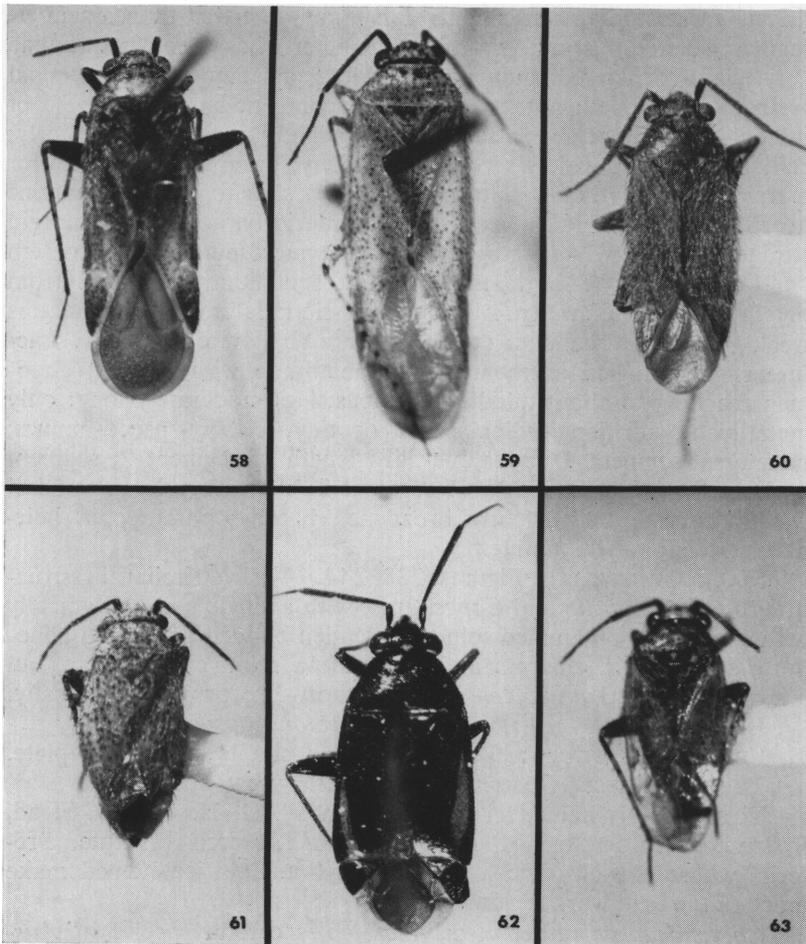
FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

TYPE SPECIES: *Coatonocapsus sweeti*, new species.

This genus is named in honor of Dr. W. G. H. Coaton, Head, Systematic Entomology, Plant Protection Research Institute, Pretoria, whose encyclopedic knowledge of South Africa helped make much of the field work for this project a success.

Coatonocapsus rather closely resembles certain species of *Austropsallus*, particularly *A. senecionus*, by virtue of the black setiform hairs on the dorsum, the spotted femora and tibiae, and the general body form. *Coatonocapsus* differs from *Austropsallus* by having only short to moderately long reclining hairs on the antennae, by having the clypeus, juga, and lora shining black, and by having the vesica characteristically curved (Fig. 238) (see also discussions under *Austropsallus* and *Capecapsus*).

A male specimen, probably representing a new species of *Coatonocapsus* in addition to those described below, is known from Grootfontein, Middelburg, Cape Province (deposited in South African



FIGS. 58-63. Phylini. Fig. 58. *Coatonocapsus johannsmeieri*, male, holotype. Fig. 59. *Coatonocapsus pallidus*, male, holotype. Fig. 60. *Coatonocapsus sweeti*, male, holotype. Fig. 61. *Coatonocapsus sweeti*, female (Sani Pass, 9400 ft., Lesotho). Fig. 62. *Denticulophallus adenandrae*, male, holotype. Fig. 63. *Ellenia obscuricornis*, male (Sani Pass, 9400 ft., Lesotho).

National Collection of Insects). Also known is a female from Cape Town, deposited in the South African Museum, which somewhat resembles *C. pallidus*; this specimen is brachypterous.

KEY TO SPECIES OF *Coatonocapsus*

Macropterous males

1. Basic coloration light yellow green; setiform hairs on dorsum with small brown spots at bases; labium reaching between procoxae and mesocoxae *pallidus* (Fig. 59)
 Coloration brown or nearly black; dorsum heavily spotted with dark brown or black; labium surpassing mesocoxae 2
2. Large species, length 4.80 mm *transvaalensis*
 Smaller species, length under 4.00 mm 3
3. Head, pronotum, scutellum, and antennae black or nearly so; lateral corial margins weakly convex *sweeti* (Fig. 60)
 Head, pronotum, and scutellum brown, mottled with black; antennal segment 2 brown; lateral corial margins straight
 *johannsmeieri* (Fig. 58)

Coatonocapsus johannsmeieri, new species

Figures 58, 241

MACROPTEROUS MALE: Basic coloration dull brown mottled with dark brown and black; transverse rugosities of frons, vertex around eyes and on posterior margin, pronotal calli, mesoscutum (except lateral margins), and midline of scutellum black; all setiform hairs with brown spots at bases; antennal segment 1 and all tarsi dark brown; clypeus, apex of juga, lora, and labium dark brown, shining; mesothoracic and metathoracic pleura, mesosternum, and abdomen dark brown (appearing pruinose); femora and tibiae yellow brown, femora heavily spotted with black; tibiae with black spots at bases of spines.

Labium just reaching metacoxae at trochanteral joint; posterior margin of pronotum shallowly excavated.

MEASUREMENTS: Total length 3.80, maximum width 1.28, length head .20, width head .76, interocular space .40, length pronotum .36, width pronotum 1.04, length scutellum .60, width scutellum .72, length corium 1.88, length clavus 1.28, length cuneus .76, width cuneus .24, length claval commissure .72, distance apex commissure-apex membrane 1.92, length metatibia 1.68; length antennal segments 1—.28, 2—.90, 3—?, 4—?; length labial segments 1—.36, 2—.28, 3—.32, 4—.30.

MALE GENITALIA: Figure 241.

Female unknown.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Grootfontein, Middelburg, October, M. Johannsmeier (SANC).

PARATYPES: 3 macropterous ♂♂, same data as holotype (SANC, RTS).

This species is named for the collector, M. Johannsmeier.

Coatonocapsus johannsmeieri is similar in coloration to *transvaalensis* but is much smaller and has the hemelytra shorter relative to the total length of the body. It is much lighter and more elongate than *sweeti*, and much darker than *pallidus*.

***Coatonocapsus pallidus*, new species**

Figures 59, 242

MACROPTEROUS MALE: Basic coloration light yellow green; head with an orangish tinge; all setiform hairs on dorsum with small, round, brown spots at bases; vertex mottled with brown; clypeus, apex of juga and lora, antennae, labium, coxae, mesoscutum, abdomen (basal half greenish), and tarsi brown; femora with many small, round, brown spots; tibiae with dark brown spots at bases of spines.

Labium reaching between procoxae and mesocoxae; posterior margin of pronotum straight.

MEASUREMENTS: Total length 4.40, maximum width 1.44, length head .24, width head .80, interocular space .40, length pronotum .48, width pronotum 1.20, length scutellum .44, width scutellum .72, length corium 2.04, length clavus 1.44, length cuneus 1.00, width cuneus .32, length claval commissure 1.00, distance apex commissure-apex membrane 2.20, length metatibia 1.92; length antennal segments 1—.30, 2—.98, 3—.66, 4—.30; length labial segments 1—.30, 2—.28, 3—.12, 4—.20.

MALE GENITALIA: Figure 242.

BRACHYPTEROUS FEMALE: Coloration, body surface texture, and vestiture as in male; abdomen yellow green; ovipositor brown. Structurally very similar to female of *C. sweeti*.

FEMALE GENITALIA: See generic discussion.

MEASUREMENTS: Total length 3.08, maximum width 1.32, width head .78, interocular space .40.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, East of Pakhuis Pass, Mus. Expd., Sept. 1947 (SAM).

PARATYPES: *Cape Province*—1 macropterous ♂, 4 brachypterous ♀♀, Doorn River, XI.1931 (Mackie); 12 brachypterous ♀♀, Michells Pass, Ceres Div., Oct. 1934; 1 macropterous ♂, R. Sonder

End, Oudebosch, 1500 ft., Nov.–Dec. 1928 (Barnard); 1 brachypterous ♀, Swartbergen, Nov. 1935 (SAM, BM[NH], RTS).

This species is named for its light coloration.

Coatonocapsus pallidus can be separated from other members of the genus by its light green coloration, small brown spots on the dorsum, and short labium.

Coatonocapsus sweeti, new species

Figures 60, 61, 243, 244

MACROPTEROUS MALE: Basic coloration dull black; hemelytra dull dark brown, with diffuse black spots at bases of setiform hairs; posterior margin of vertex and lateral margins of mesoscutum orange; ostiolar peritreme, margin of pleural region of prothorax, and margin of bucculae dull white; labium, femora, and tibiae generally brown; labium infuscate apically; femora heavily spotted with black, tibiae with black bands formed by black bases of spines.

Labium just surpassing mesocoxae; posterior margin of pronotum shallowly excavated.

MEASUREMENTS: Total length 3.20, maximum width 1.20, length head .28, width head .76, interocular space .40, length pronotum .40, width pronotum 1.00, length scutellum .48, width scutellum .60, length corium 1.60, length clavus 1.20, length cuneus .52, width cuneus .25, length claval commissure .76, distance apex commissure-apex membrane 1.36, length metatibia 1.68, length antennal segments 1—.32, 2—.88, 3—.50, 4—.28; length labial segments 1—.36, 2—.34, 3—.20, 4—.26.

MALE GENITALIA: Figures 243, 244.

BRACHYPTEROUS FEMALE: Small, stout bodied, ovoid; hemelytra just covering abdomen; general coloration dull yellow green; dorsum with numerous round black spots at bases of setiform hairs; antennae, clypeus, apex of juga, lora, and labium black; coxae and tarsi nearly black; femora and tibiae dull yellowish with heavy black spots.

Body surface and vestiture as in macropterous male.

Head broad; width across eyes nearly equal to width of posterior margin of pronotum; vertex broad, convex, posterior margin nearly straight, ecarinate; eyes smaller than in male, protuberant, leaving genae exposed ventrally; antennal fossae slightly removed from margins of eyes; apex of labium reaching to base of ovipositor; pronotum with anterior margin nearly straight, lateral margins nearly parallel, posterior margin very shallowly excavated; lateral corial margins convex; cuneus and membrane forming broadly rounded posterior margin of hemelytra; membrane greatly reduced.

MEASUREMENTS: Total length 2.60, maximum width 1.12, width head .72, interocular space .40.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

HOLOTYPE: Macropterous ♂, LESOTHO: Sani Pass, 10 Mar. 1968, 9400 ft., T. Schuh, M. Sweet, S. Slater, J. Munting (Adults and nymphs on *Eumorphia sericea* Wood and Evans) (SANC).

PARATYPES: 39 macropterous ♂♂, 44 brachypterous ♀♀, same data as holotype (SANC, TM, SAM, BM[NH], HM, JAS, RTS, USNM).

ADDITIONAL SPECIMENS: 15 nymphs (in alcohol), same data as holotype (RTS).

This species is named for Dr. Merrill H. Sweet, who first discovered it in the field and established the identity of the host plant.

Coatonocapsus sweeti is the smallest known species in the genus. It is nearly black, whereas all other species are distinctly brown or green. *C. sweeti* appears to be most closely related to *johannsmeieri*.

This species is known only from the type locality on *Eumorphia sericea* Wood and Evans (Compositae) (see also discussion under *Austropsallus saniensis*).

Coatonocapsus transvaalensis, new species

Figures 238–240

MACROPTEROUS MALE: Basic coloration brown; dorsum with large dark brown spots at bases of setiform hairs; head weakly orange; antennal segments 1, 3, and 4, clypeus, apex of juga, lora, mesothoracic and metathoracic pleura and sterna, and abdominal venter dark brown; antennal segment 2, labium basally, coxae, pleural region of prothorax, and prothoracic sternum light brown; coxae mottled with dark brown, labium black apically; femora and tibiae light yellow brown; femora heavily spotted with black; tibiae with narrow bands formed by black bases of spines.

Labium just surpassing mesocoxae; posterior margin of pronotum nearly straight.

MEASUREMENTS: Total length 4.80, maximum width 1.68, length head .24, width head .88, interocular space .40, length pronotum .44, width pronotum 1.28, length scutellum .72, width scutellum .92, length corium 2.56, length clavus 1.66, length cuneus 1.04, width cuneus .40, length claval commissure 1.00, distance apex commissure-apex membrane 2.08, length metatibia 2.32; length antennal segments 1—.32, 2—1.16, 3—.84, 4—.36; length labial segments 1—.40, 2—.40, 3—.24, 4—.40.

MALE GENITALIA: Figures 238–240.

Female unknown.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, Zomer-
erkomst, Politzi, 20.3.65, M. Johannsmeier (SANC).

PARATYPES: 2 macropterous ♂♂, same data as holotype (SANC,
RTS).

This species is named for its occurrence in the Transvaal.

Coatonocapsus transvaalensis is the largest known species in the genus, and in size could only be confused with *pallidus* which is light green whereas *transvaalensis* is mottled brown. *C. transvaalensis* has very long hemelytra relative to the total length of the body and also has a relatively long second antennal segment.

Denticulophallus, new genus

MACROPTEROUS MALE: Body thickset, elliptical; dorsum polished, shining, with heavy, semierect, black setiform hairs about as long as metatibial diameter; pronotum weakly transversely rugose; antennal segment 1 with decumbent black hairs and a few erect, slender, black spines, segment 2 with semierect black hairs about as long as diameter of segment 3, segments 3 and 4 with fine, decumbent, black hairs; all femora, tibiae, and tarsi with short, reclining, heavy, black hairs.

Head declivous; clypeus prominent as viewed from above; eyes contiguous with anterior margin of pronotum, occupying sides of head ventrally to gula; antennae inserted at level of ventral margin of eyes, fossae slightly removed from anterior margins of eyes; antennal segment 1 slightly enlarged, segment 2 narrowed proximally, increasing in diameter distally to about diameter of segment 1, segments 3 and 4 slightly smaller than proximal diameter of segment 2; bucculae well developed; pronotum nearly flat longitudinally, slightly inclined posteriorly; mesoscutum and scutellum nearly flat; lateral margin of corium weakly convex; cuneus and membrane strongly deflexed; cuneal incisure shallow; membrane with two cells, all tibiae with black semierect spines about as long as tibial diameter, without rows of tiny closely-spaced spines; claws broadened basally; parempodia hair-like, parallel; pulvilli large, fleshy, flattened, just reaching apex of claws and free from claws except at base.

MALE GENITALIA: Figure 245–247. Vesica U-shaped, twisted, apex with several attenuated spines and recurved teeth, gonopore subapical; phallosome and claspers typical of Phylini.

MACROPTEROUS FEMALE: Structure very similar to male.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

TYPE SPECIES: *Denticulophallus adenandrae*, new species.

This genus is named for the structure of the vesica of the type species.

Denticulophallus appears to be most closely related to *Macrotylus*, at least in the structure of the pulvilli and the general body form, including the prominent clypeus. It is, however, very distinct by virtue of the shining black body, the heavy, black, setiform hairs on the dorsum, and the peculiar structure of the vesica.

***Denticulophallus adenandrae*, new species**

Figures 62, 245–247

MACROPTEROUS MALE: Generally black, shining; all coxae, all tibiae distally, and antennal segment 4 distally, brown.

Hemelytral surface slightly irregular, less highly polished than remainder of body; eyes with scattered short hairs.

Vertex weakly convex, posterior margin ecarinate; labium just surpassing mesocoxae at trochanteral joint; all pronotal margins nearly straight; calli poorly defined; cuneal fracture angled anteromedially; inner apical margin of large cell of membrane broadly rounded; abdomen just surpassing apex of cuneus in male (nearly reaching apex of membrane in female); metatarsal segments 1 and 2 subequal in length, segment 3 about 1½ times length of segment 2.

MEASUREMENTS: Total length 3.48, maximum width 1.48, length head .32, width head .80, interocular space .36, length pronotum .56, width pronotum 1.24, length scutellum .56, width scutellum .84, length corium 1.76, length clavus 1.32, length cuneus .60, width cuneus .28, length claval commissure .68, distance apex commissure-apex membrane 1.40, length metatibia 1.82; length antennal segments 1—.24, 2—.92, 3—.54, 4—.34; length labial segments 1—.52, 2—.52, 3—.32, 4—.32.

MALE GENITALIA: Figures 245–247.

MACROPTEROUS FEMALE: Very similar to macropterous male.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Vergelegen, Somerset West, 8/11/1964, F. W. and S. K. Gess (on flowers of *Adenandra umbellata* Willd. (Rutaceae)) (SAM).

PARATYPES: 3 macropterous ♂♂, 5 macropterous ♀♀, same data as holotype (SAM, JAS, RTS).

ADDITIONAL SPECIMENS: *Cape Province*—1 macropterous ♂, Ceres, Nov. 1920 (Turner) (BM[NH]).

This species is named for the host genus, *Adenandra*.

See generic discussion.

Most known specimens of *Denticulophallus adenandrae* were taken on *Adenandra umbellata* Willd. (Rutaceae). The host genus is endemic to the Southwest Cape (Phillips, 1951).

Ellenia Reuter

Ellenia Reuter, 1910a, p. 168.

Carvalho (1952a) placed *Ellenia* in the Orthotylini. The structure of the pretarsus and male and female genitalia, however, militate for placement in the Phylini.

Ellenia is most closely related to *Psallus*, but can be separated from it by the presence of a longitudinal keel on the male genital capsule and its highly polished, shining black clypeus, juga, and lora. The parempodia are similar in structure to those described by Wagner (1961) for *Chinacapsus* Wagner, being only slightly thickened and convergent apically rather than strongly flattened and recurved as in the Orthotylinae and Pilophorini.

MALE GENITALIA: Figures 248–250. Vesica short, S-shaped, strongly twisted; left clasper and phallosome characteristic of Phylinae.

Ellenia was originally described from South America with a single included species. The genus at present also includes approximately ten species from Africa and one from Formosa.

The genus *Melanotrichiella* Poppius was synonymized with *Ellenia* by Carvalho (1952a), but this action is almost certainly incorrect. I have examined what is probably the only available specimen of the genus, the holotype female of *M. annulicornis* Poppius, which is deposited in the Helsinki Museum (Type No. 11891). It differs from *Ellenia* by having the head entirely unicolorous and of uniform surface texture, having antennal segment 2 about one-third longer than the width of the head, and having antennal segment 3 about three-fourths as long as segment 2. The legs are missing from the holotype of *annulicornis*, so the parempodia cannot be examined. The ratio of the lengths of antennal segments 2 and 3 is very much different than that found in most Phylini, including *Ellenia*, and suggests a relationship to the Orthotylini. Confirmation of this will have to await the availability of more specimens so that the parempodia and the male and female genitalia can be examined.

Carvalho (1948) redescribed *Ellenia cuneata* (Stål) with a dorsal view illustration and figures of the male genitalia. Apparently he figured the vesica of a mirid other than *cuneata* because the drawing definitely represents the phallus of an orthotyline and not that of *cuneata*, even though the figures of the claspers seem to be correct.

***Ellenia obscuricornis* (Poppius)**

Figures 63, 248–250

Marshalliella obscuricornis Poppius, 1914a, p. 76.*Psallus tenebrosus* Odhiambo, 1959b, pp. 516–518, 541. **New Synonymy.***Psallus labeculus* Odhiambo, 1959b, pp. 518–521, 541. **New Synonymy.***Ellenia obscuricornis* Carvalho, Dutra, and Becker, 1960, pp. 460–461.

Ellenia obscuricornis (Poppius) is one of the most common and widespread members of the Phylinae in South Africa and is the only species in the genus known from the region. It can be recognized by the characters given in the generic discussion and by its generally light green coloration (see also below) with dark spots at the bases of the setiform hairs (and on the femora and tibiae) and the structure of the male genitalia.

MEASUREMENTS: Macropterous ♂ (Sani Pass, 9400 ft.)—Total length 2.88, maximum width 1.24; macropterous ♀ (*idem*)—Total length 3.36, greatest width 1.32.

MALE GENITALIA: Figures 248–250.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

The range of variation in this species in South Africa is extreme. The males are usually much darker than the females, particularly the pronotum, mesoscutum, scutellum, and the thoracic and abdominal pleura. In some specimens the antennae are totally black. The long series from Lesotho, Sani Pass, at 8000 and 9400 feet, are particularly dark, the latter locality having uniformly darker specimens than the former. Also, two extremely dark specimens are known from Mariepskop, near Klaserie, Transvaal; these individuals key out in Poppius' key (1914a) to *Marshalliella kilimana* Poppius on the basis of the black antennae, but are actually only very dark specimens of *obscuricornis*. The specimens from the Oliphants River at Citrusdal are all very light green.

A single female specimen of *E. obscuricornis* is present in the Helsinki Museum and three males and one female are present in the British Museum (Natural History). All bear the labels "S. Rhodesia, Chirinda, 12.VII.1911, Swynnerton," and therefore must represent the cotype series examined by Poppius (1914a). I have selected a male in the British Museum as the lectotype and labeled it "LECTOTYPE *Marshalliella obscuricornis* Poppius, det. R. T. Schuh."

Psallus labeculus Odhiambo and *Psallus tenebrosus* Odhiambo (Odhiambo, 1959b) both have a keel on the male genital capsule as found in *Ellenia* and have the vesica identical with specimens of

E. obscuricornis from South Africa. The type specimens of both of these species resemble *obscuricornis* very closely, including the shining black area on the front of the head. They fit well within the range of variation of *obscuricornis* and I am therefore synonymizing them.

Host plant information on *obscuricornis* is incomplete, but the species may be restricted to the Compositae and possibly to the genus *Senecio*.

SPECIMENS EXAMINED: All specimens macropterous. **LESOTHO**—17 ♂♂, 31 ♀♀, 14 nymphs, Sani Pass, 9400 ft., 10 Mar. 1968 (Adults and nymphs on *Senecio burchelli* D.C.); 14 ♂♂, 22 ♀♀, 8 nymphs, *idem*, 8000 ft.; 2 ♀♀, Mamathes, 5 mi. ENE Teyateyaneng, 28.III.51, at light (Brinck and Rudebeck); 4 ♀♀, Quthing, 17.III.51 (Brinck and Rudebeck). **SOUTH AFRICA:** *Cape Province*—17 ♂♂, 68 ♀♀, 4 nymphs, Citrusdal, Oliphants River, 29 Jan. 1968 (Adults and nymphs on *Senecio angustifolius* [Thunb.] Willd.); 4 ♂♂, 4 ♀♀, Calvinia (Ogilvie); 2 ♂♂, Doorn River, XI.1931 (Mackie); 1 ♂, 5 ♀♀, 2 mi. S. Goukamma, Knysna, 8 Feb. 1968; 1 ♂, Base Michells Pass, 6 mi. SW Ceres, 27 Jan. 1968; 2 ♂♂, 2 ♀♀, Schoemannspoort, 10 mi. N of Oudtshoorn, 18 Nov. 1967 (Sweet); 1 ♂, Swellendam, at light, 14 Nov. 1967 (Sweet). *Natal*—1 ♂, Bergville, 17.I.1964 (Paliatseas); 1 ♂, Cathedral Peak, 2-3.IV.1954 (Vari); 1 ♀, Drakensberg, Cathedral Peak, ca. 6000 ft., 2.IV.1954, at light (Balfour-Browne); 1 ♂, Giants Castle Park, 5800 ft., 5 Mar. 1968, UV light trap; 1 ♀, Greytown, X.1931 (Ogilvie); 1 ♂, 3 ♀♀, Hilton; 1 ♀, Mont-aux-Sources, 4-6.IV.1954 (Vari); 2 ♀♀, *idem*, 8500-10,500 ft., 26.ii.1929 (Scott); 3 ♀♀, Natal National Park, iii.1932 (Mackie); 1 ♀, Port Shepstone, 5.97; 5 ♂♂, 1 ♀, Royal Natal National Park, Tendele Camp, 5 March 1968, UV light trap; 5 ♂♂, 26 ♀♀, Sea Park, Durban, VII-1950 (Capener); 4 ♂♂, 4 ♀♀, Weenen, XII.1923-V.1924 (Thomasset); 1 ♂, 1 ♀, *idem*, IX.X.1928; 1 ♀, Umbilo, Durban, 5.9.26 (Bevis). *Orange Free State*—1 ♀, Ficksburg, ii.iii.1932 (Mackie); 1 ♂, 23 ♀♀, 10 mi. Petrus Steyn to Reitz, 27.12.1967 (Munting); 3 ♀♀, H. Smith. *Transvaal*—9 ♂♂, 13 ♀♀, Lyttelton, Pretoria, 18 Dec. 1967-29 Feb. 1968, UV light; 1 ♂, 1 ♀, Malelane, 24.III.1952 (Janse and Vari); 6 ♀♀, Hartbeespoort Dam, 20 mi. W Pretoria, 30 October 1967; 1 ♀, Johannesburg, XII.26.1951 (Capener); 1 ♂, 1 ♀, Mariepskop near Klaserie, 6300 ft., 30 Nov. 1967; 1 ♀, Sycamore, 28 Apr. 1926 (Horn); 1 ♀, Claudiushoop, 11 mi. N Dendron, 17.12.65 (Johannsmeier) (SANC, TM, SAM, BM[NH], HM, USNM, JAS, RTS).

Eminoculus, new genus

MACROPTEROUS MALE: Small, stout bodied; entire body surface highly polished, shining; dorsum rugulose or rugose; vestiture variable.

Head vertical, very broad, eyes stylate; frons convex; head viewed anteriorly V-shaped below eyes; juga bulging; bucculae expanded; gula obsolete; antennae inserted below ventral margin of eyes at about level of dorsal margin of clypeus; antennal segment 1 moderately enlarged, segment 2 tapering slightly proximally, distal diameter nearly equal to diameter of segment 1, segments 3 and 4 about equal to proximal diameter of segment 2; pronotum nearly flat longitudinally, weakly convex transversely, with flattened collar about as wide as diameter of antennal segment 1, lateral margins very slightly concave, posterior margin weakly concave across scutellum; calli well defined, separated medially; mesoscutum broadly exposed, inclined anteriorly; scutellum nearly flat; clavi inclined medially to scutellum, forming low ridge along claval commissure; cells of membrane with evenly rounded posterior margin; legs rather short, posterior femora noticeably bowed; tibiae with scattered thin spines on ventral surface, lacking rows of tiny closely-spaced spines; tarsal claws broad basally; parempodia hair-like, parallel; pulvilli relatively large, attached to most of ventral surface of claws.

MALE GENITALIA: Figures 251–253. Phylini-type; structure of vesica, phallosheca, and claspers not showing particularly close relationship to other known genera.

BRACHYPTEROUS FEMALE: See *Eminoculus drosanthemi*.

FEMALE GENITALIA: Figure 254. Posterior wall a simple sclerotized plate; sclerotized rings moderately infolded laterally.

TYPE SPECIES: *Eminoculus drosanthemi*, new species.

This genus is named for its stylate eyes.

Eminoculus is unique among the South African Miridae by virtue of its stylate eyes (which are reminiscent of those of *Pachytomella* Reuter in the Halticini) and peculiar coleopteroid females. The only other described phyline genera with stylate eyes are *Lasiolabops* Poppius and *Lasiolabopella*, in which the eyes are not nearly so conspicuously stalked as in *Eminoculus*. *Eminoculus* is the only known member of the Phylini with a well developed flat pronotal collar. This structure suggests a relationship to the Hallodapini, but other characters, including the form of the male genitalia and the structure of the pulvilli do not support such a relationship.

***Eminoculus drosanthemi*, new species**

Figures 64–65, 251–254

MACROPTEROUS MALE: Basic coloration shining black; antennal segment 1, proximal three-fourths of antennal segment 2, dorsal surface of all femora distally, all tibiae, all tarsal segments 1 and 2, ventral margin of prothoracic pleuron, ventral margin of mesepimeron, and posterior margin of metepisternum cream or light brown; distal quarter of antennal segment 2 and segments 3 and 4 entirely brown; membrane smoky brown.

Coxae generally pruinose; body covered with decumbent, short, light hairs; antennae with short decumbent vestiture, segment 1 with one or two slender, erect spines on interior surface; vertex, pronotum, and genal region dorsad of bucculae with long, erect, fine hairs; abdominal venter with long, reclining hairs; posterior half of pronotum rugulose, contrasting with smooth calli.

Vertex slightly depressed, posterior margin carinate, concave; posterior margin of eyes slightly anterior to transverse midline of pronotum; labium reaching to trochanteral joint of mesocoxae; lateral corial margins weakly convex; cuneal incisure shallow; metatarsal segment 3 slightly longer than segment 2, segment 2 slightly longer than segment 1.

MEASUREMENTS: Total length 2.28, maximum width 1.04, length head .12, width head 1.08, interocular space .56, length pronotum .48, width pronotum 1.00, length scutellum .40, width scutellum .60, length corium 1.14, length clavus .95, length cuneus .39, width cuneus .26, length claval commissure .52, distance apex commissure-apex membrane 1.10, length metatibia 1.30; length antennal segments 1—.30, 2—.70, 3—.38, 4—.28; length labial segments 1—.28, 2, 3, and 4—.54.

MALE GENITALIA: Figures 251–253.

BRACHYPTEROUS FEMALE: Coleopteroid; general coloration, surface texture, and pubescence as in macropterous male.

Head similar in structure to male; vertex not depressed, posterior margin more strongly concave and not as finely carinate as in male; frons more strongly produced than in males; pronotum nearly horizontal longitudinally, posterior margin forming shallow inverted "V"; hemelytra reduced, undifferentiated, coleopteroid, posterior margins forming an inverted "V", posterolateral angles broadly rounded; apex of abdomen exposed.

MEASUREMENTS: Total length 2.32, maximum width 1.36, width head 1.20, interocular space .66.

FEMALE GENITALIA: Figure 254.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, Meintjies Kop, Pretoria, 22 Oct. 1967, J. A. & S. Slater (Adults and nymphs on *Drosanthemum floribundum* [Harv.] Schwart.) (SANC).

PARATYPES: *Transvaal*—3 macropterous ♂♂, 5 brachypterous ♀♀, Pretoria, 6.9.66 (duPlessis); 4 macropterous ♂♂, 14 brachypterous ♀♀, Pretoria, 24 October 1967 (Adults and nymphs on *Drosanthemum floribundum* [Harv.] Schwart.); 1 brachypterous ♀, Pretoria, National Botanical Gardens, 28 Dec. 1967 (SANC, JAS, RTS).

This species is named for the host, *Drosanthemum floribundum* (Harv.) Schwart. (Aizoaceae).

Eminoculus drosanthemi can be separated from all other members of the Phylinae by its conspicuously stylate eyes, shining black rugulose dorsum with inconspicuous pubescence, and very small size. *E. hirsutus* is similar to *drosanthemi* in the structure of the head, but can be separated from it by the very wide pronotal collar, pronounced calli, and long erect pubescence.

This species was found on its mat-like host by lifting up a section of the plant and examining closely the lower stems.

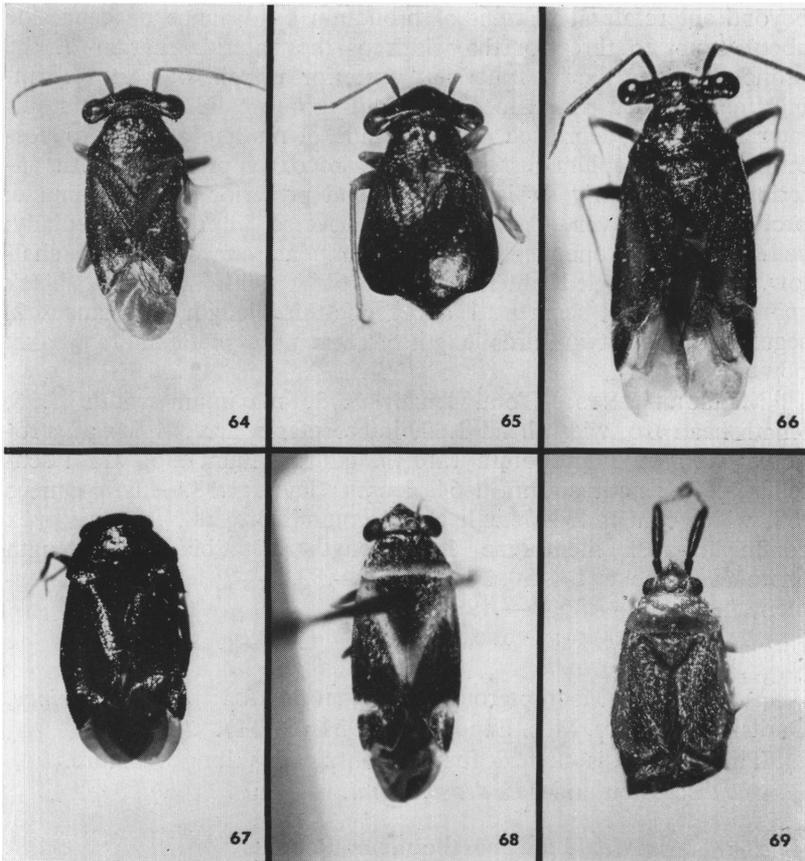
Three additional brachypterous female specimens from the Cape Province bear the following data: Calvinia, XI.1931 (deposited in British Museum [Natural History]; Moordenaars Karoo, Lammerfontein, Oct. 1952 (deposited in South African Museum); and, Knysna Head, 1 Feb. 1968 (deposited in J. A. Slater Collection). These specimens differ in the structure of the head, surface texture of the pronotum, and type of pubescence from the Pretoria specimens, and are therefore not included in the paratype series.

Eminoculus hirsutus, new species

Figure 66

MACROPTEROUS MALE: Head, pronotum, and scutellum shining black; corium, clavus, cuneus, antennae, entire venter, labium, femora (except tibial joint), and all tarsal segments 3 dull black; ventral margin of mesepimeron and metepimeron, all femora distally, all tibiae, and tarsal segments 1 and 2 tan or light brown; membrane dark smoky brown; all coxae mostly pruinose.

Head, pronotum, and scutellum rugulose; hemelytra faintly rugulose; remainder of body dull, finely granulose; frons, vertex, head below eyes and above bucculae, pronotum, scutellum, and basal region of hemelytra with long, sericeous, erect or semierect hairs;



FIGS. 64-69. Phylini. Fig. 64. *Eminoculus drosanthemi*, male, holotype. Fig. 65. *Eminoculus drosanthemi*, female (Pretoria, Transvaal). Fig. 66. *Eminoculus hirsutus*, male, holotype. Fig. 67. *Lamprosthenarus* near *sjostedti*, male (Bridal Veil Falls, Sabie, Transvaal). Fig. 68. *Lasiolabopella capeneri*, female (Tzaneen, Transvaal). Fig. 69. *Lepidocapsus rubrum*, male, holotype.

hemelytra with numerous, venter of thorax and abdomen with less numerous, decumbent, light hairs; antennae with dense decumbent vestiture, segment 1 with several fine black spines on interior surface; femora with a few, long, erect hairs, particularly on the ventral surfaces.

Head short, transverse, eyes on long stalks projecting laterally

beyond anterolateral margins of pronotum by distance on each side about equal to three-fourths width of the anterior margin of the pronotum; eyes nearly spherical; posterior margin of vertex forming fine, rounded carina medially, grading into cylindrical eye stalks laterally; vertex depressed on either side of midline anterior to posterior margin; labium just surpassing procoxae; pronotum with anterior margin nearly straight, lateral and posterior margins sinuate; pronotum with very deep, wide, transverse impression medially; calli elevated, pronounced, largely confluent; cuneal incisure shallow, fracture angled anteromedially; tibiae with semierect, black spines; metatarsal segment 1 about one-third length of segment 2, segment 3 about two-thirds length of segment 2; metafemora weakly bowed.

MEASUREMENTS: Total length 3.72, maximum width 1.36, length head .16, width head 1.32, interocular space .74, length pronotum .62, width pronotum 1.20, length scutellum .56, width scutellum .68, length corium 1.64, length clavus 1.18, length cuneus .68, width cuneus .34, length claval commissure .68, distance apex commissure-apex membrane 1.54, length metatibia 1.94; length antennal segments 1—.50, 2—1.06, 3—.52, 4—?; length labial segments 1—.30, 2—.26, 3—.12, 4—.12.

MALE GENITALIA: Not examined.

Female unknown.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Oudtshoorn, Zebra, Mus. Expd., Oct. 1951 (SAM).

This species is named for its conspicuous long vestiture.

See discussion under *E. drosanthermi*.

Lamprosthenarus Poppius

Lamprosthenarus Poppius, 1914a, p. 91.

Lamprosthenarus can be separated from other African genera of Phylinae by the following combination of characters: parempodia hair-like and parallel; head extremely short and concave behind, posterior margin of vertex finely carinate; dorsum heavily punctured; and, entire body shining black and metallic. *Agrametra* Buchanan-White and *Neoambonea* have a similar combination of characters, but the former is endemic to St. Helena, and the latter has fleshy, apically convergent, recurved parempodia and belongs to the Pilo-phorini.

MALE GENITALIA: Figures 255–257. Vesica structurally very similar to *Coatonocapsus*, with two attenuated apical spines.

Lamprosthenarus near sjostedti Poppus

Figures 67, 255–257

Comparison of specimens of *Lamprosthenarus* from South Africa with the type female of *L. sjostedti* from Mt. Kilimanjaro, deposited in the Stockholm Museum, reveals that they are very similar, appearing to differ only in size. *Lamprosthenarus* near *sjostedti* can be recognized in South Africa by the characters given above for the genus.

MEASUREMENTS: Macropterous ♂—Total length 2.76, maximum width 1.40.

MALE GENITALIA: Figures 255–257.

Specimens of *sjostedti* from Bridal Veil Falls, near Sabie, were swept from a field containing sedges, grasses, and many ruderal plant species.

SPECIMENS EXAMINED: *Natal*—1 macropterous ♀, Giants Castle Park, 5800 ft., 6 Mar. 1968. *Transvaal*—2 macropterous ♂♂, Bridal Veil Falls, Sabie, 29 Nov. 1967 (RTS).

Lasiolabopella, new genus

MACROPTEROUS FEMALE: Dorsum smooth, dull; body covered with black and sericeous, scale-like, appressed hairs; antennae and legs with very fine, short, decumbent, inconspicuous hairs.

Small, body flattened; eyes substylate, strongly protuberant, weakly granular; head nearly as broad as posterior margin of pronotum; posterior margin of vertex (including eyes) concave, reaching posteriorly around anterior angles of pronotum; frons triangular from above, strongly produced anteriorly, attaining distal end of antennal segment 1; eyes reaching almost to gula, leaving small genal area exposed; antennae inserted slightly above ventral margin of eyes, fossae contiguous with sinuate anterior margins of eyes; antennal segment 1 slightly enlarged, with single fine spine on dorsal surface, segment 2 gradually enlarged distally to about 1½ times proximal diameter, distally about same diameter as segment 1, segments 3 and 4 about equal to proximal diameter of segment 2; gula short, about as long as diameter of antennal segment 1; anterior margin of pronotum finely carinate, upturned; calli distinctly raised, flattened, confluent medially; pronotum nearly horizontal; mesoscutum narrowly exposed, scutellum and mesoscutum flat; lateral corial margins weakly convex; cuneal fracture angled anteromedially; membrane with two cells; legs short; all tibiae with rows of tiny, closely-spaced spines, without longer spines; tarsal claws relatively

short, rather strongly and smoothly curved, broad basally; parempodia hair-like, parallel; pulvilli minute.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

MACROPTEROUS MALE: Very similar to female.

MALE GENITALIA: Figures 258–260. Typical of Phylini, showing no particularly close relationship to other known genera.

TYPE SPECIES: *Lasiolabopella capeneri*, new species.

This genus is named for its resemblance to *Lasiolabops* Poppius.

Lasiolabopella can be recognized by its very small size, flattened body, substylate eyes, and covering of black and sericeous scale-like hairs. *Eminoculus*, the only genus in South Africa with a similar head structure, is shining black and lacks scale-like hairs. *Lasiolabops*, from East and West Africa, differs from *Lasiolabopella* by being much larger, not having a flattened body, and having a much shorter head.

***Lasiolabopella capeneri*, new species**

Figures 68, 258–260

MACROPTEROUS FEMALE: Head, anterior three-fourths of pronotum, scutellum, clavus adjacent to scutellum, corium (except as noted below), cuneus, membrane except veins, mesothoracic and metathoracic pleura and sterna (except ostiolar peritreme), abdomen, all coxae, all femora (apices sometimes light), and labium dark brown; posterior fourth of pronotum, most of clavus, extreme base and apex of corium, veins of membrane, and prosternum white; antennae, tibiae, tarsi (and sometimes femora distally), and ostiolar peritreme very light yellow white.

Scutellum and anterior two-thirds of clavus densely covered with appressed, scale-like, sericeous hairs; posterior third of pronotum, anterior two-thirds of corium, and clavus with a few black, scale-like hairs; posterior third of cuneus densely covered with black, scale-like hairs; abdominal venter thickly covered with generally black-appearing scale-like hairs; eyes with very short hairs.

Posterior margin of vertex with low rounded carina medially; labium just attaining trochanteral joint of mesocoxae; pronotum with anterior margins sinuate, lateral margins straight, posterior margin shallowly excavated; cuneal incisure shallow; abdomen almost attaining apex of cuneus; metatarsal segment 1 about one-half length of segment 2, segments 2 and 3 subequal in length.

MEASUREMENTS: Total length 3.20, maximum width 1.20, length head .44, width head .88, interocular space .44, length pronotum .44, width pronotum 1.00, length scutellum .40, width scu-

tellum .60, length corium 1.60, length clavus 1.16, length cuneus .52, width cuneus .36, length claval commissure .62, distance apex commissure-apex membrane 1.20, length metatibia 1.36; length antennal segments 1—.18, 2—.78, 3—.58, 4—.24; length labial segments 1—.32, 2—.36, 3—.36, 4—.30.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

MACROPTEROUS MALE: Very similar to female.

MALE GENITALIA: Figures 258–260.

HOLOTYPE: Macropterous ♀, SOUTH AFRICA: *Transvaal*, Tzaneen, 11–16 Dec. 1963, A. L. Capener (Host plant *Terminalia sericea*) (SANC).

PARATYPES: *Transvaal*—1 macropterous ♀, 10 mi. N. Acornhoek, 29 Nov. 1967, at light; 1 macropterous ♂, 5 macropterous ♀♀, Middelfontein nr. Nylstroom, XII-17-1953 (Capener); 4 macropterous ♀♀, same data as holotype; 1 macropterous ♀, 6 mi. N. Warmbaths, 7 Dec. 1967 (SANC, JAS, RTS).

ADDITIONAL SPECIMENS: SOUTH WEST AFRICA—1 macropterous ♂, 1 macropterous ♀, Abachaus, XI.1949 (Hobohm) (TM).

This species is named for Mr. A. L. Capener.

See generic discussion.

The specimens from Abachaus, South West Africa, have the male genitalia identical with those from the *Transvaal*, but are lighter in color and have therefore not been included in the paratypic series.

The only known host record for *capeneri* is *Terminalia sericea* Burch. (Combretaceae).

Lepidocapsus Poppius

Lepidocapsus Poppius, 1914a, pp. 103–104.

Lepidocapsus can be recognized by the following combination of characters: the prempodia are hair-like and parallel; the pulvilli are large and fused to the entire ventral surface of the claws; antennal segment 2 is very thick, fusiform, and about 2½ times diameter of segments 3 and 4; and, the dorsum is densely covered with reclining, heavy, setiform hairs and decumbent wooly sericeous hairs. No other phylinae from South Africa has the greatly enlarged second antennal segment. *Rakula Odhiambo* and *Atractotomus Fieber* from tropical Africa have an enlarged second antennal segment but both lack the wooly sericeous hairs on the dorsum.

MALE GENITALIA: Figures 261–263. Vesica with two attenuated spines apically, possibly showing a relationship to *Coatonocapsus*.

Poppius (1914a) noted that the holotype of *Lepidocapsus crasicornis* Poppius was deposited in the Berlin-Humboldt Museum. In fact it is in the Helsinki Museum (Type No. 12257).

Lepidocapsus presently includes two species from Malawi and South Africa.

***Lepidocapsus rubrum*, new species**

Figures 69, 261–263

MACROPTEROUS FEMALE: Small, robust, basic coloration bright red; antennal segments 1 and 2 and all tarsal segments 3 black; antennal segments 3 and 4, all tibiae, and all tarsal segments 1 and 2 yellow; membrane light smoky gray, veins of small cell red, veins of large cell unicolorous with membrane; venter including coxae slightly darker than dorsum.

Entire body smooth, weakly shining; dorsum with dense, semierect, long, light colored hairs (about as long as tibial diameter), and decumbent, sericeous, wooly hairs; thoracic pleura with wooly hairs; abdominal venter with reclining fine golden hairs; antennal segments 1 and 2 with dense, reclining, short, black vestiture, segments 3 and 4 with semierect, light colored hairs about as long as diameter of segment 3; femora with fine reclining light colored hairs; gular region below eyes with several very long, light colored hairs; eyes with short hairs visible at about 25 \times .

Head deflexed; eyes rather small as viewed from above, contiguous with anterior margin of pronotum; vertex convex, posterior margin ecarinate; antennae inserted slightly above ventral margin of eyes; antennal segment 1 somewhat conical in shape, largest distally, segment 2 greatly enlarged, fusiform, about 1½ times diameter of segment 1, segments 3 and 4 about one-third diameter of segment 2; labium just reaching trochanteral joint of metacoxae; pronotum with anterior, lateral, and posterior margins nearly straight; cuneal incisure shallow; tibiae with a few semierect dark spines, about length of tibial diameter, with dark bases; only metatibiae with rows of tiny, closely-spaced, dark spines; metatarsal segments 1 and 2 subequal in length, segment 3 slightly longer than segment 2.

MEASUREMENTS: Total length approximately 2.65, maximum width 1.24, length head .22, width head .64, interocular space .36, length pronotum .40, width pronotum 1.04, length scutellum .44, width scutellum .60, length corium 1.36, length clavus 1.12, length cuneus .40, width cuneus .44, length claval commissure .56, distance apex commissure-apex membrane approximately .96, length meta-

tibia 1.30; length antennal segments 1—.16, 2—.64, 3—.34, 4—.22; length labial segments 1—.28, 2—.28, 3—.24, 4—.28.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

MACROPTEROUS MALE: Very similar to female except eyes slightly larger and vertex relatively narrower.

MALE GENITALIA: Figures 261–263.

HOLOTYPE: Macropterous ♀, SOUTH AFRICA: *Cape Province*, Ceres, 25 Jan. 1968, J. A. & S. Slater, T. Schuh, M. Sweet, UV light (SANC).

PARATYPES: *Cape Province*—7 macropterous ♂♂, 10 macropterous ♀♀, Michell's Pass Summit SW of Ceres, 25 Jan. 1968 (Adults and nymphs on *Erica exurgens* Andr.) (SANC, HM, JAS, RTS).

This species is named for its bright red coloration.

Lepidocapsus rubrum differs from *L. crassicornis* by being smaller and bright red; *crassicornis* is dull orange.

The host of this species, *Erica exurgens* Andr. (Ericaceae), has bright red flowers very similar to the color of *rubrum*.

An additional specimen of *Lepidocapsus*, possibly representing a new species, is known from Blouberg, Motlakeng, 5–6000 ft., Transvaal (deposited in the Transvaal Museum). It is slightly larger than *rubrum* and is dull red.

Leptoxanthus Reuter

Leptoxanthus Reuter, 1905d, p. 8.

Leptoxanthus includes only a single species from South West Africa. The genus was related to *Tuponia* by Reuter (1905d); Poppius (1914a) keyed out *Leptoxanthus* with *Brachycranella* in the last couplet of his key to the Phylinae, considering both genera to lack "arolia" (see also discussion under *L. flaveolus*).

Leptoxanthus flaveolus Reuter

Leptoxanthus flaveolus Reuter, 1905d, p. 8.

Leptoxanthus flaveolus was described by Reuter (1905d) from a female collected by Wahlberg at "Svakop." This locality is almost certainly the Svakop River in South West Africa, which is at about 22–23° S. latitude. I have not been able to locate the holotype of *flaveolus* in the Helsinki Museum (personal communication, Martin Meinander, Helsinki Museum). Until this specimen can be found the exact identity and relationships of *Leptoxanthus* cannot be determined.

Macrotylus Fieber

Macrotylus Fieber, 1858, p. 325.

Macrotylus can be recognized in South Africa by the strongly anteriorly projecting clypeus, the long, free pulvilli, and the absence of heavy setiform hairs on the dorsum. *Denticulophallus* is the only other genus from the region with pulvilli that are nearly as long as the claw and free from it over most of their length. The size and coloration of *Macrotylus* are quite variable.

Macrotylus is widely distributed in the Nearctic and Palearctic, but has not been previously recorded from the Ethiopian Region.

Ten male specimens from Claudiushoop, 11 mi. N. Dendron, Transvaal, deposited in the South African National Collection of Insects, probably represent a new genus allied to *Macrotylus*. They have the pretarsal structures very similar to *Macrotylus*, but the head is more strongly declivent. All are in very poor condition and therefore cannot be described at this time.

Macrotylus hemizygiae, new species

Figures 266–268

MACROPTEROUS MALE: Basic coloration very light yellow green or yellow brown; head, anterior half of pronotum, and midline of scutellum tinged with greenish; scutellum mostly light brown; femora (particularly metafemora) covered with small, round, brown spots at bases of hairs.

Entire body smooth, dull; pronotum sparsely, scutellum, clavus, corium, and cuneus rather densely, covered with moderately long, fine, decumbent, black hairs; entire dorsum and thoracic pleura densely covered with decumbent, wooly, sericeous hairs; antennae with short, reclining, dark vestiture; antennal segment 1 with several erect, slender, black spines; eyes with very short hairs; abdominal venter with moderately long, reclining, light hairs; all femora with decumbent dark hairs, ventral margins with a few, erect, long, fine, light hairs; tibiae with semierect, dark spines about as long as tibial diameter.

Head strongly produced anteriorly; juga and clypeus prominent; vertex and frons convex; eyes granular, protuberant, appearing nearly hemispherical as viewed from above, occupying nearly entire sides of head posterior to antennal bases; segment 1 moderately enlarged, segment 2 nearly cylindrical, slightly greater in diameter distally than proximally, about one-half diameter of segment 1, segments 3 and 4 of slightly smaller diameter than segment 2; lora forming a low angle with longitudinal axis of body; bucculae slightly ex-

panded; gula horizontal, about as long as width of eye viewed from side; labium just surpassing metacoxae; posterior margin of pronotum weakly sinuate, calli indistinct; pronotum slightly inclined posteriorly; mesoscutum and scutellum nearly flat; hemelytra weakly convex laterally; cuneal incisure obsolete; cuneal fracture slightly angled anteromedially; membrane with two cells, metatibiae with longitudinal rows of tiny, closely spaced spines; metatarsal segment 1 about one-half length of segment 3, segment 3 about two-thirds length of segment 2; pretarsal structures as described under *M. niger*.

MEASUREMENTS: Total length approx. 3.92, maximum width 1.48, length head .40, width head .68, width vertex .36, length pronotum .52, width pronotum 1.16, length scutellum .48, width scutellum .68, length corium 1.88, length clavus 1.36, length cuneus .64, width cuneus .40, length claval commissure .84, distance apex commissure-apex membrane approx. 1.65, length metatibia 2.20; length antennal segments 1—.26, 2—1.26, 3—.88, 4—.42; length labial segments 1—.44, 2—.42, 3—.30, 4—.42.

MALE GENITALIA: Figures 266–268.

MACROPTEROUS FEMALE: Very similar to male.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, Kruger Nat. Park, Oliphants River near Oliphants Camp, 30 Apr. 1968, T. Schuh, J. A. & S. Slater, M. Sweet (Adults and nymphs on *Hemizygia thorncrofti* [N.E. Br.] Ashby) (SANC).

PARATYPES: *Transvaal*—7 macropterous ♂♂, 13 macropterous ♀♀, same data as holotype (SANC, JAS, RTS).

ADDITIONAL SPECIMENS: *Transvaal*—1 macropterous ♂, 1 macropterous ♀, 2 nymphs (in alcohol), same data as holotype; 2 macropterous ♂♂, 1 macropterous ♀, 4 nymphs (in alcohol), Kruger Nat. Park, Letaba River near Oliphants Camp, 30 Apr. 1968 (RTS).

This species is named for the host genus, *Hemizygia*.

Macrotylus hemizygiae can be separated from *M. niger*, the only other species of *Macrotylus* occurring in South Africa, by its light coloration and decumbent wooly pubescence.

The host, *Hemizygiae thorncrofti* (N.E. Br.) Ashby (Labiatae), was growing on a rocky slope on the banks of the Letaba River.

***Macrotylus niger*, new species**

Figures 70, 264, 265

MACROPTEROUS MALE: Basic coloration black; membrane smoky brown, dark; veins of membrane, and mesial margin of cuneus narrowly, white.

Dorsum smooth, dull or very weakly shining, with reclining, moderately long, light hairs; eyes with short hairs; antennae with decumbent, short, dense, light hairs; thoracic pleura with a few hairs as on dorsum; abdominal venter with reclining, weakly shining hairs; femora with inconspicuous decumbent hairs; tibiae and tarsi with reclining dark hairs and tibiae with scattered, semierect, black spines about as long as tibial diameter.

Head only slightly declivous, clypeus prominent; vertex and frons convex; eyes small as viewed from above, protuberant, occupying nearly entire sides of head behind antennal bases; antennae inserted just below middle of anterior margins of eyes, fossae contiguous with eyes; antennal segment 1 moderately enlarged, segment 2 nearly cylindrical, about three-fourths diameter of segment 2; bucculae slightly expanded; gula short, length about equal to diameter of antennal segment 2; labium slightly surpassing metacoxae; posterior margin of pronotum nearly straight; hemelytra nearly parallel sided; cuneal incisure shallow; membrane with two cells; abdomen almost attaining apex of corium; metafemora flattened, moderately enlarged; all tibiae with rows of tiny, closely spaced spines; metatarsal segment 1 about one-half length of segment 2, segments 2 and 3 subequal in length; tarsal claws strongly curved, very strongly broadened basally; parempodia hair-like, parallel; pulvilli greatly enlarged, fleshy, flattened, free, reaching almost to apex of claw.

MEASUREMENTS: Total length 2.80, maximum width 1.08, length head .22, width head .52, interocular space .26, length pronotum .40, width pronotum .94, length scutellum .40, width scutellum .60, length corium 1.38, length clavus 1.04, length cuneus .46, width cuneus .22, length claval commissure .56, distance apex commissure-apex membrane 1.26, length metatibia 1.56; length antennal segments 1—.18, 2—.74, 3—.58, 4—.24; length labial segments 1—.30, 2—.32, 3—.26, 4—.24.

MALE GENITALIA: Figures 264, 265.

MACROPTEROUS FEMALE: Very similar to male.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Natal*, Olivier-shoek Pass Summit, 5400 ft. elevation, 25 mi. S. Harrismith, 4 Mar. 1968, T. Schuh, J. A. & S. Slater, M. Sweet, (SANC).

PARATYPES: *Natal*—2 macropterous ♂♂, 2 macropterous ♀♀, V. Reenen. *Transvaal*—1 macropterous ♂, Moketsi, 31.1.63 (Paliatseas); 2 macropterous ♀♀, Mac Mac, Graskop, 17.1.63 (Paliatseas); 1 macropterous ♂, New Chum Falls, nr. Vaalhoek, 17 Jan. 1963 (Capener) (SANC, BM[NH], RTS).

This species is named for its black coloration.

Macrotylus niger can be distinguished from other South African Phylinae by virtue of its very long pulvilli, small size, protuberant clypeus, and black coloration.

Natalophylus, new genus

MACROPTEROUS MALE: Moderately large, elongate, with long appendages; facies *Phylus*-like; body generally smooth, shining; head, pronotum, scutellum, clavus, corium, and cuneus with erect, golden hairs about twice as long as tibial diameter; antennal segment 1 with some decumbent hairs and a thin, erect, dark spine on dorsal surface, segments 2, 3, and 4 with some semierect fine hairs about as long as diameter of segment on which they occur; thoracic pleura glabrous; abdominal venter with fine decumbent hairs; femora with inconspicuous decumbent hairs; tibiae and tarsi with reclining light hairs; all femora with a few, very fine, long, erect hairs on ventral surfaces; metafemora with some long, fine, erect or semierect, spine-like hairs on dorsal surfaces.

Head deflexed; eyes moderately large, protuberant, confluent with anterior pronotal margin, broadly emarginate anteriorly, reaching ventrally almost to gula; antennae inserted slightly above ventral margin of eyes, fossae contiguous with eyes; antennal segment 1 moderately enlarged, segment 2 cylindrical, about two-thirds diameter of segment 1, segments 3 and 4 subequal in diameter, slightly more than one-half diameter of segment 2; clypeus prominent as viewed laterally, not visible from above; bucculae narrow; gula short; labium just surpassing procoxae; pronotum broad, not strongly narrowed anteriorly, anterior margin finely carinate, upturned; pronotum flattened longitudinally, only slightly inclined posteriorly; mesoscutum separated from scutellum by shallow transverse impression; hemelytra nearly straight and parallel sided; cuneal incisure shallow; membrane with two cells; tibiae with scattered, semi-erect, dark spines about $1\frac{1}{2}$ times length of tibial diameter; only metatibiae with longitudinal row of tiny, closely spaced spines; tarsal claws moderately long, broad basally, evenly curved; parempodia slightly over one-half length of claws, weakly fleshy, convergent apically; pulvilli minute.

MALE GENITALIA: Figures 269–272. Structure of vesica and phallosome of phylinae pattern, but showing no relationship to other known genera.

MACROPTEROUS FEMALE: Eyes slightly smaller and vertex relatively wider than in male.

FEMALE GENITALIA: Not examined.

TYPE SPECIES: *Natalophylus heteromorphae*, new species.

This genus is named for its occurrence in Natal and its great similarity in appearance to *Phylus* Hahn from Europe.

Natalophylus resembles *Phylus* very closely superficially but differs in the following characters: the head is much more strongly deflexed; the gula is much shorter; the labium is much shorter, only slightly surpassing the procoxae; and, the tibial spines are dark with dark bases. Also the vesica and phallosome of *Natalophylus* are structurally very dissimilar to those of *Phylus* (see Wagner and Weber, 1964).

Natalophylus can be recognized by its very long antennae, long, light colored legs, short labium, single type of dorsal pubescence, and weakly fleshy, apically convergent parempodia.

***Natalophylus heteromorphae*, new species**

Figures 71, 269–272

MACROPTEROUS MALE: Brownish black, including antennae; labium and legs, including coxae, bright yellow; base of labium, metacoxae proximally, small round spots on femora, bases of tibial spines, and all tarsal segments 3 brownish black.

Eyes with very short hairs.

Vertex nearly flat, posterior margin straight, very weakly carinate; pronotum with anterior margin weakly sinuate, lateral margins nearly straight, posterior margin broadly excavated, scutellum weakly convex; cuneal fracture slightly angled anteromedially; abdomen not quite attaining apex of cuneus; metatarsal segment 1 about one-half length of segment 2, segment 2 slightly longer than segment 3.

MEASUREMENTS: Total length 4.16, maximum width 1.68, length head .24, width head .80, interocular space .40, length pronotum .48, width pronotum 1.16, length scutellum .76, width scutellum .84, length corium 2.12, length clavus 1.68, length cuneus .68, width cuneus .28, length claval commissure .88, distance apex commissure-apex membrane 1.76, length metatibia 2.56; length antennal segments 1—.36, 2—1.84, 3—1.00, 4—.80; length labial segments 1—.26, 2—.26, 3—.14, 4—.20.

MALE GENITALIA: Figures 269–272.

MACROPTEROUS FEMALE: Eyes slightly smaller and vertex relatively wider than in male.

FEMALE GENITALIA: Not examined.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Natal*, Olivier-shoek Pass Summit, 5400 ft. elevation, 25 mi. S. Harrismith, 4 Mar.

1968, T. Schuh, J. A. & S. Slater, M. Sweet (Adults and nymphs on *Heteromorpha trifoliata* [Wendl.] Eckl. & Zeyh.) (SANC).

PARATYPES: 3 macropterous ♂♂, 8 macropterous ♀♀, same data as holotype (SANC, JAS, RTS).

This species is named for the host genus, *Heteromorpha*.

See generic discussion for separation from other members of the Phylinae.

This species is known only from the type locality on *Heteromorpha trifoliata* (Wendl.) Eckl. & Zeyh. (Umbelliferae). The host genus is African, containing six species, three of which occur in South Africa (Phillips, 1951).

Odhiamboella, new genus

MACROPTEROUS MALE: Elongate; body dull or weakly shining, generally with reclining, golden, setiform hairs; antennal segment 1 with one or two slender, erect spines, segments 2, 3, and 4 with short, dense, reclining vestiture; tibiae with semierect black spines; genae with long erect hairs; eyes with very short hairs.

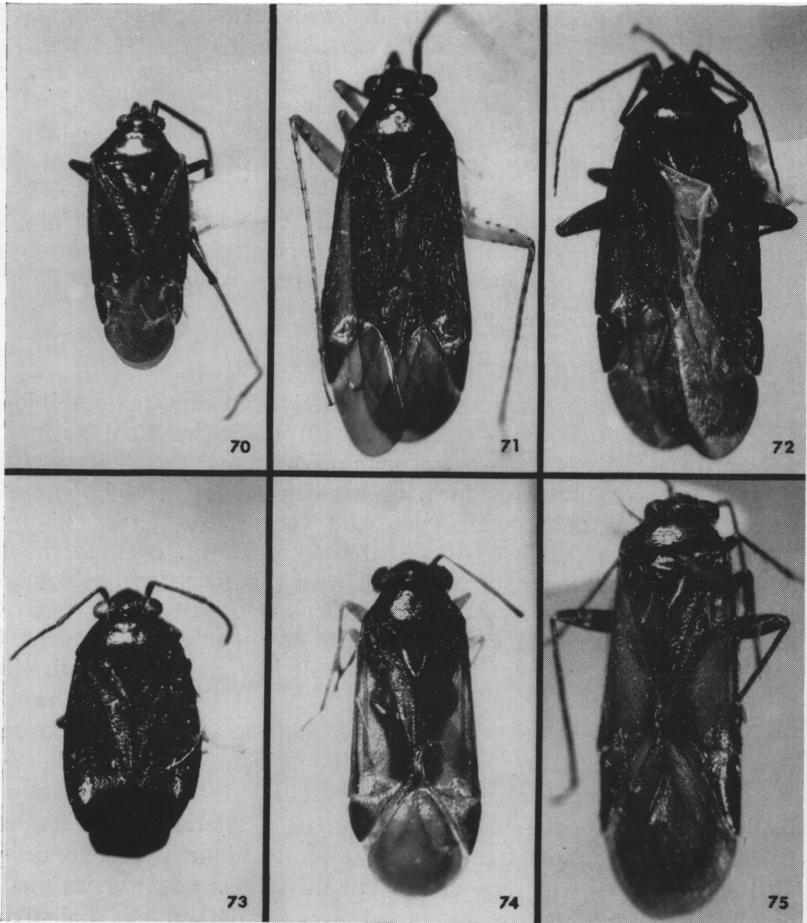
Head deflexed, clypeus just visible from above; eyes confluent with anterolateral angles of pronotum; vertex convex, posterior margin ecarinate; frons convex; antennae inserted just above ventral margins of eyes, fossae contiguous with eyes; antennal segment 1 slightly enlarged, segment 2 increasing slightly in diameter distally to about diameter of segment 1, segments 3 and 4 subequal to proximal diameter of segment 2; labium reaching at least to metacoxae; pronotum with anterior margin finely carinate, upturned, lateral margins weakly convergent anteriorly, calli indistinct; mesoscutum inclined anteriorly, scutellum weakly convex; lateral corial margins nearly straight, cuneal fracture sinuate; membrane with two cells; all tibiae with rows of tiny, closely spaced spines; tarsal claws moderately long, strongly curved, broad basally; parempodia hair-like, parallel; pulvilli minute.

MALE GENITALIA: Figures 273–275. Similar in structure to *Capecapsus* and *Coatonocapsus*, vesica forming single coil.

MACROPTEROUS FEMALE: Very similar to male, eyes slightly smaller, vertex relatively wider.

TYPE SPECIES: *Pseudosthenarus solani* Odhiambo.

Odhiamboella is being erected to receive a single species, *solani*, from East and South Africa. Originally described in *Pseudosthenarus*, *solani* must be placed in a new genus based on its possession of only a single type of pubescence on the dorsum and the vesica



FIGS. 70-75. Phylini. Fig. 70. *Macrotylus niger*, male, holotype. Fig. 71. *Natalophylus heteromorphae*, male, holotype. Fig. 72. *Parapseudosthenarus buchenroederæ*, male (Giants Castle, Natal). Fig. 73. *Parapseudosthenarus buchenroederæ*, female (Sani Pass, 6200 ft., Natal). Fig. 74. *Parasciodema albicoxa*, male, holotype. Fig. 75. *Parasciodema nigrijemur*, male, holotype.

of the male forming a single complete coil. These characters, as well as the general facies, relate *Odhiamboella* to *Coatonocapsus* and *Capecapsus* (see also discussion under *Pseudosthenarus* and *Sthenarus nigricornis*).

Odhiamboella solani (Odhiambo)

Figures 273–275

Pseudosthenarus solani Odhiambo, 1958a, pp. 241–246.

Odhiamboella solani can be separated from all other South African Phylinae by the following combination of characters: dorsum with only setiform hairs; basic coloration black, clavus and cuneus mostly yellowish; and, vesica forming a coil, apically with a single long spine.

Odhiambo (1958a) described the variation in this species from East Africa. His analysis applies in South Africa.

No host information is available for South Africa, but *solani* feeds on *Solanum* sp. in East Africa (Odhiambo, 1958a).

SPECIMENS EXAMINED: All specimens macropterous. *Transvaal*—15 ♂♂, 4 ♀♀, Argent, XII-7-10-1953 (Capener); 1 ♂, 1 ♀, Irene, Pretoria, I-23-1952 (Capener); 2 ♂♂, Letaba Valley, Tzaneen Dist., XII-10-31-1958 (Capener); 1 ♀, Rustenburg, II-22-1953 (Capener); 1 ♂, Wonderboom, 12.3.15 (Swierstra) (SANC, TM, JAS, RTS).

Parapseudosthenarus, new genus

MACROPTEROUS MALE: Elongate, nearly parallel sided; entire body smooth, dull or weakly shining; dorsum with reclining setiform hairs; dorsum, thoracic pleura, and abdominal venter with decumbent wooly, sericeous hairs; antennal segment 1 with slender black spine, segments 2, 3, and 4 with short dense decumbent vestiture and semierect hairs about as long as diameter of segment 2; head below eyes with a few, long, erect hairs; abdominal venter with reclining hairs; femora with decumbent hairs and a few, very long, erect hairs on ventral surfaces; tibiae with black spines about as long as tibial diameter.

Head declivous; vertex nearly flat, posterior margin with low, rounded carina; frons convex; eyes moderately large, protuberant, reaching almost to gula, anterior margins sinuate; antennae inserted just above ventral margins of eyes, fossae contiguous with eyes; segment 1 moderately enlarged, segment 2 of slightly smaller diameter than segment 1, segments 3 and 4 about two-thirds diameter of segment 2; bucculae narrow; gula short; pronotum with anterior margin finely carinate, upturned, lateral margins nearly straight, slightly convergent anteriorly, disc only slightly inclined posteriorly; mesoscutum separated from weakly convex scutellum by a transverse impression; cuneal incisure shallow; membrane with two cells; legs moderately long; metafemora somewhat enlarged; tarsal claws long,

gently curved, broad basally; parempodia hair-like, parallel; pulvilli minute.

MALE GENITALIA: Figures 289–292. Similar in structure to *Pseudosthenarus*; very small in relation to total body size; vesica U-shaped; right clasper lanceolate.

BRACHYPTEROUS FEMALE: See *P. buchenroederæ*.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

TYPE SPECIES: *Parapseudosthenarus buchenroederæ*, new species.

This genus is named for its resemblance to *Pseudosthenarus Poppius*.

Parapseudosthenarus can be recognized by its entirely black coloration, including all appendages, wooly and setiform hairs, and the structure of the male genitalia. The most closely related genus, *Pseudosthenarus*, always has at least part of the legs or antennae yellow or dull white. The male genitalia of *Parapseudosthenarus* appear in structure to be possible precursors of the type found in *Pseudosthenarus*.

***Parapseudosthenarus buchenroederæ*, new species**

Figures 72, 73, 289–292

MACROPTEROUS MALE: Entirely dull black, membrane smoky dark brown.

Eyes with short hairs.

Labium just surpassing apex of procoxae; pronotum with indistinct confluent calli, posterior margin nearly straight; cuneal fracture very slightly angled anteromedially; abdomen reaching to about middle of cuneus; metatarsal segment 1 about one-third length of segment 2, segments 2 and 3 subequal in length.

MEASUREMENTS: Total length 4.56, maximum width 1.76, length head .24, width head .80, interocular space .36, length pronotum .60, width pronotum 1.32, length scutellum .64, width scutellum .80, length corium 2.20, length clavus 1.76, length cuneus .84, width cuneus .48, length claval commissure .96, distance apex commissure-apex membrane 2.35, length metatibia 2.12; length antennal segments 1—.22, 2—1.08, 3—.80, 4—.44; length labial segments 1—.26, 2—.26, 3—.12, 4—.18.

MALE GENITALIA: Figures 289–292.

BRACHYPTEROUS FEMALE: Body surface, vestiture, and coloration as in macropterous male.

Eyes smaller, vertex relatively wider than in male; scutellum nearly flat; hemelytra reduced, just surpassing apex of abdomen; lateral corial margins broadly rounded; metafemora greatly enlarged.

MEASUREMENTS: Total length 3.00, maximum width 1.48, width head .76, interocular space .40.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: Natal, Giants Castle Park, 5800 ft. elevation, 6 Mar. 1968, T. Schuh, J. A. & S. Slater, M. Sweet (Adults and nymphs on *Buchenroedera lotononoides* Scott-Elliott) (SANC).

PARATYPES: Natal—3 macropterous ♂♂, same data as holotype; 3 macropterous ♂♂, 9 brachypterous ♀♀, Sani Pass, 6200 ft., 10 Mar. 1968 (Adults and nymphs on *Buchenroedera lotononoides* Scott-Elliott); 1 brachypterous ♀, Natal National Park, iii.1932 (Mackie) (SANC, BM[NH], JAS, RTS).

ADDITIONAL SPECIMENS: 1 macropterous ♂, 1 brachypterous ♀, 24 nymphs (in alcohol), same data as holotype; 1 macropterous ♂, 1 brachypterous ♀, 14 nymphs (in alcohol), Sani Pass, 6200 ft., 10 Mar. 1968 (RTS).

This species is named for the host genus, *Buchenroedera*.

See generic discussion for separation from other members of the Phylinae. Although *Parapseudosthenarus buchenroederae* closely resembles some species of *Pseudosthenarus*, the sexual wing dimorphism is much more pronounced in the former than in the latter.

This species is known only from midelevations (ca. 1875 meters [6000 feet]) on the Drakensberg on *Buchenroedera lotononoides* Scott-Elliott (Leguminosae). The host genus is African, with 22 of the 23 species restricted to Natal and the Eastern Cape (Phillips, 1951).

Parasciodema Poppius

Parasciodema Poppius, 1914a, pp. 104–105.

Parasciodema can be recognized by the following combination of characters: the pulvilli are large, and fused to nearly the entire ventral surface of the claw; the parempodia are hair-like and parallel; the body is elongate, and nearly parallel sided; the dorsum has only reclining, dark, setiform hairs; and the basic coloration is dark brown or black. *Parasciodema* is related to *Lasiolabopella*, *Lepidocapsus*, and *Eminoculus* by the structure of the pulvilli; it differs from *Lasiolabopella* in not having scale-like hairs, from *Lepidocapsus* in having only setiform hairs on the dorsum instead of setiform and wooly sericeous hairs (and also does not have an enlarged second antennal segment), and from *Eminoculus* in not having stylate eyes.

MALE GENITALIA: Figures 276–279. Vesica variously curved; phallosheca L-shaped; left clasper trough-like; right clasper lanceolate.

Female unknown.

Parasciodema is endemic to southern Africa. No biological information is available for the genus.

***Parasciodema albicoxa*, new species**

Figures 74, 276–278

MACROPTEROUS MALE: Basic coloration dark brown; antennal segment 2 and all tibiae light brown; all coxae white, brown proximally; all femora and labial segments 2 and 3 yellow orange; labial segments 1 and 4 yellow; membrane smoky brown.

Entire body polished, shining; pronotum transversely rugose; dorsum with reclining, moderately long, black, setiform hairs; antennal segment 1 with a few decumbent hairs, segments 2, 3, and 4 with short, dense, reclining vestiture and scattered, semierect hairs about as long as diameter of segment 2; abdominal venter with reclining hairs; femora with a few very long, erect hairs on ventral surfaces; tibiae with semierect black spines about as long as tibial diameter.

Head strongly deflexed; vertex broad, posterior margin slightly concave; eyes large, protuberant, reaching posteriorly around anterolateral angles of pronotum, reaching ventrally to gula, anterior margins strongly sinuate; antennae inserted just above ventral margins of eyes, fossae contiguous with eyes; antennal segment 1 slightly enlarged, segment 2 tapered slightly proximally, distal diameter about equal to that of segment 1, segments 3 and 4 about two-thirds diameter of segment 2; bucculae small; gula obsolete; labium just surpassing mesocoxae; pronotum with anterior margin carinate, slightly upturned, lateral margins weakly concave, anterior and posterior margins nearly straight, disc slightly inclined posteriorly; mesoscutum and scutellum flattened, indistinctly separated; lateral corial margins nearly straight, widest at apex; cuneal incisure shallow, fracture angled slightly anteromedially; membrane with two cells; abdomen reaching almost to apex of cuneus; all tibiae lacking rows of tiny, closely spaced spines; metatarsal segment 1 slightly less than one-half length of segment 2, segments 2 and 3 subequal in length.

MEASUREMENTS: Total length 3.72, maximum width 1.48, length head .16, width head .90, interocular space .40, length pronotum .44, width pronotum 1.12, length scutellum .64, width scutellum .80, length corium 1.72, length clavus 1.44, length cuneus .76, width cuneus .36, length claval commissure .76, distance apex commissure-apex membrane 1.68, length metatibia 1.88; length antennal segments 1—.26, 2—1.08, 3—.62, 4—?; length labial segments 1—.34, 2—.38, 3—.20, 4—.30.

MALE GENITALIA: Figures 276–278.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Grootfontein, Middelburg, October, M. Johannsmeier (SANC).

PARATYPES: *Cape Province*—8 macropterous ♂♂, same data as holotype; 1 macropterous ♂, *idem*, 15.X.65 (Schoombee) (SANC, JAS, RTS).

This species is named for the light coxal coloration.

Parasciodema albicoxa is the only species in the genus with white coxae.

***Parasciodema nigrifemur*, new species**

Figures 75, 279

MACROPTEROUS MALE: Dark brown, including all appendages; vestiture and body surface as in *Parasciodema albicoxa*.

Structure very similar to *P. albicoxa* except as follows: eyes not reaching so far ventrally and leaving genae slightly exposed; pronotum moderately inclined posteriorly; hemelytra longer relative to total length (see measurements); abdomen reaching to about basal third of cuneus; male genital capsule with distinct keel ventrally.

MEASUREMENTS: Total length 4.68, maximum width 1.62, length head .18, width head .88, interocular space .40, length pronotum .52, width pronotum 1.24, length scutellum .68, width scutellum .72, length corium 2.64, length clavus 1.56, length cuneus .96, width cuneus .60, length claval commissure .88, distance apex commissure-apex membrane 2.44, length metatibia 1.96; length antennal segments 1—.28, 2—1.16, 3—.50, 4—?; length labial segments 1—.40, 2—.44, 3—.28, 4—.38.

MALE GENITALIA: Figure 279; left clasper and phallosome structurally very similar to those of *albicoxa*.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Grootfontein, Middelburg, October, M. Johannsmeier (SANC).

PARATYPES: 6 macropterous ♂♂, same data as holotype (SANC, RTS).

This species is named for the dark femoral coloration.

Parasciodema nigrifemur is the only species in the genus with totally dark colored legs.

***Parasciodema nitens* Poppius**

Parasciodema nitens Poppius, 1914a, p. 105.

This species is known only from the male holotype from "Seewald," South West Africa. Poppius (1914a) noted that the speci-

men was in the Berlin-Humboldt Museum; in fact it is in the Helsinki Museum (Type No. 11874). *P. nitens* has dark coxae and light femora, whereas *albicoxa* has nearly all white coxae and yellow femora and *nigrifemur* has dark brown coxae and femora.

Plagiognathidea Poppius

Plagiognathidea Poppius, 1914a, p. 99.

Males of *Plagiognathidea* (females are unknown) can be recognized by the following combination of characters: they are relatively small, light colored, elongate, nearly parallel sided, and flattened; the parempodia are hair-like, and parallel; the pulvilli are small; the head is strongly produced anteriorly, with the clypeus nearly reaching the distal end of antennal segment 1; and, the vesica is long, slender, and coiled (at least in *grisescens* Poppius). Poppius (1914a) related *Plagiognathidea* to *Plagiognathus* Fieber, but it appears to be most closely related to *Platyscytus* Reuter from South America on the basis of the general body form and the structure of the vesica.

Plagiognathidea contains only one described species, from "Nyassa-Geb, Langenberg." No biological information is available for the genus.

A mutilated male from Letaba River near Oliphants Camp, Kruger National Park, Transvaal (deposited in the J. A. Slater Collection), probably represents a new species of *Plagiognathidea*. The body form is similar, but the antennal proportions are very much different, from those of *grisescens*, the holotype of which is in the Helsinki Museum (Type No. 12300).

Psallus Fieber

The cosmopolitan genus *Psallus* Fieber is well known only in Europe. Wagner (1952) and Woodroffe (1957) have given reasonably complete treatments of the Western European and British species respectively, but no comprehensive work of a wider geographic scope is available. The extremely large size and wide distribution of the genus make it impossible to accurately determine specimens or describe new species at the present time, unless a comprehensive analysis is undertaken.

Poppius (1914a) recorded three species of *Psallus* from the Ethiopian Region—two from St. Helena and one, *P. dilutipes* Reuter, from Algoa Bay, South Africa. Odhiambo (1958c; 1959b) has described 13 additional species from East Africa (see below).

I have studied approximately 10 species from South Africa that are referable to *Psallus*. Most are light green or yellow green and some have brown spots on the dorsum. The dorsum is usually covered with reclining, light or dark, setiform hairs and also decumbent, wooly, sericeous hairs, although the latter type of pubescence is not present in all species. The femora and tibiae often have dark spots at the bases of the spines. The parempodia are either hair-like and parallel or weakly fleshy and apically convergent (as in *Ellenia*). Odhiambo (1959b) noted that some species of *Psallus* have a ventral keel on the male genital capsule, but I am placing these species in *Ellenia* (see page 158).

***Pseudosthenarus* Poppius**

Pseudosthenarus Poppius, 1914a, p. 98.

Pseudosthenarus can be characterized as follows—

MACROPTEROUS MALE: Large, robust, black; body surface dull or weakly shining; entire body covered with wooly, sericeous hairs and reclining, black, setiform hairs; eyes with short hairs; antennal segments 2, 3, and 4 with dense, short, reclining vestiture and scattered semierect hairs about as long as diameter of segment 2; ventral surfaces of all femora with a few, very long, fine, erect hairs.

Head declivous, nearly vertical; eyes granular, moderately large, occupying about two-thirds total height of head, anterior margins sinuate; vertex weakly convex, posterior margin ecarinate or with a very low rounded carina; antennae inserted at level of ventral margin of eyes, fossae contiguous with eyes; antennal segment 1 slightly enlarged, usually with a few semierect black spines, segment 2 cylindrical or tapering slightly proximally, segments 3 and 4 about two-thirds diameter of segment 2; apex of clypeus directed posteriorly; bucculae narrow; gula obsolete; labium just reaching to trochanteral joint of procoxae; pronotum only slightly inclined posteriorly, all margins nearly straight, anterior margin finely carinate and upturned; calli weak, widely separated; mesoscutum separated from weakly convex scutellum by deep transverse impression; lateral corial margins convexly rounded, broadest at about midpoint; cuneal incisure shallow, fracture angled slightly anteromedially; membrane with two cells; abdomen reaching to about middle of cuneus; metafemora enlarged, greatest width slightly less than interocular space; all tibiae with rows of tiny closely-spaced spines and heavy black, semierect spines; metatarsal segment 1 about one-half length of segment 2, segments 2 and 3 subequal in length; tarsal claws long, gently curved,

slightly broadened basally; parempodia hair-like parallel; pulvilli minute, attached at midpoint of claw.

MALE GENITALIA: Figures 293–312. Structure unusual in Phyllinae, characteristic for genus; phallus composed of gently curved vesica proper and also a sickle-shaped structure situated below main body of organ, gonopore apical; phallosome similar in all species; left clasper flattened, splayed out, derivable from other phyllines through *Parapseudosthenarus*; right clasper lanceolate.

SUBMACROPTEROUS FEMALE: Coloration and body surface texture generally as in males; antennal segment 2 usually somewhat lighter than in males.

Eyes smaller and vertex relatively wider than in males; antennal segment 2 somewhat more slender than in males; pronotum shorter and more strongly flattened than in males; hemelytra reduced, but differentiated; abdomen not quite reaching to apex of membrane.

FEMALE GENITALIA: Figures 313, 314. Posterior wall a simple sclerotized plate; sclerotized rings rather strongly infolded laterally.

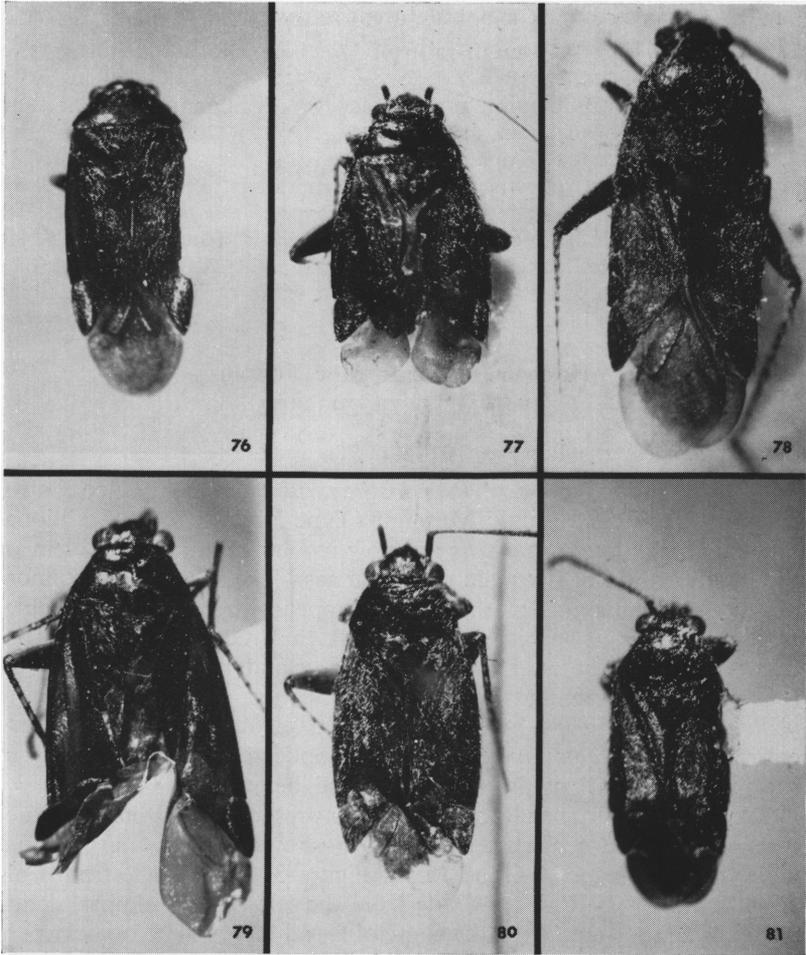
Pseudosthenarus can be most easily recognized in South Africa by the setiform and woolly hairs on the dorsum, the nearly solid black coloration with some yellow or white on the legs and antennae, and the form of the male genitalia. The left clasper of the male possesses the most useful characters for separating the species; the structure of the vesica is of little use in this regard.

Pseudosthenarus was synonymized with *Sthenarus* by Carvalho (1952a), but as can be determined from comparison of the male genitalia of *Pseudosthenarus* and *Sthenarus*, this action was incorrect. Carvalho probably based this synonymy on an examination of *P. nigricornis* Poppius (holotype in British Museum [Natural History]), which is not the type species of the genus. The male genitalia of this species are very much different than those of males of *Pseudosthenarus* from South Africa, including *P. ater* Poppius, the type species of the genus (see *Sthenarus nigricornis*).

Pseudosthenarus is actually most closely related to *Parapseudosthenarus* in general body form and structure of the male genitalia, although the genitalia of the former appear to be more highly derived than those of the latter.

Odhiambo (1958a) described a species *solani* in *Pseudosthenarus*, but it must be placed in a new genus (see *Odhiamboella*, page 175).

Pseudosthenarus as now understood contains four species and is restricted to the Southwest Cape Region of South Africa. No host or biological data are available for any members of the genus.



FIGS. 76-81. Phylini. Fig. 76. *Pseudosthenarus* near *ater*, male (Calvinia, Cape Province). Fig. 77. *Pseudosthenarus* near *ater*, female (Ceres, Cape Province). Fig. 78. *Pseudosthenarus grossus*, male, holotype. Fig. 79. *Pseudosthenarus namaquaensis*, male, holotype. Fig. 80. *Pseudosthenarus namaquaensis*, female (Kamieskroon, Cape Province). Fig. 81. *Pseudosthenarus rozeni*, male, holotype.

KEY TO MALES OF *Pseudosthenarus*

1. Length at least 4.40 mm.; ratio of length of antennal segment 2 to width of head 3:2 2
 Length under 3.50 mm.; ratio of length of antennal segment 2 to width of head about 4:3 or less 3
2. Femora and vertex completely black *grossus* (Fig. 78)
 Femora mostly yellowish with black markings; vertex with yellow brown markings contiguous with eyes ... *namaquaensis* (Fig. 79)
3. Ratio of length of antennal segment 2 to width of head 4:3; all tibiae nearly white, lacking black bands *rozeni* (Fig. 81)
 Ratio of length of antennal segment 2 to width of head 5:4; all tibiae yellow with black bands *ater* (Fig. 76)

***Pseudosthenarus ater* Poppius**

Figures 76, 77, 293-302

Pseudosthenarus ater Poppius, 1914a, p. 98.

The holotype female of *Pseudosthenarus ater*, from Cape Town, is deposited in the Helsinki Museum (Type No. 12074). Additional specimens of *Pseudosthenarus* are now available and the problem of the identification of the male of *ater* arises. The sexual color dimorphism in the antennae of this species appears to be rather variable. In a long series of specimens from Rust en Vrede, Oudtshoorn District, the second antennal segment distally and the entire third and fourth antennal segments are brown with most of segment 2 being yellow, whereas in the holotype, antennal segments 2, 3, and 4 are entirely yellow. This type of variation applies in a confusing way to specimens from all of the localities listed below.

Apparently more than one species is present, based on the structure of the male genitalia. Figure 295 shows the left clasper of a male from the Cape of Good Hope, Figure 302 of a male from Calvinia; males from Rust en Vrede have the left clasper almost identical with the specimen from the Cape of Good Hope. The two claspers figured appear to represent those of different species, but deciding which is *ater*, if in fact either is, cannot be determined without further field work and additional specimens.

P. ater can be separated from other members of the genus by the characters given in the key.

MALE GENITALIA: Figures 293-302.

MEASUREMENTS: Macropterous ♂ (Rust en Vrede)—Total length 3.28, maximum width 1.40; length antennal segment 2—.88.

SPECIMENS EXAMINED: *Cape Province*—submacropterous ♀, Cape Town, Dr. Martin (holotype); 1 macropterous ♂, Cape of Good

Hope (Darwin); 2 macropterous ♂♂, 1 submacropterous ♀, Cape Province, Calvinia, XI.1931 (Mackie); 1 submacropterous ♀, Ceres, Cape Province, 1500 ft., Jan. 1921 (Turner); 13 macropterous ♂♂, 9 submacropterous ♀♀, Rust en Vrede, Oudtshoorn Dist., Mus. Expd., Oct. 1951 (HM, SAM, BM[NH], JAS, RTS).

***Pseudosthenarus grossus*, new species**

Figures 78, 303–305

MACROPTEROUS MALE: Large; generally dull black or brownish black; profemora distally and all tibiae and tarsi light yellow brown; tibial spines with black bases forming black bands.

MEASUREMENTS: Total length 4.80, maximum width 1.72, length head .24, width head .84, interocular space .48, length pronotum .56, width pronotum 1.40, length scutellum .72, width scutellum .84, length corium 3.00, length clavus 1.84, length cuneus .76, width cuneus .48, length claval commissure 1.08, distance apex commissure-apex membrane 2.10, length metatibia 2.32; length antennal segments 1—.32, 2—1.30, 3—?, 4—?; length labial segments 1—.30, 2—.26, 3—.10, 4—.14.

MALE GENITALIA: Figures 303–305.

Female unknown.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Het Kruis, Mus. Expd., Oct. 1947 (SAM).

PARATYPES: *Cape Province*—1 macropterous ♂, same data as holotype; 1 macropterous ♂, Goedehoop, Heidelberg Dist., Mus. Expd., Oct. 1951 (SAM, RTS).

This species is named for its very large size.

This is the only species of *Pseudosthenarus* in which the femora are totally black.

***Pseudosthenarus namaquaensis*, new species**

Figures 79–80, 308–314

MACROPTEROUS MALE: Large, elongate species; generally dull black or brownish black; femora and tibiae yellow, femora black on ventral surfaces, tibial spines with black bases; tarsal segments 1 and 2 light, 3 dark; vertex with a rounded yellow orange spot adjacent to mesial margin of each eye; membrane smoky brown.

MEASUREMENTS: Total length 4.40, maximum width 1.68, length head .24, width head .92, interocular space .44, length pronotum .56, width pronotum 1.32, length scutellum .72, width scutellum .92, length corium 2.28, length clavus 1.80, length cuneus .88, width cuneus .44, length claval commissure 1.00, distance apex

commissure-apex membrane 2.00, length metatibia 2.36, length antennal segments 1—.36, 2—1.60, 3—1.00, 4—?; length labial segments 1—.30, 2—.24, 3—.14, 4—.08.

MALE GENITALIA: Figures 308–312.

SUBMACROPTEROUS FEMALE: Coloration generally as in male, except antennal segments 1 and 2 yellowish, especially on dorsal surface; mesothoracic and metathoracic pleura and all coxae generally light brown or yellow; black markings on femora either few in number or absent.

Structurally differing from male as in generic diagnosis.

FEMALE GENITALIA: Figures 313, 314.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Kamieskroon, Namaqualand, Sept. 1930, Mus. Staff (SAM).

PARATYPES: *Cape Province*—8 macropterous ♂♂, 25 submacropterous ♀♀, same data as holotype; 1 macropterous ♂, Bowsdorp, Namaqualand, Sept. 1941; 1 submacropterous ♀, Lamberts Bay, Nov. 1956 (SAM, JAS, RTS).

This species is named for its occurrence in Namaqualand.

Pseudosthenarus namaquaensis can be separated from *grossus*, the only other large species in the genus, by the yellow coloration of the femora.

***Pseudosthenarus rozeni*, new species**

Figures 81, 306, 307

MACROPTEROUS MALE: Generally dull black; extreme distal portion of femora and all tibiae white; tibial spines black but without black bases, black bands not formed on tibiae; tarsi dark brown; membrane smoky black.

MEASUREMENTS: Total length 3.32, maximum width 1.32, length head .12, width head .76, interocular space .36, length pronotum .52, width pronotum 1.08, length scutellum .48, width scutellum .68, length corium 1.56, length clavus 1.24, length cuneus .56, width cuneus .32, length claval commissure .68, distance apex commissure-apex membrane 1.52, length metatibia 1.80; length antennal segments 1—.20, 2—1.00, 3—.60, 4—?; length labial segments 1—.24, 2—.24, 3 and 4—.18.

MALE GENITALIA: Figures 306, 307.

Female unknown.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Kommetjie, X-29-XI-1966, J. G. Rozen Collector (AMNH).

This species is named for the collector Dr. J. G. Rozen, of the American Museum of Natural History.

Pseudosthenarus rozeni can be grouped with *P. ater* on the basis of its small size. The ratio of the length of the second antennal segment to the width of the head across the eyes, however, is somewhat different than in *ater* and the tibial spines do not have black bases.

"*Sthenarus-Campylomma*"

Although little mention is made of the fact in the literature, *Campylomma* Reuter and *Sthenarus* Fieber, as presently constituted, may be in large part synonymous. Both genera have European type species and revision on a world basis has never been carried out. Leston (see Carvalho and Leston, 1952) and Odhiambo (1958a) have pointed out some of the problems in the taxonomy of *Sthenarus*. Both *Campylomma* and *Sthenarus* occur primarily in the Old World, but a limited number of species of *Sthenarus* have been described from North America and *Campylomma verbasci* Meyer is introduced there (Knight 1941; 1968).

Poppius (1914a) recorded six species of *Sthenarus* and two species of *Campylomma* from Africa, but none specifically from South Africa. Carvalho et al. (1960), incorrectly recorded *Paramixia australis* from South Africa as *Sthenarus basalis* Poppius.

I have examined type material of *Sthenarus vestitus* Poppius and *Campylomma angustior* Poppius from Africa. The main generic difference between the two species seems to be color. It is therefore possible that at least species from Africa recorded under the two generic names may in fact all be members of a single genus.

In South Africa there are at least eight species that resemble *Campylomma* and *Sthenarus*, but accurate determinations cannot be made at this time. They can generally be recognized by their very small size and head that is concave behind. See also discussion under *Sthenarus nigricornis*.

NOTES ON EXTRALIMITAL SPECIES

Sthenarus nigricornis (Poppius)

Pseudosthenarus nigricornis Poppius, 1914a, p. 99.

Sthenarus nigricornis (Poppius) is not congeneric with *P. ater*, the type species of *Pseudosthenarus*, and I am therefore temporarily placing it in *Sthenarus* as per Carvalho (1952a). The general facies of *nigricornis* are very similar to those of *ater* but it differs in having a much longer and more slender labium and genitalia of a quite different structure. The vesica of *nigricornis* is much more similar to the type found in *Sthenarus* than in *Pseudosthenarus* as I have been

able to determine by examination of the holotype of *nigricornis* in the British Museum (Natural History).

Stoebea, new genus

MACROPTEROUS MALE: Small, elongate; dorsum smooth, dull, densely covered with moderately long, reclining setiform hairs (dark on dark background areas, light on light areas), and decumbent, wooly, sericeous hairs; anterolateral angles of pronotum with a single, long, erect, fine spine; eyes with short hairs; antennae with short, decumbent, light vestiture; thoracic pleura (sparsely) and abdominal venter with reclining light hairs; femora with a few long, erect, very fine hairs on ventral surfaces; tibiae and tarsi with reclining light hairs; tibiae with semierect dark spines, slightly longer than tibial diameter, with dark bases.

Head nearly vertical; eyes weakly granular, relatively small, only slightly protuberant, confluent with anterolateral angles of pronotum, occupying three-fourths of height of head; vertex convex, posterior margin straight, ecarinate; frons strongly convex; antennae inserted just above level of ventral margins of eyes, fossae nearly contiguous with eyes; antennal segment 1 moderately enlarged, segment 2 nearly cylindrical, of slightly smaller diameter than segment 1, segments 3 and 4 about one-half diameter of segment 2; bucculae slightly expanded; gula short; labium reaching to posterior margin of abdominal sternite 5; pronotum with anterior margin finely carinate, upturned; calli obsolete; mesoscutum and scutellum nearly flat; lateral corial margins nearly straight; cuneal incisure obsolete, fracture slightly angled anteromedially; membrane with two cells; abdomen reaching to about midpoint of cuneus; legs long; metafemora enlarged, flattened; metatibiae with rows of tiny, closely-spaced spines; metatarsal segment 1 about one-third length of segment 2, segments 2 and 3 subequal in length; tarsal claws long, slender, evenly curved, slightly broadened basally; parempodia hair-like, parallel; pulvilli minute.

MALE GENITALIA: Figures 280–285. Vesica S-shaped, strongly twisted, with a single attenuated apical spine, gonopore subapical; phallosome similar in all species; left and right claspers typical of Phylini.

BRACHYPTEROUS FEMALE: See *S. barbertonensis*.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

TYPE SPECIES: *Stoebea barbertonensis*, new species.

This genus is named for the host plant genus, *Stoebe*.

Stoebea is characterized by its small size, light coloration with green orange, or reddish marking, vestiture of erect setiform and

decumbent, wooly, sericeous hairs, and second antennal segment which is usually about $3\frac{1}{2}$ times as long as the width of the interocular space. *Stoebea* resembles *Erythrocorista* Lindberg (1958) from the Cape Verde Islands; this is only superficial, however, for *Erythrocorista* is an orthotylina (see page 282).

Stoebea is presently known only from South Africa. Where host plant data are available the genus occurs on species of *Stoebe* (Compositae).

Specimens of *Stoebea* from South Africa that may represent new species in addition to those described below, are a male from Rust en Vrede, Oudtshoorn District, Cape Province (deposited in the South African Museum) that closely resembles *S. elginensis*, a male from Lyttelton, Pretoria, Transvaal (deposited in J. A. Slater Collection), which appears to be closely related to *S. plettenbergensis*, and a female from Johannesburg, Transvaal (deposited in J. A. Slater Collection), that may be the same species as the Lyttelton specimen.

***Stoebea barbertonensis*, new species**

Figures 82, 280–282

MACROPTEROUS MALE: Head light orange with greenish suffusion around eyes, jugae, and bucculae; pronotum mostly white along lateral margins and midline, otherwise amber, anterior margin medially and posterolateral angles suffused with green; scutellum amber; anterior half of clavus, corium on basal fifth, corium faintly along anterior three-fourths of lateral margin, corium at level of apex of clavus, and cuneus white; remainder of corium and clavus amber (tending to gray brown), in some areas with distinct brown spots at bases of setiform hairs; posteromesial margin of cuneus and veins of membrane yellow; membrane smoky brown; antennae, coxae, and tarsi brown or light brown; thoracic pleura and abdominal venter yellow or yellow brown; abdomen heavily green; femora nearly white on proximal half, brown on distal half, with some small, round, dark, brown spots; tibiae nearly white, spines with small dark bases.

MEASUREMENTS: Total length 3.20, maximum width 1.08, length head .28, width head .65, interocular space .32, length pronotum .36, width pronotum .96, length scutellum .44, width scutellum .52, length corium 1.48, length clavus 1.28, length cuneus .60, width cuneus .36, length claval commissure .68, distance apex commissure-apex membrane 1.40, length metatibia 1.92; length antennal segments 1—.28, 2—1.24, 3—.52, 4—.20; length labial segments 1—.34, 2—.36, 3—.30, 4—.38.

MALE GENITALIA: Figures 280–282.

BRACHYPTEROUS FEMALE: Basic coloration, body surface, and vestiture as in macropterous male.

Eyes smaller than in male, vertex relatively wider; hemelytra just covering abdomen; cuneus and membrane strongly reduced; lateral corial margins broadly rounded, convex.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

MEASUREMENTS: Total length 2.64, maximum width 1.24, width head .72, interocular space .44.

HOLOTYPE: Macropterous δ , SOUTH AFRICA: *Transvaal*, 22 mi. S. Barberton, 4900 ft. elevation, 24 Mar. 1968, T. Schuh, J. A. & S. Slater, M. Sweet (Adults and nymphs on *Stoebe vulgaris* Levyns) (SANC).

PARATYPES: *Transvaal*—9 macropterous $\delta\delta$, 13 brachypterous $\text{♀}\text{♀}$, same data as holotype; 2 macropterous $\delta\delta$, 1 brachypterous ♀ , 14 mi. S. Barberton, 5200 ft. elevation, 24 Mar. 1968 (Adults and nymphs on *Stoebe vulgaris* Levyns) (SANC, BM[NH], JAS, RTS).

ADDITIONAL SPECIMENS: 1 macropterous δ , 1 brachypterous ♀ , 6 nymphs (in alcohol), same data as holotype (RTS).

This species is named for the town of Barberton.

Stoebe barbertonensis is the only species of *Stoebe* in which all of the antennal segments are brown; in *plettenbergensis* antennal segment 1 is almost entirely white. Both *barbertonensis* and *plettenbergensis* have the distal half of the metafemora distinctly darker than the proximal half, whereas in *elginensis* the metafemora are generally light with only a few dark spots distally. The coloration of *elginensis* is distinctly reddish whereas the other two species are usually green or yellow, sometimes grading to brown.

This species is known only from *Stoebe vulgaris* Levyns (Compositae). The host genus is restricted to Africa and the Mascarene Islands and is massed in the South West Cape region in South Africa (Phillips, 1951). Type locality of *barbertonensis* and nearby collecting localities have typically South West Cape type vegetation, including *Erica*, *Stoebe*, *Protea*, etc.

***Stoebe elginensis*, new species**

Figures 283, 284

MACROPTEROUS MALE: Basic coloration very light, yellowish; midline of head and pronotum, posterior corners of pronotum, clavus broadly along scutellum and commissure, entire exocorium, and base of cuneus white; endocorium and clavus broadly along claval suture dull reddish; remainder of dorsum yellow to light yellow brown;

cells of membrane including veins and posterior and lateral margins (broadly) smoky brown; membrane just posterior to cuneus and mesiad of cells white; extreme base of membrane dark brown; metatibiae with some faint dark spots on apical half; tibial spines with weak dark spots at bases; all tarsal segments 3 brown; antennal segment 2 distally and segments 3 and 4 infuscate; labial segment 4 brown.

Body surface and vestiture as in generic discussion.

Head produced anteriorly, clypeus visible from above.

MEASUREMENTS: Total length 3.40, maximum width 1.28, length head .36, width head .64, interocular space .36, length pronotum 1.08, length scutellum .48, width scutellum .68, length corium 1.60, length clavus 1.20, length cuneus .60, width cuneus .32, length claval commissure .64, distance apex commissure-apex membrane 1.56, length metatibia 1.76; length antennal segments 1—.26, 2—1.08, 3—.72, 4—?; length labial segments 1—.44, 2—.44, 3—.40, 4—.40.

MALE GENITALIA: Figures 283, 284.

Female unknown.

HOLOTYPE: Macropterous δ , SOUTH AFRICA: *Cape Province*, Elgin Forest Reserve, 10.iii.1954, at light, 1000 ft., Caledon District, J. Balfour-Brown, BM. 1954-797 (BM[NH]).

PARATYPES: *Cape Province*—1 macropterous δ , same data as holotype; 1 macropterous δ , Bainskloof Pass Summit, 21 Jan. 1968, UV Light (BM[NH], RTS).

This species is named for the Elgin Forest near Somerset West. See discussion under *barbertonensis*.

Stoebea plettenbergensis, new species

Figure 285

MACROPTEROUS MALE: Basic coloration of dorsum white; head weakly and irregularly, pronotum broadly on either side of midline, mesoscutum, scutellum, elongate oval marking along claval suture, diffuse quadrate marking at apex of endocorium, and apex of cuneus along mesial margin light orange; head, anterior lobe of pronotum, and mesoscutum with slightly greenish tinge; membrane generally whitish; cells and veins of membrane, area posteriad of cuneus and small cell, and margin of membrane (narrowly) smoky brown; antennal segment 1 white, segment 2 white proximally, weakly infuscate distally, segments 3 and 4 brown; basal half of labium light colored, apical half infuscate; venter and legs generally cream; femora generally with scattered, small brown spots; metafemora brown

on distal third; tibial spines with dark bases; thoracic pleura weakly suffused with orange and green; abdominal venter sublaterally with weak brown longitudinal stripe; all tarsal segments 3 brown.

MEASUREMENTS: Total length 2.64, maximum width 1.08, length head .12, width head .62, interocular space .32, length pronotum .36, width pronotum .92, length scutellum .36, width scutellum .52, length corium 1.36, length clavus .88, length cuneus .48, width cuneus .28, length claval commissure .64, distance apex commissure-apex membrane 1.16, length metatibia 1.60; length antennal segments 1—.22, 2—1.06, 3—.60, 4—.34; length labial segments 1—.26, 2—.30, 3—.28, 4—.36.

MALE GENITALIA: Figure 285.

BRACHYPTEROUS FEMALE: Basic coloration and vestiture as in male.

Structural modifications as in female of *barbersonensis*.

MEASUREMENTS: Total length 2.12, maximum width 1.14, width head .64, interocular space .40.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, 6 mi. E. Plettenberg Bay, elevation 500 ft., 12–13 Feb. 1968, J. A. & S. Slater, T. Schuh, M. Sweet (Adults and nymphs on *Stoebe plumosa* Thunb.) (SANC).

PARATYPES: 5 macropterous ♂♂, 5 brachypterous ♀♀, same data as holotype; 1 brachypterous ♀, 4 mi. W. Gydo Pass Summit, N. of Ceres, 26 Jan. 1968 (SANC, JAS, RTS).

This species is named for the type locality near Plettenberg Bay. See discussion under *barbersonensis*.

This species is known to occur only on *Stoebe plumosa* Thunb.

Widdringtoniola, new genus

MACROPTEROUS MALE: Small, stout bodied; body surface smooth, dull or weakly shining; dorsum with reclining, black, setiform hairs about as long as diameter of antennal segment 1; all antennal segments with short, decumbent, black hairs; antennal segment 1 with a few, erect, fine black spines, segments 2, 3, and 4 with relatively short, reclining, fine, light hairs; abdominal venter with short, decumbent, dark hairs; tibiae with reclining dark hairs of length slightly less than diameter of tibia and a few semierect dark spines about equal in length to tibial diameter.

Head short, broad; eyes rather small, finely granular; frons viewed from above and from side strongly convex; anterior margins of eyes strongly sinuate; antennae inserted just above level of ventral margin of eyes, fossae contiguous with eyes; antennal segment 1 only

slightly enlarged, segment 2 cylindrical, about equal in diameter to segment 1, segments 3 and 4 about two-thirds diameter of segment 2; height of genae about one-third height of eye; bucculae narrow; gula obsolete; mesoscutum and scutellum nearly flat; hemelytra nearly parallel sided; cuneal incisure shallow, fracture slightly angled anteromedially; membrane with two cells; abdomen reaching middle of cuneus; only metatibiae with rows of tiny closely-spaced spines; tarsal claws moderately long, weakly curved, slightly broadened basally; parempodia weakly fleshy, convergent apically; pulvilli minute.

MALE GENITALIA: Figures 286–288. Vesica S-shaped, twisted, with single attenuated apical spine subtended by well developed gonopore; phallosome and claspers typical of Phylini.

MACROPTEROUS FEMALE: See *W. kirstenboschiana*.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

TYPE SPECIES: *Widdringtoniola kirstenboschiana*, new species.

This genus is named for the host plant genus, *Widdringtonia*.

Widdringtoniola most closely resembles species of *Campylomma* by virtue of its small size and light yellowish coloration. The parempodia are similar to those found in some *Campylomma* species and also in *Ellenia*, being weakly fleshy and convergent apically. *Widdringtoniola* has the posterior margin of the vertex poorly defined and not carinate and the anterior margin of the pronotum is not obscured by the head, whereas in *Campylomma* the head obscures the anterior margin of the pronotum. The prominently bulging frons and reclining, heavy, black setae on the dorsum are also diagnostic of the genus.

***Widdringtoniola kirstenboschiana*, new species**

Figures 83, 286–288

MACROPTEROUS MALE: Basic coloration light yellow or greenish yellow; antennal segments 3 and 4 infusate.

Eyes with extremely short hairs.

Labium not quite surpassing mesocoxae; pronotal calli very low, separated medially, with a weak, transverse impression along posterior margin; pronotum with anterior margin sinuate, lateral margins straight, nearly parallel, posterior margin nearly straight medially, convex laterally; metatarsal segment 1 about one-half length of segment 2, segment 2 about one-half length of segment 3.

MEASUREMENTS: Total length 2.52, maximum width .96, length head .20, width head .68, interocular space .36, length pronotum .36, width pronotum .84, length scutellum .32, width scutellum .48, length corium 1.20, length clavus .88, length cuneus .40,

width cuneus .26, length claval commissure .96, distance apex commissure-apex membrane 1.12, length metatibia 1.38; length antennal segments 1—.18, 2—.90, 3—.42, 4—.26; length labial segments 1—.18, 2—.18, 3—.07, 4—.18.

MALE GENITALIA: Figures 286–288.

MACROPTEROUS FEMALE: Similar to male except as follows: eyes slightly smaller than in male, vertex relatively wider; antennal segment 1 of slightly greater diameter than segment 2, segments 3 and 4 nearly equal in diameter to segment 2; lateral pronotal margins distinctly rounded; lateral corial margins weakly convex, body appearing ovoid; abdomen just surpassing apex of cuneus.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*, Kirstenbosch Gardens, Cape Town, 29 Jan. 1968, J. A. & S. Slater, T. Schuh, M. Sweet (Adults and nymphs on *Widdringtonia cupressoides* [L.] Endl.) (SANC).

PARATYPES: 25 macropterous ♂♂, 19 macropterous ♀♀, same data as holotype. *Transvaal*—4 macropterous ♂♂, 9 macropterous ♀♀, Pretoria, Meintjies Kop, 19 Mar. 1968 (Adults and nymphs on *Widdringtonia cupressoides* [L.] Endl.); 1 macropterous ♂, 7 macropterous ♀♀, Woodbush, T.P., Nov. 1932, Govt. Forester (numerous on *Widdringtonia*) (SANC, TM, SAM, BM[NH], JAS, RTS).

This species is named for the Kirstenbosch Gardens, Cape Town. See generic discussion.

Widdringtoniola kirstenboschiana is apparently host specific on *Widdringtonia cupressoides* (L.) Endl. The host genus is restricted to southern Africa, extending north to eastern Rhodesia and Malawi. *W. cupressoides* is restricted to Table Mountain and the forests eastward to King Williamstown District (Hutchinson, 1946). The records of *kirstenboschiana* from Pretoria are from the host species introduced as an ornamental planting.

TRIBE PILOPHORINI

Aloea Linnavuori

Aloea Linnavuori (in press).

Aloea can be distinguished from all other genera with convergent recurved parempodia by its small size, unique red and cream coloration, and phyline genitalia. The genus is most closely related to *Neoambonea*, *Parambonea*, and *Ambonea*.

MALE GENITALIA: Figures 318–320. Vesica U-shaped, not

twisted, with poorly developed, subapical gonopore, form very similar to that found in *Neoambonea* and *Ambonea*; phallosome somewhat L-shaped; left clasper splayed out, wing-like, nearly identical in structure to that of *Neoambonea* and *Parambonea*; right clasper lanceolate.

FEMALE GENITALIA: Figures 315–317. Posterior wall a simple sclerotized plate, with posterior margin strongly evaginated; sclerotized rings weakly infolded laterally.

This genus is apparently restricted to the host genus *Aloe* (Liliaceae) in the Ethiopian Region. Linnavuori (in press) has described four species from North Africa and Yemen, all occurring on species of *Aloe*. These tiny mirids live on the leaves of the plants, generally secreting themselves in the base of the rosette. When disturbed they run very rapidly to the undersides of the leaves. The extremely rapid movements make them difficult to catch. During my collecting I did not observe any specimens take flight.

Aloea australis, new species

Figure 84

MACROPTEROUS MALE: Head, antennae, labium, scutellum, hemelytra, and legs cream except as noted below; base of antennal segment 1, juga, lora, pronotum, mesoscutum, extreme base of hemelytra, apex of corium (broadly), and mesial margin of cuneus red; thoracic pleura and venter, mesocoxae and metacoxae proximally, and abdomen maroon; genital capsule cream apically.

Body surface and vestiture as in *A. samueli*.

Structure very similar to that of *A. samueli* except as follows: gula obsolete, buccal cavity reaching to posterior margin of head; veins of membrane forming nearly right angle posteromedially.

MEASUREMENTS: Total length 2.96, maximum width 1.12, length head .20, width head .84, interocular space .44, length pronotum .32, width pronotum .88, length scutellum .44, width scutellum .52, length corium 1.36, length clavus .54, length cuneus .48, width cuneus .28, length claval commissure .32, distance apex commissure-apex membrane 1.32, length metatibia 1.28; length antennal segments 1—.28, 2—.82, 3—?, 4—?; length labial segments 1—.44, 2—.46, 3—.10, 4—.10.

MALE GENITALIA: Very similar to *A. samueli*.

FEMALE: See discussion below.

FEMALE GENITALIA: See *A. samueli*.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, Pretoria, April 66, H. K. Munro (Host plant—*Aloe* spp.) (SANC).

PARATYPES: 10 macropterous ♂♂, same data as holotype (RTS).

ADDITIONAL SPECIMENS: *Transvaal*—1 macropterous ♂, 15 submacropterous ♀♀, same data as holotype; 4 macropterous ♂♂, 9 submacropterous ♀♀, Pretoria, 23.11.1926 (Munro); 1 submacropterous ♀, Pretoria, XI.1957 (Vari) (SANC, TM, BM[NH], JAS, RTS).

This species is named for its occurrence in southern Africa.

Aloea australis resembles *samueli* very closely but differs as follows: the bases of the hemelytra in *australis* are red whereas in *samueli* they are cream; the mesial margin of the cuneus is red in *australis* and cream in *samueli* (see below); the general body form is more robust in *samueli* than in *australis* which is particularly noticeable in the ratio of the length to width of the scutellum (see measurements).

In the paratypic series of *australis* all of the included specimens are males and have the cuneus red only on the mesial margin. Nearly all of the specimens listed under "additional specimens" have the cuneus entirely red, but are structurally nearly identical to the paratypes, including the form of the male genitalia. It is possible that two species are present here, but only further field work will determine this.

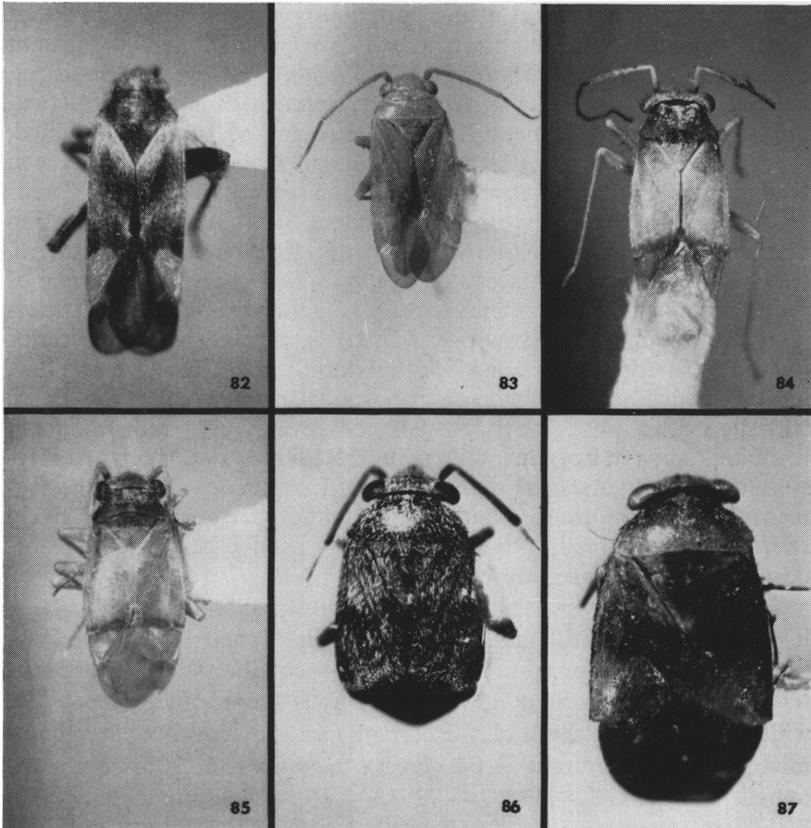
Three males and seven nymphs taken on *Aloe* sp. at the Oliphants River near the Oliphants Camp, Kruger National Park (deposited in the J. A. Slater Collection), almost certainly represent an additional new species of *Aloea*, based on their coloration and antennal proportions, which differ from *australis* and *samueli*.

***Aloea samueli*, new species**

Figures 85, 315–320

MACROPTEROUS MALE: Small, elliptical; hemelytra (except as noted below), most of head, antennae, labium, and legs cream; pronotum, mesoscutum, and narrow transverse fascia along cuneal fracture (interrupted only at base of membrane), and apex of juga red; head weakly suffused with red; antennal segment four brown; genital capsule cream, suffused with red; remainder of venter deep reddish brown.

Entire body dull; head, pronotum (particularly anterior half), thorax, and abdomen laterally with decumbent, flattened, sericeous hairs; dorsum also with reclining, golden hairs; all antennal segments with decumbent, short, light hairs, segment 1 with one or two erect, light spines on interior surface, segment 2 with an irregular row of



FIGS. 82-87. Phylini, Pilophorini. Fig. 82. *Stoebea barbertonensis*, male, holotype. Fig. 83. *Widdringtoniola kirstenboschiana*, male (Pretoria, Transvaal). Fig. 84. *Aloea australis*, male, holotype. Fig. 85. *Aloea samueli*, male, holotype. Fig. 86. *Ambonea munroi*, male (Rustenburg, Transvaal). Fig. 87. *Ambonea rustenburgensis*, male, holotype.

erect, light hairs, slightly longer than segmental diameter, on latero-ventral surface (with antennae lying back over body); ventral surfaces of femora with several long, erect, fine, light hairs; abdominal venter with decumbent light hairs; tibiae with a few semierect light spines, about as long as tibial diameter.

Head strongly declivous, vertex and frons broad, flat; posterior margin of vertex finely carinate; eyes moderately large, protuberant,

antennae inserted at level of ventral margin of eyes, fossae removed from eyes by distance nearly equal to diameter of antennal segment 2; antennal segment 1 moderately enlarged, segment 2 cylindrical, about two-thirds diameter of segment 1, segments 3 and 4 about two-thirds diameter of segment 2; clypeus enlarged, broad, flattened, curved posteroventrally; bucculae small; gula about as long as two times diameter of antennal segment 1; labial segment 4 flattened dorsoventrally, nearly twice as broad as segment 3; labium just surpassing mesocoxae; pronotum with anterior margin finely carinate, upturned, calli small, widely separated, distinctly raised; posterior margin of pronotum forming distinct inverted "V" across mesoscutum; scutellum flat; corium weakly convex laterally, widest slightly posterior to level of midpoint of claval commissure; cuneal incisure shallow, fracture nearly perpendicular to corial margin; membrane very long, with two cells, posterior margin of cells evenly rounded; abdomen reaching to apex of cuneus; only metatibiae with rows of tiny, closely-spaced spines; metatarsal segments 1 and 2 subequal in length, segment 3 about 1½ times length of segment 2; tarsal claws relatively short, weakly curved; parempodia fleshy, convergent apically, recurved; pulvilli minute.

MEASUREMENTS: Total length 2.60, maximum width 1.12, length head .16, width head .84, interocular space .44, length pronotum .28, width pronotum .23, length scutellum .48, width scutellum .60, length corium 1.24, length clavus 1.04, length cuneus .56, width cuneus .40, length claval commissure .56, distance apex commissure-apex membrane 1.04, length metatibiae 1.20; length antennal segments 1—.32, 2—.72, 3—.46, 4—approximately .60; length labial segments 1—.38, 2—.40, 3—.08, 4—.10.

MALE GENITALIA: Figures 318–320.

FEMALE: Submacropterous, cuneus and membrane relatively shorter than in male; antennal segment 2 shorter than in male and of slightly smaller diameter, without row of erect hairs; posterior margin of pronotum not as strongly excavated as in male.

FEMALE GENITALIA: Figures 315–317.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, Pretoria, Wonderboom, 3 Apr. 1968, J. A. & S. Slater, T. Schuh (Adults and nymphs on *Aloe* sp.) (SANC).

PARATYPES: 12 macropterous ♂♂, 10 submacropterous ♀♀, same data as holotype (SANC, JAS, RTS).

ADDITIONAL SPECIMENS: 3 ♂♂, 58 nymphs (in alcohol), same data as holotype (RTS).

This species is named for Mr. Samuel T. Slater.
See discussion under *A. australis*.

Ambonea Odhiambo

Ambonea Odhiambo, 1960b, pp. 393–400.

Ambonea can be characterized as follows: the parempodia apically are convergent and recurved; the head is short and broad and the posterior margin of the vertex finely carinate; the dorsum is covered with flattened decumbent sericeous hairs and reclining setiform hairs; and, the structure of the male genitalia is characteristic. The genus is most closely related to *Hypseloecus* Reuter from Europe, and somewhat less closely related to *Aloea*, *Parambonea*, and *Neoambonea* from Africa. *Ambonea* can be separated from *Neoambonea* because it lacks the punctures on the dorsum and from *Parambonea* because it has two types of pubescence on the dorsum. *Pseudambonea* has a similar facies to *Ambonea*, but is a member of the Orthotylini, based on the structure of the male and female genitalia.

MALE GENITALIA: Figures 321–326. Vesica similar in structure to *Aloea* and *Neoambonea*; phallosome somewhat L-shaped, structure complex; left clasper with long sensory processes, short body; right clasper lanceolate.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate with an evaginated posterior margin.

Ambonea currently contains four species from East and South Africa.

Ambonea munroi, new species

Figures 86, 321–323

MACROPTEROUS MALE: Stout bodied; basic coloration red; anterior third of pronotum laterally, posterior margin of pronotum across mesoscutum, clavus narrowly along claval commissure, corium along medius, thoracic pleura, abdominal venter, and coxae (heavily) suffused with black; all coxae yellowish, mesocoxae and metacoxae suffused with red; vertex with rounded yellowish spots contiguous with mesial margins of eyes; tibiae light yellowish with bands of red formed by dark bases of tibial spines; tarsi light brown; antennal segments 3 and 4 yellowish (from paratype, segments 3 and 4 missing in holotype).

Dorsum smooth, dull; entire body densely covered with reclining, setiform hairs and decumbent, wooly sericeous hairs; pronotum at

about midpoint of lateral margin with a long, erect, slender spine; antennal segment 1 with some decumbent hairs and a few erect, dark spines, segments 2, 3, and 4 with short dense vestiture; femora with a few, very long, erect, fine hairs on ventral surfaces; tibiae with dark spines about as long as tibial diameter, arranged on tibiae in groups.

Head broad, declivous; eyes large, appearing almost substylate; vertex very steeply inclined, posterior margin finely carinate; frons distinctly transversely rugose; anterior margins of eyes sinuate, eyes occupying about three-fourths height of head; antennae inserted just above ventral margin of eyes; antennal segment 1 slightly enlarged, antennal segment 2 tapering slightly proximally, distal diameter about equal to diameter of segment 1, segments 3 and 4 about two-thirds diameter of segment 2 (from paratype); bucculae slightly expanded; gula obsolete; labium just surpassing metacoxae at trochanteral joint; pronotum with anterior margin finely carinate, upturned, lateral margins broadly convex, posterior margin nearly straight; mesoscutum and scutellum nearly flat; lateral corial margins weakly convex; cuneal incisure obsolete, fracture slightly angled anteromedially; cuneus and membrane strongly declivous, membrane with two cells, posterior margin of cells broadly rounded; abdomen just surpassing apex of cuneus; all tibiae with rows of tiny, closely-spaced spines; metatarsal segments 2 and 3 subequal in length, segment 1 about two-thirds length of segment 2 (from paratype); claws relatively short, evenly curved, broad at base; parempodia fleshy, convergent apically, recurved; pulvilli minute.

MEASUREMENTS: Total length 3.12, maximum width 1.36, length head .20, width head 1.08, interocular space .48, length pronotum .52, width pronotum 1.28, length scutellum .76, width scutellum .88, length corium 1.64, length clavus 1.44, length cuneus .64, width cuneus .40, length claval commissure .64, distance apex commissure-apex membrane approx. 1.20, length metatibia 1.60; length antennal segments 1—.24, 2—1.06, 3—?, 4—?; length labial segments 1—.44, 2—.46, 3—.32, 4—.40.

MALE GENITALIA: Figures 321–323.

MACROPTEROUS FEMALE: Very similar to macropterous male.

FEMALE GENITALIA: See generic discussion.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, Cullinan area, Jan. 1966, H. K. Munro (Host plant—*Loranthus rubromarginatus*) (SANC).

PARATYPES: *Transvaal*—1 macropterous ♂, 2 macropterous ♀♀, same data as holotype; 2 macropterous ♀♀, Hartbeespoort Dam,

20.5.65 (Paliatseas); 2 macropterous ♂♂, Rustenburg, XI-8-1952 (Capener); 1 macropterous ♂, Rustenburg XII-10-1952 (Capener); 3 macropterous ♀♀, Rustenburg, 7-14 Nov. 1967 (Capener) (Adults on *Loranthus zeyheri*) (SANC, JAS, RTS).

This species is named for Dr. H. K. Munro, well known South African dipterist, who collected the holotype.

Ambonea munroi can be separated from *rustenburgensis* by its size and bright red coloration.

The hosts of this species are species of *Loranthus* spp. (Loranthaceae).

A female specimen from Kimberly, Cape Province (deposited in J. A. Slater Collection), is generally bright red like *munroi* but differs slightly in coloration and may represent a new species.

***Ambonea rustenburgensis*, new species**

Figures 87, 324-326

MACROPTEROUS MALE: Stout bodied; generally yellow brown, dorsum heavily suffused with darker brown; mesial two-thirds of cuneus suffused with red; membrane smoky brown; head anteriorly and ventrally, antennae, propleuron, prosternum, procoxae, basalar plate, all tibiae and tarsi, metathoracic scent gland opening, and abdominal venter light yellow brown or yellow white; mesocoxae and metacoxae suffused with brown; all femora brown proximally, mottled mesially, and yellow brown distally; mesothoracic and metathoracic pleura and sterna brownish black.

Body surface texture and vestiture as in *munroi* except as follows: tibiae with semierect dark spines, without dark bases, of length slightly greater than tibial diameter.

Structure similar to *munroi* except as follows: head nearly vertical; antennal segment 2 cylindrical, about three-fourths diameter of segment 1 (segments 3 and 4 missing in holotype); labium almost reaching trochanteral joint of metacoxae; cuneal incisure deep, fracture at right angles to longitudinal axis of body; metatarsal segments 2 and 3 subequal in length, segment 1 about one-half length of segment 2.

MEASUREMENTS: Total length 3.80, maximum width 2.00, length head .12, width head 1.28, interocular space .64, length pronotum .48, width pronotum 1.52, length scutellum .88, width scutellum 1.12, length corium 1.88, length clavus 1.56, length cuneus .76, width cuneus .44, length claval commissure .60, distance apex commissure-apex membrane 1.60, length metatibia 1.92; length an-

tennal segments 1—28, 2—1.24, 3—?, 4—?; length labial segments 1—.36, 2—.28, 3—.52, 4—.36.

MALE GENITALIA: Figures 324—326.

MACROPTEROUS FEMALE: Very similar to male.

FEMALE GENITALIA: See generic discussion.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, Rustenburg, III-22-1953, A. L. Capener (SANC).

PARATYPES: *Transvaal*—1 macropterous ♂, 1 macropterous ♀, same data as holotype; 1 macropterous ♀, Rustenburg, XII-14-24-1961 (Capener) (JAS, RTS).

This species is named for the town of Rustenburg.

Ambonea rustenburgensis can be separated from all other described species in the genus by its nearly unicolorous metatibiae.

Neoambonea, new genus

MACROPTEROUS MALE: Stout bodied; entire dorsum rather weakly but distinctly punctured and finely transversely rugulose; pronotum polished, shining, remainder of dorsum dull; entire body covered with reclining, golden hairs about as long as diameter of antennal segment 2, and decumbent, somewhat flattened, woolly, sericeous hairs; antennal segment 1 with some inconspicuous, decumbent hairs; segments 2, 3, and 4 with dense, reclining, light vestiture about as long as diameter of antennal segment 3; femora, tibiae, and tarsi with reclining hairs, femora also with a few, very long, fine hairs on ventral surfaces.

Head broad, strongly flattened anteroposteriorly; vertex nearly vertical, posterior margin finely carinate, weakly concave; eyes moderately large, occupying about two-thirds of height of head; antennae inserted just at level of ventral margins of eyes, fossae only slightly removed from anterior margins of eyes, segment 1 very slightly enlarged, segment 2 cylindrical, slightly smaller in diameter than segment 1, segments 3 and 4 about two-thirds diameter of segment 2; clypeus large, somewhat flattened; genae about two-thirds height of eye; bucculae only slightly expanded; gula short, nearly vertical; labium short; pronotum with anterior margin carinate, upturned; pronotum slightly elevated posteriorly; mesoscutum narrowly exposed; scutellum convex; lateral corial margins irregularly convex; cuneal incisure very deep; membrane with two cells, large cell short, posterior margin very broadly rounded; cuneus and membrane strongly declivous; legs relatively short; femora narrow; all tibiae with rows of tiny, closely-spaced spines and semierect spines about as long as tibial diameter; tarsal claws moderately long, broad at base, evenly

curved; parempodia fleshy, convergent apically, recurved; pulvilli minute.

MALE GENITALIA: Figures 329–331. Very similar in structure to *Aloea*.

MACROPTEROUS FEMALE: Very similar to male.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate with posterior margin strongly evaginated.

TYPE SPECIES: *Neoambonea cynanchi*, new species.

This genus is named for its similarity to *Ambonea*.

Neoambonea can be recognized by the fleshy, apically convergent, recurved parempodia, black coloration with light antennae and tibiae, broad vertical head, and distinctly punctured dorsum with reclining setiform hairs in addition to decumbent, wooly, sericeous hairs. *Parambonea*, the most closely related genus, has the dorsum with only transverse rugosities and reclining setiform hairs and has black antennae and tibiae.

Neoambonea cynanchi, new species

Figures 88, 329–331

MACROPTEROUS MALE: General coloration black or brownish black; antennae (segment 2 darkening distally, segments 3 and 4 light brown), all femora distally, all tibiae and tarsi, and labial segments 1, 2, and 3 yellowish; ring on proximal third of antennal segment 1 red; vertex with two rounded reddish markings contiguous with mesial margins of eyes.

Frons weakly convex; labium slightly surpassing procoxae at trochanteral joint; calli indistinct, widely separated medially; pronotum with anterior margin evenly convexly rounded, lateral margins very weakly convex, posterior margin sinuate, forming a shallow inverted "V"; cuneal fracture perpendicular to longitudinal axis of body; lateral margin of cuneus convex; abdomen reaching to about middle of cuneus; metatarsal segments all subequal in length.

MEASUREMENTS: Total length 3.28, maximum width 1.80, length head .12, width head .84, interocular space .44, length pronotum .44, width pronotum 1.20, length scutellum .64, width scutellum .64, length corium 1.52, length clavus 1.32, length cuneus .60, width cuneus .56, length claval commissure .68, distance apex commissure-apex membrane 1.36, length metatibia 1.40; length antennal segments 1—.30, 2—.90, 3—.50, 4—approximately .70; length labial segments 1—.22, 2—.24, 3—.14, 4—.06.

MALE GENITALIA: Figures 329–331.

MACROPTEROUS FEMALE: Very similar to male.

FEMALE GENITALIA: Posterior wall a simple sclerotized plate with posterior margin strongly evaginated.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, 20 mi. E. Machadodorp, Schoemanskloof, 4300 ft. elevation, 22 Mar. 1968, T. Schuh, J. A. & S. Slater, M. Sweet (Adults and nymphs on *Cynanchum africanum* R.Br.) (SANC).

PARATYPES: 4 macropterous ♂♂, 6 macropterous ♀♀, same data as holotype. *Cape Province*—4 macropterous ♂♂, 9 macropterous ♀♀, Storms River Mouth, 18.II.66 (Capener). *Natal*—1 macropterous ♀, Umkomaas, July 1948 (Capener) (SANC, JAS, RTS).

This species is named for the host genus, *Cynanchum*.

Neoambonea cynanchi is very closely related to *Neoambonea slateri*. The larger size and prominent eyes that are not closely appressed to the anterolateral angles of the pronotum are the most useful characters for separating the two species; the latter species is smaller and has the eyes contiguous with the anterolateral angles of the pronotum. *N. slateri* also lacks the red stripe on antennal segment 1 that is present in *cynanchi*.

The host of this species is *Cynanchum africanum* R. Br. (Asclepiadaceae).

***Neoambonea slateri*, new species**

Figure 89

MACROPTEROUS MALE: Coloration, surface texture and vestiture very similar to *Neoambonea cynanchi*, but antennal segment 1 without red stripe.

Structurally very similar to *cynanchi*; smaller (see measurements); head concave posteriorly, eyes contiguous with anterolateral margins of pronotum; labium nearly reaching mesocoxae at trochanteral joint.

MEASUREMENTS: Total length approx. 2.40, maximum width 1.44, length head .08, width head .88, interocular space .48, length pronotum .48, width pronotum 1.12, length scutellum .48, width scutellum .64, length corium 1.28, length clavus 1.08, length cuneus .48, width cuneus .44, length claval commissure .56, distance apex commissure-apex membrane .88, length metatibia 1.32; length antennal segments 1—.19, 2—.80, 3—.44, 4—.52; length labial segments 1—.24, 2, 3, and 4—.52.

MALE GENITALIA: Not dissected.

Female unknown.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Cape Province*,

Keurboomsrivier, 12 Feb. 1968, T. Schuh, J. A. & S. Slater, M. Sweet (Adults on *Cynanchum obtusifolium* L. F.) (SANC).

PARATYPE: 1 macropterous δ , same data as holotype (RTS).

This species is named for Dr. J. A. Slater of the University of Connecticut.

See discussion under *N. cynanchi*.

The host of this species is *Cynanchum obtusifolium* L.F. (Asclepiadaceae).

Parambonea, new genus

MACROPTEROUS MALE: Stout bodied; head, pronotum, and scutellum polished, shining; pronotum and scutellum transversely finely rugose and with the appearance of faint punctations; hemelytra dull, very faintly transversely rugose; venter dull; entire body with moderately long, reclining, golden hairs; antennae with fine, decumbent, light pubescence, segments 2 and 3 (4 missing in holotype) with a few semierect, fine, light hairs about the length of diameter of antennal segment 2, segment 1 with a fine, light spine on interior surface; femora, tibiae, and tarsi with reclining light hairs; femora with a few very long, erect, fine hairs on ventral surfaces; anterolateral angles of pronotum with a light, very fine, long, erect spine.

Head broad, extremely flat; vertex nearly vertical, posterior margin very finely carinate; eyes large, extending posteriorly around anterolateral angles of pronotum; frons weakly convex; eyes occupying about one-half height of head; antennae inserted just below ventral margin of eyes, fossae slightly removed from eyes; antennal segment 1 slightly enlarged, segment 2 tapering somewhat proximally, about three-fourths diameter of segment 1, segment 3 cylindrical, about equal in diameter to proximal diameter of segment 2; genae very high; apex of clypeus directed posteroventrally, clypeus somewhat flattened; bucculae slightly enlarged, gula obsolete; pronotum broad, flattened, very slightly inclined posteriorly, with carinate, upturned, anterior margin; calli indistinct, widely separated medially, pronotum depressed on either side of middle behind calli; mesoscutum narrowly exposed, scutellum flat; lateral corial margins weakly convex, cuneal incisure deep, fracture very slightly angled anteromedially; lateral margin of cuneus convex; cuneus and membrane strongly deflexed; membrane with two cells, posterior margin of cells broadly rounded; legs relatively short; femora not noticeably enlarged; tibiae with reclining light spines about as long as tibial diameter, without conspicuous semierect spines; all tibiae with rows of tiny, closely-spaced spines; tarsal claws moderately long, broad

basally, evenly curved; parempodia fleshy, convergent apically, recurved; pulvilli minute.

MALE GENITALIA: Figures 327, 328. Vesica somewhat sickle-shaped, flattened, gonopore undeveloped; phallosome straight, similar in structure to *Pilophorus*, opening apical; left clasper very similar to that of *Neoambonea* and *Aloea*; right clasper lanceolate.

MACROPTEROUS FEMALE: Very similar to male.

FEMALE GENITALIA: Not dissected.

TYPE SPECIES: *Parambonea transvaalensis*, new species.

This genus is named for its similarity to *Ambonea*.

Parambonea is very closely related to *Neoambonea*, but differs from it by lacking the punctations on the dorsum, having completely black antennae and legs, and having the vesica and the phallosome structurally distinct (see also discussion under *Neoambonea*).

***Parambonea transvaalensis*, new species**

Figures 90, 327, 328

MACROPTEROUS MALE: Entirely black, membrane smoky brown black; vertex with rounded, light brown spot on either side, removed from mesial margin of eyes and posterior margin of vertex by distance equal to about diameter of antennal segment 2.

Posterior margin of vertex nearly straight; labium reaching between procoxae and mesocoxae; pronotum with anterior and lateral margins nearly straight, posterior margin distinctly sinuate; abdomen reaching almost to apex of cuneus; metatarsal segments 1 and 2 subequal in length, segment 3 slightly longer than segment 2.

MEASUREMENTS: Total length approx. 2.80, maximum width 1.56, length head .08, width head .88, interocular space .52, length pronotum .44, width pronotum 1.24, length scutellum .52, width scutellum .64, length corium 1.36, length clavus 1.12, length cuneus .56, width cuneus .52, length claval commissure .60, distance apex commissure-apex membrane 1.36, length metatibia 1.36; length antennal segments 1—.22, 2—.74, 3—.46, 4—?; length labial segments 1—.26, 2, 3, and 4—.48.

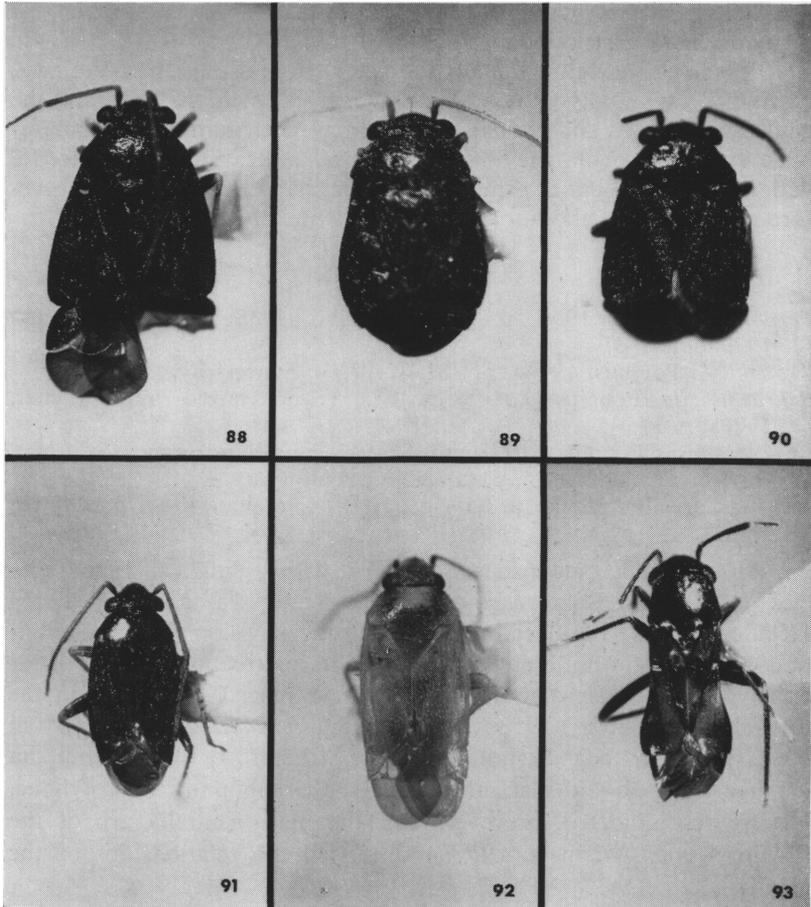
MALE GENITALIA: Figures 327, 328.

MACROPTEROUS FEMALE: Very similar to male.

FEMALE GENITALIA: Not dissected.

HOLOTYPE: Macropterous ♂, SOUTH AFRICA: *Transvaal*, Nat. Botanical Gardens, Pretoria, 22 Nov. 1967, J. A. & S. Slater, T. Schuh (SANC).

ADDITIONAL SPECIMENS: *Transvaal*—1 macropterous ♂, Foun-



FIGS. 88-93. Pilophorini. Fig. 88. *Neoambonea cynanchi*, male, holotype. Fig. 89. *Neoambonea slateri*, male, holotype. Fig. 90. *Parambonea transvaalensis*, male, holotype. Fig. 91. *Paramixia australis*, male, holotype. Fig. 92. *Paramixia suturalis*, female (St. Lucia Estuary, Natal). Fig. 93. *Pilophorus pilosus*, male (Port Shepstone, Natal).

tains, Pretoria, XII-20-1950 (Capener); 2 macropterous ♀♀, Kloofzicht, II-13-1952 (Capener); 1 macropterous ♀, Pretoria, 3.2.34 (Munro); 1 macropterous ♀, Pretoria, 17.1.1932 (van Son) (TM, BM[NH], JAS, RTS).

This species is named for its occurrence in the Transvaal.

See generic discussion.

The single additional male specimen from Fountains, Pretoria, resembles the holotype very closely, especially in the form of the genitalia, but it is slightly smaller and may be teneral. The four female specimens from the Pretoria area all appear to be conspecific with one another, but are smaller than the males examined and therefore may represent another species.

Paramixia Reuter

Paramixia Reuter, 1900, p. 264—Carvalho, 1958a, p. 86.—Wagner, 1970a, pp. 1–3.

Troitskiella Poppius, 1914a, pp. 81–82. **New Synonymy.**

Schroederiella Poppius, 1914a, p. 88. (Synonymized by: Wagner, 1970a, p. 3).

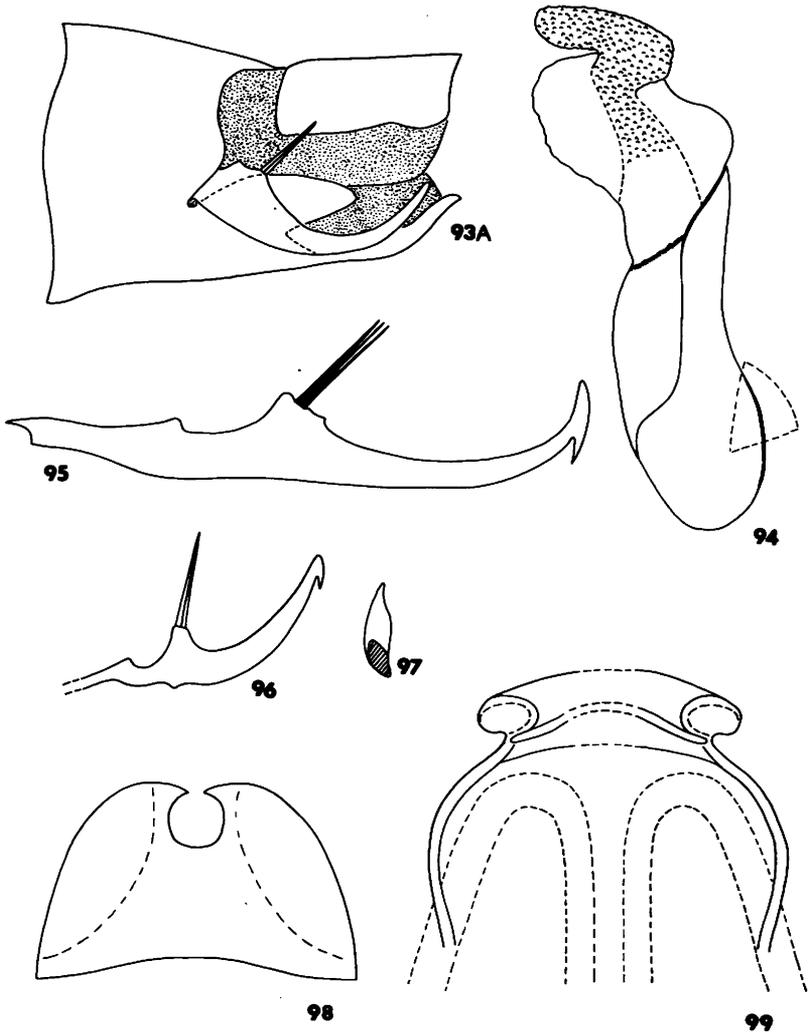
Cephalocapsus Poppius, 1914a, pp. 88–91. **New Synonymy.**

Orthotylellus Knight, 1935, p. 207. **New Synonymy.**

Amixia Carvalho, 1952a, p. 75 (in part).—Carvalho, 1960, p. 194 (in part).

Reuter (1900) described *Paramixia* with a single included species, *P. suturalis* Reuter, from the Nile Valley; later in his catalog (Reuter, 1910a) he placed the genus in the Division Phylaria. Poppius (1914a) did not include *Paramixia* in his treatment of the Ethiopian Miridae. Carvalho (1952a; 1958a) placed *Paramixia* in the *Phylinae*. Lindberg (1958), in recording *Paramixia suturalis* from the Cape Verde Islands, noted that the structure of the parempodia and the claws should place the genus in the subfamily Orthotylinae. His figures indicated, however, that the male genitalia are of the *Phylinae*-type. Wagner (1970a) discussed the relationships of the genus.

Poppius (1914a) described *Troitskiella* (with one included species, *T. minuta* Poppius, from Bukoba, Tanzania), *Cephalocapsus* (with the type species *C. clypealis* Poppius, from Malawi and three additional species from Africa and Madagascar), and *Schroederiella* (with a single included species, *S. nigra* Poppius from Mt. Kilimanjaro). He placed *Troitskiella* in the Heterotomaria and *Cephalocapsus* and *Schroederiella* in the *Phylinae*. Poppius indicated in his key that the last two genera were related by virtue of the "arolia" being free, extending to the apex of the claws, and converging apically. Examination of the type specimens of *Troitskiella minuta*, *Cephalocapsus clypealis*, and *Schroederiella nigra* indicates that in fact the



FIGS. 93A-99. *Nichomachini* male and female genitalia. Fig. 93A. Lateral view of male genital capsule, *Pseudonichomachus mimeticus*. Fig. 94. Lateral view of phallus, *idem*. Fig. 95. Left clasper, *idem*. Fig. 96. Left clasper, *Nichomachus sweeti*. Fig. 97. Right clasper, *idem*. Fig. 98. Posterior wall, *idem*. Fig. 99. Sclerotized rings, *idem*.

"arolia" (parempodia) of all of them are apically convergent and recurved and arise from between the claws and not from the basal tooth of the claw as Poppius apparently presumed in the case of *Cephalocapsus* and *Schroederiella*. Further examination reveals that *Cephalocapsus* Poppius, and *Troitskiella* Poppius are synonymous with *Paramixia* Reuter, on the basis of the structure of the claws, male genitalia, and external morphology. Wagner (1970a) synonymized *Schroederiella* with *Paramixia* and discussed the close relationship of *Cephalocapsus* and *Paramixia*.

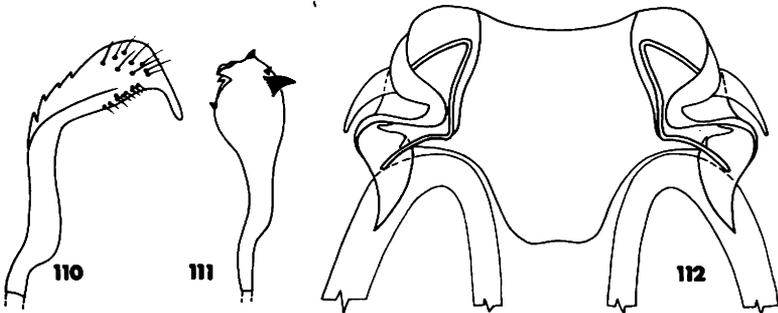
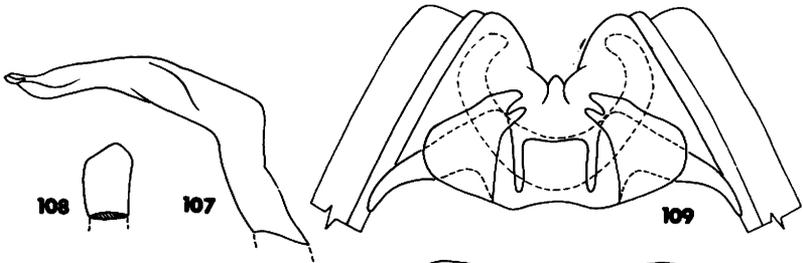
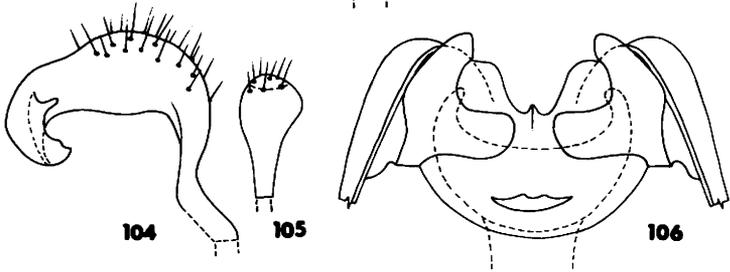
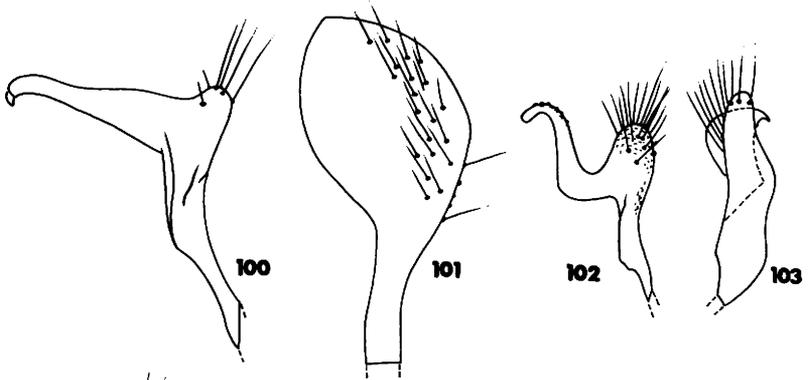
Carvalho (1952a) synonymized *Troitskiella* with *Amixia* Reuter. As noted above, *Troitskiella* is a synonym of *Paramixia*; therefore if Carvalho was correct in synonymizing *Troitskiella* with *Amixia*, *Paramixia* would also be a synonym of *Amixia*. Wagner (1957a) studied *Amixia*, and showed that it has hair-like parempodia (as opposed to what is indicated in Reuter's original description) and also an S-shaped phallus unlike that of *Paramixia*, and that in fact *Amixia* is a generic synonym of *Orthonotus* Stephens. Therefore, *Troitskiella* is not a synonym of *Orthonotus*, but of *Paramixia*. Wagner (1957a) did not examine *Troitskiella*.

Knight (1935) described *Orthotylellus* Knight from Samoa, with a single included species, *O. samoanus* Knight. Usinger (1946) described three additional species in *Orthotylellus* from Guam, *O. rufescens* Usinger, *O. pallescens* Usinger, and *O. brunnescens* Usinger. Carvalho (1948) described *Rhinocloa carmelitana* Carvalho, from Brazil, which he later transferred to *Orthotylellus* (Carvalho, 1955b). Carvalho (1956b) has illustrated the male genitalia of the Pacific species of *Orthotylellus* and Maldonado (1969) those of *O. carmelitanus*. Comparison of these genitalic illustrations with the male genitalia of *Paramixia* clearly indicates that *Orthotylellus* Knight is synonymous with *Paramixia* Reuter.

China (1938) described three new species of *Cephalocapsus*

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- FIGS. 100–112. Halticini and Orthotylini male and female genitalia. Fig. 100. Left clasper, *Namaquacapsus melanostethoides*. Fig. 101. Right clasper, *idem*. Fig. 102. Left clasper, *Cyrtorhinus melanops*. Fig. 103. Right clasper, *idem*. Fig. 104. Left clasper, *Pseudambonea capeneri*. Fig. 105. Right clasper, *idem*. Fig. 106. Posterior wall, *idem*. Fig. 107. Left clasper, *Pseudoloxops transvaalensis*. Fig. 108. Right clasper, *idem*. Fig. 109. Posterior wall, *Pseudopilophorus capeneri*. Fig. 110. Left clasper, *idem*. Fig. 111. Right clasper, *idem*. Fig. 112. Sclerotized rings, *idem*.



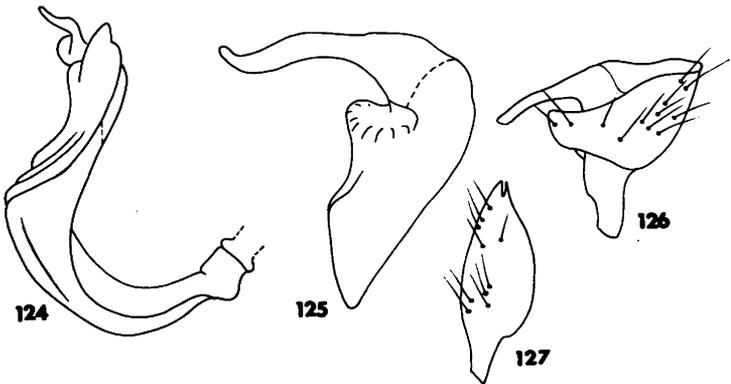
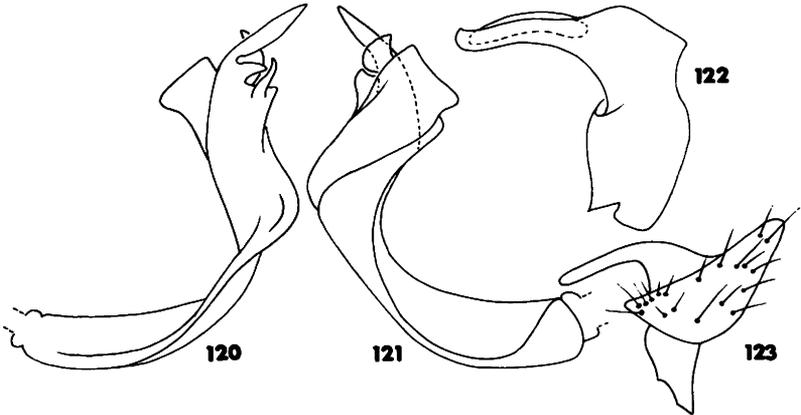
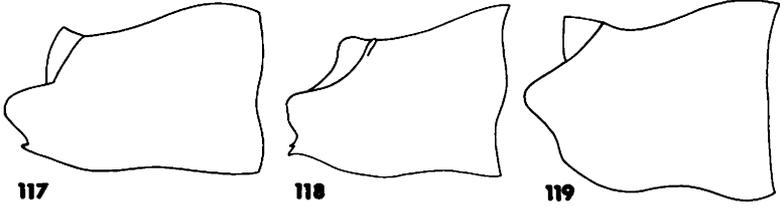
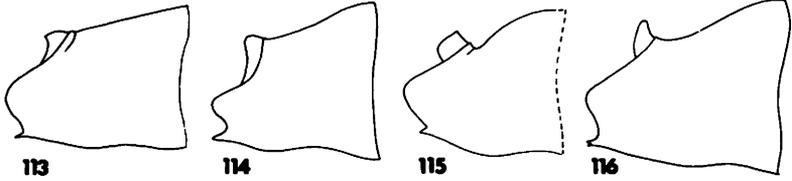
from Madeira Island, moved a fourth species to that genus, and discussed the difficulty of placing the genus in a subfamily on the basis of the pretarsal structures. China stated that to his knowledge *Cephalocapsus* and *Schroederiella* were the only plagiognathine (Phylinae) genera with "free arolia". This assumption by China was based on the work of Poppius who used the term "arolium" in a strict sense to mean a fleshy pad. Although China (1938) interpreted the structure of the claws of his specimens of "*Cephalocapsus*" correctly, he apparently misinterpreted Poppius' conception of the "arolia" in *Cephalocapsus*. I interpret Poppius' (1914a) use of the term "arolia" in the case of *Cephalocapsus* and *Schroederiella* to refer to the pulvilli and not the parempodia. The inclusion of *Cephalocapsus* and *Schroederiella* in the Phylinae by Poppius (1914a) was based on his misinterpretation of the structure of the claw and parempodia, although he interpreted it correctly in *Troitskiella*. Kerzhner and Yaczewski (1964) noted that there has been much confusion regarding these structures and that the pseudarolia (pulvilli) were called "arolia" in almost all [European] literature until 1955.

Wagner (1961) reviewed and revised the species which China (1938) placed in *Cephalocapsus* and created a new genus, *Chinacapsus* Wagner, to receive them. China (1938) in his original work did not examine the male genitalia. Wagner (1961) illustrated the vesica, claspers, and phallosome for most species concerned; comparison of the vesica in particular, indicates that *Chinacapsus* is not congeneric with *Paramixia*.

Wagner (1970a) described the parempodia of *Paramixia* as being of the same structure as those of *Chinacapsus* (see Wagner, 1961). Careful examination of large numbers of specimens of *Paramixia* from South Africa indicates that the parempodia are apically convergent and recurved, and not rod-like and weakly convergent apically as are those of *Chinacapsus*. The vesica in *Paramixia* is also

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FIGS. 113-127. Hallodapini, *Acrorrhinium* male genitalia. Fig. 113. Lateral view of male genital capsule, *A. brincki*. Fig. 114. *idem*, *A. drakensbergensis*. Fig. 115. *idem*, *A. oudtshoornensis*. Fig. 116. *idem*, *A. capensis*. Fig. 117. *idem*, *A. monticola*. Fig. 118. *idem*, *A. muntingi*. Fig. 119. *idem*, *A. incrassata*. Fig. 120. Lateral view of vesica, *A. brincki*. Fig. 121. Obverse view of vesica, *idem*. Fig. 122. Phallosome, *idem*. Fig. 123. Left clasper, *idem*. Fig. 124. Lateral view of vesica, *A. drakensbergensis*. Fig. 125. Phallosome, *idem*. Fig. 126. Left clasper, *idem*. Fig. 127. Right clasper, *idem*.



unlike that of *Chinacapsus*. The vesica of the latter genus resembles the form found in *Sthenarus* and related genera, whereas in *Paramixia* the structure of the vesica is similar to what is found in the Pilophorini. Based on the structure of the parempodia and vesica I am placing *Paramixia* in the Pilophorini.

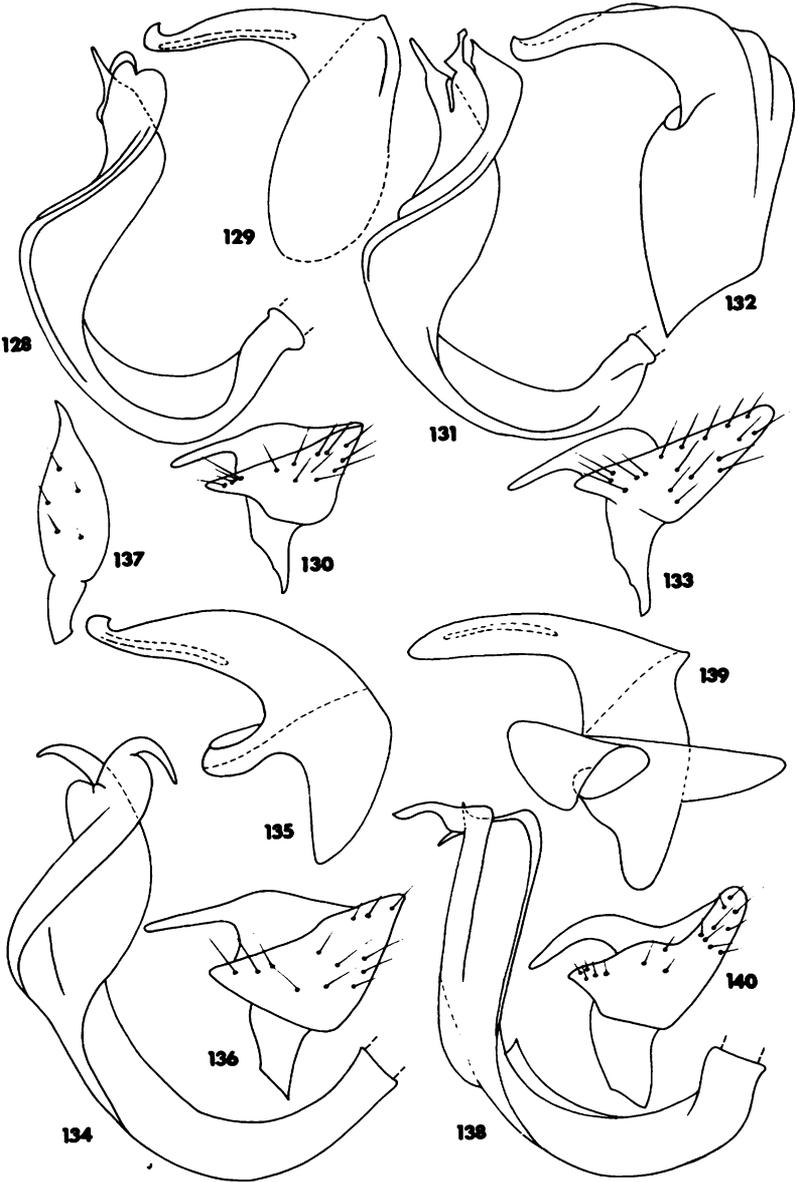
Paramixia can be characterized by its relatively small size, fleshy, recurved, convergent parempodia, declivous but not vertical head with a finely carinate posterior margin that slightly overlaps the anterior margin of the pronotum, shining, decumbent, dorsal pubescence (both *P. suturalis* and *P. australis* have in addition some flattened, decumbent, sericeous hairs), sexual dimorphism of antennal segment 2 (length about one-fourth greater than width of head across eyes in male and about equal to width of head across eyes in female), and the structure of the male genitalia, in which the vesica is a simple sclerotized tube curved into almost a complete coil (Figs. 332, 335), the phallosheca is L-shaped (Fig. 333), the left clasper is strongly flattened laterally (rather than anteroposteriorly as in most Pilophorini) (Fig. 334), and the right clasper is flat and lanceolate. The posterior wall of the female is a simple sclerotized plate and does not show the conspicuous evagination of the posterior margin found in all other members of the Pilophorini.

The great range of color variation encompassed in extensive collections of *Paramixia* from South Africa (see species discussions) gives some idea of the possible problems in the taxonomy of the genus. Before a definitive discussion of the species can be undertaken more extensive field work will have to be done. The male genitalia, however, do appear to be extremely stable from species to species, as for example in *suturalis* and *australis*.

The vesica of the holotype of *Paramixia nigra* (Poppius) is illustrated in Figure 336. A female specimen, probably representing a new species near *nigra*, with the data "Abachaus, Otjivarongo, N"

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FIGS. 128-140. Halodapini, *Acrorrhinium* male genitalia. Fig. 128. Lateral view of vesica, *A. oudtshoornensis*. Fig. 129. Phallosheca, *idem*. Fig. 130. Left clasper, *idem*. Fig. 131. Lateral view of vesica, *A. capensis*. Fig. 132. Phallosheca, *idem*. Fig. 133. Left clasper, *idem*. Fig. 134. Lateral view of vesica, *A. monticola*. Fig. 135. Phallosheca, *idem*. Fig. 136. Left clasper, *idem*. Fig. 137. Right clasper, *idem*. Fig. 138. Lateral view of vesica, *A. incrassata*. Fig. 139. Phallosheca, *idem*. Fig. 140. Left clasper, *idem*.



South-west Africa, XII.1949, G. Hobohm," is in the Transvaal Museum. This specimen is black with all of the appendages light in color.

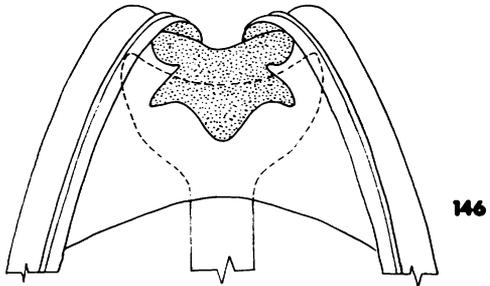
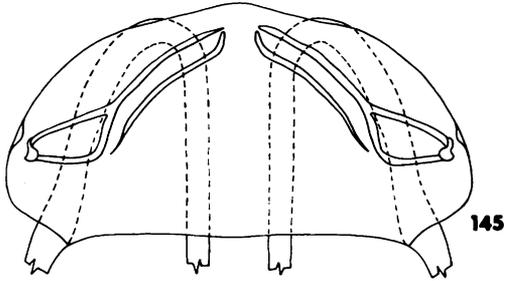
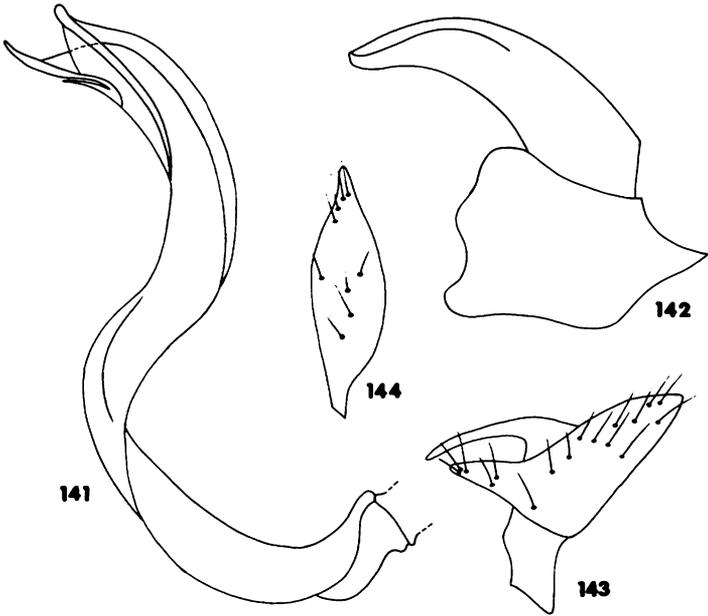
Paramixia is restricted to the Cyperaceae and Juncaceae in South Africa. Lindberg (1958) also cites records on Gramineae from the Cape Verde Islands. Usinger (1946) recorded species from Guam on *Rhynchospora corymbosa* and *Scleria margaritifera*; Maldonado (1969) recorded *carmelitanus* on *Cyperus rotundus* and *Cajanus cajan* in Puerto Rico.

List of species of *Paramixia*

- australis*, new species. South Africa: Natal, Transvaal, Cape Province
- bergrothi* Poppius (*Cephalocapsus*), 1914a, p. 90. **New Combination.** Madagascar.
- brunnescens* Usinger (*Orthotylellus*), 1946, pp. 81–82. **New Combination.** Guam.
- carmelitanus* Carvalho (*Rhinocloa*), 1948, p. 8. **New Combination.** Tropical America.
- clypealis* Poppius (*Cephalocapsus*), 1914a, pp. 90–91. **New Combination.** Malawi.
- femoralis* Poppius (*Cephalocapsus*), 1914a, pp. 89–90. **New Combination.** Malawi.
- howanus* Poppius (*Cephalocapsus*), 1914a, p. 89. **New Combination.** Madagascar.
- **minuta* Poppius (*Troitskiella*), see *Paramixia suturalis* Reuter **New Synonymy.**
- nigra* Poppius (*Schroederiella*), 1914a, p. 88. Kilimanjaro.
- pallescens* Usinger (*Orthotylellus*), 1946, pp. 80–81. **New Combination.** Guam.
- rufescens* Usinger (*Orthotylellus*), 1946, pp. 79–80. **New Combination.** Guam.
- samoanus* Knight (*Orthotylellus*), 1935, p. 207. **New Combination.** Samoa.
- suturalis* Reuter (*Paramixia*), 1900, p. 264. Southern Mediterranean; Africa.

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FIGS. 141–146. Hallodapini, *Acrorrhinium* male and female genitalia. Fig. 141. Lateral view of vesica, *A. muntingi*. Fig. 142. Phallosome, *idem*. Fig. 143. Left clasper, *idem*. Fig. 144. Right clasper, *idem*. Fig. 145. Sclerotized rings, *A. drakensbergensis*. Fig. 146. Posterior wall, *idem*.



Paramixia australis, new species

Figures 91, 332-334

Sthenarus basalis Carvalho, Dutra, and Becker, 1960 (*nec* Poppius), pp. 452-453.

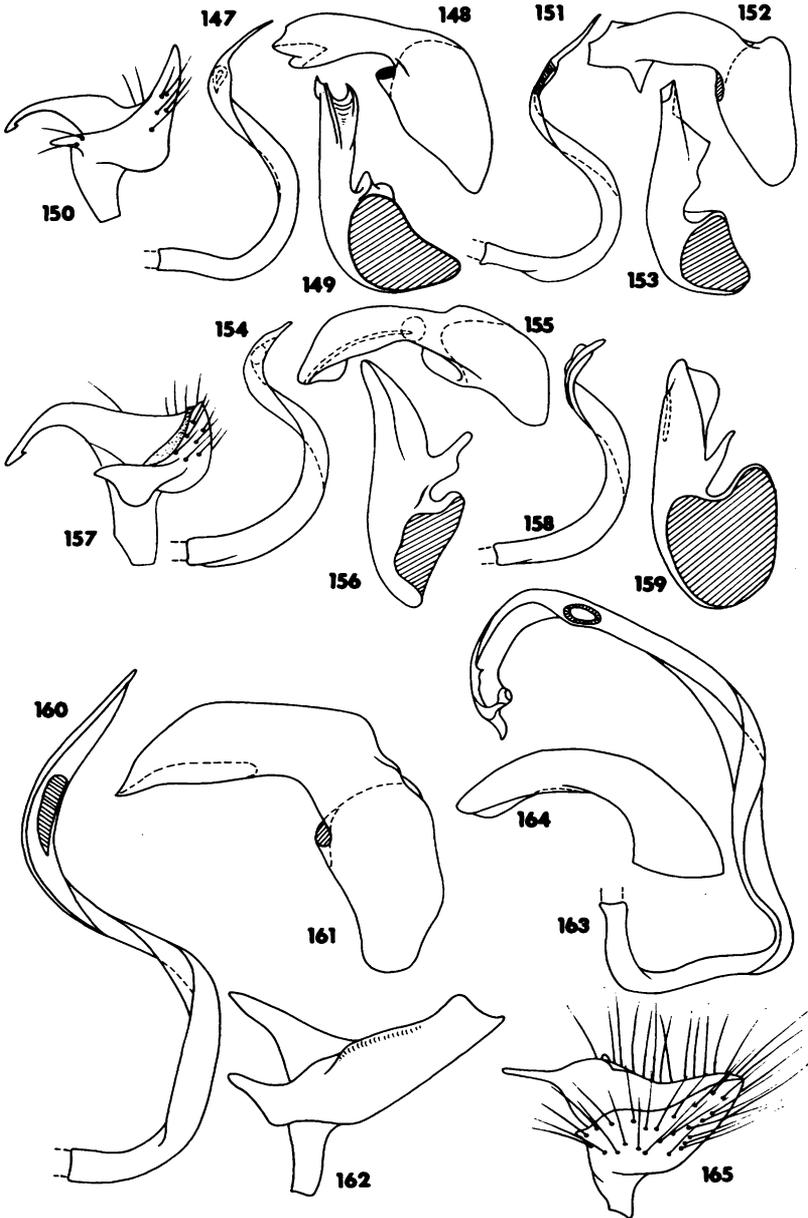
MACROPTEROUS MALE: Basic coloration black; distal four-fifths of antennal segment 1, antennal segment 2, distal third of labial segment 1, ventral margins of bucculae, ventral margins of prothoracic pleuron, posterior margin of mesosternum, all coxae distally, all trochanters, distal fifth of all femora, all tibiae, all tarsal segments 1 and 2, and dorsal margin of left clasper tan; tibial spines with black bases forming narrow bands; veins of membrane reddish.

Body and appendages polished, shining; dorsum faintly transversely rugose; coxae mostly pruinose; dorsum and abdominal venter with reclining golden hairs; dorsum and thoracic pleura with decumbent, wooly, sericeous hairs; antennal segment 1 with a fine spine on interior surface, segments 2, 3, and 4 with reclining, short, dull pubescence; genae below eyes with several long erect hairs; femora with short decumbent hairs and a few long erect hairs, particularly on ventral surfaces.

Head declivous, roughly triangular in dorsal view; clypeus flattened; eyes rather large, protuberant, contiguous with anterior margin of pronotum; vertex nearly as wide as anterior margin of pronotum, posterior margin straight, finely carinate; vertex and frons weakly convex; antennae inserted just above ventral margins of eyes; antennal segment 1 slightly enlarged, segment 2 cylindrical, about equal to diameter of segment 1, segments 3 and 4 about two-thirds diameter of segment 2; labium just surpassing metacoxae at

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FIGS. 147-165. Hallodapini male genitalia. Fig. 147. Lateral view of vesica, *Carinogulus transvaalensis*. Fig. 148. Lateral view of phallosheca, *idem*. Fig. 149. Ventral view of phallosheca, *idem*. Fig. 150. Left clasper, *idem*. Fig. 151. Lateral view of vesica, *Carinogulus hobohmi*. Fig. 152. Lateral view of phallosheca, *idem*. Fig. 153. Ventral view of phallosheca, *idem*. Fig. 154. Lateral view of vesica, *Carinogulus varii*. Fig. 155. Lateral view of phallosheca, *idem*. Fig. 156. Ventral view of phallosheca, *idem*. Fig. 157. Left clasper, *idem*. Fig. 158. Lateral view of vesica, *Carinogulus kochi*. Fig. 159. Ventral view of phallosheca, *idem*. Fig. 160. Lateral view of vesica, *Formicopsella regneri*. Fig. 161. Phallosheca, *idem*. Fig. 162. Left clasper, *idem*. Fig. 163. Lateral view of vesica, *Hallodapus albofasciatus*. Fig. 164. Phallosheca, *idem*. Fig. 165. Left clasper, *idem*.



trochanteral joint; pronotum with anterior margin nearly straight, lateral margins convexly rounded anteriorly, nearly straight on posterior three-fourths, posterior margin nearly straight across scutellum, evenly rounded laterally; pronotum slightly convex, lateral margin one-third distance posteriorly with a long, erect, slender spine; scutellum weakly convex; lateral corial margins convex; cuneal incisure shallow; cuneus and membrane declivous; membrane with two cells; legs rather short; all tibiae with rows of tiny, closely-spaced spines; tibial spines weak on protibiae, heavier and arranged in groups on mesotibiae and metatibiae; metatarsal segments 1, 2, and 3 subequal in length; parempodia fleshy, convergent apically, recurved; pulvilli minute.

MEASUREMENTS: Total length 2.28, maximum width 1.00, length head .20, width head .64, interocular space .32, length pronotum .32, width pronotum .84, length scutellum .40, width scutellum .52, length corium 1.04, length clavus .84, length cuneus .40, width cuneus .28, length claval commissure .44, distance apex commissure-apex membrane .96, length metatibia 1.24; length antennal segments 1—.20, 2—.80, 3—.44, 4—.42; length labial segments 1—.32, 2—.32, 3—.23, 4—.30.

MALE GENITALIA: Figures 332-334.

MACROPTEROUS FEMALE: Very similar to male; antennal proportions somewhat different (see generic discussion).

FEMALE GENITALIA: Posterior wall a simple sclerotized plate without evaginated posterior margin.

HOLOTYPE: Macropterous δ , SOUTH AFRICA: *Cape Province*, Kirstenbosch Gardens, Cape Town, 29 Jan. 1968, J.A.&S. Slater, T. Schuh, M. Sweet (Adults and nymphs on *Cyperus rotundus* L.) (SANC).

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FIGS. 166-181. Hallodapini male genitalia. Fig. 166. Lateral view of vesica, *Hallodapus pseudosimilis*. Fig. 167. Apex of vesica, *idem*. Fig. 168. Phallotheca, *idem*. Fig. 169. Lateral view of vesica, *Hallodapus quadrimaculatus*. Fig. 170. Phallotheca, *idem*. Fig. 171. Left clasper, *idem*. Fig. 172. Lateral view of vesica, *Hallodapus similis*. Fig. 173. Phallotheca, *idem*. Fig. 174. Left clasper, *idem*. Fig. 175. Lateral view of vesica, *Hallodapus transvaalensis*. Fig. 176. Phallotheca, *idem*. Fig. 177. Left clasper, *idem*. Fig. 178. Dorsal view of vesica, *Pangania fasciatipennis*. Fig. 179. Lateral view of vesica, *idem*. Fig. 180. Phallotheca, *idem*. Fig. 181. Left clasper, *idem*.

