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Revision of the genus *Sparrmannia* Laporte (Coleoptera: Melolonthidae: Melolonthinae)

by

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The African genus *Sparrmannia* Laporte is revised. *Leocaeta* Dejean and *Cephalotrichia* Hope are considered as synonyms. *Sparrmannia gorilla* Gemminger & Harold, *Cephalotrichia bifasciata* Hope and *C. crinicollis* Hope are *nomina nuda*. Twenty-four species are currently recognized in the genus, with 10 species described as new: *S. acicularis, S. angola, S. falcata, S. namibia, S. obscura, S. peringueyi, S. pseudotransvaalica, S. tridactyla, S. ursina, S. vicina*. Lectotypes are designated for the following Péringuey species: *S. transvaalica, S. gonaqua, S. boschimana, S. namaqua, S. prieska. Sparrmannia crinicollis* (Burmeister), comb. nov., and *S. leo* Gyllenhall are Incertae Sedis. A key to the known species in the genus is presented.

INTRODUCTION

Nearly 1400 specimens of *Sparrmannia* were examined from 25 different collections in Africa, Europe, and the United States of America. Many areas in southern Africa remain poorly collected and a number of species are known only from one sex or a very small number of specimens.

Localities are recorded as they appear on the labels. No attempt is made to correct or update spellings. Localities such as 'Caffraria' and 'Cap bona spei' have not been listed in the material examined sections.

New designations for lectotypes and paralectotypes are made for the following species: *S. transvaalica* Péringuey, *S. gonaqua* Péringuey, *S. boschimana* Péringuey, *S. namaqua* Péringuey, *S. prieska* Péringuey. All specimens are labelled with my red lectotype or paralectotype labels.

The illustrations of the labrum and female protarsal claws are intended to assist the reader with identification of various species of *Sparrmannia* in the absence of male specimens, but should not be considered diagnostic. It should be noted that the clypeal/labral illustrations (Figs 27–43) represent the anterior aspect, viewed in a plane parallel to that of the clypeal disc.

I have followed recommendation 6B of the *International Code of Zoological Nomenclature* (1985) with regards to the use of 'superspecies' when referring to an aggregate of species within a genus-group taxon.

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The following abbreviations are used to denote the location of material studied:

ALB – Albany Museum, Grahamstown.
AMNH – American Museum of Natural History, New York.
ARHC – A. R. Hardy, California Department of Food and Agriculture, Sacramento.
AVEC – A. V. Evans, Pretoria.
BASEL – Naturhistorisches Museum Basel, Basel.
BMNH – British Museum (Natural History), London.
CASC – California Academy of Sciences, San Francisco.
CMNH – Carnegie Museum of Natural History, Pittsburgh.
COPE – Zoologisk Museum, Copenhagen.
DMAG – Museum and Art Gallery, Durban.
FMNH – Field Museum of Natural History, Chicago.
HFHC – H. F. Howden, Carleton University, Ottawa.
HCOX – Hope Department of Entomology, Oxford.
HUNG – Termeszettudomanyi Muzeum Allattara, Budapest.
IRSNB – Institut Royal des Sciences Naturelles de Belgique, Bruxelles.
LACM – Natural History Museum of Los Angeles County, Los Angeles.
MUN – Zoologische Staatssammlung, Munich.
NCI – National Collection of Insects, Pretoria.
NMBH – National Museum, Bloemfontein.
SAM – South African Museum, Cape Town.
SMWN – State Museum, Windhoek.
STOCK – Naturhistoriska Riksmuseet, Stockholm.
TM – Transvaal Museum, Pretoria.
USNM – United States National Museum, Washington, D.C.
WIEN – Naturhistoriches Museum Wien, Vienna.
ZMHU – Museum für Naturkunde der Humboldt-Universität, Berlin.

HISTORICAL CLASSIFICATION

Dejean's catalogue (1833) is one of the first works to create new genera for species of the genus *Melolontha* Fabricius. His genera *Leocaeta* and *Lagosterna* included *Melolontha alopex* Fabricius and *Lagosterna flavofasciata* Dejean respectively. *Lagosterna* is considered to be a manuscript name since it did not include a previously described species.

Hope (1837) erected *Cephalotrichia* (a name which he attributed to Kirby), provided a brief description, and clearly designated *Melolontha alopex* Fabricius as the type of the genus. Laporte (1840) erected *Sparmannia* as a subgroup of *Melolontha*, including *M. alopex* Fabricius and *M. brunnipennis* Laporte. Erichson (1847) erected the genus *Leontochaeta* with a brief description, but did not include any species. Blanchard (1851) elevated *Sparmannia* to the generic level, synonomized *Cephalotrichia* Hope and listed only one species, *S. alopex* (Fabricius). Burmeister (1855) considered Erichson's *Leontochaeta* valid and placed *Leocaeta* and *Lagosterna* (as *Lachnosterna*) of Dejean, as well as *Sparmannia* and *Sebaris* of Laporte, into synonymy under *Leontochaeta*. Further, he considered *Cephalotrichia* as valid and described *C. crinicollis* (not Hope, 1837, see

comments under this species in Incertae Sedis).

In 1856, Lacordaire followed of Erichson (1847) by recognizing *Leontochaeta* as valid and synonymized *Leocaeta* (as *Leocoeta*), *Lagosterna*, and *Sparmannia*, stating that the original proposals of these names were invalid. He went on to designate *M. alopex* as the type-species of *Leontochaeta*.

Gemminger and Harold (1869) emended *Sparmannia* to *Sparrmannia* on the basis of the incorrect original spelling of the patronymic stem Sparrman and synonymized *Leocaeta*, *Lagosterna*, and *Leontochaeta*.

Péringuey (1904) has provided the only comprehensive review of the genus *Sparrmannia*. Dalla Torre (1913) accepted the synonymies of Gemminger and Harold (1869) and added the species of Péringuey (1888, 1904) and Nonfried (1906) in his catalogue.

Arrow (1917) was the last worker to treat the genus, adding two new species. He also dealt with taxonomic problems concerning *S. alopex*.

There are two available names (*Leocaeta* Dejean and *Cephalotrichia* Hope) which predate Laporte's *Sparrmannia*. Although *Leocaeta* was considered by some workers to be invalid, Dejean's generic concepts were considered valid and were followed by a number of workers (i.e. *Leontochaeta* Erichson, 1847). Article 12 of the *International Code of Zoological Nomenclature* (1985) would support the grounds on which many of Dejean's genera were based. This, however, does not serve the interests of stability (Art. 23b). *Leocaeta* Dejean has been treated as a synonym since its inception and has remained unused since.

To promote stability (Art. 23b), *Sparrmannia* Laporte should be considered valid and *Leocaeta* Dejean and *Cephalotrichia* Hope suppressed. This case will be submitted to the Commission.

Despite the clear indication of *M. alopex* as the type-species of *Cephalotrichia*, the catalogues have consistently listed only two taxa (*C. bifasciata* Hope and *C. crinicollis* Hope), both of which are *nomina nuda*. The specimens bearing Hope's type labels have been examined and correspond with *S. flavofasciata* (Burmeister) and *S. capicola* Péringuey respectively.

Sparrmannia Laporte was considered valid by Blanchard (1851), Gemminger and Harold (1869), Péringuey (1888, 1904), Dalla Torre (1913), and Arrow (1917) and has remained in use with the addition of new species by Péringuey (1904), Nonfried (1906), and Arrow (1917).

Péringuey (1904) erected a new tribe for *Sparrmannia*, the Sparrmannini. He also mentioned the presence of 11 antennal segments. There are, however, only 10 segments, as pointed out by Arrow (1943).

Sparrmannia is currently placed in the tribe Pachydemini (sensu Dalla Torre 1913). However, this tribe has not been adequately defined. Further work is required before the true tribal relationships of this and other genera included within the Pachydemini can be determined.

SYSTEMATICS

Genus *Sparrmannia* Laporte

Sparmannia Laporte, 1840: 132; Blanchard 1851: 162.

Sparrmannia, Gemminger & Harold 1969: 1184; Péringuey 1888: 103, 1904: 172; Dalla Torre 1913: 291; Arrow 1917: 59.

Spaarmania, Nonfried 1906: 220 (error).

Leocaeta Dejean, 1833: 175; 1836: 176. **syn. nov.**
Cephalotrichia Hope, 1837: 102. **syn. nov.**
Leontochaeta Erichson, 1848: 654; Burmeister, 1855: 433; Lacordaire 1856: 304.

Type-species: *Melolontha alopex* Fabricius, present designation.

Adult

Description: Melolonthinae; robust, 10,5–25,5 mm long; head and pronotum sparsely to densely pilose. *Head* with labrium broadly deeply incised or emarginate; mandibles notched; maxillary palps 4-segmented; maxillae well-developed, galea and lacinia dentate; labial palpi 3-segmented; antennae 10-segmented, first and third segments long, subequal, second segment short, transverse, club 7-segmented; clypeus transverse; clypeal suture plane; frons coarsely punctate, pilose; vertex broadly impunctate. *Pronotum* transverse, convex, pilose, integument often obscured; anterior margin membranous medially; anterior angles slightly produced; without protuberances or excavations. *Elytra* long, not covering propygidium; lateral margins subparallel; humeri distinct; disc irregularly punctate, occasionally punctostriate, interstriae vague, never

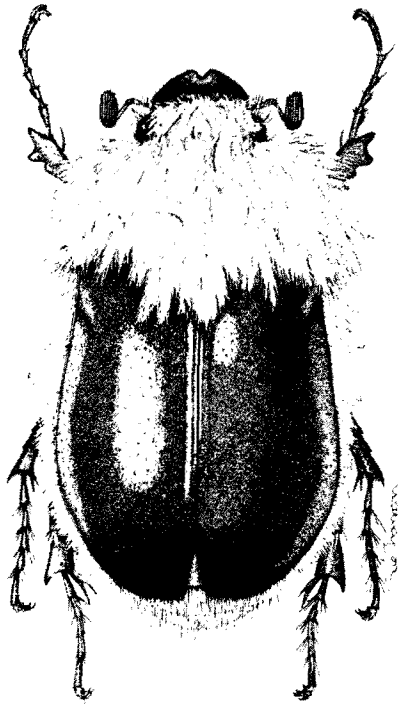
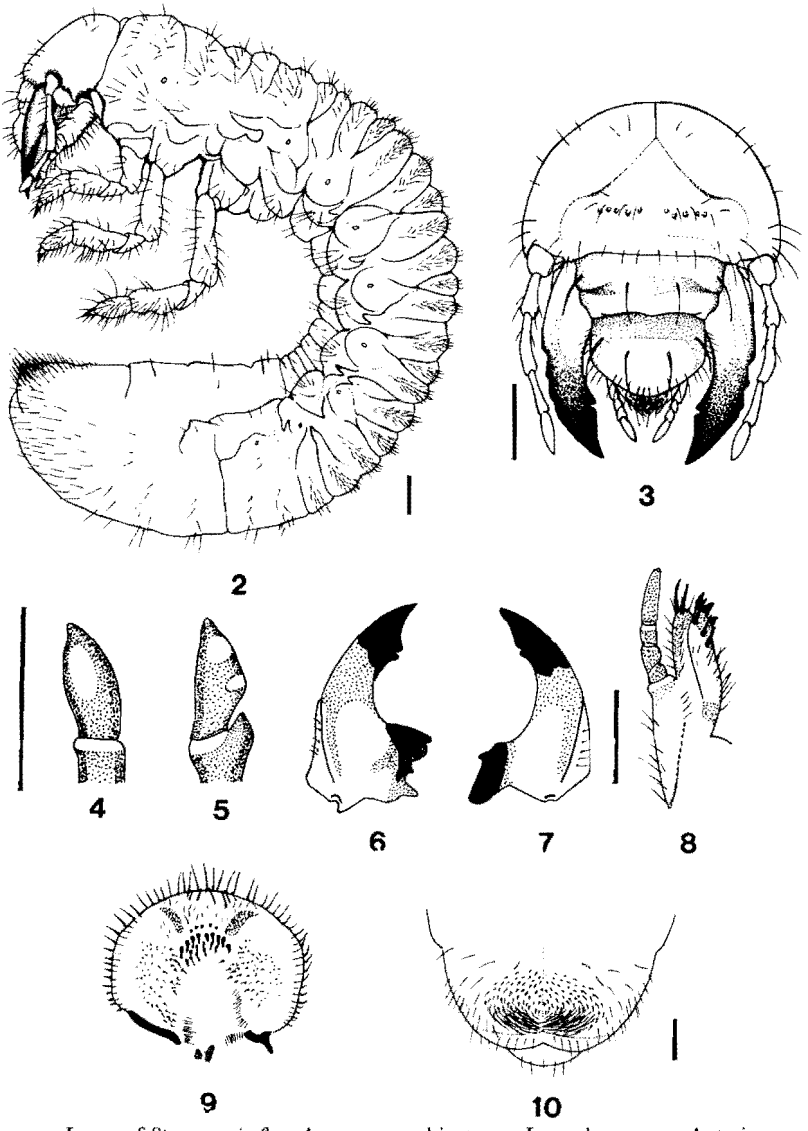


Fig. 1. *Sparrmannia alopex* (Fabricius), dorsal habitus. Actual size = 22,0 mm long.



Figs. 2–10. Larva of *Sparrmannia flava* Arrow, second instar. 2. Lateral aspect. 3. Anterior aspect of head. 4–5. Fourth antennal segment. 4. Dorsal aspect. 5. Ventrolateral aspect. 6–7. Mandibles, dorsal aspect. 6. Left. 7. Right. 8. Left maxillae, dorsal aspect. 9. Epipharynx, ventral aspect. 10. Raster. Scale bars = 1,0 mm. Figs 1 and 2 are not entirely accurate with regards to antennal segmentation, shape of the spiracular plates, metatarsal claws, frontal and clypeal setation, and the anterior margin of the epipharynx.

raised; sparsely setose basally; posterior declivity absent. *Metathoracic wings* fully developed in both sexes. *Pygidium* triangular, vertical. *Venter* with femora and thoracic sterna pilose. *Abdomen* with six visible sterna rounded laterally, without pleural ridges; sternal sutures distinct or obliterated medially; broad membrane present between fifth and sixth visible sterna; propygidium fused with fifth sternite, suture indistinct anteriorly; spiracles located medially at extreme lateral portions of sternites, 7th pair of spiracles located posteriorly in suture. *Legs* with protibiae tridentate in both sexes, apical spurs present; claws bifid or toothed; metafemora broad; metatibiae spinose with short carinae or briefly interrupted transverse carinae, or simply with transverse carinae; metatibial apices expanded; metatibial corbulae without dentiform process; metatibial apical spurs often spatulate. *Male genitalia* with parameres fused basally.

Sexual dimorphism: Males are usually distinguished by bifid meso- and metatarsal claws, except in *S. distincta* Péringuey, *S. namibia,* spec. nov., *S. discrepans* Péringuey, *S. obscura,* spec. nov. and *S. capicola* Péringuey, in which the claws are toothed. Females of all species have toothed claws.

The spatulate apical metatibial spurs are occasionally broader in the females than in the males. In many species, the female pygidium is impressed subapically, while that of the male is convex or flattened. The traditional sexual characters of relative antennal club length and concavity or convexity of the abdomen are rarely diagnostic.

Adults are readily distinguished from all other Afrotropical Melolonthinae by the following characters: Antennae 10-segmented, club 7-segmented, third antennal segment distinctly longer than adjacent segments; sharply dentate maxillae; anterior pronotal margin membranous medially.

Larvae

The following description is based on three second-stage larvae of *Sparrmannia flava* Arrow collected from burrows underneath a springbok dung midden, SOUTH AFRICA: Cape Province, Kalahari-Gemsbok Park, air strip, Twee Rivieren, 26°27′ S, 20°34′ E, 20/23–i–1986, A. V. Evans, C. H. Scholtz. The terminology of Ritcher (1966) is used.

Description: Larva typically scarabaeiform, C-shaped (Fig. 2). Head light yellowish-brown, body whitish.

Head capsule (Fig. 3) 3,7 mm maximum width, surface smooth; epicranial stem present, frontal sutures distinct; 3 dorsal epicranial setae on each side; frontal area with 14 setae on either side, borne in distinct punctures; 14 equidistant setae along apical margin; frontoclypeal suture distinct; clypeus with 1 medial and 2 lateral setae on either side; labrum broadly arcuate apically with scattered setae, most numerous along lateral and apical margins. Antennae 4-segmented, segment 3 slightly extended underneath 4; segment 4 shorter than 3 with 1 elliptical dorsal sensory spot and 2 ventral sensory spots (Figs 4–5), apex with short setae. Epipharynx (Fig. 9) with paired epizygum present; tormae not fused, asymmetrical, without epitormae, with pternotorma; haptolachis with 2 nesia: 1 sensory cone, 1 sclerotized plate; chaetopariae with 29–30 strong chetae on either side of midline. Mandibles (Fig. 6–7) elongate, external margins with several small notches medially; scissorial area with a distinct apical tooth and 2 subapical teeth; molar area well-developed. Maxillae (Fig. 8) with galea and lacinia fused, suture evident distally; galea without teeth; lacinia tridentate; maxillary palpi 4-segmented; dorsal surface of stipes with longitudinal row of 15 short, conical stridulatory teeth. Labial palpi 2-segmented.

Abdominal segments 1–7 each with 3 dorsal lobes, each lobe setose. Spiracular plates progressively smaller posteriorly, occurring on the prothorax and on abdominal segments 1–8; prothoracic plate reniform, emarginate posteriorly; abdominal plates reniform, emarginate anteriorly. Legs 4-segmented; pro- and mesolegs with a well-developed single claw, metaleg with short weakly developed claw. Raster as in Fig. 10. Anal opening Y-shaped, with broad dorsal lobe and 2 broad ventral lobes.

BIOLOGY

The larvae of *S. flava* Arrow were recently discovered in the Kalahari-Gemsbok Park (Scholtz 1988). Larval burrows were encountered in and around springbok dung middens. The larvae apparently leave their burrows in search of dung pellets, often travelling considerable distances. Once they find a suitable pellet, another burrow is constructed in which they bury themselves and the pellet and begin to feed. Larvae reached adulthood in the laboratory by being fed sheep droppings. Péringuey (1904) speculated that some species of *Sparrmannia* develop in termite mounds, but this has not yet been confirmed.

Sparrmannia flavofasciata (Burmeister) and *S. bechuana* Péringuey are apparently diurnal, while the remaining species are either crepuscular or nocturnal. Several species have been encountered by the hundreds, either in mating swarms at dusk (Péringuey, 1904) or at lights.

Gut content analysis revealed the prescence of plant material in all species. However, none of the material examined was accompanied by host plant information. Extensive searching of potential host plants during flights of *S. transvaalica* Péringuey and *S. ursina*, spec. nov. failed to locate individuals feeding or mating.

Males appear early in the season, while females seem to constitute the majority of the population at the end of the activity period. Males and females may be taken in equal numbers during peak flight periods.

SPECIES IDENTIFICATION

As in most melolonthine groups, it is the characters of the male, particularly the claws and genitalia, which provide the most reliable characters for species identification. I have made every attempt to avoid using solely male characters in the major dichotomies. Unassociated females can only be narrowed down to groups of 2–4 species, with the exception of the bicolourous species which are easily distinguishable.

The base of the labrum is either distinctly separated from the clypeus or firmly appressed. I have seen a few examples in the *Sparrmannia* (superspecies *flavofasciata*) where the labrum has become slightly or distinctly disarticulated from the clypeus. Care should be taken in assessing the condition of the specimen.

Key to the species and superspecies of *Sparramannia* Laporte

1 Labrum distinctly separated from clypeus (Figs 39–43) 2
— Labrum appressed to clypeus (Figs 27–38) [*Sparrmannia* (superspecies *flavofasciata*)] 4
2 Metatibiae spinose (Figs 13–15) 3
— Metatibiae carinate (Figs 11–12) [*Sparrmannia* (superspecies *transvaalica*)] 15
3 Clypeal margin not angulate; pronotum densely pilose, integument invisible; elytra shallowly punctate [*Sparrmannia* (superspecies *alopex*)] 16
— Clypeal margin angulate; pronotum moderately pilose, integument visible; elytra deeply punctate [*Sparrmannia* (superspecies *distincta*)] 19

4 Pronotum black; elytra bicolourous, either with black margins or broad transverse black bands 5
— Pronotum never piceous; elytra unicolourous, sometimes with margins darkened, never black 6
5 Elytra with a basal and apical transverse black bands, broad, transverse yellowish-brown medially; first lamellar segment 3/4 the length of the second; pygidium of female convex or slightly flattened basally; 14,5–17,5 mm long (Lesotho; Cape; Orange Free State; Natal; Transvaal) ..... *S. flavofasciata* (Burmeister)
— Elytra transluscent with narrow black margins and suture; first lamellar segment less than 1/2 the length of the second; pygidium of female distinctly impressed apically; 12,0–13,5 mm long (Namibia; n. Cape) ..... *S. bechuana* Péringuey
6 Clypeal margin distinctly incised medially 7
— Clypeal margin entire or slightly emarginate medially, never incised 8
7 Labrum narrowly, deeply emarginate (Fig. 29); protarsal claws of male bifid, lower ramus broad, truncate (Fig. 78) (Angola) ..... *S. angola*, spec. nov.
— Labrum broadly, shallowly emarginate (Fig. 30); protarsal claws of male simple (Fig. 31) (Cape) ..... *S. prieska* Péringuey
8 Protarsal claws of male equal, either toothed, or bifid 9
— Protarsal claws of male unequal, outer toothed, inner bifid (Fig. 77) .. *S. tridactlya*, spec. nov.
9 Apex of metatibiae with setigerous punctures along entire outer margin 10
— Apex of metatibiae without setigerous punctures along entire outer margin 13
10 Metatibial carinae straight 11
— metatibial carinae sinuate 12
11 Protarsal claws of male toothed; male genitalia as in Figs 49–50 (w. Botswana, Namibia, n. Cape Province) ..... *S. acicularis*, spec. nov.
— Protarsal claws of male bifid; male genitalia as in Figs 51–52 (Transvaal) ..... *S. fusciventris* (Boheman)
12 Male genitalia as in Figs 53–54 ..... *S. falcata*, spec. nov.
— Male genitalia as in Fig. 55 ..... *S. ursina*, spec. nov.
13 Metatibial apices with setigerous punctures 14
— Metatibial apices without setigerous punctures ..... *S. peringueyi*, spec. nov.
14 Male genitalia as in Fig. 57 ..... *S. namaqua* Péringuey
— Male genitalia as in Fig. 58 ..... *S. gonaqua* Péringuey
— Male genitalia as in Fig. 59 ..... *S. boschimana* Péringuey
15 Clypeus with distinct angulate processes (Fig. 21); metatibial carinae straight (Fig. 12); apical setigerous punctures on metatibiae subcontiguous; male genitalia as in Fig. 60 (Angola; Botswana; n. Cape; Transvaal) ..... *S. transvaalica* Péringuey
— Clypeus without distinct processes (Fig. 22); metatibial carinae sinuous (Fig. 11); apical setigerous punctures on metatibiae separated by their own widths; male genitalia as in Fig. 61 (e. Transvaal) ..... *S. pseudotransvaalica*, spec. nov.
16 Protarsal claws of male bifid 17
— Protarsal claws of male with small basal tooth ..... *S. capicola* Péringuey
17 Protarsal claws of male with rami subequal in length (Fig. 88); elytra dark brown (Cape), south of the Grootswartberge) ..... *S. alopex* (Fabricius)
— Protarsal claws of male with lower rami longer than the upper rami (Figs 89–90); elytra yellowish-brown to pale brown (Namibia, South Africa, north of Grootswartberge) 20
18 Parameres with basal projection (Figs 64–65) (Namibia; Cape) ..... *S. flava* Arrow
— Parameres without basal projection (Fig. 66) (Namibia) ..... *S. similis* Arrow
— Parameres without basal projection (Fig. 67) (Angola) ..... *S. vicina*, spec. nov.
19 Protarsal claws of male toothed (Figs 92–95) 20
— Protarsal claws of male bifid (Fig. 91) ..... *S. dekindti* Nonfried
20 Lateral clypeal margins angulate (Figs 23, 24, 26) 21
— Lateral clypeal margins rounded (Fig. 25) (South Africa) ..... *S. distincta* Péringuey

21 Lateral clypeal margins as in Fig. 23; male protarsal claws as in Fig. 92; male genitalia as in Fig. 69 (Malawi, Zimbabwe, Botswana) ..... *S. discrepans* Péringuey
— Lateral clypeal margins as in Fig. 24; male protarsal claws as in Fig. 93; male genitalia as in Fig. 70 (Namibia) ..... *S. namibia*, spec. nov.
— Lateral clypeal margins as in Fig. 26; male protarsal claws as in Fig. 95; male genitalia as in Fig. 72 (South Africa) ..... *S. obscura*, spec. nov.

Sparrmannia (superspecies *flavofasciata*)

Diagnostic characters: labrum emarginate, long, appressed to clypeus (Figs 27–38); metatibiae transversely carinate; male meso- and metatarsal claws bifid, female claws toothed.

Sparrmannia flavofasciata (Burmeister), Figs 18, 27, 44, 73, 96

Leontochaeta flavofasciata Burmeister, 1855: 435.
Sparrmannia flavofasciata Gemminger & Harold 1869: 1184; Péringuey 1904: 174.

Type: Holotype, Univ. Halle (not available).

Description – male: 16, 0–18,0 mm long. *Head* black, with labrum as in Fig. 27; clypeus with lateral margins rounded, anterior margin distinctly angulate with broad, medial emargination (Fig. 18); clypeal disc glabrous, impunctate; clypeal suture distinct, shallowly, broadly emarginate medially; frons densely pilose, integument visible, rugose, with coarse, contiguous setigerous punctures. *Pronotum* black, densely pilose, integument visible, broadest at middle; anterolateral margins slightly sinuate; posterolateral margins straight; posterior margin broadly sinuous before broadly rounded angles; disc with yellowish recumbent pile, surface granulose, with longitudinal, shining, medial impunctate band, lateral portions with white recumbent pile. *Elytra* black at basal and apical 1/3, with a medially transverse yellowish-brown band, suture black; lateral margins broadest medially; scattered sparse setigerous punctures basally, remaining surface irregularly punctate, glabrous. *Pygidium* black; convex, length shorter than basal width, rounded apically; surface alutaceous, with sparse setigerous punctures, setae short, white, recumbent. *Legs*, with protarsal claws toothed (Fig. 73); metatibiae with complete, straight, oblique, setigerous subapical carinae; metatibial apices entirely spinose. *Genitalia* as in Fig. 44.

Female: Similar to male; pygidium convex or slightly flattened; claws toothed (Fig. 96).

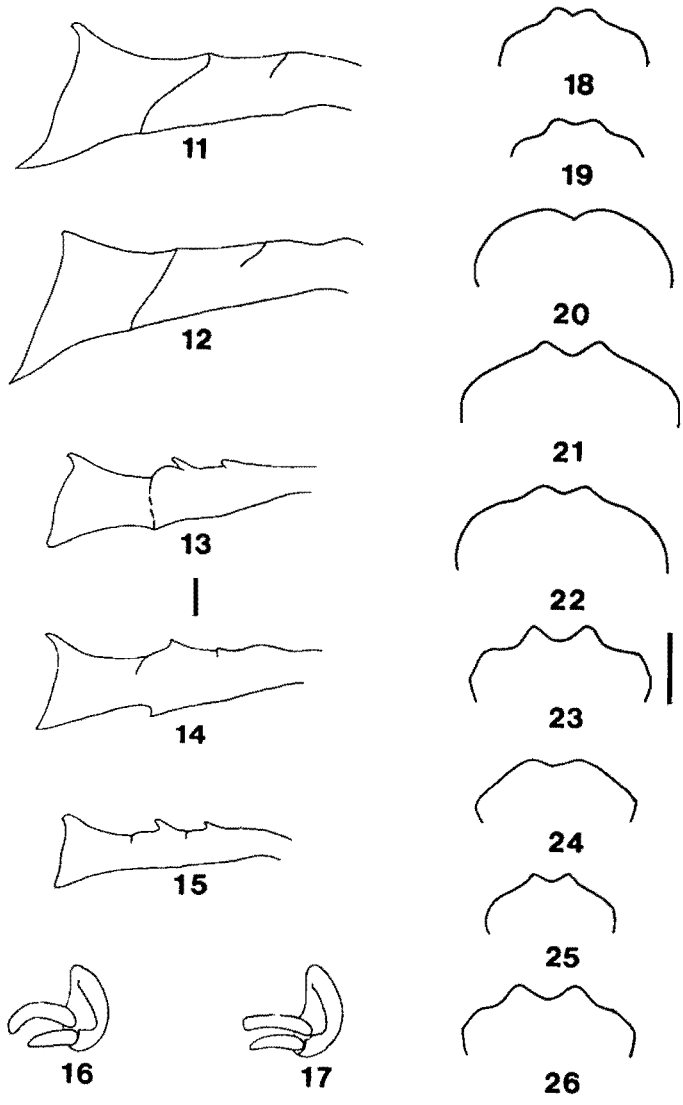
Material Examined: 47 (ALB, AVEC, BASEL, COPE, FMNH, HCOX, MUN, NCI, IRSNB, TM). LESOTHO: Mamathes. SOUTH AFRICA: CAPE PROVINCE: Herschell; Maddernek. ORANGE FREE STATE: Clarens; Parys. TRANSVAAL: Nylstroom; Silverton.

Not located: Burdberg. 'dorp'.

Months of collection: January through April.

Remarks: In some specimens of *S. flavofasciata* the anterior margin of the clypeus is slightly sinuate before the dentiform processes, where others are more rounded. The extent of the basal and apical black areas found on the elytra varies as well.

Sparrmannia flavofasciata is similar to the only other bicolourous species, *S. bechuana*, but may be distinguished by its larger size, the less produced and more



Figs. 11–26. *Sparrmannia* spp. 11–15. Right metatibia. 16–17. Right metatibial apex. 18–26. Clypeal margin. 12, 21. *S. transvaalica* Péringuey. 11, 22. *S. pseudotransvaalica*, **spec. nov.** 13. *S. capicola* Péringuey. 14, 20. *S. alopex* (Fabricius). 15, 25. *S. distincta* Péringuey. 16. *S. tridactyla*, spec. nov. 17. *S. acicularis*, **spec. nov.** 18. *S. flavofasciata* (Burmeister). 19. *S. bechuana* Péringuey. 23. *S. discrepans* Péringuey. 24. *S. namibia*, **spec. nov.** 26. *S. obscura*, **spec. nov.** Scale bars = 1,0 mm.

rounded clypeal angles, the shape of the male protarsal claws, the black transverse elytral bands at the basal and apical 1/3, with a broad, transverse yellowish band medially, the convex female pygidium, and by the male genitalia.

Dejean (1833, 1836) listed *Lagosterna flavofasciata* in his catalogue without a description. Hope (1837) mentioned *Cephalotrichia bifasciata* and failed also to provide a description. Both of these names are therefore considered as *nomina nuda*. Burmeister (1855) attributed the authorship of *Leontochaeta flavofasciata* to Dejean. I have examined the type specimen of Hope's (1837) *C. bifasciata* and find it conspecific with *S. flavofasciata*.

Sparrmannia bechuana Péringuey, Figs 19, 28, 45, 74, 97

Sparrmannia bechuana Péringuey, 1904: 180.

Description – male: 10,5–13,5 mm long. *Head* with labrum as in Fig. 28; clypeus with lateral margins rounded, anterior margin distinctly angulate with medial emargination (Fig. 19); clypeal disc with large, scattered, setigerous punctures, setae pale; clypeal suture distinct, straight; frons pilose, with large, contiguous, setigerous punctures, setae long, whitish, appressed posteriorly. *Pronotum* sparsely pilose, integument visible, broadest medially; anterolateral margins rounded; posterolateral margins straight; posterior margin broadly rounded, slightly sinuate just before broadly rounded angles, densely pilose beneath, setae erect, yellowish medially, white laterally; anterior surface coarsely, setigerously punctate, sparsely setose, setae long, appressed, yellowish; disc with median longitudinal, shining, impunctate band; lateral portions more densely setose, setae long, white. *Elytra* amber, margins and suture black; lateral margins slightly attenuated posteriorly before middle; base with setigerous punctures, setae long, whitish, remaining surface irregularly punctate, glabrous. *Pygidium* black; convex, length shorter than basal width, rounded apically; surface scabrous with transverse medial portion densely setose, setae white. *Legs* with protarsal claws toothed (Fig. 74); metatibiae with complete, sinuous, subapical carinae; metatibial apices entirely spinose. *Genitalia* as in Fig. 45.

Female: Similar to male; pygidium with a distinct, transverse impression basally, less scabrous and setose; protarsal claws toothed (Fig. 97).

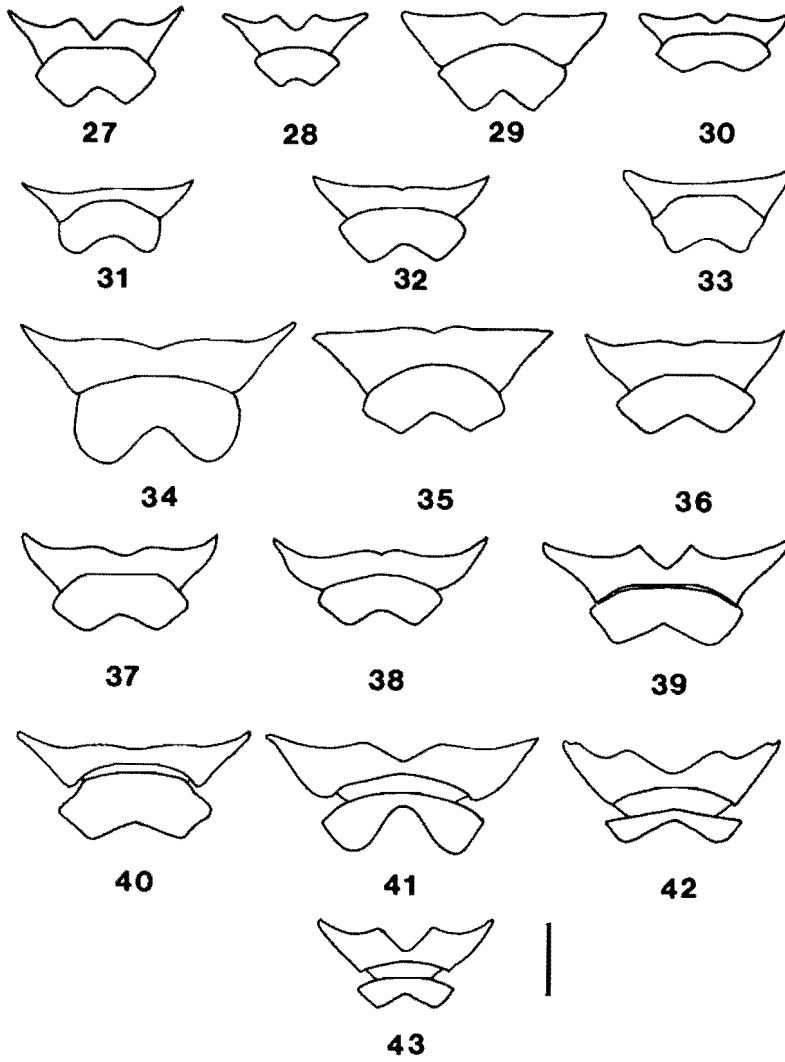
MATERIAL EXAMINED: Holotype male, Bechuana Ld., F. Trehaven, 1899 (SAM Type No. 3305). Additional material examined: 36 (AMNH, AVEC, DMAG, NCI, NMBH, SAM, SMWN, TM). BOTSWANA: Kopies (Mabela a Pudi). NAMIBIA: Alt-Seeis 133, 22°32′ S, 17°38′ E; Richtofen 126, 22°34′ S, 17°45′ E; 8–25 km ESE Seeis; 45 km E Seeis. SOUTH AFRICA: CAPE PROVINCE: Gemsbok Pan; Kimberley; Kuruman Rivier Jct. ORANGE FREE STATE: Kroonstadt; Sophiasdal 280, Hoopstad, SE27.25Dc.

Months of collection: February through May.

Remarks: *Sparrmannia bechuana* may be readily distinguished from *S. flavofasciata* by its smaller size, more sharply produced clypeal angles, male protarsal claws, amber coloured elytra with black margins and suture, the basally impressed pygidium of female, and the male genitalia.

Sparrmannia angola, spec. nov., Figs 29, 46, 75, 98

Description – male: 14,0–15,5 mm. *Head* with labrum as in Fig. 29; clypeus with lateral margins narrowly rounded at base, anterior margin weakly angulate, angles



Figs. 27–43. *Sparrmannia* spp. Labrum and clypeus, anterior aspect. 27. *S. flavofasciata* (Burmeister). 28. *S. bechuana* Péringuey. 29. *S. angola*, **spec. nov.** 30. *S. prieska* Péringuey. 31. *S. tridactyla*, **spec. nov.** 32. *S. acicularis*, **spec. nov.** 33. *S. fusciventris* (Boheman). 34. *S. ursina*, **spec. nov.** 35. *S. peringueyi*, **spec. nov.** 36. *S. namaqua* Péringuey. 37. *S. gonaqua* Péringuey. 38. *S. boschimana* Péringuey. 39. *S. transvaalica* Péringuey. 40. *S. pseudotransvaalica*, **spec. nov.** 41. *S. alopex* (Fabricius). 42. *S. discrepans* Péringuey. 43. *S. distincta* Péringuey. Scale bar = 1,0 mm.

slightly projecting before medial incision; reflexed portion of clypeus and disc with small, deep, setigerous punctures, setae yellowish; clypeal suture obscured by yellowish setae; frons, vertex obscured by long yellowish setae. *Pronotum* with integument obscured by long yellowish setae. *Elytra* dark yellowish-brown; lateral margins broadest medially; disc deeply, irregularly punctate. *Pygidium* dark yellowish-brown; convex, length subequal to basal width, rounded apically; surface alutaceous, with scattered setigerous punctures, setae yellowish, erect. *Legs* with protarsal claws toothed as in Fig. 75; metatibiae briefly carinate; metatibial apices without spines. *Genitalia* as in Fig. 46.

Female: Semilar to male; pygidium convex: protarsal claws as in Fig. 98.

MATERIAL EXAMINED: Holotype male, ANGOLA, Pastoril do Sul, Mocamedes, SE1512Ba, 8/10–v–1974, H18907, (SMWN No. T1167) 5 paratypes, same data as holotype (AVEC, SMWN).

Remarks: This species is similar to *S. prieska* in its small size and incised clypeus, but may be readily distinguished by the short broad tooth of the male protarsal claws and the male genitalia.

Sparrmannia prieska Péringuey, Figs 30, 47, 76

Sparrmannia prieska Péringuey, 1904:177.

Description – male: 12,0–13,0 mm long. *Head* with labrum as in Fig. 30; clypeus with lateral margins rounded, anterior margin straight to medial incision; clypeal disc coarsely, setigerously punctured, setae yellowish; clypeal suture narrowly obscured medially; frons finely setigerously punctate; setae long, yellowish, suberect. *Pronotum* with integument obscured by long yellowish setae. *Elytra* yellowish-brown with darkened margins; lateral margins broadest behind middle; disc coarsely, irregularly punctured. *Pygidium* yellowish-brown; convex, slightly longer than basal width, rounded apically; surface alutaceous, with scattered setigerous punctures, setae yellowish, suberect. *Legs* with protarsal claws toothed (Fig. 47); complete metatibial carinae sinuate, metatibial apices without spines on outer margin. *Genitalia* as in Fig. 76.

Female: Similar to male; pygidium convex; protarsal anterior claws as in males.

MATERIAL EXAMINED: Lectotype male, no data (NCI); 6 paralectotypes, no data (NCI, SAM Type No. 3299) (new designations). Additional material examined: 15 (ARHC, AVEC, NCI, NMBH, SAM, TM). SOUTH AFRICA: CAPE PROVINCE: Hope Town; 10 mi. N Pella, SE28.19Cc, bank of Orange River. ORANGE FREE STATE: die duinen on Middlewater, 29°24′ S, 22°28′ E; Mowbray 287, Ladybrand, SE29.27Ab.

Months of collection: September, October.

Remarks: *Sparrmannia prieska* may be distinguished from other members of the super species *flavofasciata* by the broadly emarginate labrum, incised clypeus, simple male protarsal claws, darkened elytral margins, and the male genitalia. It is similar to *S. angola*, but may be distinguished by the broadly emarginate labrum, male protarsal claws, and the male genitalia.

The lectotype (with genitalia extracted) and paralectotypes all bear Péringuey's handwritten type labels. Péringuey (1904) records the type-localities as 'Cape Colony (Hope Town, Prieska)'.

Sparrmannia tridactyla, spec. nov., Figs 16, 31, 48, 77, 99

Description – male: 12,0–14,0 mm long. *Head* with labrum as in Fig. 31; clypeus with lateral margins rounded, anterior margin broadly arcuate, slightly emarginate medially; clypeal disc impunctate or with small, shallow, scattered punctures, glabrous; clypeal suture transverse medially, sometimes narrowly obscured medially; frons finely tuberculate, pilose, setae yellowish, suberect. *Pronotum* with integument usually obscured by long yellowish setae; surface finely tuberculate. *Elytra* yellowish-brown, with margins slightly darker than disc; lateral margins broadest behind middle; sparsely setose at basal 1/3, setigerous punctures small, dark, tuberculate; disc weakly punctostriate. *Pygidium* yellowish-brown; convex, length subequal to basal width, bluntly truncate apically; surface alutaceous, with scattered setigerous punctures, setae white, erect. *Legs* with inner protarsal claw toothed, outer claw bifid (Fig. 77); complete metatibial carinae straight; apical metatibial spines curved (Fig. 16); metatibial apices entirely spinose. *Genitalia* as in Fig. 48.

Female: Similar to male; pygidium with distinct lateral subapical impressions; anterior claws toothed (Fig. 99).

MATERIAL EXAMINED: Holotype male, SWA, duneveld, S. Kahlahari, ix.1957, C. Koch (TM). 17 paratypes (AVEC, TN). NAMIBIA: same data as holotype; Kahlahari P., Twee Rivieren, 26°00 S, 20°15′ E, 2–x–1973, E-Y: 186, singled on dunes, L. Schulze; Kalahari, Fm. Chulon Narib. Ost., 24°10′ S, 17°42′ E, 14–viii–1974, groundtraps, 45 days, Penrith; Bayib Pan, Sept. 1959. SOUTH AFRICA: CAPE PROVINCE: Mata Mata, S. Kalahari, ix–1957, C. Koch; Twee Rivieren, Kalahari Gemsbok Park Exp., 11/20–ii–1958.

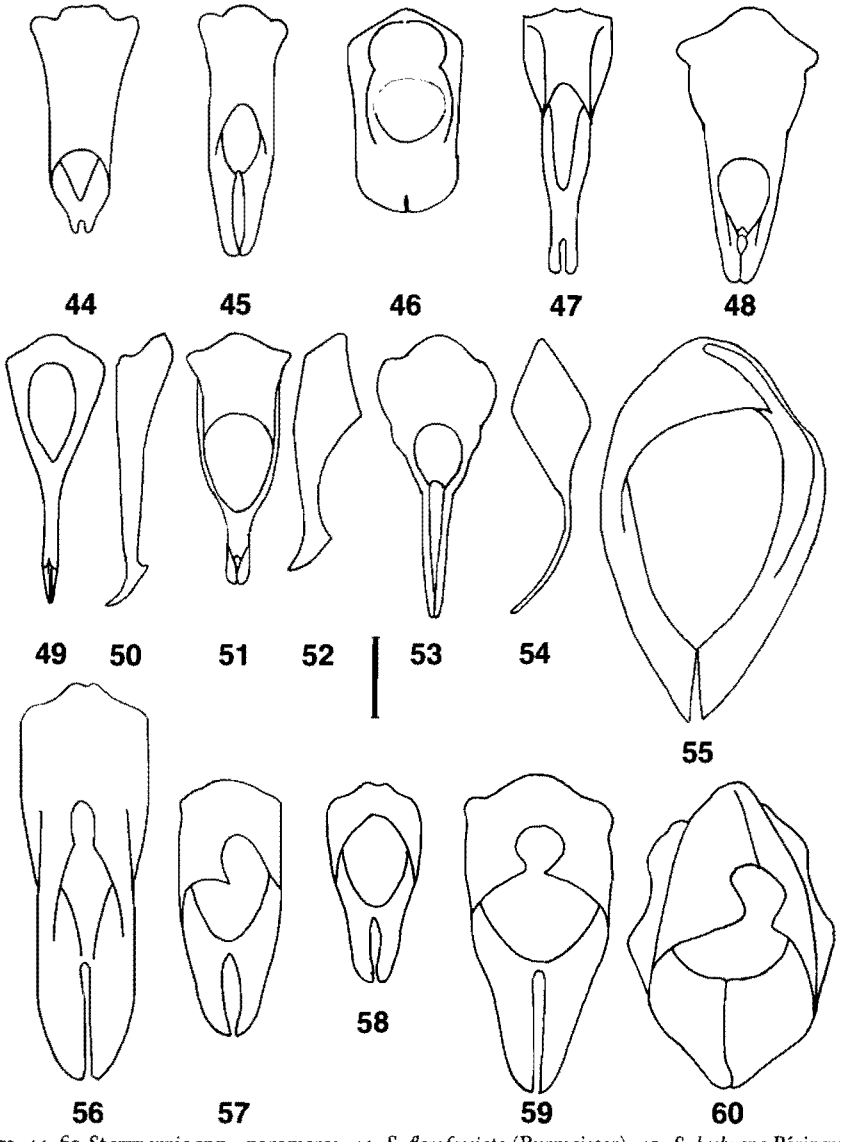
Remarks: Male *Sparrmannia tridactyla* may be distinguished from all other species in the genus by the toothed inner protarsal claws and the genitalia. Females are distinguished by the entire clypeal margin and the distinct, lateral subapical impressions on the pygidium. *S. tridactyla* is similar to *S. acicularis*, spec. nov., but may be distinguished by the curved metatibial spines and the male genitalia.

Sparrmannia acicularis, spec. nov., Figs 17, 32, 49, 50, 78, 100

Description – male: 14,0–16,5 mm long. *Head* with labrum as in Fig. 32; clypeus with lateral margins rounded, anterior margin broadly arcuate, slightly emarginate medially; clypeal disc shining, impunctate or with small, shallow, scattered punctures, glabrous; clypeal suture transverse medially, sometimes narrowly obscured medially; frons finely tuberculate, pilose, setae yellowish, suberect. *Pronotum* with integument usually obscured by long yellowish setae; surface finely tuberculate. *Elytra* yellowish-brown, with margins slightly darker than disc; lateral margins broadest behind middle; sparsely setose at basal 1/3, setigerous punctures small, dark, tuberculate; disc weakly punctostriate. *Pygidium* yellowish-brown; convex, length subequal to basal width, bluntly truncate apically; surface alutaceous, with scattered setae white, erect. *Legs* with protarsal claws bifid (Fig. 78); complete metatibial carinae straight; apical metatibial spines straight (Fig. 17); metatibial apices entirely spinose. *Genitalia* as in Figs 49, 50.

Female: Similar to male; pygidium convex; protarsal claws toothed (Fig. 100).

MATERIAL EXAMINED: Holotype male, SOUTH AFRICA: CAPE PROVINCE: Niekerk's Hope, Griqüald. West, 13–viii–1950. C. Koch, van Son. (TM). 38 paratypes



Figs. 44–60 *Sparrmannia* spp., parameres. 44. *S. flavofasciata* (Burmeister). 45. *S. bechuana* Péringuey. 46. *S. angola*, **spec. nov.** 47. *S. prieska* Péringuey. 48. *S. tridactyla*, **spec. nov.** 49, 50. *S. acicularis*, **sp. nov.** 51, 52. *S. fusciventris* (Boheman). 53, 54. *S. falcata*, **spec. nov.** 55. *S. ursina*, **spec. nov.** 56. *S. peringueyi*, **spec. nov.** 57. *S. namaqua* Péringuey. 58. *S. gonaqua* Péringuey. 59. *S. boschimana* Péringuey. 60. *S. transvaalica* Péringuey. Scale bar = 1,0 mm.

(AVEC, BMNH, NMBH, SMWN, TM). BOTSWANA: Bayib Pan, ix–1959, Prozesky; Maun, 18–V/7–vi–1930, Vernay-Lang Exp.; Moremi reserve, 19°23′ S, 22°33′ E, 18/20–iv–1972, at light, Southern Africa Exp. 1972. NAMIBIA: Alkmer 512, Gobabis, SE2919Dd, 21/24–iv–1981, M-L. Penrith, V. R. Whitehead; Eava, SE2218Bb, Gobabis, 19–i–1966; Goodhope 397, Gobabis, SE2219Ab, 22/24–v–1973; Mukorob 14, Namaland, SE2518Ac, 12/14–iv–1974; Richtofen 126, Windhoek, 22°34′ S, 17.45E, 1/31–v–1979, pres. traps, Louw & Penrith; Rotegab, Keetmanshoop, 27°20′ S, 18°25′ E, 9–v–1977, Louw & Penrith. SOUTH AFRICA: CAPE PROVINCE: Ertdeel 343, Hay, 29°23′ S, 22°44′ E, 2/4–ix–1981; Hierle, on Nongcaip, Kenhardt, 29°00′ S, 19°29′ E, 6/7–ix–1982; Mata Mata, SE29.19Dd, vii–1979, E. Holm; Twee Rivieren, Kalahari Gemsbok Park, 11/20–ii–1958.

Remarks: *Sparrmannia acicularis* may be distinguished from *S. tridactyla* by the slightly shorter protarsal segments, the shape of the metatibial spurs, and the male genitalia. The females possess a convex pygidium.

Sparrmannia fusciventris (Boheman), Figs 33, 51, 52, 79, 101

Leontochaeta fusciventris Boheman, 1857: 80.
Sparrmannia fusciventris, Gemminger & Harold 1869: 1185; Péringuey 1904: 178

Description – male: 14,0–16,0 mm long. *Head* with labrum as in Fig. 33; clypeus with lateral margins weakly angulate, margins somewhat straight or arcuate on either side of angulation, anterior margin slightly emarginate medially; clypeal disc impunctate, glabrous; clypeal suture straight medially; frons tuberculate with yellowish suberect setae. *Pronotum* with integument obscured by long, yellowish setae. *Elytra* yellowish-brown, margins slightly darker; lateral margins broadest at middle; sparsely setose at basal 1/3, setigerous punctures small dark tubercles; disc irregularly punctate, sometimes with weak, geminate punctostriae. *Pygidium* yellowish-brown; convex, length slightly less than basal width, rounded apically; surface alutaceous, with scattered setigerous punctures, setae pale, erect. *Legs* with protarsal claws toothed (Fig. 79); complete metatibial carinae straight; metatibial apices entirely spinose. *Genitalia* as in Figs 51, 52.

Female: Similar to male; protarsal claws as in (Fig. 101).

Material examined: Holotype female, Limpopo R., J. Wahlb. (STOCK). Additional material examined: 24 (AVEC, NCI). SOUTH AFRICA: TRANSVAAL: Nylsvley, Nylstroom Dist., 24°39′ S, 28°42′ E.

Months of collection: September, January through March.

Remarks: *Sparrmannia fusciventris* may be distinguished from the other species in the superspecies *flavofasciata* by its distribution (northern Transvaal), the narrowly emarginate labrum, clypeal configuration, male protarsal claws, and the male genitalia.

Sparrmannia falcata, spec. nov., Figs 53, 54, 80

Description – male: 14,0 mm long. *Head* with labrum broadly emarginate; clypeus with lateral margins parallel basally, anterior margin broadly arcuate, emarginate medially; clypeal disc impunctate, glabrous; clypeal suture transverse; frons tuberculate, pilose, setae yellowish. *Pronotum* with integument obscured by long yellowish setae. *Elytra* yellowish-brown; lateral margins broadest medially; disc weakly punctostriate. *Pygidium* yellowish-brown; convex, length subequal to basal width, rounded

apically; surface alutaceous, with scattered setigerous punctures, setae yellowish, erect. *Legs* with protarsal claws toothed (Fig. 80); transverse metatibial carinae sinuate; metatibial apices entirely spinose. *Genitalia* as in Figs 53, 54.

Female: Unknown.

MATERIAL EXAMINED: Holotype male, SOUTH AFRICA: CAPE PROVINCE; Niekerk's Griquald., West, 13–viii–1950, C. Koch, van Son (TM).

Remarks: *Sparrmannia falcata* is similar to *S. ursina*, spec. nov., but is distinguished by the male genitalia. It may be separated from the rest of the species in the superspecies *flavofasciata* by the male genitalia and the key characters.

Sparrmannia ursina, spec. nov., Figs 34, 55, 81, 102

Description – male: 16,5–21,5 mm long. *Head* with labrum as in Fig. 34; clypeus with lateral margins parallel basally, anterior margin slightly sinuate to broad, shallow, medial incision; clypeal disc evenly, setigerously punctate, setae yellowish; clypeal suture nearly transverse, occasionally obscured medially; frons obscured by yellowish setae. *Pronotum* with integument obscured by long, yellowish setae. *Elytra* yellowish-brown; lateral margins broadest medially; disc finely, shallowly, irregularly punctate. *Pygidium* yellowish-brown; convex, length subequal to basal width, rounded apically; surface alutaceous, setigerously punctate, moderately clothed with erect yellowish setae. *Legs* with protarsal claws bifid (Fig. 81); complete metatibial carinae sinuate; metatibial apices entirely spinose. *Genitalia* as in Fig. 55.

Female: Similar to male; protarsal claws as in Fig. 102.

MATERIAL EXAMINED: Holotype male, SOUTH AFRICA: CAPE PROVINCE: Oograbies, L. Namaquald., 30–viii–1950, C. Koch, G. van Son (TM). 126 paratypes (AVEC, BMNH, NCI, NMBH, TM): NAMIBIA: Keetmanshoop, ix–1925; Klinghardtbergs, Diamond Area No. 1, 21–x–1974, H. D. Brown; Namib, Obib dunes, 28°10′ S, 18°48′ E, E–Y: 116, singled, dune night, Endrödy-Younga; Oranjemund, SE28.16Cb2, vii–1982. SOUTH AFRICA: CAPE PROVINCE: same data as holotype; Flamintsvlakte III, Vanrhynsdorp, 31°14′ S, 18°35′ E, 18/20–ix–1982, S. Louw; 26 mi. E Port Nolloth, viii–1923, O. Hughs; Jakkalsputs, 28°42′ S, 16°54′ E, 350 m, 15/16–ix–1985, C. L. Bellamy, A. V. Evans; same data, except 9/11–ix–1982, S. Louw.

Months of collection: July through October.

Remarks: *Sparrmannia ursina* may be distinguished from *S. falcata* and *S. fusciventris* by its larger size and clypeal shape. From *S. peringueyi,* spec. nov. it may be distinguished by the parallel lateral clypeal margins, slightly emarginate anterior clypeal margin, and the complete, sinuate metatibial carinae. The male genitalia will readily separate *S. ursina* from all of the species in the genus.

Sparrmannia peringueyi, spec. nov., Figs 35, 56, 82, 104

Description – male: 17,0–18,0 mm long. *Head* with labrum as in Fig. 35; clypeus with lateral margins broadly rounded, anterior margin broadly arcuate, slightly emarginate medially; clypeal disc virtually impunctate, remainder with large, setigerous punctures, setae pale; clypeal suture distinctly transverse, sometimes narrowly obscured medially; frons, vertex obscured by dense, erect yellowish setae. *Pronotum* with integument obscured by long yellowish setae. *Elytra* yellowish-brown; lateral margins broadest

medially; basal 1/3 of disc, basal 1/2 of lateral portion distinctly setigerously tuberculate,tubercles small, dark, setae yellowish, suberect, remaining surface shallowly, irregularly punctate. *Pygidium* yellowish-brown; convex, longer than basal width, rounded apically; surface alutaceous, with setigerous punctures, moderately clothed with long white erect or suberect setae. *Legs* with anterior claws toothed (Fig. 82); metatibial carinae briefly oblique and then transverse; metatibial apices without spines. *Genitalia* as in Fig. 56.

Female: Similar to male; anterior claws toothed as in Fig. 104; pygidium convex.

MATERIAL EXAMINED: Holotype male, NAMIBIA: Karasberge, Farm Noachabib, 8/10–iv–1972, Jones & Strydom (TM). 3 paratypes, same data as holotype (AVEC, TM).

Months of collection: April.

Remarks: *Sparrmannia peringueyi* and *S. angola* may be distinguished from the rest of the species in the superspecies *flavofasciata* by the lack of spines on the metatibial apices. *Sparrmannia peringueyi* is distinguished from *S. angola* by the entire clypeal margin, the male protarsal claws, and the male genitalia.

Sparrmannia namaqua Péringuey, Figs 36, 57, 83, 103

Sparrmannia namaqua Péringuey, 1904: 177

Description – male: 14,0–17,0 mm long. *Head* with labrum as in Fig. 36; clypeus with lateral margins rounded, anterior margin rounded or slightly emarginate medially; clypeal disc impunctate, remainder with scattered setigerous punctures, setae yellowish; clypeal suture broadly straight or slightly emarginate at middle; frons densely pilose, setae long, yellowish. *Pronotum* with integument nearly obscured by long yellowish setae; surface graniculate. *Elytra* amber to brown; lateral margins broadest medially; basal, lateral, sutural areas with scattered suberect setae, remaining surface irregularly punctate, glabrous. *Pygidium* brownish; convex, length subequal to basal width, rounded apically; surface alutaceous, with setigerous punctures, setae long, yellowish, erect. *Legs* with protarsal claws bifid (Fig. 83); complete metatibial carinae sinuous, sometimes briefly interrupted at middle; metatibial apices without spines on outer margins. *Genitalia* as in Fig. 57.

Female: Similar to male; pygidium convex, broader than male; protarsal claws toothed as in Fig. 103.

MATERIAL EXAMINED: Lectotype male, O'okiep, S. Warder (SAM Type No. 3301a); 6 paralectotypes, same data as lectotype (NCI, SAM) (new designations). Additional material examined: 21 (NCI, SAM, TM). SOUTH AFRICA: CAPE: Nababiep; O'okiep; Spektakelpas, 29.40 S–17.37 E; Springbok.

Months of collection: August through October.

Remarks: The anterior clypeal margin of *S. namaqua* varies from arcuate to slightly emarginate medially. Occasionally the anterior clypeal margin is slightly sinuate before the emargination.

Sparrmannia namaqua is similar to *S. gonaqua* Péringuey and *S. boschimana* Péringuey by virtue of the metatibial apices lacking spines on the outer margins. It is readily distinguished from these species by the male genitalia.

The lectotype (with genitalia extracted) and paralectotypes all bear Péringuey's handwritten type labels.

Sparrmannia gonaqua Péringuey, Figs 37, 58, 84, 105

Sparrmannia gonaqua Péringuey, 1904: 178.

Description – male: 14,0–16,5 mm long. *Head* with labrum as in Fig. 37; clypeus semicircular, anterior margin slightly emarginate medially; clypeal disc nearly impunctate, glabrous; clypeal suture nearly straight; frons, vertex obscured by dense, suberect yellowish setae. *Pronotum* with integument obscured by long, yellowish setae. *Elytra* yellowish-brown; lateral margins rounded, broadest behind middle; disc shallowly punctate. *Pygidium* yellowish-brown; convex, length shorter than basal width, rounded apically; surface alutaceous, with scattered setigerous punctures, setae long, yellowish, suberect. *Legs* with protarsal claws bifid (Fig. 84); complete metatibial carinae sinuous; metatibial apices without spines on outer margin. *Genitalia* as in Fig. 58.

Female: Similar to male; pygidium convex; protarsal claws toothed as in Fig. 105.

MATERIAL EXAMINED: Lectotype male, Beaufort W., Purcell, 9.1896 (SAM Type No. 3303a); 4 paralectotypes, same data as lectotype (NCI, SAM Type No. 3303b) (new designations). Additional material examined: 21 (NCI, SMWN, TM). NAMIBIA: Bethanis 514, SE2014Ad; Daheim 106, 21°49′ S, 15°49′ E; Gemsbokwater, SE2215Dc; Koes, Keetmanshoop, SE2519Cc; Noachabeb 97, Keetmanshoop, SE2718Ad/Bc. SOUTH AFRICA: CAPE: Beaufort Wes.

Months of collection: September, April, May.

Remarks: *Sparrmannia gonaqua* is similar to *S. boschimana* and *S. namaqua* by virtue of the lack of spines on the outer margins of the metatibial apices. The males may be readily distinguished by the genitalia.

The lectotype and paralectotypes all bear Péringuey's handwritten type labels. The genitalia of the lectotype have been extracted.

Sparrmannia boschimana Péringuey Figs 38, 59, 106

Sparrmannia boschimana Péringuey, 1904: 177.

Description – male: 16,0–19,0 mm long. *Head* with labrum as in Fig. 38; clypeus with lateral margins slightly rounded, anterior margin broadly rounded, slightly emarginate or slightly notched medially; clypeal disc sparsely, setigerously punctate, setae pale; clypeal suture distinct, broadly arcuate; frons, vertex obscured by yellowish, setae. *Pronotum* with integument obscured by long yellowish setae. *Elytra* yellowish-brown; lateral margins broadest medially. *Pygidium* yellowish-brown; convex; length subequal to basal width, rounded apically; surface alutaceous, with scattered setigerous punctures, setae yellowish, erect. *Legs* with protarsal claws bifid, as *S. gonaqua*; complete metatibial carinae sinuous; metatibial apices without spines on outer margins. *Genitalia* as in Fig. 59.

Female: Similar to male; pygidium convex; protarsal claws toothed as in Fig. 106.

MATERIAL EXAMINED: Lectotype male, no data (SAM Type No. 3302a); 2 paralectotypes, no data (SAM Type Nos. 3302b,c) (new designations). Additional

material examined: 26 (SAM, SMWN, TM). NAMIBIA: Gobabeb; Kanaan 104, Lüderitz, SE2516Cc; Rosh-Pinah. SOUTH AFRICA: CAPE PROVINCE: Buffels River; Kotzesrus; 10 mi. W Kuboos; Quaggafontein; Springbok.

Months of collection: April, May, August through October.

Remarks: The clypeal margin of *S. boschimana* varies from slightly emarginate to shallowly notched.

Sparrmannia boschimana is similar to *S. namaqua* and *S. gonaqua*, but may be distinguished from these species by the male genitalia.

The lectotype (with genitalia extracted) and paralectotypes all bear Péringuey's handwritten type labels. Péringuey (1904) records the type-locality as 'Cape Colony (Bushmanland)'.

Sparrmannia (superspecies *transvaalica*)

Diagnosis: labrum broadly, deeply emarginate (Figs 39, 40), long, distinctly separate from clypeus; head and pronotum moderately to densely pilose, integuments visible; metatibiae with complete tranverse carinae; metatibial apices with spines, male meso- and metatarsal claws bifid, female claws toothed.

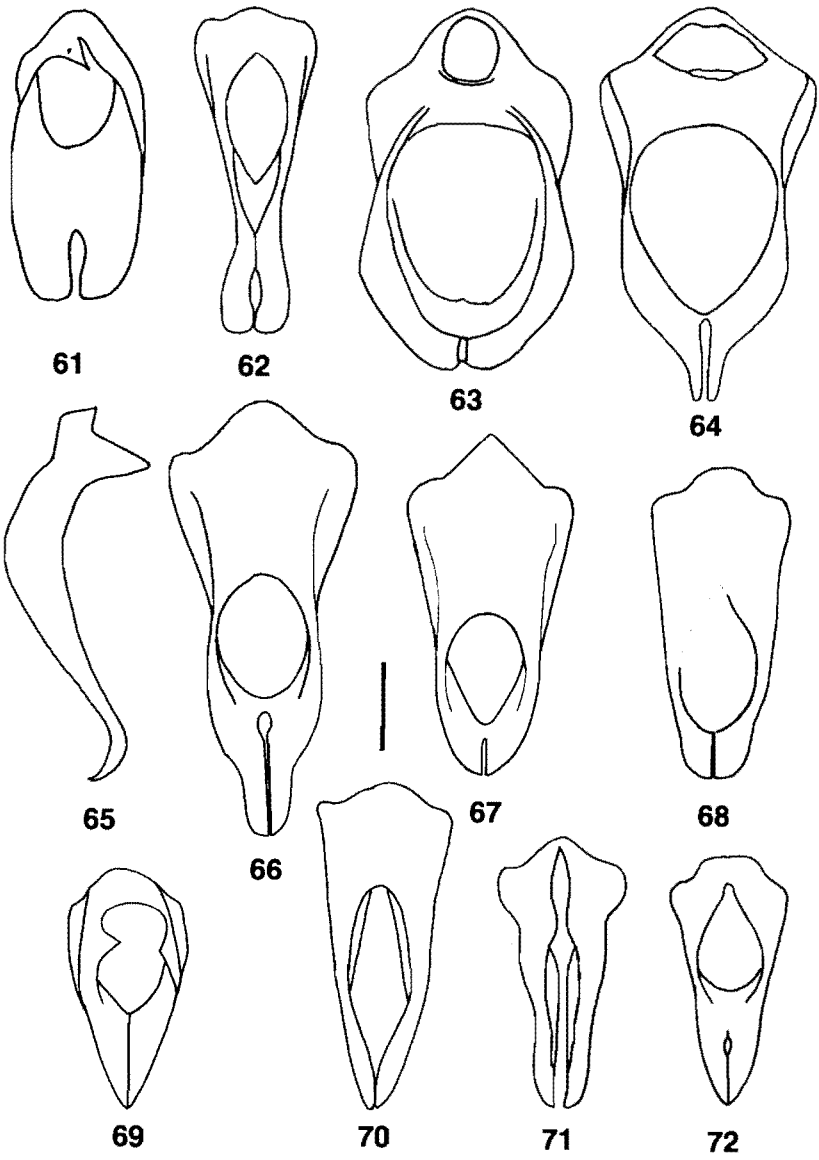
Sparrmannia transvaalica Péringuey, Figs 12, 21, 39, 60, 85, 107

Sparrmannia transvaalica Péringuey, 1904: 176.

Description – male: 20,0–25,5 mm long. *Head* with lateral clypeal margins rounded, anterior margin sinuous to angulate processes (Fig. 11), medial incision broad; clypeal disc setigerously punctured, setae yellowish; clypeal suture distinct, straight or slightly arcuate medially; frons reddish-brown, moderately pilose, setae yellowish, disc weakly, rugosely granulate. *Pronotum* with setae long, yellowish; broadest behind middle; anterolateral margins straight or slightly sinuate, posterolateral margins rounded, posterior margin broadly, shallowly bisinuate. *Elytra* pale to dark yellowish-brown; lateral margins broadest behind middle; basal 1/3 sparsely setose, remaining surface irregularly punctate, glabrous. *Pygidium* yellowish-brown; convex, length slightly less than basal width, rounded apically; sparsely setose, setae yellowish. *Legs* with protarsal claws bifid (Fig. 85); complete metatibial carinae straight (Fig. 12). *Genitalia* as in Fig. 60.

Female: Similar to male; pygidium with broad, shallow, transverse apical impression; protarsal claws toothed as in Fig. 107.

MATERIAL EXAMINED: Lectotype female, Waterberg (NCI). Additional material examined: 129 (ARHC, AVEC, BMNH, HUNG, NCI, NMBH, STOCK, SAM, SMWN, TM). BOTSWANA: Ghanzi; 20 km N Maun; Metsimaklaba; Ngamiland; Sebile; Thamalakana Riv. NAMIBIA: Goodhope 397, SE2219Ab; Hochberg 158, 21°55′ S, 17°43′E; Kungveld; Otjiwarongo; Richtofen 126, 22°34′ S, 27°45′ E; Tsumkwe, SE9220Cb; 10 km W Tsumkwe. ZIMBABWE: Mashonaland, Enkeldoorn Dist. SOUTH AFRICA: CAPE PROVINCE: Groblershoop, 28°53′ S, 21°59′ E; 40 mi. W Hope Town; Vryburg Dist. ORANGE FREE STATE: Bothaville; Sandveldt Reserve, Hoopstadt, SE27.25Da. TRANSVAAL: Bezuidenhoutskraal; Buffelspoort; Deelkraal, Naboomspruit; Groblershoop; Langjan Nature Res.; Mochudi; Farm Sericea, Nylsvley; Nylstroom; Pietersburg; Pretoria; Roedtan; Rooiberg; Rust der Winter, Modderpoort; Walharts; Waterberg; Zebediela.



Figs. 61–72. *Sparrmannia* spp., parameres. 61. *S. pseudotransvaalica*, **spec. nov.** 62. *S. capicola* Péringuey. 63. *S. alopex* (Fabricius). 64, 65. *S. flava* Arrow. 66. *S. similis* Arrow. 67. *S. vicina*, **spec. nov.** 68. *S. dekindti* Nonfried (dashed line represents supposed margin). 69. *S. discrepans* Péringuey. 70. *S. namibia*, **spec. nov.** 71. *S. distincta* Péringuey. 72. *S. obscura*, **spec. nov.** Scale bar = 1,0 mm.

Months of collection: December through March.

Remarks: *Sparrmannia transvaalica* may be distinguished from *S. pseudotransvaalica*, spec. nov. by the more deeply notched clypeal incision, straight metatibial carinae, and the male genitalia.

The original description of this species (Péringuey, 1904) is one of the few cases where Péringuey specifically states the number of specimens before him (2). Despite this, a third female specimen, without locality data, bearing Péringuey's handwritten type label, was found in the SAM. The lectotype female was chosen on the basis that the attached locality label matched the type-locality given in the original description. I did not designate a paralectotype from the two remaining specimens since neither bears any locality data, thereby preventing me from conclusively determining which specimen was, in fact, part of the type series.

Sparrmannia pseudotransvaalica, spec. nov., Figs 11, 22, 40, 61, 86, 108

Description – male: 20,5–25,0 mm long. *Head* with lateral clypeal margins rounded, anterior margins slightly sinuate to angulate processes, medial incision broad, shallow; clypeal disc setigerously punctured, setae yellowish; clypeal suture broadly arcuate; frons reddish-brown, moderately pilose, setae yellowish; surface rugosely granulate. *Pronotum* with setae long, yellowish; broadest behind middle; anterolateral margins slightly sinuate; posterolateral margins broadly rounded; posterior margin broadly bisinuate. *Elytra* light to dark yellowish-brown; lateral margins broadest at middle; disc irregularly punctate, glabrous, shining. *Pygidium* yellowish-brown; convex, length subequal to basal width, rounded apically; surface alutaceous, with sparse setigerous punctures, setae yellowish, erect. *Legs* with protarsal claws deeply bifid (Fig. 86); complete metatibial carinae sinuous (Fig. 11). *Genitalia* as in Fig. 61.

Female: Similar to male; pygidium medially impressed apically; protarsal claws toothed as in Fig. 108.

MATERIAL EXAMINED: Holotype male, SOUTH AFRICA: TRANSVAAL PROVINCE: Punda Milia, KNP Survey, 21/23–xi–1961, Vari & Potgeiter (TM). 10 paratypes (AVEC, TM): SOUTH AFRICA: TRANSVAAL: same data as holotypes; Magude, x–1918, C. J. Swierstra.

Remarks: *Sparrmannia pseudotransvaalica* may be distinguished from *S. transvaalica* by the shallowly incised clypeus, the sinuate subapical metatibial carinae, and the male genitalia.

Sparrmannia (superspecies *alopex*)

Diagnosis: clypeus distinctly incised medially; labrum deeply incised (Fig. 41), long, distinctly separate from clypeus; pronotum densely pilose, integument obscured; metatibiae spinose with short carinae or interrupted transverse carinae; metatibial apices without spines; male meso- and metatarsal claws toothed or bifid, female claws toothed.

Sparrmannia capicola Péringuey, Figs 13, 62, 87, 109

Sparrmannia capicola Péringuey, 1904: 176.

Description – male: 17,5–18,0 mm long. *Head* with lateral clypeal margins narrowly rounded at base, anterior margin broadly arcuate to medial incision; reflexed

portion of clypeus with small deep punctures, disc nearly impunctate, glabrous; clypeal suture broadly emarginate medially; frons setigerously scabrous; setae yellowish. *Pronotum* with long, yellowish setae. *Elytra* dark yellowish-brown; lateral margins broadest medially; disc deeply punctate, somewhat punctostriate with four impunctate interstriae between sutural and lateral margins. *Pygidium* brownish; convex, length subequal to basal width, rounded apically; surface smooth, with scattered setigerous punctures, setae pale, erect. *Legs* with protarsal claws toothed as in Fig. 87, remaining claws toothed; metatibiae briefly carinate and spinose (Fig. 13). *Genitalia* as in Fig. 62.

Female: Similar to male: claws toothed as in Fig. 109

MATERIAL EXAMINED: Cotype female, Stellenbosch. Additional material examined: 6 (COPE, SAM). SOUTH AFRICA: CAPE PROVINCE: Cape Town; Stellenbosch.

Months of collection: Unkown to me.

Remarks: The male superficially resembles a small *S. alopex*, but may be distinguished from this species and others in the superspecies *alopex* by the toothed protarsal claws and the genitalia.

This species was described from a male and female. An initial search of the Péringuey collection in the SAM failed to locate the male specimen. I have not designated a lectotype until a more thorough search can be undertaken to locate the male specimen. The identity of this species is based on the illustration of the male genitalia by Péringuey (1904).

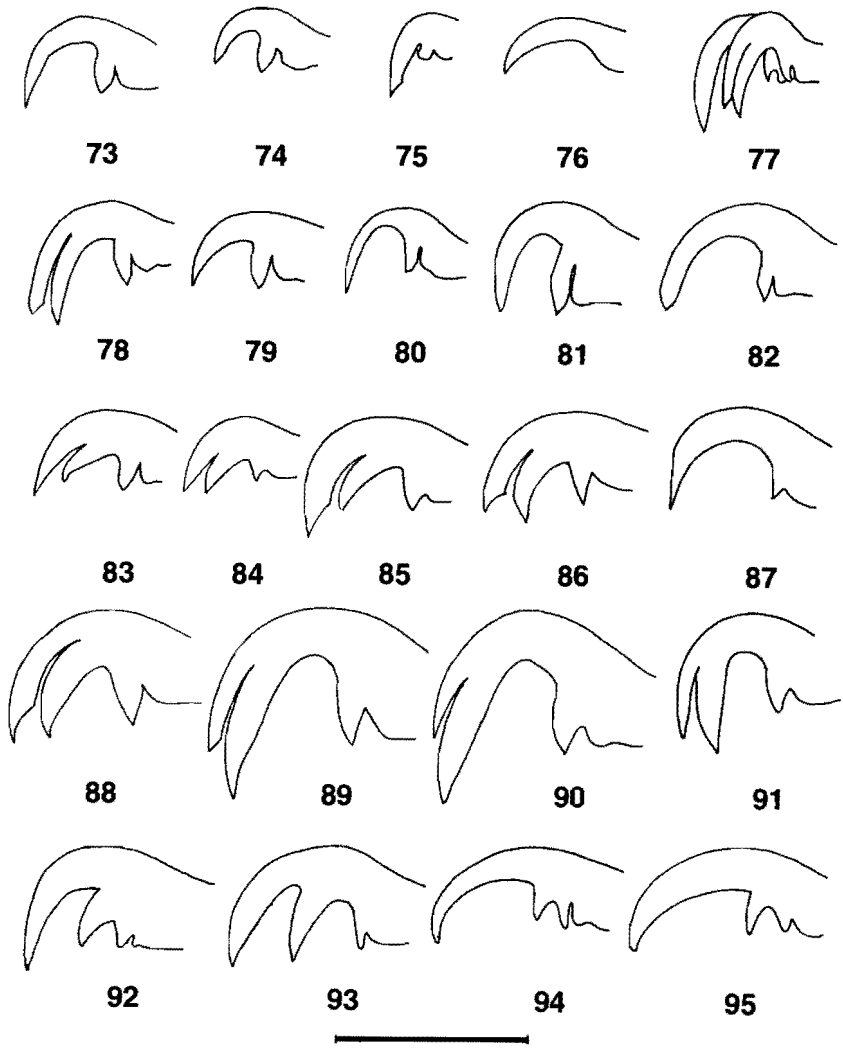
Hope (1837) mentioned *Cephalotrichia crinicollis* without a description. I have examined Hope's type of this species and it is conspecific with *S. capicola*. Although Burmeister (1855) had not seen Hope's specimen, he described a species using the same name. It is difficult to tell from this description, but it is possible that *S. capicola* is a synonym of *S. crinicollis* (Burmeister). The type of *S. crinicollis* (Burmeister), comb. nov., was not available for comparison.

Sparrmannia alopex (Fabricius) Figs 1, 14, 20, 41, 63, 88, 110

Melolontha alopex Febricius, 1787: 19, 1792: 157, 1801: 163; Olivier 1789: 16; Herbst 1790: 76; Schönherr 1817: 168; Thunberg 1818: 423; Hope 1837: 70.
Leocaeta alopex, Dejean 1833: 175, 1836: 176.
Cephalotrichia alopex, Hope 1837: 102.
Sparmannia alopex, Laporte 1840: 132; Blanchard 1851: 162.
Leontochaeta alopex, Burmeister 1855: 434; Boheman 1857: 79.
Sparrmannia alopex, Gemminger & Harold 1869: 1184; Péringuey 1904: 172; Arrow 1917: 59.
Sparmannia brunnipennis Laporte, 1840: 132.

Type: 'Cap. b. sp.', Copenhagen (not examined).

Description – male: 19,5–26,0 mm. *Head* with lateral clypeal margins rounded, anterior margin straight or slightly arcuate before medial incision (Fig. 20); clypeal disc impunctate, glabrous, except for narrow, transverse band of yellowish setae at base; clypeal suture virtually obscured by vestiture, bisinuate; frons densely pilose, integument obscured by long, yellowish setae. *Pronotum* with long yellowish setae. *Elytra* brown or reddish-brown; lateral margins broadest ahead of middle; surface irregularly punctate, glabrous, opaque. *Pygidium* brown or reddish-brown; convex, length subequal to basal



Figs. 73–95. *Sparrmannia* spp., male protarsal claws. 73. *S. flavofasciata* (Burmeister). 74. *S. bechuana* Péringuey. 75. *S. angola*, **spec. nov.** 76. *S. prieska* Péringuey. 77. *S. tridactyla*, **spec. nov.** 78. *S. acicularis* **sp. nov.** 79. *S. fusciventris* (Boheman). 80. *S. falcata*, **spec. nov.** 81. *S. ursina*, **spec. nov.** 82. *S. peringueyi*, **spec. nov.** 83. *S. namaqua* Péringuey. 84. *S. gonaqua* Péringuey. 85. *S. transvaalica* Péringuey. 86. *S. pseudotransvaalica*, **spec. nov.** 87. *S. capicola* Péringuey. 88. *S. alopex* (Fabricius). 89. *S. flava* Arrow. 90. *S. similis* Arrow. 91. *S. dekindti* Nonfried. 92. *S. discrepans* Péringuey. 93. *S. namibia*, **spec. nov.** 94. *S. distincta* Péringuey. 95. *S. obscura*, **spec. nov.** Scale bar = 1,0 mm.

width, rounded apically; surface smooth, with scattered setigerous punctures, setae short, yellowish, erect. *Legs* with protarsal claws bifid (Fig. 88), remaining claws bifid; metatibiae with incomplete carinae (Fig. 14). *Genitalia* as in Fig. 63.

Female: Similar to male; pygidium with two broad subapical impressions; protarsal claws toothed as in Fig. 110.

MATERIAL EXAMINED: 55 (AVEC, BASEL, COPE, IRSNB, MUN, STOCK, TM, WEIN). SOUTH AFRICA: CAPE PROVINCE: Grootvadersbos; Kapland; betw. Riverdale & Roberts; nr. foot of Swartberg; Tomi Riv.; Uniondale.

Months of collection: December, January.

Remarks: *Sparrmannia alopex* may be distinguished from the rest of the species in superspecies *alopex* by its southern Cape Province distribution, brown elytral colour, male protarsal claws, and the male genitalia.

Fabricius (1792, 1801) identified *Scarabaeus vertumnus* Pallas (1771) with *Melolontha alopex*. Laporte (1840) described *M. brunnipennis* and placed it with *M. alopex* in *Sparrmannia*. Blanchard (1851), in his consideration of *Sparrmannia*, listed *S. vertumnus* as a synonym of *S. alopex*. Gemminger and Harold (1869) followed Blanchard's (1851) treatment of *Sparrmannia*, but considered *S. brunnipennis* as a variety.

In 1871, Harold noted that *S. vertumnus* had priority over *S. alopex* and resurrected the former species. Péringuey (1904) followed the synonymy of Harold (1871). He redescribed *S. vertumnus*, incuding dark and light forms.

Arrow (1917) noted that Fabricius (1792, 1801) had carelessly included *Scarabaeus vertumnus* with *M. alopex* and that the former species should be placed in the genus *Rhizotrogus* Berthold. Laporte (1840) apparently misinterpreted *M. alopex* and redescribed it as *M. brunnipennis* (see Arrow, 1917). In addition, he stated that the dark form mentioned by Péringuey (1904) was the true *S. alopex*. The pale yellowish-brown form discussed by Péringuey (1904) was in fact an undescribed species, which Arrow (1917) named *S. flava*.

Sparrmannia flava Arrow, Figs 2–10, 64, 65, 89, 111

Sparrmannia flava Arrow, 1917: 59.

Description – male: 17,0–23,0 mm long. *Head* with lateral clypeal margins rounded, anterior margin slightly rounded, incised medially; reflexed portion of clypeus glabrous, disc densely pilose; clypeal suture obscured; frons densely pilose, setae long, whitish, integument obscured. *Pronotum* with long, whitish setae. *Elytra* yellowish-brown to pale brown; lateral margins broadest behind middle; base densely pilose, with scattered long, suberect setae along proximal 1/2 of suture, remaining surface irregularly punctate, glabrous, shining. *Pygidium* yellowish-brown; convex, length subequal to basal width, rounded apically; surface smooth, with setigerous punctures, setae long and short, whitish, erect and recumbent. *Legs* with protarsal claws deeply bifid (Fig. 89), remaining claws bifid; metatibiae with laterally oblique, medially transverse, setigerous carinae occasionally briefly interrupted at middle. *Genitalia* as in Figs 64, 65.

Female: Similar to male; pygidium with two lateral subapical impressions; protarsal claws toothed as in Fig. 111.

MATERIAL EXAMINED: Holotype male, Deelfontein, Col. Slaggert, 1903 (BMNH). Additional material examined: 293 (ALB, AMNH, AVEC, BMNH, CASC, COPE,

HUNG, IRSNB, LACM, MUN, NCI, SAM, SMWN, STOCK, TM, UP, USNM). ZAMBIA: Rukwa Valley. ZIMBABWE: 6 mi. N Lundi bridge, 20°54′ S, 30°55′ E. NAMIBIA: Arnhem Farm No. 222, 110 km E Windhoek, 22°14′ S, 18°08′ E; Barby 26, SE2516Dc; Brandberg, Tsiab Valley; Damara; Gobabis; Gochas; Koës 202, SE2519Cc; Maltaöhe, SE2416Dd; Noachabeb 97, SE2718Ad; Noachabeb, 27 mi. NNE Grünau; Plateau FM., 22 mi. E Aus; 40 km ex aus Rosh Pinah; Sandverhaar 80, SE2516Cc Stampriet 132, SE2418Ad; 40 km ex Stampriet to Gochas; Swakop; Theron, S Schlip, SE2417Aa; Welverdiend Farm No. 328, 1 km W Mata Mata, 25°47′ S, 19°59′ E; Wildhelm Ost 384, SE2619Bc. SOUTH AFRICA: CAPE PROVINCE: Aberdeen; Addo; Anisefontein, SE2816Ba; Auob-Nossob; Beaufort Wes; Bedrag. (Kuruman River); Brandkaross, Richtersveld; Britstown; Bushmanland; Carnarvon; Cradock; Dunbrody; East Poort; Garies; Goskop, Richtersveld; Hope Town; Karroo, Zwartskraal farm, 33°10′ S, 22°32′ E; Kenhardt; 16 km E of Klaarstroom, N of Meiringpoort; Kuruman; L. Mopopo; Lekkersing; Louis Trichardt; Mata Mata, 24°45′ S, 20°00′ E; Middleburg; 2 km E Middleburg; 14 mi. E Middleburg; Namaqualand; Orania; Oranjekrag, Verwoerd Dam; Philipstown; Pofadder; Prieska; Prince Albert; Resolution; Richtersveld; Sebatsfontein; Schoombie; Sunday River; Tarkastad; Twee Rivieren; Uitenhage; Upington; Vaalharts; Van Wyk's Fontein, Colesburg, 30°38′ S, 25°32′ E; 80 km E Vanzylsrus; Victoria West; Waterford; Willowmore; Zastron Farm Magahaleen. NATAL: 6 mi. S Pongola. ORANGE FREE STATE: Bloemfontein, SE 29.26Aa; Fauresmith Dist., Zurrfontein 92, SE 29.25Cd. TRANSVAAL: Letaba.

Months of collection: September, November through January.

Remarks: The male genitalia of *S. flava* varies somewhat in the basal projection of the parameres, ranging from a slight to distinct protuberance. However, the frontal aspect of the parameres remains constant. In some females the metatibial transverse carina is broadly interrupted or virtually obsolete.

Sparrmannia flava is similar to *S. alopex*, *S. similis*, and *S. vicina*, spec. nov. *S. flava* is distinguished from all of these species by the male genitalia.

The light form of *S. vertumnus* referred to by Péringuey (1904) is *S. flava*.

Sparrmannia similis Arrow, Figs 66, 90, 112

Sparrmannia similis Arrow, 1917: 60.

Description – male: 17,0–25,5 mm long. *Head* with lateral clypeal margins sharply rounded, anterior margin straight to medial incision; clypeal disc glabrous, scabrous anteriorly, densely pilose posteriorly, setae long, yellowish. *Pronotum* with setae long, yellowish. *Elytra* dark yellowish-brown to brown, often with margins slightly darker than disc; lateral margins broadest behind middle; base with short dense, whitish setae, scattered longer setae along suture, remaining surface irregularly punctate, glabrous, shining. *Pygidium* dark yellowish-brown; convex, length subequal to basal width, rounded apically; surface smooth, densely, setigerously punctate, setae long, white, erect. *Legs* with protarsal claws bifid (Fig. 90), remaining claws bifid; metatibiae with a complete or briefly interrupted transverse carinae. *Genitalia* as in Fig. 66.

Female: Similar to male; pygidium with two broad lateral subapical impressions, setation less dense; anterior claws toothed as in Fig. 112.

MATERIAL EXAMINED: Holotype male, SWA, Hereroland (BMNH). Additional material examined: 269 (ARHC, AVEC, BMNH, CASC, LACM, MUN, SAM,

SMWN, TM). NAMIBIA: Abachaus Farm Ameib, Erongo; Bergsig; Blässkranz 7, 24°06′ S, 16°14′ E; Brakwater 48. SE2217Ca; Colorado on Glynberg 326, SE2216Bc; Düduabib Ost 57, SE2317Ba; Eansiyo 100 & 101, 21°055′ S, 15°47′ E; Gamsberg foot E, 23°20′ S, 16°15′ E; Gonab; Kaross; Khorixas, SE20.14Bd; Khowarib Schlucht, SE19.13Bd; Kleinspitzkopje, SE21.15Cc; Lievenburg 25, SE2216Ad; Namutoni, Etosha Game Res.; Noab 69, 22°08′ S, 15°34′ E; Okhandja, SE 2116Dd; Okundukaseibe Farm No. 27, 47 km S Wilhelmstal, 22°20′ S, 16°21′ E; Omaruru, SE2115Bd; Otjitambi 25, SE1915Cc; Otjiwarongo; Pforte 65, 21°47′ S, 15°23′ E; Plateau 38/Aan 16, SE2616Cb; Quickborn; Roland, 15 km SE Otjiwarongo, SE20.16Ca; Sesriem Farm, Maltahöh; Sossus Vlei, 24°05′ S, 15°24′ E; Swakopmund; Tsauchab Riv. (dunes 30 mi. W Sesriem); Tsisbab Brandberg; Tsondab vlei; Vreemdelingspoort, SE22.17Ca; Wasservallei (W), 22°55′ S, 16°22′ E; Welkom 680, 20°09′ S, 14°35′ E; Farm Wilhelmstal; Windhoek, 22°34′ S, 17°05′ E; Farm Zais, 24°01′ S, 16°09′ E.

Months of collection: October, December, January.

Remarks: The cephalic pilosity *S. similis* is often yellowish while the remaining setae are whitish. The anterior margin of the clypeus may be slightly sinuate in some specimens, resulting in a weakly angulate processes projecting slightly beyond the margin, but not to the degree seen in *S. pseudotransvaalica*.

Sparrmannia similis is similar to *S. alopex, S. flava*, and *S. vicina*, spec. nov. The males of *S. similis* are distinguished from the males of other species by the genitalia. The females of these species (with the exception of the brown *S. alopex*) are indistinguishable. To date, I have only seen specimens of *S. similis* from western Namibia, while *S. flava* is found throughout the Karroo and Kalahari. *S. alopex* is restricted to the southern Cape Province and *S. vicina*, spec. nov. is known only from its type locality in Angola.

Sparrmannia vicina, spec. nov., Fig. 67

Description – male: 20,5–23,0 mm long. *Head* with lateral clypeal margins rounded, anterior margin straight to medial incision; clypeal disc glabrous, scabrous anteriorly, densely pilose posteriorly, setae long, yellowish. *Pronotum* with long yellowish setae. *Elytra* dark yellowish-brown to pale brown, often with margins slightly darker than disc; lateral margins broadest behind middle; base with short erect whitish setae, with longer setae scattered along basal 1/3 of suture; remaining surface irregularly punctate, glabrous, shining. *Pygidium* dark yellowish-brown; convex, length subequal to basal width, rounded apically; surface smooth, with setigerous punctures, setae white, erect. *Legs* with protarsal claws bifid, as in *S. similis*, remaining claws bifid; metatibiae spinose with complete or briefly interrupted carinae. *Genitalia* as in Fig. 67.

Female: Similar to male; pygidium with slight lateral subapical impressions; protarsal claws toothed, as *S. similis*.

MATERIAL EXAMINED: Holotype male, ANGOLA, Maluila, 15.37S–13.07E, 22/23–xi–1974, H23352 (SMWN No. T1170). 43 paratypes (AVEC, CMNH, SMWN): ANGOLA: same data as holotype; Pastora do Sul, Mocamedes, SE1512Ba, 20/22–xi–1974, H23191; Mucungo, 950′, x–25–1930, Mossamedes Distr.

Remarks: *Sparrmannia vicina* externally is identical to *S. flava* and *S. similis*, but may be distinguished by the male genitalia.

Sparrmannia (superspecies *distincta*)

Diagnosis: clypeus distinctly incised medially, lateral and/or anterior margins distinctly angulate (Figs 23–26); labrum broadly incised, short (Figs 42, 43), distinctly separated from clypeus; pronotum moderately pilose, integument visible; elytra coarsely punctured; metatibiae spinose, apices with few spines along outer margin; male meso- and metatarsal claws bifid or toothed, females toothed.

Sparrmannia dekindti Nonfried, Figs 68, 91

Spaarmania dekindti Nonfried, 1906:220.

Description – male: 20,0 mm long. *Head* with lateral clypeal margins broadly angulate, as *S. discrepans*, anterior medial clypeal angles strongly reflexed, medial incision deeply acute; clypeal disc with large, shallow, contiguous, setigerous punctures, setae yellowish; clypeal suture obscured laterally; frons, vertex reddish-brown, frons coarsely setigerously punctured, setae yellowish. *Pronotum* with long yellowish setae; broadest behind middle; anterolateral margins slightly sinuate; posterolateral margins broadly rounded; posterior angles rounded, obscure; posterior margin slightly lobate medially; disc tuberculate, basal 1/3 with medial longitudinal impunctate area. *Elytra* dark brown; lateral margins broadest medially; surface deeply punctate, with 2 geminate punctostriae weakly evident between suture and humerus. *Pygidium* brown; convex, length less than basal width, rounded apically; surface finely alutaceous, with scattered setigerous punctures, setae yellowish, erect. *Legs* with all claws bifid (Fig. 91). *Genitalia* as Fig. 68.

Female: 20,5 mm long, similar to male; pygidium convex; protarsal claws toothed.

MATERIAL EXAMINED: Holotype female, Angola (ZMHU). Additional material examined: 1 (SMWN). ANGOLA: Fazenda Mahita, SE Vila Arriaga.

Months collected: December.

Remarks: The male of *S. dekindti* may be distinguished from all other males in the superspecies *distincta* by the bifid claws and the genitalia.

The parameres had apparently been damaged during dissection, as indicated by the broken line in the illustration.

Sparrmannia distincta Péringuey, Figs 15, 25, 43, 71, 94, 115

Sparrmannia distincta Péringuey, 1888: 103, 1904: 178.

Description – male: 14,0–18,5 mm long. *Head* with lateral clypeal margins rounded (Fig. 25), anterior medial clypeal angles strongly reflexed, medial incision deeply acute; clypeal disc shallowly, setigerously punctate, setae yellowish; clypeal suture obliterated medially; frons, vertex dark reddish-brown, frons setigerously punctate, setae long, yellowish. *Pronotum* with setae long, yellowish; broadest just behind middle; anterolateral margins slightly sinuate anteriorly; posterolateral margins broadly rounded; posterior angles rounded, obscure; posterior margin slightly lobate medially; disc tuberculate. *Elytra* dark yellowish-brown to reddish-brown; lateral margins broadest behind middle; surface deeply, irregularly punctate. *Pygidium* reddish-brown; convex, length less than basal width, rounded apically; surface faintly alutaceous, with scattered setigerous punctures, setae long, yellowish, erect. *Legs* with protarsal claws toothed (Fig. 94), remaining claws toothed; metatibiae spinose with short carinae (Fig. 25). *Genitalia* as in Fig. 71.

Female: Similar to male; pygidium convex; protarsal claws toothed as in Fig. 94.

MATERIAL EXAMINED: Holotype male, Rustenburg (SAM Type No. 3306). Additional material examined: 97 (ALB, AMNH, ARHC, AVEC, BMNH, NCI, RISNB, SAM, TM). SOUTH AFRICA: ORANGE FREE STATE: Parys; Smithfield. TRANSVAAL: Barberton; Buffeldrift; Hartebeespoort; Groblersdal; Lydenburg; Nelspruit; Newington; Percy Fyfe Nat. Res.; Potgietersrus; Pretoria; 27 km NE Pretoria; Rustenburg; Shilouvane; Skukuza; Thabina; Zebedela.

Months of collection: October through December.

Remarks: *Sparrmannia distincta* is similar to *S. discrepans*, *S. namibia*, and *S. obscura*, spec. nov. The males of this species may be distinguished by the protarsal claws in which the submedial and subbasal teeth are subequal in length to each other and distinctly shorter than the apical tooth. The lateral clypeal margins are distinctly rounded rather than broadly angulate as in the other species. The elytral punctation is slightly coarser than that of *S. discrepans*. The male genitalia will readily separate this species from all others in the superspecies *distincta*.

Sparrmannia discrepans Péringuey, Figs 23, 42, 69, 92, 113

Sparrmannia discrepans Péringuey, 1904: 179.

Description – male: 16,0–17,0 mm long. *Head* with lateral clypeal margins broadly angulate (Fig. 23), anterior medial clypeal angles strongly reflexed, medial incision deeply acute; clypeal disc shallowly, setigerously punctate, setae yellowish; clypeal suture obliterated medially; frons, vertex dark reddish-brown, frons setigerously punctate, setae long, yellowish. *Pronotum* with long yellowish setae; broadest just behind middle; anterolateral margins slightly sinuate anteriorly; posterolateral margins broadly rounded; posterior angles rounded, obscure; posterior margin slightly lobate medially; disc tuberculate. *Elytra* brown or reddish-brown; lateral margins broadest behind middle; surface deeply, irregularly punctate. *Pygidium* brown or reddish-brown; convex, length less than basal width, rounded apically; surface faintly alutaceous, with scattered setigerous punctures, setae long, yellowish, erect. *Legs* with protarsal claws toothed (Fig. 92), remaining claws toothed. *Genitalia* as in Fig. 69.

Female: Similar to male; pygidium convex; protarsal claws toothed as in Fig. 113.

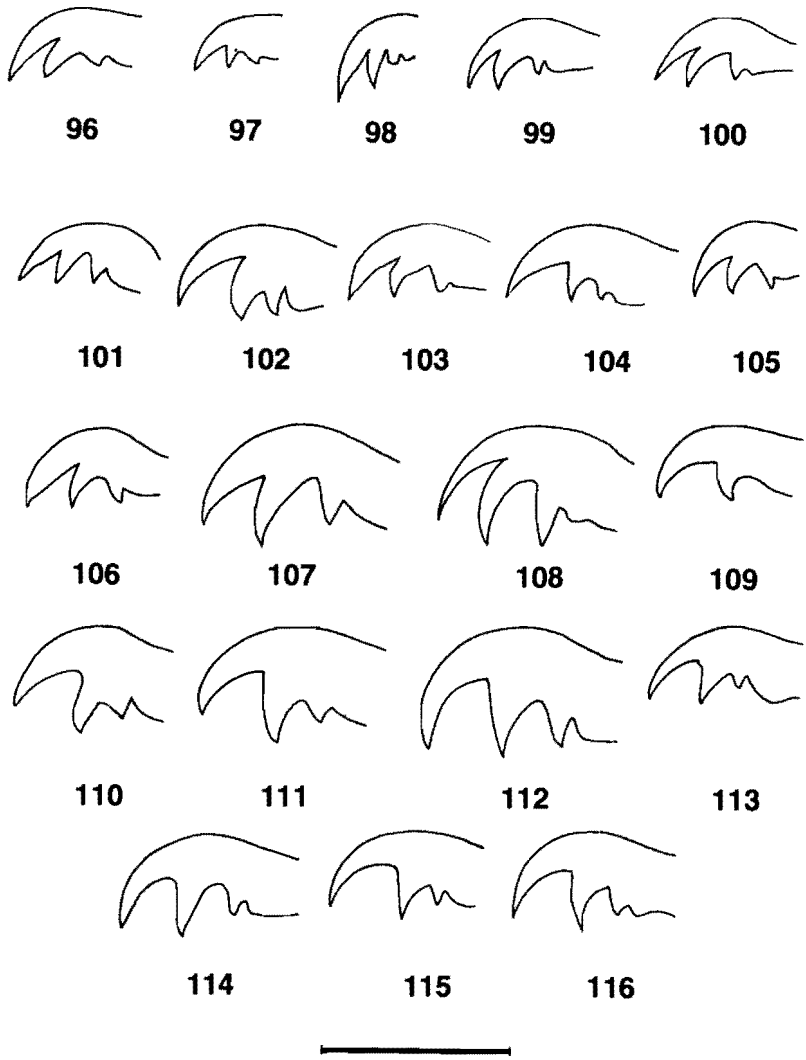
MATERIAL EXAMINED: Holotype male, Bulawayo, 1894 (SAM). Additional material examined: 8 (AVEC, BMNH, NCI, IRSNB, SAM, TM). MALAWI: 20 km N Dedza. ZIMBABWE: Bulawayo; Empandeni. BOTSWANA: Kasane.

Months of collection: January, February.

Remarks: *Sparrmannia discrepans* is similar to *S. namibia*, spec. nov., *S. distincta*, and *S. obscura*, spec. nov. *S. discrepans* may usually be distinguished from *S. namibia*, spec. nov. and *S. distincta* by the more angulate clypeal margins. The male genitalia will serve to distinguish *S. discrepans* from all other species.

Sparrmannia namibia, spec. nov., Figs 24, 70, 93, 114

Description – male: 16,0–19,0 mm long. *Head* with lateral clypeal margins divergent at base, broadly angulate (Fig. 24), strongly reflexed, anterior medial clypeal



Figs. 96–116. *Sparrmannia* spp., female protarsal claws. 96. *S. flavofasciata* (Burmeister). 97. *S. bechuana* Péringuey. 98. *S. angola*, **spec. nov.** 99. *S. tridactyla*, **spec. nov.** 100. *S. acicularis*, **sp. nov**. 101. *S. fusciventris* (Boheman). 102. *S. ursina*, **sp. nov.** 103. *S. namaqua* Péringuey. 104. *S. peringueyi*, **spec. nov.** 105. *S. gonaqua* Péringuey. 106. *S. boschimana* Péringuey. 107. *S. transvaalica* Péringuey. 108. *S. pseudotransvaalica*, **spec. nov.** 109. *S. capicola* Péringuey. 110. *S. alopex* (Fabricius). 111. *S. flava* Arrow. 112. *S. similis* Arrow. 113. *S. discrepans* Péringuey. 114. *S. namibia*, **spec. nov.** 115. *S. distincta* Péringuey. 116. *S. obscura*, **spec. nov.**

Scale bar = 1,0 mm

angles strongly reflexed, medial incision deeply acute; disc with small shallow setigerous punctures, setae yellowish, erect; clypeal suture obliterated medially; frons, vertex reddish-brown, frons setigerously punctate, setae long, yellowish. *Pronotum* with long yellowish setae; broadest behind middle; anterolateral margins slightly rounded, slightly ampliate; posterolateral margins broadly rounded; posterior angles broadly rounded, obscure; posterior margin slightly lobate medially; disc tuberculate. *Elytra* pale yellowish-brown; lateral margins broadest medially; surface shallowly, irregularly punctate. *Pygidium* brownish; convex, length slightly shorter than basal width, rounded apically; surface smooth, with scattered setigerous punctures, setae long, yellowish, erect. *Legs* with protarsal claws toothed (Fig. 93), remaining claws toothed. *Genitalia* as in Fig. 70.

Female: Similar to male; pygidium convex; protarsal claws toothed (Fig. 114).

MATERIAL EXAMINED: Holotype male, NAMIBIA, 50 km ESE Otjiwarongo, 20°39′ S, 17°05′ E, 15/17–xi–1972, C. L. Hogue (SMWN Type No. T1166). 73 paratypes (AVEC, BMNH, LACM, SAM, SMWN, TM): NAMIBIA: Farm Bethanis, Damara; Gaub; Gaub Farm No. 47, 40 km WNW Grootfontein, 19°29′ S, 17°44′ E, 21/26–xi–1972, C. L. Hogue; Hoffnung; Kaross; Nuragas; Ohopoho; Okosongomingo Farm No. 149, 50 km ESE Otjiwarongo, 20°39′ S, 17°05′ E, 16–xi–1972, C. L. Hogue; Otjikoko Süd Farm, 33 mi. ENE Omaruru; Otjikata Lake; Windhoek, Purch., 1919.

Remarks: *Sparrmannia namibia* is similar to *S. discrepans*, *S. distincta*, and *S. obscura*, spec. nov. but may be distinguished from these species by the less produced clypeal angles, the broadly angulate lateral clypeal margins, the shallowly punctured elytra, the male protarsal claws, and by the male genitalia.

Sparrmannia obscura, spec. nov., Figs 26, 72, 95, 116

Description – male: 15,0–21,0 mm long. *Head* with lateral clypeal margins broadly angulate (Fig. 26), anterior medial clypeal angles strongly reflexed, medial incision deeply acute; clypeal disc shallowly, setigerously punctate, setae yellowish; clypeal suture obliterated medially; frons, vertex dark reddish-brown, frons setigerously punctate, setae long, yellowish. *Pronotum* with long yellowish setae; broadest behind middle; anterolateral margins slightly sinuate anteriorly; posterolateral margins broadly rounded; posterior angles rounded, obscure; posterior margin slightly lobate medially; disc tuberculate. *Elytra* dark yellowish-brown to pale reddish-brown; lateral margins broadest behind middle; surface deeply, irregularly punctate. *Pygidium* yellowish-brown; convex, length less than basal width, rounded apically; surface faintly alutaceous, with scattered setigerous punctures, setae long, yellowish, erect. *Legs* with protarsal claws toothed (Fig. 95), remaining claws toothed. *Genitalia* as in Fig. 72.

Female: Similar to male; the clypeal processes are less produced; medial teeth on the protarsal claws are smaller (Fig. 116).

MATERIAL EXAMINED: Holotype male, SOUTH AFRICA, Transvaal, 27 km NE of Pretoria, Horticultural Research Institute, x/xii–1971, J. M. I. Donaldson, light trap, (NCI). 31 paratypes (AVEC, BMNH, NCI, SAM, TM): SOUTH AFRICA: same data as holotype; 32 miles SW Louis Trichardt, 11–i–1966. NATAL: 6 miles S of Pongola, Goun. Ent., 22–ii–1966.

Remarks: *Sparrmannia obscura* is similar to *S. discrepans*, *S. namibia*, and *S. distincta*, but may be distinguished by its generally larger size, paler colour, male protarsal claws with submedial teeth longer than the subbasal teeth, both of which are considerably shorter than the upper ramus, and the male genitalia.

Nomina nuda

Lagosterna flavofasciata Dejean, 1833:173, 1836:176.
See remarks under *S. flavofasciata*.
Cephalotrichia bifasciata Hope, 1837:102.
See remarks under *S. flavofasciata*.
Cephalotrichia crinicollis Hope, 1837:102.
See remarks under *S. capicola*.
Sparrmannia gorilla Gemminger & Harold, 1869:1185.
Gemminger and Harold (1869) include in their catologue the name *S. gorilla* as a manuscript name of Gerstaecker. Dalla Torre (1913) ascribed this species to Gemminger and Harold (1869). The name has hever appeared with a description.

Species Incertae Sedis

Sparrmannia crinicollis (Burmeister), **comb. nov.**

Cephalotrichia crinicollis Burmeister, 1855: 436, not Hope, 1837.

Burmeister's description (1855) places *S. crinicollis* well within the generic limits of *Sparrmannia*. He attributes this name to Hope (1837), but he did not see Hope's type and based his description on specimens in the Sturm collection from the Cape. He described the protarsal claws of the male as being simple. *S. capicola* may prove to be synonymous with *S. crinicollis*. The type is in the University of Halle and was not available for examination.

Sparrmannia leo (Gyllenhall)

Melolontha leo Gyllenhall, 1817: 69.
Leontochaeta, Burmeister 1855: 435.
Sparrmannia leo, Gemminger & Harold 1869: 1185; Péringuey 1904: 176.

Péringuey (1904) had not seen this species and simply translated the original description. The only clue as to the identity of this species is the fact that the claws of the male are bifid. The type of this species is in Uppsala and was not available for examination.

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