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New genera and species of Lygaeoidea (Heteroptera: Lygaeoidea: Rhyparochromidae)

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Abstract: *Afralampes capensis* is described as a new genus and species in the Megalonotini. The systematic position of *Serranegra* Lindberg is discussed, a new species is described from South Africa and a key to species included. A new species of *Diniella* Bergroth is described from South Africa and a key to the African species included. A new species of *Polycrates* Stål is described from South Africa. The immature stages of *Polycrates consutus* (Germar) are described with notes on its distribution and biology. The first records of the occurrence of species of *Lampropunctus* Scudder and *Lamproceps* Reuter from South Africa are included. Wing polymorphism is discussed. *Lispolophus* Bergroth is reduced to junior synonymy with *Diniella*. *Diniella nitens* (Wagner) is reduced to a junior synonym of *Diniella laevicollis*.

Key Words: South Africa; wing polymorphism; Megalonotini; *Polycrates*; *Serranegra*; *Diniella*; *Afralampes*; *Lampropunctus*; *Lamproceps*.

Introduction

The South African lygaeoid fauna is one of the richest and most varied in the world. It also contains a large number of endemic taxa particularly in the southwestern Cape floral region. Slater (1964a) treated the fauna that was known at that time, based largely upon the collections from the Swedish Expeditions of Lund University. Subsequently the author and several colleagues were able to spend almost an entire year in the field. The results of this field work and those of South African colleagues has resulted in a number of papers that has added a considerable number of new genera and species to the fauna as well as additional South African records of African species not previously known from the country.

The present paper is a further contribution to this study by describing a new genus, several new species and records of species not previously known from South Africa.

All measurements are in millimeters.

The abbreviations in the locality data "SSSS" refer to James A. Slater, Samuel Slater, Randall T. Schuh, and Merrill H. Sweet. The abbreviations "SSS" refer to the first three names listed above.

Museum abbreviations as follows: ALBY: Albany Museum, Grahamstown, South Africa; AMNH: American Museum of Natural History, New York; BMNH: Natural History Museum, London; CTM: Capetown Museum, Capetown, South

Africa; JAS: James Slater, Storrs, Ct.; TVL: Transvaal Museum, Pretoria, South Africa.

Serranegra Lindberg

Serranegra Lindberg 1958: 59.

This genus was described by Lindberg (1958) to contain a single new species *Serranegra petrophila* from the Cape Verde Islands. Lindberg placed it in the Megalonotini and related it to *Polycrates* Stål. Slater (1964b) listed it in the tribe Udeocorini. In that catalogue Slater used the tribal name for the first time but credited it to Sweet (and as he noted was following a then unpublished paper of the latter). Its position in the Udeocorini was continued by Slater & O'Donnell (1995). However Sweet's paper which formally established the tribe Udeocorini did not appear until 1967 and did not include *Serranegra* in his list of Udeocorini. Scudder (1963) described a second species of *Serranegra* from Madagascar. He placed the genus in the Rhyparochromini. In this paper Scudder included a key to the two known species and followed Lindberg in relating the genus to *Polycrates* Stål.

The tribal position of *Serranegra* thus has remained ambiguous in the literature. In my opinion Lindberg and Scudder are correct in relating *Serranegra* to *Polycrates*. Unfortunately without nymphs it is not possible to unequivocally separate genera of rhyparochromines with two dorsal spiracles as to whether or not they pertain to the

Rhyparochromini or Megalonotini. However, nymphs are known of *Polycrates* and it is a genus of Megalonotini. Thus I believe it is fairly safe to assume that *Serranegra* is also.

However, it is understandable why Slater followed Sweet's unpublished manuscript and treated it in the Udeocorini. The spiracle on the second abdominal segment is almost exactly on the edge of the segment between the dorsum and venter and depending upon the view it may look dorsal or ventral. If dorsal this together with the presence of inner-laterotergites would place it in the Udeocorini. I have studied this as carefully as possible and am convinced that the second segment spiracular opening is actually morphologically ventral and thus the position in the Megalonotini is correct.

Key to Species of *Serranegra*

1. First labial segment remote from anterior margin of prosternum extending posteriorly only to level of middle of compound eye; labium reaching between fore coxae; head rugose rather than punctate (Madagascar) *brevirostris* Scudder
- 1a. First labial segment attaining anterior margin of prosternum; labium extending between metacoxae; head distinctly punctate 2
2. Relatively large species, 4.5 mm. or greater in length; subapical white corial macula large, ovoid; third antennal segment dark brown in contrast to pale yellow color of first, second and third segments *petrophila* Lindberg
- 2a. Small species at most scarcely exceeding 3.5 mm. in length; subapical white corial macula, slender, elongate, tapering; third and fourth antennal segments uniformly dark brown, in contrast to yellow first and second segments
..... *paurocoris* n.sp.

Serranegra paurocoris Slater, n. sp.

(Figure 1)

Head, anterior pronotal lobe, scutellum, distal one-half of corium (with exception of subapical white macula), fore femora, third and fourth antennal segments dark brown. Head, anterior pronotal lobe and fore femora shining, polished. Scutellum pruinose with extreme basal area a contrasting light gray. Posterior pronotal lobe light yellow-brown, surface dull. Hemelytra anterior to level of apex of scutellum sordid yellow with darker punctures. Subapical white corial macula triangular,

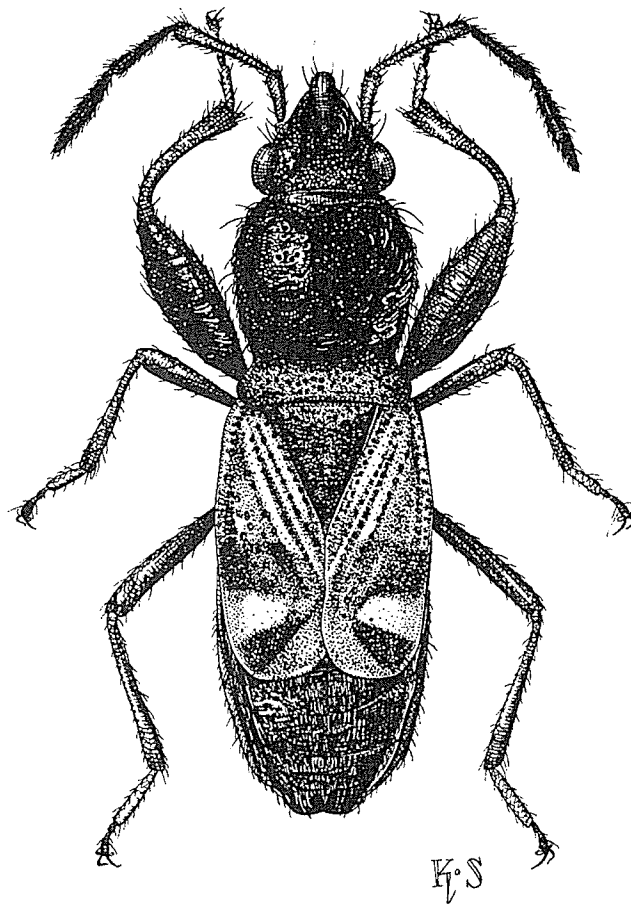


Figure 1. *Serranegra paurocoris* new species. Dorsal view.

narrowing mesally. Ventral surface shining brown except for area around anterior acetabula. Posterior margin of mesopleuron and all of metapleuron gray-pruinose. Dorsal surface bearing elongate upstanding hairs. Head and anterior pronotal lobe with fine small punctures, those on posterior lobe much larger.

Head acuminate, tylus attaining middle of first antennal segment. Eyes small, sessile. Length head 0.60, width 0.68, interocular space 0.48. Anterior pronotal lobe strongly swollen, transverse impression complete. Length anterior pronotal lobe 0.80, width 0.84. Length posterior pronotal lobe 0.22, width 0.84. Scutellum lacking a median carina. Length scutellum 0.70, width 0.60. Midline distance apex clavus-apex corium 0.42. Midline distance apex corium-apex abdomen 0.66. Antennae stout. Length antennal segments I 0.30, II 0.60, III 0.58, IV 0.70. Labium extending between meta-

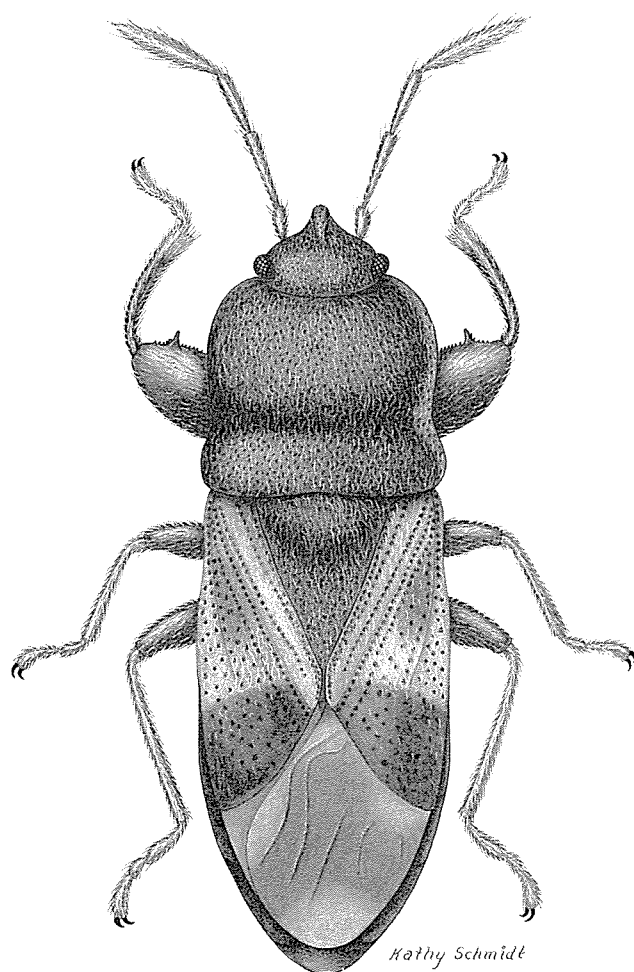


Figure 2. *Polycrates luvuvhoensis* new species. Dorsal view.

coxae. Length labial segments I 0.52, II 0.60, III 0.44, IV 0.24. Total body length 3.36.

Holotype: Male (brachypterous) SOUTH AFRICA: *Transvaal*: Kruger National Park, 5 mi. SE Letaba Camp 1.V.1968 (SSSS). In National Insect Collection (Plant Protection Institute, Pretoria).

Paratypes: 6 males, 7 females same data as holotype: 2 males, 1 female *Transvaal*: Kruger National Park, 9 mi. SSW Skukuza 26.IV.1968 (SSSS). 1 female Kruger National Park 3 mi. E. Satara Camp, Nwanedzi River 29.IV.1968 (SSSS). *Natal*: 1 male, 1 female 7 mi. N. Cato Ridge, 16.IV.1968 (SSSS). In National Insect Collection (Plant Protection Institute Pretoria); *Transvaal* Museum and J.A. Slater collections.

All of the males and all but two females are brachypterous. with the clavus and corium fused, but the elements discernible. The membrane is reduced to a small rounded lobe and barely extends posteriorly beyond the corium, reaching only the anterior portion of the sixth abdominal tergum. The two membranes only slightly overlap mesally. The hind wing in these brachypters is vestigial and reduced to a small white flap at the base of the abdomen.

Two females from the Letaba Camp area are macropterous. In these macropters the anterior pronotal lobe is much less strongly swollen, with the posterior lobe relatively larger and considerably wider than the anterior lobe. The coloration is similar to that of the brachypters but the pale subapical corial spot is broader, while still triangular, and narrows mesally. The clavus has three rows of punctures and there is a small dark brown macula at the base of the clavus and a diffuse one just within the explanate corial margin at the level of the middle of the scutellum. The measurements of a macropterous female are as follows: Length anterior pronotal lobe 0.56, length posterior pronotal lobe 0.30. Midline distance apex clavus-apex corium 0.60, Midline distance apex corium-apex abdomen 0.70.

This species is closely related to *S. petrophila* but in addition to the characters given in the key may be differentiated by the second antennal segment being subequal to the length of the second labial segment in this species, whereas the antennal segment is much longer than the labial segment in *S. petrophila*. Oligomery of the antennae is frequent, being present in five of the paratypes.

Most of the type series was taken in dry rocky, pebbly overdrained areas with a mixture of grasses and forbes, many of which had fallen seeds below them.

Etymology: Referring to the relatively small size of the species.

Serranegra petrophila Lindberg

Serranegra petrophila Lindberg 1958: 59-60.

Similar to *S. paurocoris* n.sp. in general form and color but readily separable by the larger size and especially by the differently colored antennae, the differently shaped subapical pale corial macula and the relatively lengths of the second antennal and second labial segments.

Although originally described from the Cape Verde Islands, Scudder (1963) reported in from Senegal, Guinea, Somalia, and "Tanganyika."

Lindberg (1958) gives an excellent description and dorsal view figure. His specimens were taken under stones and on the ground in dry steppe-like habitats.

***Polycrates luvuvhoensis* Slater, n. sp.**

(Figure 2)

Head, pronotum, scutellum, distal third to nearly one half of corium, pleuron, sternum and abdomen black. Clavus and anterior half of corium dull yellow, latter with an obscure dark brown macula laterally at level of distal half of scutellum, its inner margin rounded. A quadrate white macula in center of corium immediately anterior to black distal area. Membrane fumose with a white spot adjacent to each apical corial margin. Membrane brown. Antennae with distal half of segment one, distal end of segment two and distal three fourths of segment four yellowish-tan. Femora and tibiae chocolate brown, distal ends of tibiae and all of tarsi yellow. Thickly clothed with decumbent sericeous hairs. Pronotum and scutellum densely punctate, these often anastomosing, particularly on posterior pronotal lobe. Clavus with three rows of punctures, inner row small and obsolete. Head, pronotum and base of scutellum subshining, remainder of scutellum and hemelytra dull.

Head very strongly declivent, curving almost at right angle to body surface. Tylus not attaining end of first antennal segment. Eyes small, transverse, set slightly away from anterior pronotal margin. Ocelli placed very close to compound eyes. Length head 0.50, width 0.60, interocular space 0.46. Anterior pronotal lobe strongly swollen and elevated well above level of posterior lobe, anterior margin deeply concave, lateral margins broadly convex, narrowly but distinctly explanate. Transverse impression deep and complete. posterior margin straight. Length pronotum 0.98, length anterior pronotal lobe 0.64, width across humeral angles 1.06. Scutellum elongate, lacking a conspicuous median carina. Length scutellum 0.76, width 0.58. Length claval commissure 0.20. Midline distance apex clavus-apex corium 0.50. Midline distance apex corium-apex abdomen 0.60. Metathoracic scent gland auricle very small, straight, surrounded narrowly by a rim of evaporative area. Fore femur very strongly incrassate, armed below distally with a large spine and a series of small

sharp spines along entire inner ventral edge. Fore tibiae lacking a spine. Labium short, extending between fore coxae. Length labial segments I 0.34, II 0.28, III 0.14, IV 0.20. Antennal segments stout but not noticeably clavate. Length antennal segments I 0.12, II 0.36, III 0.30, IV 0.48. Total body length 3.40.

Holotype: male South Africa; *Transvaal*: Kruger National Park. Confluence of Limpopo and Luvuvho rivers. Pafuri. 7.V.1968 (J.A. & S. Slater, T. Schuh, M.H. Sweet). In National Collection of Insects (Plant Protection Institute, Pretoria).

Paratypes: 1 male, 7 females same data as holotype. 1 Male *Natal*: Ndumu Game Reserve, 2632DC, 4-9.X.1982 (J.G.H. Londt) (camp and riverine bush). In Transvaal Museum, Natal Museum and J.A. Slater collections.

This is the smallest known species of *Polycrates* and readily distinguishable from the other African species by lacking a triangular white macula subdistally on the corium. It lacks the elongate hairs found on many species of the genus and is more densely pilose laterally with a more strongly declivent head.

Both Linnavuori (1978) and Pericart (1995) have noted the unsatisfactory condition of this genus and the need for a careful revision. With this I concur, but none of the described species appear to be closely related to the present one and the question really is not whether it is an undescribed species but whether it should be included in the genus. At present the genus contains both glabrous species and those with upstanding hairs. This species while strongly pubescent does not have upright hairs. *Polycrates hirticollis* Scudder is the smallest species previously known, It is over 4 mm. in length whereas *P. luvuvhoensis* is less than 3.5 mm. long. It also differs from *P. hirticollis* in having much shorter antennae, the second segment being three times as long as the first (less than 2.5 times as long in *P. hirticollis*). The latter has a completely brown fourth antennal segment and has a pale subapical macula on the distal portion of the corium as do all other species of *Polycrates* known to me.

The holotype and most of the type series was taken in the extreme northwest corner of Kruger National Park where the Limpopo and Luvuvho Rivers join. The area was heavily overgrown with large trees and shrubs, the substrate relatively damp. Specimens were taken on the ground adjacent to the fallen limb of a large *Ficus* sp.

Etymology: Referring to the river near which the type series was taken.

***Polycrates consutus* (Germar)**

Pachymerus consutus Germar 1837: 139-140.

This species is widespread in Africa. It was originally described from South Africa and subsequently reported from Algeria, Egypt, Ethiopia, "French West Africa", the "Sahara", Cape Verde Is., Kenya, Ruanda, and Mozambique (See Slater 1964b). However, Linnavuori (1978) believes that the records from Algeria and Egypt refer to other species. He reports it from the Sudan. Pericart (1995) gives an excellent dorsal view illustration.

Our collecting in South Africa indicated that it is a species associated with dry, often overgrazed or disturbed habitats, usually with open ground. The only large series of adults and nymphs taken was near the beach at Hermanus in Cape Province where the insects were abundant in deep dry leaf litter.

Description of Nymphs
(Hermanus, Cape Province)

Fifth Instar: Head, pronotum, scutellum, mesothoracic wing pads, thoracic pleura, antennal segments one, three and four and femora uniformly dark chocolate brown. Abdomen contrastingly pale reddish with sclerotized plates around dorsal abdominal scent gland openings small, quadrate and dark with plate around opening between terga 3-4 slightly smaller than those around openings between terga 4-5 and 5-6. Anterior mesal margin of terga eight with a small sub-hemispherical dark bar. All of terga nine dark. Abdominal sterna seven and eight each with a large quadrate median dark patch. Sternum seven mesally with a large ovoid median patch on anterior one-half, strongly convex anteriorly. Coxae, trochanters, distal ends of femora and tarsi pale yellow, almost white. Tibiae noticeably paler than femora, but suffused with light brown. Body surface granulose, at most barely punctate. Clothed (including abdomen) with numerous elongate upstanding hairs.

Head non-declivent, eyes set well away from anterior margin of pronotum, epicranial stem very short. Length head 0.76, width 1.00, interocular space 0.64. Pronotum quadrate, lateral margins distinctly explanate, posterior margin straight. Length pronotum 1.16, width 1.52. Mesothoracic

wing pads extending onto anterior one-third of abdominal tergum three. Length wing pad 1.44. Abdomen lacking a Y-suture. Length abdomen 2.44. Anterior femur incrassate with a series of sharp spines. Fore tibia curved, inner margin with a closely set row of short serrate teeth and with two sharp expanded spines at distal end. Labium extending posteriorly to mesocoxae; second segment slightly exceeding base of head. Length labial segments I 0.48, II 0.52, III 0.72, IV 0.44. First antennal segment slightly exceeding apex of tylus. Length antennal segments I 0.44, II 0.72, III 0.72, IV 0.88. Total body length 5.22

Fourth Instar: Similar in form and color to instar five. Metanotum and first abdominal tergum pale yellow contrasting with reddish coloration of rest of abdomen. Length head 0.44, width 0.88, interocular space 0.60. Length pronotum 0.72, width 1.02. Length wing pads 0.74. Length abdomen 1.90. Length labium 1.80. Length antennal segments I 0.32, II 0.60, III 0.60, IV 0.78. Total body length 3.60.

Third instar: Coloration generally as in fourth and fifth instars, but white band formed by metanotum and first abdominal tergum very conspicuous and strongly separating black anterior portion of body from red color of remainder of abdomen. Dark sternal abdominal sclerites absent except at extreme apex. Total body length 2.80.

Second instar: Coloration as in instar three, but ventral sclerotized plates absent. Total body length 1.84.

First Instar: Similar in color to instar two. Dorsal plates around abdominal scent gland opening not sclerotized. Appendages nearly uniformly a suffused light gray-brown. Total body length 1.36.

African distribution: *Natal:* Weenen (BMNH). Nyala Game Reserve; Mapelaan Dune Forest; Empangeni area 110 m. Cwanka Res; Univ. of Zululand; Izotsha 30-15 E, 30-45 S.; Umtentweni (JAS). Kloof (BMNH). *Swaziland:* Mananga Mt. 400 m. 31-75 E, 26-00 S 18.VII.1983 (under rock (1Male,1Female)). *Transvaal:* National Botanical Gardens Pretoria (JAS). Koster; Blouberg; Motlakeng 5-6,000 ft.; Thabina (Zoutpansberg); Pietersburg; Zoutpansberg Distr. (TVL). Fountains (BMNH). 20 mi. E. Punda Milia Kruger Nat. Park. 9 mi. SSW Skukuza, Kruger National Park (JAS). *Cape Province:* Somerset East; Mossel Bay; Katberg 4000 ft. Capetown; (BMNH). Diepriver (Capetown); George Dist.; Oudtshoorn; Clanwilliam; Willowmore; Otjiltui (CTM). 10 mi. N. Grahamstown (AMNH). Port Elizabeth; Kimberley (ALBY).

12 mi. N. Kimberley. Cape Flats (Capetown) (TVL). Cape Peninsula, Cape Point Nature Reserve; Viljoenspas 5 miles NNE Grabouw; Kirstenbosch Gardens Capetown; Hermanus; Hermanus Lagoon; 10 mi. W. Cathcart; Swartvlei Beach 1 mi. S. Bleshoender; Bainskloof Pass Summit; Greys Pass 5 miles SW Citrusdal; Grahamstown; Port Alfred (JAS). Port St. Johns (TVL). *Namibia*: Kaokoveld, Kowares 20 miles SE Ohopoho; Kaukau-Kungveld betw. Tsumkwe & Chassie; Samen-geigei, Kaukau-Kungveld (TVL). "Disch. S.W. Africa," Quick Vorn (?) Okahandja (JAS, BMNH). Outjo; Warmbad, Kaokoveld; Windhoek (CTM). *Zimbabwe*: Umtali (BMNH). *Mozambique*: Delgale (BMNH). Lorenzo Marques (CTM). *Botswana*: No definite locality (BMNH). *Kenya*: Limuru. 9.V.1954 (D.C. Thomas) (1Female). Ngong Hills 22.VIII.1953 (D.C. Thomas) (JAS).

Afralampes Slater, n. gen.

Head and anterior lobe polished and shining, strongly contrasting with dull pruinose posterior pronotal lobe and scutellum. Eyes sessile. Lateral pronotal margins narrowly but distinctly explanate throughout. Pronotum with a shallow but complete transverse impression. Scutellum lacking a median carina. Metapleural evaporative area very large, occupying almost entire metapleural surface. Metapleural scent gland auricle nearly straight, slightly angled posteriorly to plane of body. Clavus with three distinct rows of punctures. Fore femur strongly incrassate, armed below on distal third with a single large stout spine and with several "spinules" forming two irregular series. Antennae slender, terete, fourth segment only slightly fusiform. Pronotum with collar present, formed by a series of coarse punctures. Remainder of pronotum with only scattered punctures, those on posterior lobe slightly larger than those on anterior lobe. Dorsal surface thickly clothed with short, stout upstanding hairs.

Type species: *Afralampes capensis* new species. Monobasic.

Although *Afralampes* keys to *Polycrates* in Slater (1964a) it is not closely related to any known African genus. Its closest relative appears to be the Palearctic genus *Alampes* Horvath known from two species that occur in Greece, Turkey, Algeria and southern areas of the former USSR (Tadjikistan, Turkestan). It keys to *Alampes* in Kerzhner & Jaczewski (1964) but differs in having the entire anterior pronotal lobe polished and shining (where-

as in *Alampes* only the area of the calli is shining) and in the less strongly posteriorly curved metathoracic scent gland auricle. The evaporative area of *Afralampes* almost reaches the dorsal margin of the metapleuron whereas in *Alampes* the dorsal third of the metapleuron lies above the dorsal margin of the evaporative area. The anterior pronotal collar is much more strongly differentiated in *Afralampes*. Both genera agree in having the posterior pronotal lobe pruinose in contrast to the shining nature of a large part of the anterior lobe and the head. Both genera have a non-carinate scutellum with the pruinosity of the anterior one-fourth differentiated from that of the rest of the scutellum; in possessing three distinct rows of dark punctures on the clavus that contrast strikingly with the pale ground color; in the short but distinct dorsal pubescence, the sessile eyes; the strongly incrassate fore femur with its single large ventral spine and in the narrowly explanate pronotal margins.

Afralampes capensis Slater, n. sp.

(Figure 3)

Head, pronotum, scutellum, legs and antennae black. Clavus and corium strongly contrasting light yellow with dark brown veins and apex of corium with a brown spot. Membrane fumose with a large white patch laterally adjacent to each apical corial margin and a median white spot near base of membrane. Apex of membrane broadly transversely white. Basal area of scutellum gray pruinose rather than black. Dorsal surface thickly clothed with short but distinct upstanding hairs. All lobes of pleura chiefly gray-pruinose.

Head moderately declivent, vertex convex, eyes in contact with anterior margin of pronotum. Tylus attaining or slightly exceeding end of first antennal segment. Buccular groove U-shaped, reaching posteriorly to level of compound eyes, bucculae high anteriorly but narrowing to a slight ridge at level of antenniferous tubercles. Length head 0.46, width 0.58, interocular space 0.36. Anterior pronotal lobe moderately convex, elevated above surface of posterior lobe. Anterior margin deeply concave. Lateral pronotal margins narrowly but distinctly explanate, transverse pronotal impression complete, posterior margin shallowly concave. Length anterior pronotal lobe 0.48, width 0.84, length posterior lobe 0.24, width 0.90. Length scutellum 0.48, width 0.58. Length claval commissure 0.20. Midline distance apex clavus-apex cori-

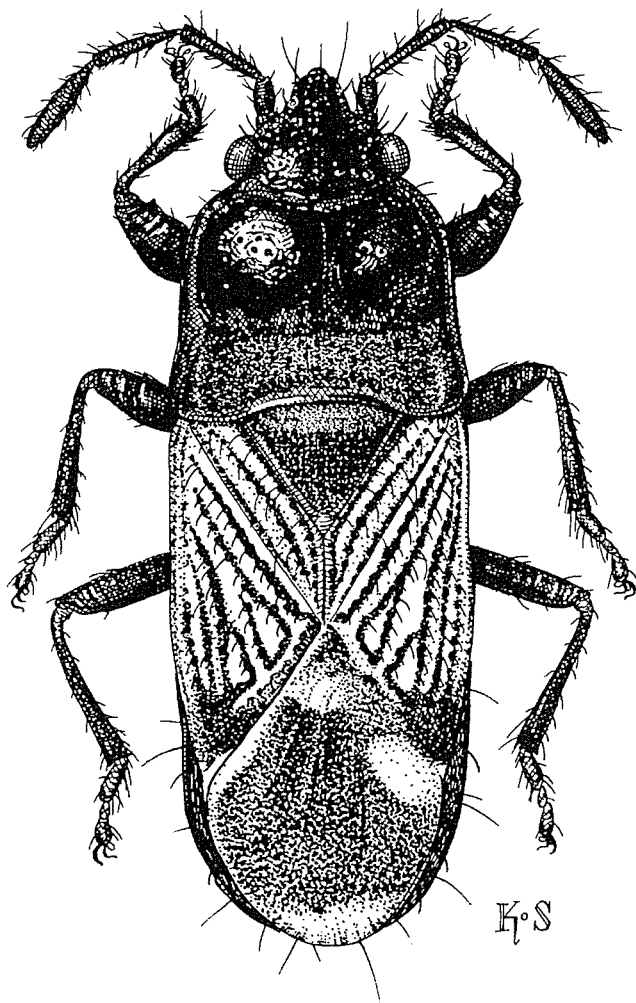


Figure 3. *Afralampes capensis* n.genus, new species, Dorsal view.

um 0.46, Midline distance apex corium-apex membrane 0.52. Labium short, exceeding fore coxae and reaching onto mesosternum but remote from mesocoxae. Length labial segments I 0.26, II 0.26, III 0.20, IV 0.16 (approx). Antennae slender, non clavate. Length antennal segments I 0.16, II 0.34, III 0.34, IV 0.46. Total body length 3.00.

Holotype: male South Africa: Cape Province: just north of Albertinia, 4.II.1968. No. 73 (S. Slater, M.H. Sweet). In National Collection of Insects (Plant Protection Institute, Pretoria).

This species was taken on a dry overgrazed hillside north of Albertinia where it was associated with a small succulent (*Crassula rosularis* Harv.) only 3-4 inches high growing in a hot dry rocky area. A species of *Pentaschistis* was also present in this habitat.

Etymology: Refers to the Cape Province of South Africa where the species was taken.

Diniella Bergroth

Diniella Bergroth 1893:202 (n.n. *Dinia* Stal 1874:154-156 (precocc.))

Abdolominus Distant 1904: 90.

Lasiosomoidea Wagner 1961: 22-23.

Lispochroa Breddin 1907: 215.

Lua Distant 1909: 342-343.

Lispolophus Bergroth 1894: 547 (n.n. *Androgeus* Stal 1865: 173) (preocc.). **New synonymy.**

In an attempt to place a minute, frequently coleopteroid species of Lethaeini from the area of Table Mountain at Capetown a review of the African species of *Diniella* was necessary.

This genus, as noted in the synonymy above, has had a checkered nomenclatorial history. This has been due in part to the discovery of preoccupied names, but also due to the occurrence of wing dimorphism resulting in the description of coleopteroid morphs as representing different species from their macropterous morphs.

In the course of this study I have been unable to discover distinguishing generic features to separate the Madagascar species *Lispolophus marginatus* (Signoret) from African species of *Diniella* and the genus is here synonymized.

The new species from the Cape is placed in *Diniella* although it is not only a much smaller species than any previously known species and does not have a swollen gular region to the head, but in all other essential features appears to be congeneric with species of *Diniella*.

Species of *Diniella* occur throughout the old world tropics with a number of species widespread in Africa.

Wing dimorphism, as discussed below, occurs in a number of species, and may occur in others where it is not known at present. Much of our tropical African material has been taken at lights precluding knowledge of a possible flightless morph in some species. Nevertheless in South Africa our field collecting resulted in the collection of flightless morphs in *Diniella laevicollis* (Reuter), but not of *D. nitida* (Reuter) even when both species were taken in similar habitats. Thus wing dimorphism may not exist in all species of the genus.

I have examined flightless forms in the Oriental species *D. laeviuscula* (Bergroth), *D. glabrata* (Stal), *D. insignis* Distant, and *D. tartarea* (Dis-

tant) (including complete coleopteroids of the latter).

Linnavuori (1978) produced a key to the African species that is very useful and which is modified and expanded below by the synonymy of *D. nitens* Wagner, the addition of the Madagascan *D. marginata* and the new South African species described below.

Key to African Species of *Diniella*

1. Minute species under 2.20 mm. in length. Overall color uniformly black to dark brown; lacking a swollen punctate gular area to ventral head surface; coleopteroids and submacropterous morphs common *coleoptrata* n. sp.
- 1a. Larger species, over 2.25 mm. in length. Color variable, sometimes uniformly dark, but often with light coloration anteriorly on hemelytra 2
2. Relatively large species, usually 3.5 to 4 mm. in length 3
- 2a. Smaller species, not exceeding 3 mm. in length 4
3. Uniformly black or dark brown in color; fore femur with one or two ventral subapical spines in both sexes *cognita* Scudder
- 3a. Corium with a white marginal stripe on basal half *marginata* (Signoret)
4. Posterior pronotal lobe with punctures obsolete or absent, when present much smaller than punctures on anterior collar-like area of anterior lobe; first antennal segment distinctly bicolored with basal half dark; fore femur mutic in both sexes; submacroptery common *laevicollis* (Reuter)
- 4a. Posterior pronotal lobe with punctures conspicuous, these almost as large as those in collar-like area of anterior pronotal lobe; first antennal segment nearly uniformly pale, at most with obsolete darker basal coloration; males with one or more ventral fore femoral spines; macropters only known 5
5. Males with three subdistal ventral fore femoral spines; punctures of middle row on clavus closely and evenly placed throughout, always much closer to one another than intervening space *trispinosa* Linnavuori
- 5a. Males with only 2 ventral subdistal fore femoral spines; middle row of punctures on clavus in distal portion spaced further from one another than intervening space, thus rows of punctures not evenly spaced throughout entire length *nitida* (Reuter)

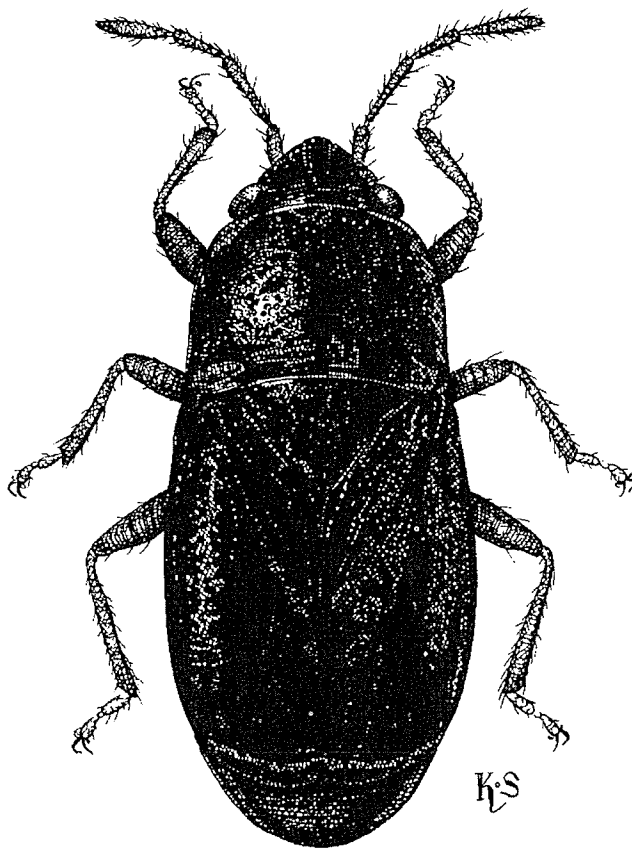


Figure 4. *Diniella coleoptrata* new species. Dorsal view.

Diniella coleoptrata Slater, n. sp. (Figure 4)

Macropter: Dark mahogany brown, including entire pleuron and abdomen, becoming lighter on posterior one-half of corium. Membrane white-hyaline. Vertex of head with a few scattered punctures. Central portion of pronotum with a broad, posteriorly narrowing field of small punctures; posterior lobe with scattered punctures. Remainder of pronotum impunctate, broadly so across area of calli. Scutellum with a few scattered punctures on disk and a rim of closely set punctures adjacent to clavus, latter with three well defined, evenly spaced rows of punctures. Corium conspicuously punctate throughout. Surface of body glabrous, shining.

Head only slightly declivent, vertex strongly convex with ocelli placed closer to eyes than to meson. Compound eyes in contact with anterolateral pronotal angles. Tylus reaching 4/5 way to end of first antennal segment. Length head 0.32, width 0.50. interocular space 0.44. Pronotum with

lateral margins carinate; pronotum lacking an anterior collar, transverse impression vaguely evident as a lightly impressed area across posterior one-fourth, anterior area moderately convex, posterior margin straight. Length pronotum 0.56, width 0.96. Scutellum lacking a median elevation. Length scutellum 0.56, width 0.56. Length claval commissure 0.24. Midline distance apex clavus-apex corium 0.44. Midline distance apex corium-apex abdomen 0.24. Metathoracic scent gland auricle rounded, short; evaporative area closely surrounding auricle, outer margin convex, leaving most of metasternum exposed. Fore femur only slightly enlarged, lacking a major ventral spine, but bearing three minute teeth distally on ventral surface. Labium reaching onto mesosternum. Length labial segments I 0.24, II 0.24, III 0.18, IV 0.12 (approx.). Length antennal segments I 0.18, II 0.32, III 0.22, IV 0.30. Total body length 2.20.

Holotype: male South Africa: *Cape Province*: Bainskloof Pass Summit, 21.I.1968 (J.A. & S. Slater, T. Schuh, M.H. Sweet). In National Insect Collection (Plant Protection Institute, Pretoria).

Paratypes: South Africa: *Cape Province*: coleopteroids 2 males, 1 female; macropter 1 female. Cape Point Nature Reserve 7 mi. N. of Cape Point, 450 ft. 11.X.1967 (M.H. Sweet) (No. 26). coleopteroids 5 males, 1 female Rooi Els (Cape Prov.) 11.I.1969 (J. Munting). macropters 1 male, 2 females same data as holotype. coleopteroids 9 males, 3 females Capetown, Tafelberg Mt. 1500 ft. 6.X.1974 (Sam Slater, J. Ecker). 1 female coleopteroid Cape Town, Table Mt. W. table 3500 ft. 12.X.1967 (M.H. Sweet) (No. 28). coleopteroids 5 males, 3 females Hermanus 1.II.1968 (SSSS). coleopteroids 2 females Cape Point 6.X.1974 (Sam Slater, J. Ecker). macropter 1 female "De Vylder S. Afrika". macropter 1 female Cape Point Nature Reserve 30.I.1968 (SSSS). coleopteroid 1 female Capetown, Table Mt. summit 3500 ft. 5.X.1974 (Sam Slater, J. Ecker). *Transvaal*: coleopteroids 2 males Meintjies Kopf, Pretoria 19.III.1968 (SSS). In National collection of Insects (Plant Protection Institute, Pretoria), Transvaal Museum and J.A. Slater collections.

Readily separable in the macropterous condition by the small size, the dark legs, the first labial segment being remote from the base of the head, the ventral head surface not swollen and lacking anastomosing punctures and by not having an undulate posterior pronotal margin. From *D. laevicollis*, the only other African species known in other

than the macropterous condition, by the small teeth present on the fore femora.

Coleopteroid morph: (Figure 4). Coleopteroids look extremely like tiny beetles. Each hemelytron has the corium and clavus indistinguishably fused into a solid, laterally down-curved "elytron" that extends posteriorly onto the 8th abdominal tergum. A minute transverse rim of membrane is present at the end of each wing. The hemelytra meet evenly along the midline of the body for their entire length. The scutellum and hemelytra bear conspicuous but widely separated punctures over their entire surfaces. The pronotum is convex with the lateral margins evenly curved and narrowly carinate. There is only very slight evidence of an obsolete transverse impression across the posterior fourth of the pronotum whose posterior margin is straight. The center of the pronotal disc is smooth and polished except for a few obscure punctures, these more prominent laterally. Ocelli are absent. Fore femoral spines absent.

The body is a shining dark mahogany brown, including the legs and labial segments three and four. The second and third tarsal segments and the distal half of antennal segment three and all of segment four are yellow. The body surface is glabrous or nearly so.

Measurements: Length head 0.22, width 0.39, interocular space 0.28. Length pronotum 0.42, width 0.69. Length scutellum 0.30, width 0.45. Length hemelytral commissure 0.62. Maximum length hemelytron 1.02. Total body length 1.65.

(Described from a male Cape Province: Capetown, Tafelberg Road 6.X.1974 (Sam Slater, J. Ecker). In J.A. Slater collection.

Although taken at Pretoria in the Transvaal, as noted above, this species probably has a natural range confined to the extreme southwestern Cape. Meintjies Kopf, Pretoria is an area with considerable natural vegetation but is immediately behind the National Government buildings where many Cape plants have been introduced.

Etymology: Named for the resemblance of the flightless morphs to small shining black beetles.

Diniella laevicollis (Reuter)

Dinia laevicollis Reuter 1882: 25-26.

Lasiosomoidea nitens Wagner 1961: 24-25. **New synonymy**

This species, despite its occurrence above the ground on sedges, frequently occurs in the flightless submacropterous or coleopteroid morph. Actually three wing conditions occur.

1. A macropterous morph with the clavus and corium separate, the wing membrane completely covering the end of the abdomen and the hind wing developed.

2. A submacropterous morph in which the clavus and corium are fused, but the clavus is not elongated, the membrane is shortened leaving the end of the abdominal tergum exposed and the hind wings are reduced to small stubs.

3. A coleopteroid morph in which the corium and clavus are fused into elytra that cover the abdomen and meet evenly along the midline. The membrane is absent as are the hind wings.

Our sample from South Africa is small but includes 3 localities from the Cape, 3 from the Transvaal and 6 from Natal. Oddly all 4 specimens from the Cape are submacropterous (Cape Peninsula Noordhoek Beach 1 Female, Yesterhoutrug Picnic Site 18 mi. NE Knysna 1 Male, 1 Female. Kirstenbosch Gardens 1 Female). *Natal*: St. Lucia Estuary 1 Male coleopteroid, 2 Males, 1 Female submacropterous. Lake St. Lucia, Charters Creek 1 Male, 4 Females macropterous. Mtunzini Plantation, 5 mi. N. Mtunzini 1 Female macropterous. Mkuzi Game Reserve 2 Males coleopteroid. Umkomaas 2 Males submacropterous. Malvern 1 Male macropterous. *Transvaal*: 3 mi. E. Satara Camp, Nwanedzi River, Kruger National 1 Female macropterous. 9 mi. SSW Skukuza, Kruger National Park 3 Males, 4 Females macropterous, 1 Male coleopteroid. Letaba River E. of Olifants Camp, Kruger National Park 1 Female coleopteroid.

This species is widespread almost throughout Africa and also occurs on Aldabra Island. Unfortunately most of our tropical African material has been taken at light so that the incidence of wing dimorphism cannot be evaluated.

In South Africa this species is usually associated with sedges. At Charters Creek, Natal we took numerous adults including coleopteroids on seed heads of a large sedge (*Mariscus conjugatus* CBCL) 5 to 6 feet off the ground. And at Sabie in the Transvaal on *Pycieus lanceus* (Thunberg) Turrill, a sedge growing in standing water.

Wagner (1961) described *Lasiosomoidea nitens* as the monotype of a new genus from Chad. He placed his new genus and species in the tribe Stygnocorini Gulde and related it to *Lasiosomus* Fieber and *Seuratina* Bergevin. Scudder (1970)

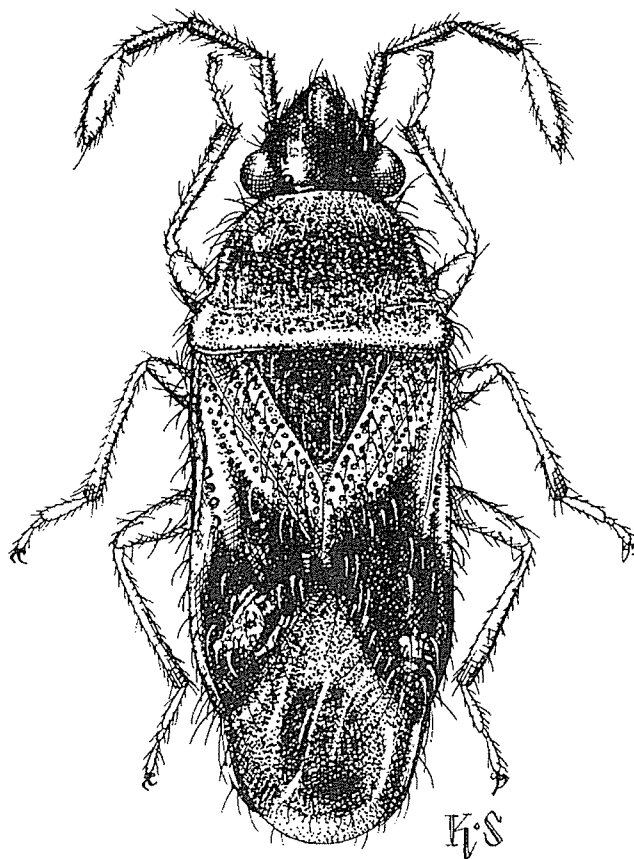


Figure 5. *Lampropunctus hirsutus* Scudder. Dorsal view.

synonymized *Lasiosomoidea* Wagner with *Diniella* and placed it in the Lethaeini.

I have been unable to discover any differences in Wagner's description and figures to differentiate *D. nitens* from *D. laevicollis* and consider the 2 to be synonymous. Wagner's dorsal view drawing is apparently not of the holotype. The latter was said to have been taken at light. The dorsal view drawing however shows a submacropterous morph with the clavus and corium distinct, the latter not elongated and with the membrane reduced to a small flap that does not extend beyond the apex of the corium.

Diniella nitida (Reuter)

Dinia nitida Reuter 1882: 24-25.

This species is very similar to *D. laevicollis* in size and form. Individual specimens are sometimes difficult to distinguish as *D. nitida* has a tendency to have the anterior area of the clavus and corium paler than the posterior area, thus

somewhat resembling the contrasting white and dark markings of *D. laevicollis*. However, actually *D. nitida* is a relatively pale brown to light tan species and always has a pale first antennal segment and males have a spine on the fore femur.

As is *D. laevicollis* this species is very widespread, almost throughout Africa, but appears to be most common in West Africa and is less common than is *D. trispinosa* in the long series that has been examined from East Africa.

It should be noted that all 14 specimens from South Africa are macropterous although collected in the field in similar habitats as were those where flightless morphs of *D. laevicollis* were taken, suggesting that this species rarely if ever occurs in the flightless condition.

Diniella trispinosa Linnavuori

Diniella trispinosa Linnavuori 1978: 72.

As noted by Linnavuori in his original description this species resembles *D. nitida* but is somewhat more robust, has more densely placed punctures over most of the body, is generally darker in color and distinguishable by the fore femoral spines and claval puncture characters as given in the preceding key.

Described by Linnavuori from the Sudan. I have examined a long series taken at lights at Ilonga, Tanzania. It also occurs in West Africa. I have examined 2 specimens from the Ivory Coast (Lamto, 8-9.X.1973 [Linnavuori] and Goumbre 10.IX.1973 [Linnavuori]).

Diniella cognita Scudder

Diniella cognita Scudder 1971: 720-721.

This is a noticeably larger species than most other African members of the genus and nearly uniformly black to dark brown over the entire body. I find that many specimens are however, smaller than the size range given by Linnavuori (1978).

Originally described from Senegal but wide ranging in tropical Africa. I have examined West African specimens from Nigeria and the Ivory Coast. It reaches South Africa at least in the northern tropical Natal corridor.

Material examined: South Africa 1 female Natal: St. Lucia Park, Zululand 20.I.1968 (E. Brinkman). In J.A. Slater collection. (This specimen agrees with other specimens of this species that I

have examined, but I am unable to see a fore femoral spine although what appears to be a "hair-spine" is present).

Diniella marginata (Signoret), n. comb.

Lethaeus marginatus Signoret 1860: 948-949.

Although originally described from Madagascar and previously known only from there it occurs in tropical Africa. I have examined specimens from the Central African Republic, Nigeria, Dahomey and the Ivory Coast.

Lampropunctus hirsutus Scudder (Figure 5)

Lampropunctus hirsutus Scudder 1971: 722-723.

This monotypic species was described by Scudder (1971) from Senegal. It has a much wider distribution in tropical Africa. I have examined material from Tanzania and Gambia and am able here to report it from South Africa for the first time.

All of the South African specimens are macropterous, but I have examined a female submacropter from Gambia with the corium and clavus apparently not fused but the membrane shortened and not extending posteriorly beyond the end of the corium.

Material examined: South Africa: *Transvaal*: 11 males, 11 females Zoutpansberg, 4,500 ft. 5 miles N. Louis Trichardt, 8.V.1968 (SSSS). 1 female Lyttleton 12.I.1968 (J.A. & S. Slater) (at light). In National Collection of Insects (Plant Protection Institute, Pretoria) and J.A. Slater collections.

Lamproceps indicus (Dallas)

Aphanus indicus Dallas 1852: 559.

This is a widespread species in the old world tropics being reported from as far east as the Philippines. In Africa it has been reported from the Cape Verde Islands, Ghana, Ruanda, and Sudan. I have examined specimens from Nigeria, Liberia, Senegal, Gambia, and Tanzania and report it here from South Africa for the first time.

Material examined: South Africa: *Transvaal*: 1 male Kruger National Park 9 miles SSW Skukuza, 26.IV.1968 (SSSS). In J.A. Slater collection.

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