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. crinicolis* 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. urina*, *S. viena*. Lectotypes are designated for the following Péringuey species: *S. transvaalica*, *S. gonaqua*, *S. boschimana*, *S. namaqua*, *S. prieska*. *Sparrmannia crinicolis* (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.

1 Present address: Natural History Museum, Los Angeles, CA 90007, USA.
The following abbreviations are used to denote the location of material studied:

- ALB - Albany Museum, Grahamstown.
- ARHC - A. R. Hardy, California Department of Food and Agriculture, Sacramento.
- AVEC - A. V. Evans, Pretoria.
- BMNH - British Museum (Natural History), London.
- CASC - California Academy of Sciences, San Francisco.
- 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 Staatsammlung, Munich.
- NCI - National Collection of Insects, Pretoria.
- NMBH - National Museum, Bloemfontein.
- SAM - South African Museum, Cape Town.
- SMWN - State Museum, Windhoek.
- STOCK - Natuurhistoriska Riksmuseet, Stockholm.
- WIEN - Naturhistorisches 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 *Lagostema* included *Melolontha alopex* Fabricius and *Lagostema flavifasciata* Dejean respectively. *Lagostema* 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, synonymized *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
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comments under this species in Incertae Sedis).

In 1856, Lacordaire followed of Erichson (1847) by recognizing Leontochaeta as valid and synonymized Leocaeta (as Leocota), Lagosterna, and Sparrmannia, 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 Sparrmannia 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

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

Sparrmannia, Gemminger & Harold 1869: 1184; Péringuey 1888: 103, 1904: 172; Dalla Torre 1913: 291; Arrow 1917: 59.

Sparrmannia, 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 labium 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.
raised; sparsely setose basally; posterior declivity absent. **Metathoracic wings** fully developed in both sexes. **Pygidium** triangular, vertical. **Venter** with femora and thoracic sternum pilose. **Abdomen** with six visible sternae rounded laterally, without pleural ridges; sternal sutures distinct or obliterated medially; broad membrane present between fifth and sixth visible sternae; 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* Peringuey, *S. namibia*, spec. nov., *S. discrepans* Peringuey, *S. obscura*, spec. nov. and *S. capicola* Peringuey, 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 flaeva* 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, 20/23-1-1986, 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 sutures 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; torae not fused, asymmetrical, without epitormae, with pternotorma; haptolachis with 2 nesi: 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 presence 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 *Sparrmannia* Laporte**

1. Labrum distinctly separated from clypeus (Figs 39–43) ........................................... 2
2. Labrum appressed to clypeus (Figs 27–38) [*Sparrmannia* (superspecies *flavofasciata*)] ........ 4
3. Metatibiae spinose (Figs 13–15) .................................................................................. 3
4. Metatibiae carinate (Figs 11–12) [*Sparrmannia* (superspecies *transvaalica*)] .................. 15
5. Clypeal margin not angulate; pronotum densely pilose, integument invisible; elytra shallowly punctate [*Sparrmannia* (superspecies *alopex*)] ........................................... 16
6. 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 translucent 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 Peringuey
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. pseudae Peringuey
8 Protarsal claws of male equal, either toothed, or bifid ................................................................. 9
   Protarsal claws of male unequal, outer toothed, inner bifid (Fig. 77) ................................................................. S. tridactyla, spec. nov.
9 Apex of metatibiae with setigerous punctures along entire outer margin ................................................................. 10
   Apex of metatibiae without setigerous punctures along entire outer margin ................................................................. 11
10 Metatibial carinae straight .............................................................................................. 12
     Metatibial carinae sinuate .......................................................................................... 13
11 Protarsal claws of male toothed; male genitalia as in Figs 49-50 (w. Botswana, Namibia, n. Cape Province) ................................................................. S. acteolaris, spec. nov.
     Protarsal claws of male bifid; male genitalia as in Figs 51-52 (Transvaal) ............................................................................................ S. fasciventris (Boheman)
12 Male genitalia as in Figs 53-54 .......................................................................................... S. falcata, spec. nov.
     Male genitalia as in Fig. 55 .......................................................................................... S. urina, 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 Peringuey
     Male genitalia as in Fig. 58 .......................................................................................... S. gonaqua Peringuey
     Male genitalia as in Fig. 59 .......................................................................................... S. boschiana Peringuey
15 Clypeus with distinct angulate processes (Fig. 21); metatibial carinae straight (Fig. 12); apical setigerous punctures on metatibiae subconiguous; male genitalia as in Fig. 60 (Angola; Botswana; n. Cape; Transvaal) ........................................................................ S. transvaalica Peringuey
     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 (c. Transvaal) ........................................................................ S. pseudotransvaalica, spec. nov.
16 Protarsal claws of male bifid ......................................................................................... 17
     Protarsal claws of male with small basal tooth ................................................................ S. capetola Peringuey
17 Protarsal claws of male with rami subequal in length (Fig. 88); elytra dark brown (Cape), south of the Grootswartberge .............................................................................................. S. alopes (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. delindii Nonfried
20 Lateral clypeal margins angulate (Figs 23, 24, 26) ........................................................................ S. distincta Peringuey
     Lateral clypeal margins rounded (Fig. 25) (South Africa) .................................................................
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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.

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).


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
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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: Kopjes (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
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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: Seminal 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 carinæ 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 *flavaflasciata* 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).


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).

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

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).


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...
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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.


Remarks: Sparrmannia falcalca 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.


Months of collection: July through October.

Remarks: Sparrmannia ursina may be distinguished from S. falcata and S. fuscinventris 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
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

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 Kubosho; 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)

**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, SE920Cb; 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, Hootstadt, SE27,25Da. TRANSVAAL: Bezuidenhoutskraal; Buffelspoort; Deelkraal, Naboomspruit; Groblershoop; Langjan Nature Res.; Mochudi; Farm Sericea, Nylsvley; Nylenstrum; Pietersburg; Pretoria; Roedtan; Rooiberg; Rust der Winter, Modderpoort; Walharts; Waterberg; Zebediela.
Evans: revision of Sparrmannia

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 (Périnquey, 1904) is one of the few cases where Périnquey specifically states the number of specimens before him (2). Despite this, a third female specimen, without locality data, bearing Périnquey’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.


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 alopec)*

Diagnosis: clypeus distinctly incised medially; labrum deeply incised (Fig. 41), long, distinctly separate from clypeus; pronotum densely pilose, integument obscure; 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* Périnquey, Figs 13, 62, 87, 109

*Sparrmannia capicola* Périnquey, 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


Months of collection: Unknown 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 Peringuey 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 Peringuey (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


Leocoeta alopex, Dejean 1833: 175, 1836: 176.

Cephalotrichia alopex, Hope 1837: 102.

Sparrmannia alopex, Laporte 1840: 132; Blanchard 1851: 162.

Leontoachaeta alopex, Burmeister 1855: 434; Boheman 1857: 79.

Sparrmannia alopex, Gemminger & Harold 1869: 1184; Peringuey 1904: 172; Arrow 1917: 59.

Sparrmannia 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
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.


Months of collection: December, January.

Remarks: Sparrmannia alopecus may be distinguished from the rest of the species in superspecies alopecus 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 alopecus. Laporte (1840) described M. brunnipennis and placed it with M. alopecus in Sparrmannia. Blanchard (1851), in his consideration of Sparrmannia, listed S. vertumnus as a synonym of S. alopecus. 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. alopecus and resurrected the former species. Péringuey (1904) followed the synonymy of Harold (1871). He redescribed S. vertumnus, including dark and light forms.

Arrow (1917) noted that Fabricius (1792, 1801) had carelessly included Scarabaeus vertumnus with M. alopecus and that the former species should be placed in the genus Rhizotrogus Berthold. Laporte (1840) apparently misinterpreted M. alopecus 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. alopecus. 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,
Sparrmannia flava

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. Elytra dark yellowish-brown to brown, often with margins slightly darker than disc; lateral margins broadest behind middle; base with short dense, white 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,
Evans: revision of Sparrmannia

SMWN, TM). NAMIBIA: Abachaus Farm Ameib, Erongo; Bergsig; Bläskranz 7, 24°06’ S, 16°14’ E; Brakwater 48, SE2217Ca; Colorado on Glynberg 326, SE2216Bc; Diduabib Ost 57, SE2216B; Eansyo 100 & 101, 21°05’ S, 15°47’ E; Gamsberg foot E, 23°20’ S, 16°15’ E; Gonab; Kaross; Khorixas, SE20.14Bd; Khwarib 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, SE2216Bd; Otjiwarongo 25, SE1915Cc; Otjiwarongo; Pfote 65, 21°47’ S, 15°23’ E; Plateau 38/Aan 16, SE2616Cb; Quickborn; Roland, 15 km SE Otjiwarongo, SE20.16Ca; Sesriem Farm, Maltahöhe; Sossus Vlei, 24°05’ S, 15°24’ E; Swakopmund; Tschaub Riv. (dunes 30 mi. W Sesriem); Tsibab Brandberg; Tsodab vlei; Vreemdelingspoort, SE22.17Ca; Waterbary (W), 22°55’ S, 16°22’ E; Welkom 680, 20°09’ S, 14°3’ 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. flavu, 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. flavu 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.


Remarks: Sparrmannia vicina externally is identical to S. flavu 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; metastibial spines, apices with few spines along outer margin; male meso- and metatarsal claws bifid or toothed, females toothed.

Sparrmannia dekindti Nonfried, Figs 68, 91

Sparrmannia 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.


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 Peringuey, Figs 15, 25, 43, 71, 94, 115


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; metastibial spines 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, IRSNB, SAM, TM). SOUTH AFRICA: ORANGE FREE STATE: Parys; Smithfield. TRANSVAAL: Barberton; Buffeldrift; Hartebeespoort; Groblersdal; Lydenburg; Nelspruit; Newington; Percy Fyle Nat. Res.; Potgietersrus; Pretoria; 27 km NE Pretoria; Rustenburg; Shilouvane; Skukuza; Thabina; Zbedela.

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. **Pro no tum** 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

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, 16°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 Suid 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).

Remarks: *Sparmannia 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**


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*.

*Sparmannia gorilla* Gemminger & Harold, 1869: 1185.

Gemminger and Harold (1869) include in their catalogue the name *S. gorilla* as a manuscript name of Gerstaecker. Dalla Torre (1913) ascribed this species to Gemminger and Harold (1869). The name has never appeared with a description.

Species Incertae Sedis

*Sparmannia 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 *Sparmannia*. 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.

*Sparmannia leo* (Gyllenhall)

*Melolontha leo* Gyllenhall, 1817: 69.


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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REFERENCES


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