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Revision of the subgenus *Lasiodites* Jelínek, 1999, stat. nov. of the genus *Phenolia* Erichson, 1843 from Africa and Madagascar (Coleoptera, Nitidulidae)

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With 206 figures and 1 table

Abstract

This revision covers the species of the subgenus *Lasiodites* Jelínek, 1999, stat. nov. of the genus *Phenolia* Erichson, 1843, distributed in Africa, Madagascar and surrounding islands. An identification key to all known species is presented. Synonyms for all names used are listed. Information on names that remain unknown to the authors is included. Lectotype designations are made for *P.* (*L.*) *coccinelloides* (Grouvelle, 1915), *P.* (*L.*) *dorsalis* (Grouvelle, 1915); *P.* (*L.*) *curvipes* (Boheman, 1851), *P.* (*L.*) *ferruginea* (Grouvelle, 1899), *P.* (*L.*) *immunda* (Boheman, 1851), *P.* (*L.*) *grammica* (Klug, 1855) and *P.* (*L.*) *limbata* (Fabricius, 1781). The holotype of *P.* (*L.*) *circumflexa* (Murray, 1867) has been re-examined. New synonymy for *P.* (*L.*) *circumflexa* and *P.* (*L.*) *coccinelloides* (Grouvelle, 1915), *P.* (*L.*) *curvipes* and *P.* (*L.*) *immunda,* as well as for *P.* (*L.*) *limbata*, *P.* (*L.*) *grammica*, *P.* (*L.*) *caliginosa* (Reitter, 1873), *P.* (*L.*) *acutipennis* (Grouvelle, 1915), *P.* (*L.*) *dorsalis* and *P.* (*L.*) *ferruginea* is established. A new state for *P.* (*L.*) *tibialis* (Boheman, 1851) is proposed [*P.* (*L.*) *limbata tibialis*, stat nov.]. Some synonyms proposed for *P.* (*L.*) *limbata tibialis* are regarded as provisional. The following species are described as new: *P.* (*L.*) *accepta* sp. nov. from Ivory Coast, Nigeria, Togo, Central African Republic, Democratic Republic of the Congo, Kenya and Tanzania; *P.* (*L.*) *bakkei* sp. nov. from Guinea and Democratic Republic of the Congo; *P.* (*L.*) *decellei* sp. nov. from Guinea, Ivory Coast, Ghana, Nigeria, Cameroon, Central African Republic, Democratic Republic of the Congo; *P.* (*L.*) *georgyi* sp. nov. from Democratic Republic of the Congo and Tanzania; *P.* (*L.*) *harmonica* sp. nov. from Democratic Republic of the Congo; *P.* (*L.*) *implagiata* sp. nov. from Cameroon, Nigeria and Democratic Republic of the Congo; *P.* (*L.*) *intermixta* sp. nov. from Democratic Republic of the Congo; *P.* (*L.*) *lata* sp. nov. from Democratic Republic of the Congo, Ethiopia, Kenya, Rwanda; *P.* (*L.*) *longa* sp. nov. from Democratic Republic of the Congo; *P.* (*L.*) *oviformis* sp. nov. from Tanzania; *P.* (*L.*) *perforata* sp. nov. from Cameroon; *P.* (*L.*) *robusta* sp. nov. from Tanzania; *P.* (*L.*) *rotundiclava* sp. nov. from Kenya; *P.* (*L.*) *spornraftorum* sp. nov. from Madagascar; *P.* (*L.*) *subtilis* sp. nov. from Democratic Republic of the Congo; *P.* (*L.*) *tricostata* sp. nov. from Rwanda and Zimbabwe; *P.* (*L.*) *zairensis* sp. nov. from Gabon and Democratic Republic of the Congo; *P.* (*L.*) *zotti* sp. nov. from Ivory Coast, Guinea, Ghana, Liberia, Angola and Democratic Republic of the Congo. The high level of variability observed in many morphological characters of some species is discussed.

Key words: Nitidulidae, Nitidulinae, Nitidulini, identificational key to species, identification, variability, distribution, Africa, Madagascar.

Introduction

The name *Phenolia* Erichson, 1843 was proposed for *Nitidula grossa* Fabricius, 1801, and was regarded as a monotypic genus or subgenus, endemic to North America (Grouvelle 1913; Kirejtshuk 1998). The writers consider it as a closely related form to some groups from the Eastern Hemisphere (*Aethinodes* Blackburn, 1891; *Plesiothina* Kirejtshuk, 1990 and *Lasiodites*). The names *Lasiodactylus* Perty, 1830 and *Lordites* Erichson, 1843 are regarded as synonyms of the same South American genus within the *Aethina* genera complex (Kirejtshuk & Lawrence 1999). The group considered in this paper, which has many species distributed in the Eastern Hemisphere, was incorrectly ranked at the genus and subgenus until Jelínek (1999) proposed the name *Lasiodites.* Following previous researchers, Kirejtshuk (1998) missed the subsequent designation of the type species for *Lordites* (Lacordaire 1854): "*Phenolia*" and "*Lordites*" proposed by Erichson (1843) were interpreted and treated as subgenera of the genus (*Lordites*). Recently this neglected designation was rediscoved (Kirejtshuk & Lawrence 1999) and provided a justification for taxonomic changes (Jelínek 1999). In his paper, Jelínek recognized a close relationship be-

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Table 1
The subgenera of *Phenolia* sensu lato and their corresponding geographic distribution.

Subgenus	Geographic Distribution
Phenolia sensu stricto	Nearctic region (Parsons 1943)
Aethinodes	Papuan province of Indo-Malayan region, Australian, Polynesian and Novacaledonian regions (Jelínek 1984)
Plesiothina	Indo-Malayan and Australian Regions, and Palaearchearctic province of Palaearctic region, including some species described with the generic names *Lasiodactylus* and *Lordites* (Kirejtshuk 1990, 1998)
Lasiodites stat. n.	Afro-Madagascarean, Indo-Malayan and Australian regions, and Palaearchearctic province of Palaearctic region (Kirejtshuk 1998)

tween *Lasiodites* and *Aethinodes*. However, he did not regard the overall similarity of *Lasiodites* and *Phenolia* as a result of a close relationship (Jelínek 1999). Jelínek neither mentioned the links of *Lasiodites* with *Plesiothina* established by Kirejtshuk (1998), nor did he provide evidence in support of his interpretation. The writers consider the similarity of the groups *Phenolia*, *Aethinodes*, *Plesiothina* and *Lasiodites* as a consequence of common ancestry. The level of differences between these taxa is not so high in comparison with those between other genera in the subfamily Nitidulinae. Therefore, the authors suppose that a subgeneric rank would be more suitable for these taxa. As a result, the genus *Phenolia* sensu lato according to their interpretation includes four subgenera with different geographical distribution (Table 1).

Most species of the subgenus *Lasiodites* are distributed in the Afro-Madagascarean and Indo-Malayan regions and occur mostly in the Afrotropical region. *P.* (*L.*) *picta* (Macleay, 1825) is the only species which is recorded from the Palaearctic, Madagascarean and Indo-Malayan regions as well as the Australian region and probably also the Polynesian region (Delobel & Tran 1993). This subgenus also includes *P.* (*L.*) *aethinodes* (Reitter, 1873), *P.* (*L.*) *chevrolati* (Reitter, 1873), *P.* (*L.*) *inaequalis* (Grouvelle, 1914), *P.* (*L.*) *monticola* (Grouvelle, 1910) and *P.* (*L.*) *pubescens* (Grouvelle, 1908) comb. n., which is spread throughout the Indo-Malayan region and the Palaearchearctic province of Palaearctic region.

Specimens of the subgenus *Lasiodites* have also been recorded from the Miocene deposits in the Western Caucasus (Kirejtshuk & Ponomarenko 1990). Thus it appears this group had a wider distribution in recent geologic history.

This paper presents a first attempt to clarify the difficult taxonomy and distribution of the Afro-Madagascarean species of *Lasiodites*. However, a lot of other taxonomic problems connected with this group still remain unresolved. Some synonymous names can be used for a taxonomical fixation of forms. It concerns namely the forms "*acutipennis*" (*Lasiodactylus acutipennis* Grouvelle, 1915), "*biplicata*" (*Lordites biplicata* Fairmaire, 1880) and "*grammica*" (*Lordites grammica* Klug, 1855). The authors hope that this study will draw more attention and stimulate further research on this subgenus, which is both scientifically and economically important.

Material and methods

This paper is based on the examination of several thousand specimens deposited in the collections listed below. The material examined includes also the type series and specimens earlier identified by E. Reitter, A. Grouvelle, S. Endrödy-Younga and other researchers. In some cases, it was impossible to produce a reliable diagnosis for specimens with the appearance and some structures differing from other recognized species. In these cases the specimens were not designated.

The authors used traditional methods of investigation of museum specimens, standard optics and laboratory equipment. Habitus photos were made with a Leica DC200 digital camera mounted on Leica MZ APO with a 0.63 × Planapo objective. The body length was measured from fore edge of frons to elytral apices or apex of pygidium if exposed; body breadth was measured in the broadest part of body, usually at base of pronotum or elytra; height was measured in the metasternal area of body. The head length was measured from fore edge of frons to fore edge of pronotum or occipital ridge, if the head is greatly exposed from under prothoracic segment. The width of lateral explanation of pronotum and elytra is measured at the middle of the sclerite. Morphological characters shown on the illustrations are often omitted from the descriptions, the diagnoses or the identification key in order to make the text as short as possible.

Some lectotype designations are made to reach unambiguous taxonomic interpretation of the species considered.

Abbreviation of depositories

AMNY – American Museum of Natural History, New York;
BRO – Biosystematic Research Institute, Ottawa;
CMO – Canadian Museum of Nature, Ottawa;
DEI – Deutsches Entomologisches Institut, Eberswalde-Finow;

FMC – Field Museum of Natural History, Chicago;
MAT – Musée Royal de l'Afrique Centrale, Tervuren;
MNP – Muséum National d'Histoire Naturelle, Paris;
MUE – Entomology Department, Museum at Manchester University;
NHL – Natural History Museum, London;
NMB – Naturhistorisches Museum, Basel;
NMC – National Museum and Gallery of Wales, Cardiff;
NMW – Naturhistorisches Museum, Wien;
NRS – Naturhistoriska Riksmuseet, Stockholm;
RHL – Rijkmuseum van Natuurlijke Historie, Leiden;
SMS – Staatliches Museum für Naturkunde, Stuttgart;
TMB – Magyar Természettudományi Múzeum, Budapest;
ZIN – Zoological Institute of the Russian Academy of Sciences, St. Petersburg;
ZMB – Museum für Naturkunde der Humboldt-Universität, Berlin;
ZMH – Zoological Museum at Helsinki University;
ZMK – Zoologisk Museum, Universitet, København;
ZML – Zoological Museum at Lund University;
ZMO – Zoological Museum at Oslo University;
ZSM – Zoologische Staatssammlung, München.

Subgenus *Lasiodites* Jelínek, 1999, stat. nov.

Lasiodites Jelinek, 1999: 276.
Type-species: *Nitidula picta* Macleay, 1825: 40 (original designation by Jelínek 1999).

Description

Imago: Length 3.5–11.4 mm, breadth 2.3–5.4 mm, height 1.6–3.2 mm. Rather moderately convex dorsally (most convex at elytra) and slightly convex to subflattened ventrally, reddish to dark brown or almost black with mouthparts, antennal flagella, pronotal and elytral sides, coxae and tarsi usually more or less lighter; elytra usually with small lighter spots; integument more or less shining to nearly dull; dorsum generally with moderately short, recumbent or rarely (sub) erect, moderately conspicuous hairs. Elytra usually with two longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent or (sub) erect hairs; underside with somewhat less conspicuous pubescence. Integument with more or less distinct punctures (dorsum not infrequently with double punctation), arranged in longitudinal rows on elytra (in accordance with disposition of subcostae), interspaces between them usually rather broad, coarsely and contrastingly microreticulated.

Head transverse, with moderately raised eyes comprising rather small to medium facets; eyes frequently with interfacetal setae; with a pair of clear depressions at antennal insertions. Antennae in length comparable with width of head, with thickened scape and 3-segmented, elongate oval or suboval and compact club. Labral lobes moderately exposed. Pronotum almost evenly and slightly convex, with slightly subexplanate to widely explanate sides, its base usually with more or less distinct border (at least at hind corners) and sides more or less arcuate. Scutellum subtriangular and with rounded to subacute apex. Elytra usually subcostate, convex at discs and evenly sloping towards more or less explanate sides, longest at suture, apices suboblique, acute to rounded at suture. Pygidium of male with truncate apex from under which a subtruncate or rounded to subacute apex of anal sclerite is exposed, pygidium of female narrowly rounded or narrowly subtruncate and usually slightly projecting.

Antennal grooves usually arcuate behind mentum, more or less convergent to slightly divergent, or sometimes almost rectilinear or subparallel-sided. Mentum transverse and of usual subpentagonal shape. Prosternal process not carinate or only subcarinate at apex, moderately curved along coxae and often with rhomboid apex. Distance between mesocoxae usually subequal to and that between metacoxae somewhat broader than that between procoxae. Mesosternum generally lacking a carina. Metasternum subflattened to somewhat depressed in distal half (especially in males), fore edge more or less convex between mesocoxae and hind edge angularly or arcuately excised between metacoxae. Submesocoxal lines arcuatelly deviating from hind edge of mesocoxal cavities just at fore corners of metasternum, forming a small "axillary" space. Submetacoxal lines usually follow closely hind edge of metacoxal cavities to the outer corner. Ventrites 2–5 in many species more or less depressed along sides and base, hypopygidium usually with a widely subangulate apex in males and subrounded in females. Epipleura slightly incomplete or rarely complete, at base much wider than antennal club, somewhat elevated outwards.

Legs well developed. Tibiae with a more or less prominent subapical corner sometimes projecting into a raised process, generally somewhat wider than antennal club, although metatibiae frequently a little narrower; protibiae subtriangular or regularly curved, in males not infrequently sharply dilated along inner edge or angularly curved; mesotibiae slightly and regularly curved, but in males often strongly curved inwards before apex; metatibiae almost straight or slightly and regularly curved. Spurs of each tibiae different in length or sometimes both spurs reduced. Femora of usual shape, with gently convex both fore and hind edges. Tarsi narrowly lobed, although protarsi sometimes rather widened (especially in males); claws simple and long, with

a bisetose empodium usually visible between them.

Aedeagus well sclerotized, represented by two long flattened sclerites: penis trunk with more or less acute apex, and tegmen with subrounded apex usually bearing a swollen membranous part with dense or sparse hairs. Ovipositor slightly to moderately sclerotized and of unmodified sclerite shape.

Larva [after Hayashi 1978: *P.* (*L.*) *picta*; Delobel & Tran 1993: *P.* (*L.*) *costipennis*]: Body subdepressed; mesothoracic to abdominal terga 8 each with a pair of paramedian setiferous tubercles and with symmetrical paramedian sclerotized places; spiracular tubes moderately projecting; abdominal segment 9 bearing elongate pregomphi and rather long simple urogomphi (curved upwardly and inwardly). Head with clearly visible frontal sutures, nearly reaching antennal base; 4 stemmata comparatively well developed and dark, and situated on each side behind antennae; labrum moderately projecting and more or less curved at fore edge; mandibles rather exposed from under frons and bidentate at apex; labial palpi moderately developed, narrowly separated from each other and apically disposed. First antennomere longer than wide, second much longer than the first and with a sensory appendix less than half as long as antennomere 3. Paramedian sclerotized plates on prothorax with surrounding long setae. Legs moderately developed; femur and tibia each nearly twice as long as wide; tarsus about half as long as tibia; posterior seta shorter than ventral one.

Taxonomic notes and systematic position

The subgenus *Lasiodites* can be connected with some groups considered below in a complex of genera, which can be designated as the *Phenolia* complex. This complex belongs to the tribe Nitidulini, but with an unclear position within the *Nitidula* lineage (*Nitidula* complex, *Soronia* complex, *Prometopia* complex, *Ipidia* complex and *Megauchenia* complex of genera: Kirejtshuk 1988, 1990) and *Pocadius* lineage (*Pocadius* complex, *Thalycra* complex and *Aethina* complex of genera: Kirejtshuk & Lawrence 1992, 1999; Kirejtshuk 1996a; Kirejtshuk & Leschen 1997 etc.). Many external characters of the *Phenolia* complex are similar to those in representatives of the *Nitidula* lineage, but the heavily sclerotized and long aedeagus in most members of the *Phenolia* complex, truncate apex of male pygidium and characters of punctation and sculpture on elytra, resemble the characteristics of the *Pocadius* lineage rather than the *Nitidula* lineage.

The subgenus *Lasiodites*has some resemblance to the genera provisionally united into the *Pocadius* complex. Jelínek (1999) erected the *Physoronia* complex for the genera *Physoronia* Reitter, 1884, and *Atarphia* Reitter, 1884, from Asia, *Hyleopocadius* Jelínek, 1972, from the Neotropical region and *Ussuriphia* Kirejtshuk, 1992. The last genus is here regarded as a probable member of the *Phenolia* complex. Jelínek (1999) formulated the new complex treating a similar configuration of antennal grooves and depressions subparallel to them as a synapomorphy. This supposition can hardly be accepted due to the instability of such a configuration among members of the mentioned genera. Also this type of depressions and antennal grooves occurs in different mycetophagous groups from the *Pocadius* lineage without evident close phylogenetic realtionships. Many nitiduline groups show a high degree of convergence (Kirejtshuk 1996a; Kirejtshuk & Jelínek 2000). Thus it is quite difficult to find any trait common among members of closely related genera, which can be interpreted as a synapomorphy "sensu Hennig".

The taxon *Lordites* Erichson, 1843, was proposed for three African species and one American species, formerly described with the generic name *Lasiodactylus* Perty 1830. However, during a long period these African forms, together with many relatives from Eastern Hemisphere, were regarded in composition of *Lasiodactylus* (Grouvelle 1913). Lacordaire (1854) designated *Lordites procerus* Erichson, 1843 as the type species of the genus *Lordites.* The genus *Lasiodactylus* (type species: *L. brunneus* Perty, 1830, by monotypy) from the Neotropical region was synonymized with *Lordites*, because the names of type species of both taxa should be regarded as synonyms (Murray 1867). This Neotropical form (*L. brunneus*), together with the New Caledonian *Psilonitidula* Heller, 1916, are more similar and related to the groups of the *Aethina*-complex of genera than to the group of species considered in this paper (Kirejtshuk & Lawrence 1999). This similarity is manifested in the large, elongate and oval body, surface sculpture (especially seriate punctation and pubescence on elytra), character of prosternal process and even in the structure of male genitalia. Except the taxa here interpreted as subgenera of *Phenolia* Erichson, 1843, sensu lato (*Lasiodites* Jelínek, 1999;

Aethinodes Blackburn, 1891; *Phenolia* sensu stricto and *Plesiothina* Kirejtshuk, 1990), the only genus in the Afro-Madagascarean fauna that can be treated as a very probable close relative to these groups is *Stelidota* Erichson, 1843. *Stelidota* has a significant similarity to them in characters of the dorsal surface (particularly on elytra), structure of the head, legs and male genitalia. In addition to this pair of related genera, the taxa *Gaulodes* Erichson, 1843 from the Australian region, and, perhaps, *Ussuriphia* from the Palaearctic region are probably more or less close relatives. Finally, members of the subgenus *Aethinodes* and the genus *Stelidota* have similar pattern in secondary sexual dimorphism and outline of submetacoxal lines, angularly deviating from hind edge of metacoxal cavities in median part, however, the apex of the male pygidium of the *Stelidota* species is not truncate and the male anal sclerite is scarcely exposed from under pygidium. The *Phenolia* sensu lato, together with *Stelidota*, *Gaulodes* and *Ussuriphia,* can be preliminarily regarded as a separate complex of related genera. Their species resemble members of *Soronia* and *Megauchenia* complexes (Kirejtshuk 1988; 1995) by similar sculpturing on the dorsal surface, structure of prosternal process, sexual dimorphism in the structure of the legs, etc. The species of *Soronia* and *Megauchenia* complexes have less sclerotized male genitalia and a not truncate apex of the male pygidium. In addition, many representatives of the *Phenolia* complex (*Phenolia, Stelidota, Gaulodes* and *Ussuriphia), Soronia* complex and *Megauchenia* complex have clearly visible plesiotypic bisetous empodium at the end of the tarsi.

Species of *Lasiodites* are easily recognizable due to their comparatively large body with almost complete and usually subcostate elytra, bearing more or less seriate punctation and pubescence. Many species have 3 indistinct rows of small contrasting reddish or yellowish spots on each elytron, rather characteristic sexual dimorphism in the shape of the tibiae, a long and usually somewhat dorsoventrally curved aedeagus with rounded and swollen setose apex of tegmen and an acute apex of the penis trunk.

The ventrites are deeply depressed at the sides and base are characteristic of the entire subgenus. In many cases, intraspecific variability of the deepness of the depressions makes this character unreliable for diagnoses at species level. Usually slightly arcuate and convergent antennal grooves can be regarded as a diagnostic character. Some representatives of the subgenus have subparallel-sided, or even somewhat divergent grooves (see below).

The species of *Lasiodites* are easily distinguished from those of the closely related subgenera and genera due to the following characters:

- the subgenus *Plesiothina* by their unmodified antennal club, usually slightly arcuate antennal grooves, usually expressed sexual dimorphism in the shape of pro- and mesotibiae, slightly or moderately widened protarsi;
- the subgenus *Aethinodes* by their usually larger body, usually expressed sexual dimorphism in shape of pro- and mesotibiae, usually slightly arcuate antennal grooves (at least at sides of mentum), submetacoxal line following hind edge of metacoxal cavities;
- the subgenus *Phenolia* sensu stricto by their less developed antennal grooves at sides of the median part of head, somewhat flattened median part of head, narrower prosternal process, more or less expressed sexual dimorphism in tibiae, distinctly truncate apex of male pygidium;
- the genus *Gaulodes* by their usually larger body, labrum with distinct and rather deep median excision, usually more or less arcuate antennal grooves, excavate mesosternum, more broadly separated metacoxae, penis trunk without apical long lobe [at most with a narrow process – as in *P.* (*L.*) *costipennis*; *P.* (*L.*) *chevrolati* and *P.* (*L.*) *rotundiclava* sp. nov.], unmodified sclerites of the ovipositor;
- the genus *Stelidota* by their much larger body size, more or less smooth elytral costae, typically more than one row of punctures between the costae, usually expressed sexual dimorphism in shape of pro- and mesotibiae, lack of sexual dimorphism in meso- and metafemora, slightly curved antennal grooves (at least at sides of mentum), submetacoxal line following hind edge of metacoxal cavities, subtruncate apex of male pygidium, much longer sclerites of aedeagus;
- the genus *Ussuriphia* by usually larger body, lack of distinct paramedian depressions on pronotal disc, usually more raised elytral costae, elongate antennal club, usually expressed sexual dimorphism in shape of pro- and mesotibiae, usually slightly arcuate antennal grooves, less broadly separated pro- and mesocoxae, more or less arcuate fore edge of metasternum between mesocoxae, subtruncate apex of male pygidium, lack of long lateral ends of male anal sclerite, much longer sclerites of aedeagus.

Peculiarities in polymorphism

Some species in the subgenus *Lasiodites* have distinctive characters which allow easy identification, i.e. antennal club of *P.* (*L.*) *rotundiclava* sp. nov., prothorax of *P.* (*L.*) *immunda* and *P.* (*L.*) *tricostata* sp. nov., mesosternum of *P.* (*L.*) *perforata* sp. nov., metasternum of *P.* (*L.*) *decellei* sp. nov., femora of *P.* (*L.*) *spornraftorum* sp. nov., male protibia of *P.* (*L.*) *bipustulata* and *P.* (*L.*) *implagiata* sp. nov., aedeagus of *P.* (*L.*) *costipennis* etc. But many characters of the subgenus show a mozaic in their distribution between different species, with similar expression of peculiar characters in species, which seem to be not particularly closely related.

At the same time many characters of this subgenus have different ranges of variability among some species, sometimes showing a combination of these characters unspecific for this species. Such a peculiarity in distribution of characters makes a phylogenetic interpretation impossible on the base of the characters available for this study. A quite intricate polymorphism is known also for the genus *Stelidota*, which can be regarded as a related genus. Despite the efforts of Jelínek (1984) to find an order in polymorphism among the *Stelidota* species, many problems connected with regular variability of the group still remain unclear.

Transformation series of different structures among species are presented below. The following abbreviations are used for the species considered: ***acc*** – *P.* (*L.*) *accepta* sp. nov., ***acu*** – *P.* (*L.*) *limbata tibialis* stat. nov. ? form "*acutipennis*", ***bak*** – *P.* (*L.*) *bakkei* sp. nov., ***bip*** – *P.* (*L.*) *bipustulata*, ***cir*** – *P.* (*L.*) *circumflexa*, ***cos*** – *P.* (*L.*) *costipennis*, ***dec*** – *P.* (*L.*) *decellei* sp. nov., ***elo*** – *P.* (*L.*) *pr. elongata*, ***geo*** – P. (*L.*) *georgyi* sp. nov., ***gra*** – *P.* (*L.*) *limbata tibialis*, ? form "*grammica*", ***har*** – P. (*L.*) *harmonica* sp. nov., ***imm*** – *P.* (*L.*) *immunda*, ***imp*** – *P.* (*L.*) *implagiata* sp. nov., ***int*** – *P.* (*L.*) *intermixta* sp. nov., ***lat*** – *P.* (*L.*) *lata* sp. nov., ***lim*** – *P.* (*L.*) *limbata limbata*, ***lon*** – *P.* (*L.*) *longa* sp. nov., ***ovi*** – *P.* (*L.*) *oviformis* sp. nov., ***per*** – *P.* (*L.*) *perforata* sp. nov., ***pic*** – *P.* (*L.*) *picta*, ***rob*** – *P.* (*L.*) *robusta* sp. nov., ***rot*** – *P.* (*L.*) *rotundiclava* sp. nov., ***qma*** – *P.* (*L.*) *quadrimaculata*, ***qno*** – *P.* (*L.*) *quadrinotata*, ***spo*** – P. (*L.*) *spornraftorum* sp. nov., ***sub*** – P. (*L.*) *subtilis* sp. nov., ***tib*** – *P.* (*L.*) *limbata tibialis* stat. nov., typical form, ***tri*** – *P.* (*L.*) *tricostata* sp. nov., ***zai*** – *P.* (*L.*) *zairensis* sp. nov., ***zot*** – *P.* (*L.*) *zotti* sp. nov.

I. Body shape –
- 1a. elongate: ***cos, elo, imm, lon, spo, sub, tib, tri;***
- 1b. intermediate: ***bak, gra, lim, rot, qma, qno, tib;***
- 1c. ovoid: ***acc, acu, bip, cir, dec, geo, gra, har, imp, int, lat, lim, ovi, pic, rob, tib, zai, zot;***
- 2a. medium in dorsal convexity: ***acu, cir, cos, elo, gra, inq, lon, ovi, pic;***
- 2b. convex: ***acc, bak, bip, dec, geo, har, imp, int, lim, per, rob, rot, qma, qno, tib, zai;***
- 2c. somewhat flattened: ***elo, imm, lat, spo, sub, tri.***

II. Body coloration –
1. brown or dark brown, with small light spots on elytra, arranged in 3 irregular longitudinal rows: ***acu, cos, imm, elo, geo, int, lat, lon, pic, spo, tib, tri, sub;***
2. unicoloured or nearly unicoloured brown to blackish: ***acc, acu, bak, bip, dec, gra, har, imp, lim, ovi, per, rob, rot, tib;***
3. dark brown to blackish, with bright reddish spots of medium size, sometimes contiguous or with small spots between: ***acc, acu, bip, cir, pic, tib;***
4. dark brown or blackish with 2 very large spots on each elytron: ***cir, qma, qno, zai, zot.***

III. Pronotum –
1. at sides:
- 1a. narrowed to base: ***acc, cir, cos, dec, elo, gra, har, imm, imp, lon, rot, qma, qno, spo, sub, tri;***
- 1b. widest at base or subparallel-sided in posterior third: ***acu, bak, bip, cir, os, geo, int, lat, lim, ovi, per, pic, rob, tib, zai;***

2c. onvexity:
- 2a. evenly vaulted with gently sloping sides: ***acc, bak, bip, cir, elo, imp, lim, lon, ovi, pic, rob, qma, qno, spo, tib, zai, zot;***
- 2b. with distinctly explanate sides: ***cos, elo, lat, imm, sub, tri.***

IV. Pronotal surface –
1. regular, diffuse, moderate punctures and usual microreticulation between them: ***acu, bak, cir, gra, elo, int, lat, lim, lon, pic, qma, qno, rob, spo, sub, tib, tri, zot;***

2. dense and confused punctures, forming irregular series of joint punctures, interspaces between them with more or less usual microreticulation: ***acu, cos, elo, lon, tib, zai;***
3. irregular and shallow punctures, partly obsolete, and with punctated microreticulation on interspaces: ***acc, bip, dec, geo, har, imp, ovi, per, rob, rot.***

V. Elytral punctation –
1. arranged in more or less longitudinal rows coupled with raised costae: ***acu, cos, elo, imm, lat, lim, lon, per, pic, sub, tib, tri;***
2. diffuse, but with more or less regular and distinct punctures and with longitudinal smooth costae: ***cir, dec, geo, gra, int, spo, zai, zot;***
3. diffuse, but with more or less regular punctures (shallow) and with scarcely traceable costae: ***bak, har, qma, qno, rot;***
4. obsolete punctation partly replaced by small tubercle, but without or with very smooth costae: ***acc, bip, imp, ovi, rob.***

VI. Male protibia –
1. simple, without sexual characters:
1a. without subapical process at outer edge: ***geo, gra, imm, int, lon, ovi, per, pic, rot, sub, tri, zot;***
1b. with developed subapical process at outer edge: ***imp, rob;***
2. subtriangular, strongly widened to apex and slightly curved along inner edge: ***cos, gra, qma, zot;***
3. strongly curved before apex and with an angular enlarging along inner edge:
3a. without subapical process at outer edge: ***acc, acu, bak, cir, dec, elo, har, int, lat, lim, spo, tib;***
3b. with developed subapical process at outer edge: ***bip, qno, zai.***

VII. Male mesotibia –
1. simple, almost without sexual characters: ***cos*** (as exception), ***gra*** (very slightly curved at middle), **imp** *(gently curved),* ***pic*** *(sometimes more or less curved before apex),* ***qma, rot;***
2. with apex strongly curved inwards and often dilated along inner edge: ***acc, acu, bak, bip, caf, cir, dec, elo, geo, har, imm, int, lat, lim, lon, ovi, per, rob, qno, spo, sub, tib, tri, zai, zot.***

VIII. Male metatibia –
1. simple, without sexual characters: ***acc, acu, bak, bip, cir, cos, dec, geo, gra, har, imp, inq, lim, lon, mad, ovi, per, rot, qma, qno, spo, tib, zai, zot;***
2. gently curved: ***elo, imm, lat, rob, sub, tri.***

IX. Antennal grooves –
1. slightly curved at sides of mentum, slightly arcuately convergent behind: ***acc, acu, bak, bip, cos, rot, qma, qno, tib, zot;***
2. slightly curved at sides of mentum, slightly arcuately divergent behind: ***acc;***
3. slightly curved at sides of mentum, rather strongly arcuately convergent behind: ***acu, cir, int, lon;***
4. strongly curved at sides of mentum, almost rectilinearly convergent behind: ***elo, gra, imm, imp, lat, lim, per, pc, rob, sub, tri, zai;***
5. strongly curved at sides of mentum and divergent behind: ***spo;***
6. subparallel-sided along entire length: ***cos, dec, geo, har;***
7. rectilinearly divergent along entire length: ***ovi.***

X. Prosternal process –
1. slightly or moderately widened before apex:
1a. slightly curved along procoxae and somewhat pressed against surface of mesosternum: ***acc, bak, bip, cir, cos, dec, geo, gra, imp, int, lim, lon, pic, rot, tib, zot;***
1b. strongly curved along procoxae and closely pressed against surface of mesosternum (as a fold): ***acu, elo, har, imm, lat, ovi, rob, sub, tri;***
1c. scarcely curved along procoxae and vertically abrupt: ***qma, qno;***
2. strongly widened before subtruncate apex, strongly pressed against to mesosternal surface: ***spo;***
3. subparallel-sided and scarcely curved before abrupt apex: ***per.***

XI. Hypopygidium –
1. almost not depressed or scarcely depressed at sides: ***cos, elo, imm, imp, int, per, pic, rob, rot, sub, tib, tri, zai;***
2. slightly, but distinctly depressed at sides: ***acu, bak, bip, cos, dec, gra, lat, lim, lon, rob, qma, qno, spo, tib;***

3. strongly depressed, with more or less distinct grooves at sides: ***acc, cir, cos, geo, gra, har, ovi, zot.***

Although many *Lasiodites* species show a rather high level of variability of many external characters, they have an unusual uniformity of genital structures particularly in females. As a result some individuals are very difficult to identify, especially females, without any synoptic collection for comparison with specimens, which have a normal development of characters. On the contrary, the secondary sexual characters in male tibiae combined with other external features frequently give a reliable base for correct identifications. It is necessary to notice that elytral apices in some females are frequently somewhat more acuminate than those in males, especially among the females of the species with not so convex body (*bak, dec, elo, geo, imm, lat, lon, pic, sub, tib, tri*).

A continuum of variability in pubescence, punctation and sculpture on the surface is extremely wide in most abundant species with rather wide geographical distribution: some specimens of *P.* (*L.*) *picta* and *P.* (*L.*) *limbata tibialis* are completely glabrous, with smoothed costae and completely diffuse punctation on elytra (unless the latter is reduced).

The typical specimens of *P.* (*L.*) *costipennis* and *P.* (*L.*) *limbata tibialis* are usually easily separated by differences in body size, general outline, pronotal and elytral shape, punctation and pubescence on dorsum, interfacetal setae, structure of male tibiae etc. However, some females of these two species, i.e. large specimens of *P.* (*L.*) *costipennis* and smaller ones of *P.* (*L.*) *l. tibialis,* are so similar that it is almost impossible to separate them using the characters available for this study. Even clearly visible interfacetal setae, which is a more characteristic feature of *P.* (*L.*) *costipennis,* can be considerably reduced or lacking as visible structures like in most specimens of *P.* (*L.*) *l. tibialis.* Also the shape of the antennal grooves shows a similar variability and can in some cases overlap each other in these species. In many cases such difficulties in identification can only be solved by study of male genitalia.

Reliable differentiation between specimens of *P.* (*L.*) *limbata limbata* and *P.* (*L.*) *limbata tibialis* represents another problem. They can be distinguished only by a general convexity of body, peculiarities of punctation and sculpture, pronotal sides and presence of visible light spots on elytra. These morphological characters are not stable enough to separate these forms into two subspecies (see below). The body outline of the narrowest specimens of *P.* (*L.*) *l. tibialis* is rather similar to species of the *immunda* group (*P.* (*L.*) *longa* sp. nov. and *P.* (*L.*) *spornraftorum* sp. nov.). Some specimens of *P.* (*L.*) *limbata tibialis* ? form "*acutipennis*" are rather similar to specimens of *P.* (*L.*) *lata* sp. nov. However, the compared species can be divided into named series due to specific differences in the structure of sexual dimorphism in the protibiae (see below).

It should be also noted that aedeagal structures frequently demonstrate a comparatively wide range of variations making their diagnostic value very relative. For example, large series of *P.* (*L.*) *costipennis* from Namibia demonstrate a great variability in the apex of the penis trunk, ranging from a very narrow, long and strongly dorsoventrally curved apex to a relatively wide, short and slightly curved shape (Figs 30–36). In many other cases shape of apices of aedeagal sclerites is rather specific.

Despite the mentioned problems, it is possible to separate some groups among the Afro-Madagascarean members of *Lasiodites* in accordance with general similarity, which could be connected with common ancestry and close relationship. These similarities are given in the following list:

– the *bipustulata* group of species – *acc, bip, imp* – is characterised by a robust and rather convex body with steeply sloping pronotal and elytral sides, reduced punctation and rather contrasting sculpture on the dorsum, a rather projecting outer subapical corner of protibia in the both sexes, subrectilinear antennal grooves and a strongly depressed male metasternum (*dec*, *ovi* and *rob* are very similar to them);
– the *immunda* group of species – *elo, imm, sub, tri* – is characterized by the rather elongate and medium size body, subflattened dorsum with widely explanate pronotal sides, dense and distinct punctation and (sub) recumbent pubescence on dorsum, convergently curved antennal grooves, more or less arcuate metatibiae in both sexes and comparatively slightly arcuate pro- and mesotibiae in male;
– the *limbata* group of species – *cir, lat, lim, pic, tib* – is characterized by medium body size with moderately convex dorsum, dense and distinct punctation as well as moderately conspicuous (sub) recumbent pubescence on dorsal sclerites, convergent antennal grooves, usually strongly curved male pro- and mesotibiae (except *pic* which has poorly or slightly expressed sexual dimorphism in tibiae).

Notes on bionomy and economic importance

The bionomy of species in the subgenus *Lasiodites* seems to be more or less uniform. They are known to feed and to breed in decaying fruits as well as other decaying plant remnants. The closely related genera (*Stelidota, Ussuriphia, Gaulodes*) feed on the same type of plant materials too. *Phenolia* (*Phenolia*) *grossa* (Fabricius 1801) is usually found beneath bark and in arboreal fungi (Parsons 1943). However, most species of *Lasiodites* are more common on fresh decaying and somewhat dried fruits, or wet decomposed plant substrates, including leaf litter. They might be found in all types of forests and savannahs, although the highest species diversity appears to be recorded in mountains and tropical rainforest. Some of the species are very abundant in soft fruit remains like bananas. In contrast to many other nitidulid groups, but like representatives of the closest genus *Stelidota*, these species usually inhabit substrates on soil like fallen fruits. Imagines of many species show activity all the year round and, perhaps, larval development of many species can be extended for a rather long period.

P. (*L.*) *costipennis* and *P.* (*L.*) *limbata tibialis* have been recorded as pests in West and Central Africa (Delobel & Tran 1993). They attack different stored products, such as maize, manihot, and nuts of *Elaeis guineensis* and *Butyrospermum parkii* and so on. *P.* (*L.*) *picta* usually inhabits decaying fruits in Asia, some insular systems of Indian and Pacific oceans and Australia, and has also been recorded from Madagascar and the Seychelles (see below). Kumashiro & Heu (1996) recorded *P.* (*L.*) *l. tibialis* from Hawaii (Waiakea) captured on fruits of ripe guava. This record might be erroneous, because it is more likely that *P.* (*L.*) *picta* have been brought to this island. Kumashiro & Heu gave no description providing no diagnosis for the identification of the recorded specimens.

The importance of the subgenus in natural and man made ecosystems needs further studies to be evaluated and quantified. Studies of the species are also relevant in order to reduce or avoid post-harvest problems like pests on agricultural products and in stores. Better knowledge on the species and inspections of products would be important factors to avoid economic loss and introduction of these species to new territories.

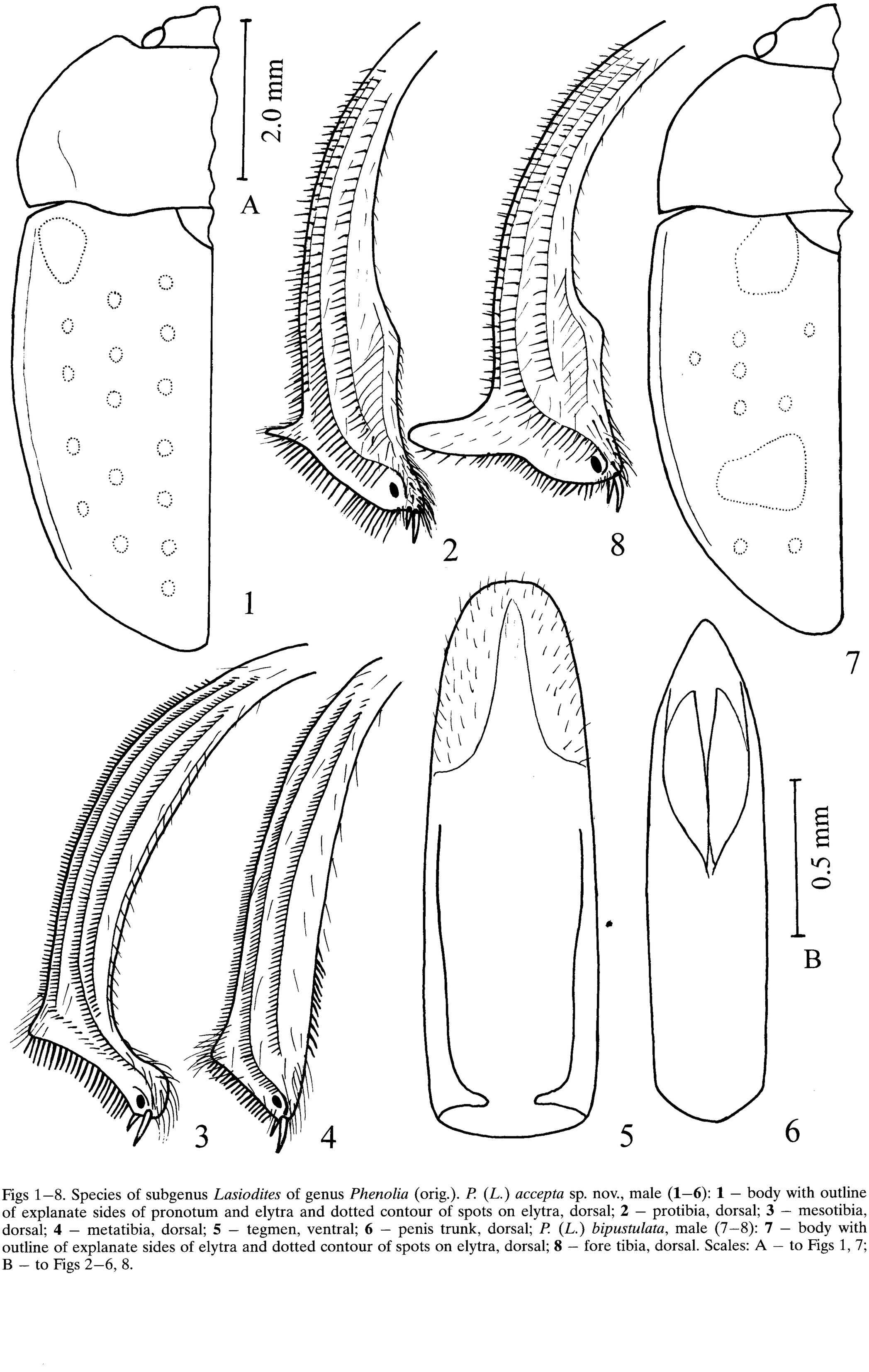
Descriptions and comments to species

1. *Phenolia (Lasiodites) accepta* sp. nov.

Figs 1–6, 9–11, 177

Specimens examined – **Ivory Coast (Côte d'Ivoire): holotype,** male (ZIN) – "Camoé Park, V. 1993, Rödel"; **paratypes: Nigeria:** 2 (NMC, ZIN) – "Zaria, Samaru, 22. V. 1966, at light, J.C. Deeming"; **Togo:** 1 (SMS) – "Sokode, Kpangalam, 7. 6. 1988, F.-T. Krell"; **Central African Republic:** 1 (ZIN) – "Oubanghi-Chari, Bangui, VII. 1959, ex coll. Breuning"; **Democratic Republic of the Congo (Zaire):** 1 (MAT) – "Katanga: Jadotville, P. Gravez, 1946, P. Basilewsky"; 1 (MAT) – "Buta, –194, R.F.J. Hutsebaut"; 1 (MAT) – "Elisabethville (à la lumière), 1957–1958, Ch. Seydel"; 1 (MAT) – "Katanga: Kipopo (E'ville), 20–I. 1962, Don R. Maréchal"; 1 (MAT) – "Lubumbashi, 1. III. 1975, W. Beum (don A. Allaer"; 1 (MAT) – "Haut-Uele: Paulis, IV–1947, P.L.G. Benoit"; 1 (ZMO) – "P.N.U., Kateka, s./affl. Lufira (960 m), 23–5–XII–1948, Miss. G.F. de Witte, 1085a"; **Kenya:** 1 (RHL) – "Tsavo voi, 12. I. 1971, C. Smeent"; **Tanzania:** 2 (ZIN, ZMB) – "Narobi b. Tanga, D.O.Afr., 4. 15, leg. Methner"; 1 (ZMB) – "Tanga, VIII. 02"; 1 (SMS) – "Peramiho-Songea, 1964, D. Stumpf"; 1 (MAT) – "Handeni, 350 m, 25/27–IV–1957", "P. Basilewsky et N. Leleup"; 2 (TMB, ZIN) – "Laiverero, 22. I. 1960", "Dr. Szunyoghy"; **Republic of South Africa:** 9 (SMS, ZIN) – "Natal, Eshowe/D. Forest, 29. I. 1999, P. Schule".

Description of male (holotype). Length 9.0, breadth 5.2, height 3.1 mm. Rather convex dorsally and slightly convex ventrally; dark brown; fore part of head including appendages, antennal flagella and ultimate antennomere, pronotal and elytral sides, procoxae and tarsi reddish brown; elytra with a markedly large bright reddish spot at each shoulder and with very small bright reddish contrasting spots arranged in 3 scarcely expressed rows; dorsum dull and underside with a slight shine; dorsal hairs yellowish to golden; pronotom with suberect hairs evenly distributed; striated hairs on elytra suberect (ca. 45°), curved hairs, slightly longer than distance between insertions; interstriatal hairs subrecumbent, arranged in two rows, as long as the distance between their insertions; underside with somewhat less conspicuous pubescence. Head, pronotal and elytral surface without outlined edges of punctures, but with very small and shallow punctures visible and partly microtuberculate; elytra with small punctures evenly distributed, shallow and larger punctures arranged in doublerows between striae; broad interspaces coarsely and contrastingly microreticulated. Pygidial and ventral surface with small and rather shallow punctures, much smaller than eye facets, interspaces between them somewhat broader than a puncture diameter, finely and densely microreticulated; mesosternum with distinct punctures, subequal to eye facets or slightly larger, interspaces between them about half a puncture



Figs 1–8. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *accepta* sp. nov., male (**1–6**): **1** – body with outline of explanate sides of pronotum and elytra and dotted contour of spots on elytra, dorsal; **2** – protibia, dorsal; **3** – mesotibia, dorsal; **4** – metatibia, dorsal; **5** – tegmen, ventral; **6** – penis trunk, dorsal; *P.* (*L.*) *bipustulata*, male (7–8): **7** – body with outline of explanate sides of elytra and dotted contour of spots on elytra, dorsal; **8** – fore tibia, dorsal. Scales: A – to Figs 1, 7; B – to Figs 2–6, 8.

diameter; metasternum in distal half with a rounded smoothed area lacking punctures. Head about 2/3 as long as the distance between eyes, slightly depressed between antennal insertions. Eyes with very short interfacetal setae. Antennae subequal to head width, scape about twice as long as wide and their club composing 1/4 of total antennal length. Pronotum almost evenly and slightly convex, with slightly subexplanate hind corners, base with distinct border only at hind corners, sides strongly arcuate and fore edge with a trapezoid emargination. Elytra evenly sloping to narrowly explanate sides, longest at suture, their apex suboblique and rounded at suture. Pygidium with truncate apex. Antennal grooves slightly but distinctly convergent. Prosternal process uncarinate, moderately curved along coxae and with rhomboid apex. The distance between mesocoxae subequal to and distance between metacoxae about 1.5 times broader than that between procoxae. Metasternum moderately depressed in distal half and strongly excavate before fore edge. Hypopygidium rather depressed at sides. Epipleura incomplete, at base about 2.5 times as wide as antennal club. Tibiae with a prominent subapical outer corner; protibia subtriangular and nearly regularly curved, somewhat wider than antennal club, subapical outer corner projecting into a narrow process; mesotibia strongly curved before apex and much narrower than antennal club; metatibia slightly and regularly curved, about as wide as antennal club. Femora of usual shape, about 1.5 times as wide as protibia. Protarsus about 2/3 as wide as antennal club.

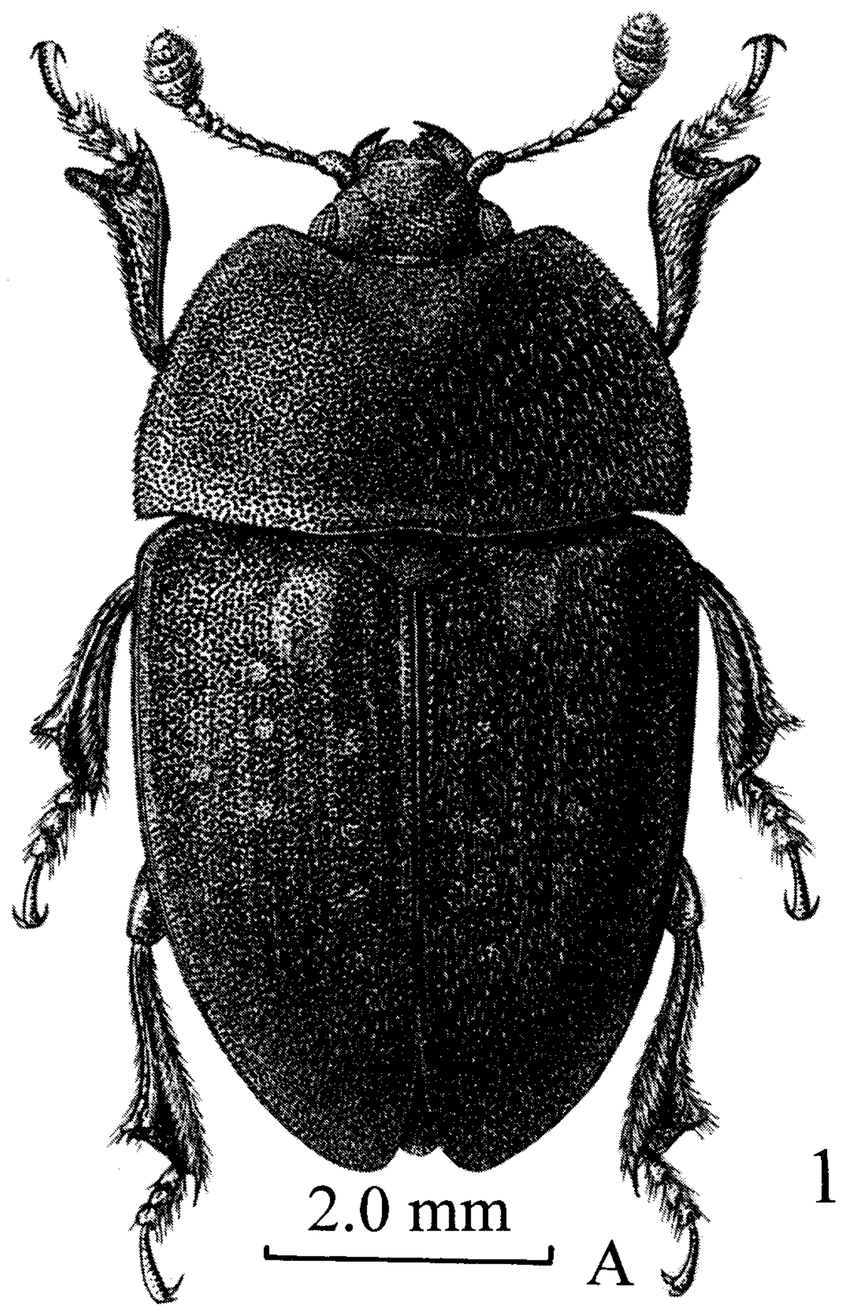
Female. Differs from male in lack of secondary sexual characters in tibiae (pro- and mesotibiae slightly curved, with smaller subapical processes), less arcuate pronotal sides, more projecting elytral apices at suture, widely rounded apices of pygidium and hypopygidium.

Variations. Length 6.5–9.8 mm. The species shows up a considerable variation in pronotal shape, punctation and development of characters of secondary sexual dimorphism in shape of tibiae. Coloration varies from dark brown to pitch-black; spots on elytra in almost all cases strongly expressed, but their coloration varies from bright reddish to reddish brown. The paratypes from "Tanga" have additional larger reddish spots at scutellum. However, the paratypes from "Lubumbashi" and "Oubanghi-Chari" have only small bright reddish spots, but no larger spots at scutellum or shoulder, and, finally, the paratypes from South Africa have only slightly visible small reddish spots or their elytra are entirely blackish. Punctation of dorsal sclerites of some paratypes can be more distinctly outlined, but most punctures are without clear edges. The paratype from "Lubumbashi" has quite distinct punctures on pronotum.

Diagnosis. *P.* (*L.*) *accepta* sp. nov. is most similar to *P.* (*L.*) *bipustulata* and *P.* (*L.*) *implagiata* sp. nov., but easily distinguished from them mainly by the characteristic reddish spots on shoulders of elytra, deeper depressed hypopygidium and shape of pronotum and tibiae. In particular the male protibia has a narrow and sharp process, but not as thick and long as in both sexes of *P.* (*L.*) *bipustulata.* Antennal club of this new species is more elongate, with ultimate antennomere much narrower and usually lighter than penultimate one. Antennal club of *P.* (*L.*) *bipustulata* is more oval, with ultimate antennomere dark and scarcely narrower than penultimate antennomere, and that of *P.* (*L.*) *implagiata* sp. nov. is narrow and light, with subequal width of antennomeres 9 and 10. *P.* (*L.*) *accepta* sp. nov. is different in metasternum, level of depression of hypopygidium and shape of apices of its tegmen and penis trunk. In some cases, the females of the *bipustulata* group can have intermediate body shapes, between the typical shapes of *P.* (*L.*) *accepta* sp. nov., *P.* (*L.*) *bipustulata* and *P.* (*L.*) *implagiata* sp. nov. The two first species are separated from the third one, due to the presence of reddish spots on elytra. *P.* (*L.*) *accepta* sp. nov. and *P.* (*L.*) *bipustulata* can be separated by the pattern of reddish spots, which is characteristic in each of the species.

Some specimens of *P.* (*L.*) *accepta* sp. nov. resemble those of *P.* (*L.*) *decellei* sp. nov., but these specimens are quite distinct in depth of emargination of pronotal fore edge, contour of antennal grooves and shape of male pro- and mesotibiae. The most expressive characters, which allow the separation of these species are: *P.* (*L.*) *accepta* sp. nov. has clearly subrecumbent or recumbent hairs on dorsum and moderately depressed male metasternum, while *P.* (*L.*) *decellei* sp. nov. has erected hairs looking like bristles and a deep fossa in the distal half of male metasternum.

P. (*L.*) *accepta* sp. nov. is also rather similar to *P.* (*L.*) *harmonica* sp. nov. and *P.* (*L.*) *oviformis* sp. nov., but differs clearly from them in the much larger body with light contrasting spots on elytra, coarser sculpture between punctures on



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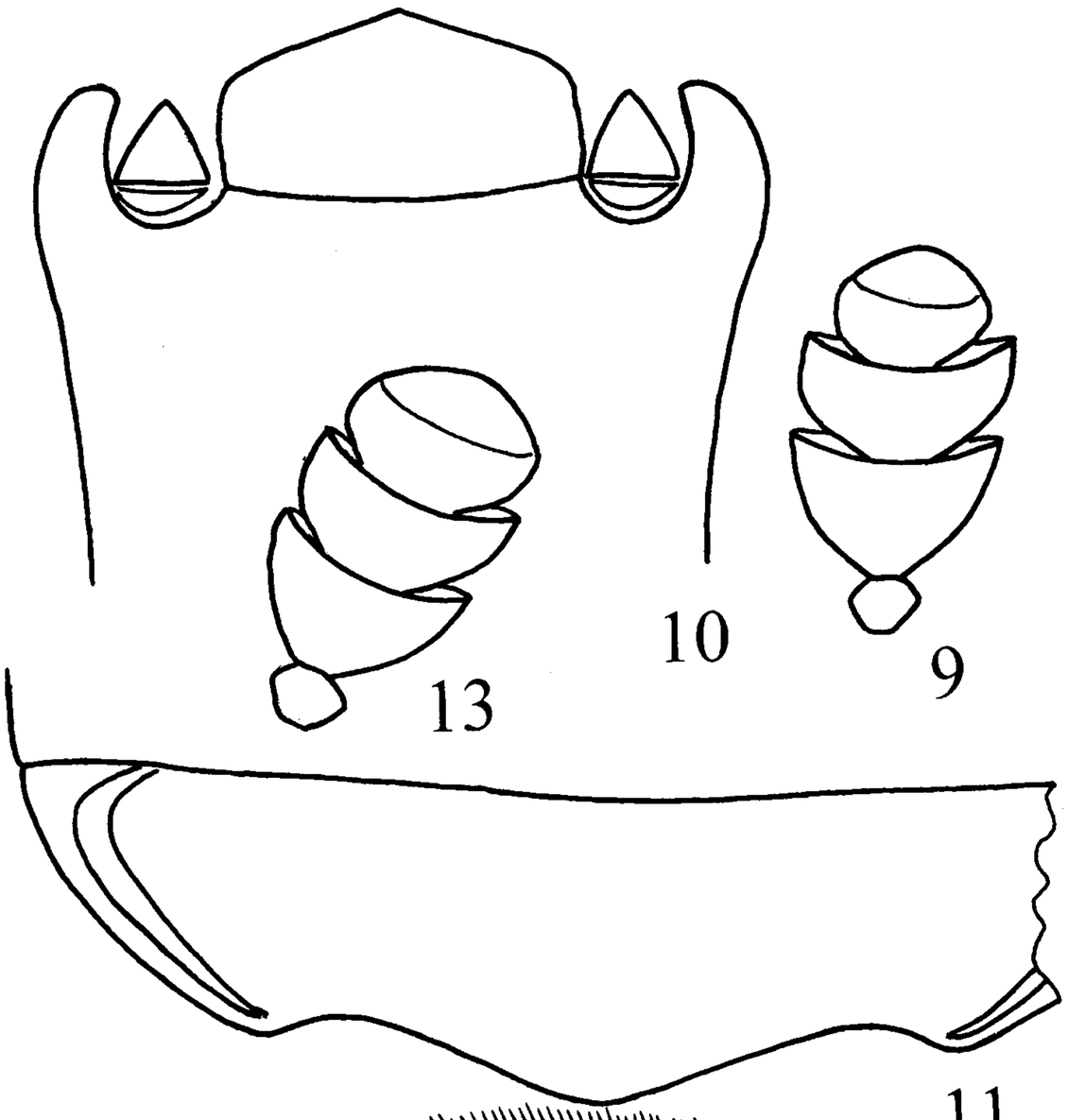

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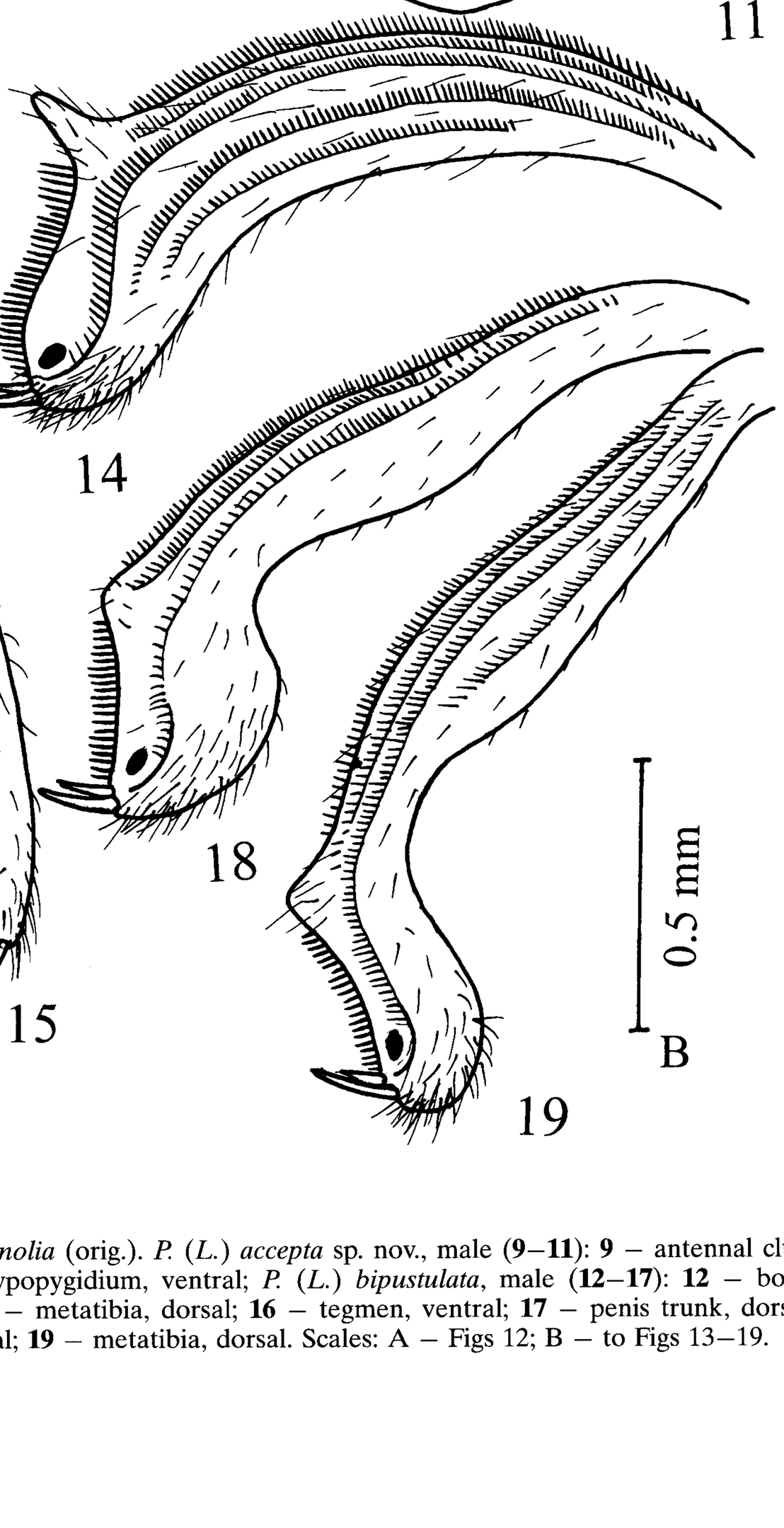

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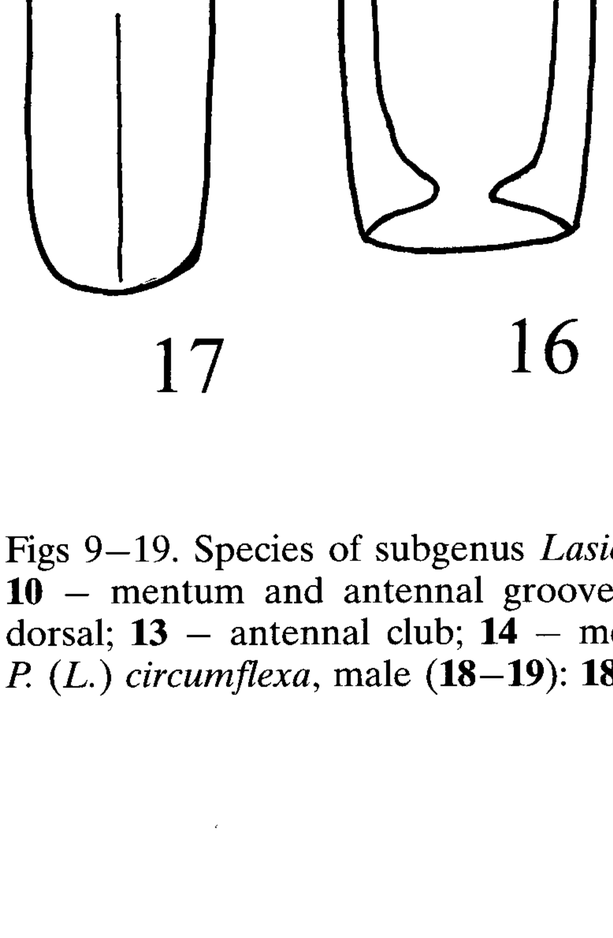

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Figs 9–19. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *accepta* sp. nov., male (**9–11**): **9** – antennal club; **10** – mentum and antennal grooves, ventral; **11** – hypopygidium, ventral; *P.* (*L.*) *bipustulata*, male (**12–17**): **12** – body, dorsal; **13** – antennal club; **14** – mesotibia, dorsal; **15** – metatibia, dorsal; **16** – tegmen, ventral; **17** – penis trunk, dorsal; *P.* (*L.*) *circumflexa*, male (**18–19**): **18** – mesotibia, dorsal; **19** – metatibia, dorsal. Scales: A – Figs 12; B – to Figs 13–19.

dorsum, more depressed metasternum, weakly developed lateral grooves on hypopygidium and different characters of sexual dimorphism in pro- and mesotibiae.

Some resemblance can be traced between this new species and *P.* (*L.*) *perforata* sp. nov., but the latter is easily diagnosed due to its smaller, more compact and more convex body, rows of doubled punctures pressed in simple fossae on elytra, characteristic structures of thorax and elytral apices.

Etymology. The name of this new species is based on the Latin word *acceptus*, which means "splendid", "fine", "dear" etc.

2. *Phenolia (Lasiodites) bakkei* sp. nov.

Figs 106–111, 178

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype,** male (MAT) and 1 **paratype,** female (MAT) – "N. Lac Kivu: Rwankwi, 15–30 IV. 1948, J. V. Leroy"; other **paratypes:** 1 male (ZIN) – "Massif Ruwenzori, Grotte Ibatama, 1610 m (lumière) "P. N. A. 4-5-1958", "P. Vanschuytbroeck, VS-377"; **Guinea:** 1 female (ZMB) "Sérédou, 23. 4. 1975, lux, Zott".

Description of male (holotype). Length 6.2, breadth 3.6, height 1.6 mm. Rather convex dorsally and slightly convex ventrally; dorsum nearly unicoloured brown, underside and appendages brown with somewhat lighter prohypomera, epipleura, pro- and mesocoxae, and tarsi; antennal club almost blackish; dorsum rather shining and underside very shining; dorsum with subrecumbent and very conspicuous yellowish hairs of two kinds; head and pronotum with longest hairs sparser, about 1.5 times as long as distance between their insertions, and with shorter hairs more dense and slightly longer than distance between their insertions; elytra with longest hairs arranged in longitudinal rows, distance between the hairs somewhat more than the length of a hair; underside with finer, less conspicuous and subrecumbent yellowish hairs. Head and pronotum surface with more or less distinct punctures, about as large as eye facets, interspaces between them somewhat narrower than a puncture diameter, microreticulation extremely fine. Elytral surface with markedly larger punctures, arranged in slightly expressed longitudinal rows, interspaces between them somewhat narrower than a puncture diameter, with extremely fine and smooth microreticulation. Ventral surface with more or less distinct punctures, subequal to or smaller than eye facets, interspaces between them more or less as broad as a puncture diameter, with somewhat smooth microreticulation. Head about 4/5 as long as the distance between eyes, with a pair ofdepressions between antennal insertions. Eyes with scarsely visible interfacetal setae. Antennae subequal to head width, scape less than twice as long as wide and club composing 1/4 of total antennal length. Pronotum almost evenly and slightly convex, with slightly subexplanate hind corners, base with extremely narrow border, sides moderately arcuate and fore edge with a shallow trapezoid emargination. Elytra evenly sloping towards narrowly explanate sides, longest at suture, apices suboblique and narrowly rounded at suture. Pygidium with truncate apex. Antennal grooves slightly but distinctly convergent. Prosternal process subcarinate, moderately curved along coxae and with rhomboid apex, slightly wider than antennal club. The distance between mesocoxae subequal and distance between metacoxae more than twice as broad as that between procoxae. Metasternum transversely depressed in anterior half, with a wide and shallow triangular depression in distal half. Hypopygidium rather deeply depressed at sides. Epipleura incomplete, at base about twice as wide as antennal club. Protibia with slightly prominent subapical outer corner, somewhat dilated and sharply curved behind the middle of its inner edge, slightly narrower than antennal club; mesotibia strongly curved and emarginate along inner edge before apex, significantly narrower than antennal club; metatibia somewhat curved at middle of inner edge and slightly narrower than antennal club. Femora of usual shape, about twice as wide as protibia. Protarsus about 2/3 as wide as antennal club.

Female. Differs from male in lack of sexual characters in tibiae (pro- and mesotibiae slightly curved and with smaller subapical process), more projecting elytral apices at suture (almost acuminate), widely rounded apices of pygidium and hypopygidium.

Variations. Length 6.2–6.7 mm. Coloration of body ranges from reddish brown to dark brown, but mouthparts, antennal flagella and tarsi always reddish. Some variability is observed in punctation and sculpture; punctures on dorsum of the specimen from "Sérédou" are smaller than eye facets, but punctures on its metasternum, about as large as eye facets and separated by less than a puncture diameter. The specimen from "Ruwenzori" has very dense punctation on pronotum (some punctures form irregular trans-

verse rows of 4–6 contiguous punctures) and elytra without trace of longitudinal rows. Pronotum widest at base or alternatively with subparallel sides at basal third.

Diagnosis. This new species is characterized by almost unicoloured, compact and rather convex body with medium size and an expressed shine as well as distinct and comparatively dense punctation, which is not quite seriate on elytra. *P.* (*L.*) *bakkei* sp. nov. strongly resembles *P.* (*L.*) *decellei* sp. nov., *P.* (*L.*) *harmonica* sp. nov. and *P.* (*L.*) *oviformis* sp. nov., but differs from them in comparatively slender body with more conspicuous pubescence, shallower emargination of fore edge of pronotum, longer elytra with more narrowed apices and incomplete epipleura, convergent antennal grooves, secondary sexual characters in tibiae and metasternum. Besides, *P.* (*L.*) *bakkei* sp. nov. is different from *P.* (*L.*) *decellei* sp. nov. in recumbent hairs on dorsal sclerites, from *P.* (*L.*) *harmonica* sp. nov. in rhomboid apex of prosternal process and from *P.* (*L.*) *oviformis* sp. nov. in deeper excision between labral lobes, absence of prescutellar depressions at pronotal base and shape of antennal club.

Body shape of *P.* (*L.*) *bakkei* sp. nov. resembles *P.* (*L.*) *georgyi* sp. nov. and *P.* (*L.*) *intermixta* sp. nov., but in contrast to *P.* (*L.*) *bakkei* sp. nov. they have rather distinct small light spots on elytra, much less conspicuous pubescence, sparser and coarser punctation on dorsum, and less curved antennal grooves. *P.* (*L.*) *georgyi* sp. nov. also has different shape of antennal club as well as male pro- and mesotibiae. *P.* (*L.*) *intermixta* sp. nov. has only slightly depressed sides of hypopygidium.

The specimens of *P.* (*L.*) *bakkei* sp. nov. are somewhat similar to the specimens of *P.* (*L.*) *zotti* sp. nov. with unicoloured body, but differs from them in more slender body with longer elytra, denser punctation, denser and more conspicuous pubescence on dorsum, wider apex of prosternal process and shape of male protibiae. Finally, *P.* (*L.*) *bakkei* sp. nov. has some similarity with *P.* (*L.*) *robusta* sp. nov. and some specimens of *P.* (*L.*) *limbata tibialis*. However, these species are quite different in many characters, including body shape, convexity of body, punctation and sculpture of integument, secondary sexual characters, and structure of aedeagus.

Etymology. This new species is dedicated to Alf Bakke, chief of the second author for almost 20 years at the Norwegian Forest Research Institute.

3. *Phenolia (Lasiodites) bipustulata* (Grouvelle, 1899), comb. nov.

Figs 7–8, 12–17, 179

Lordites bipustulatus Grouvelle, 1899: 142 ("Bagamoyo" – type series presumably in MNP & NHL);
Lasiodactylus bipustulatus: Grouvelle 1913: 172;
Lasiodites bipustulatus: Jelínek, 1999: 279.

Specimens examined – **Democratic Republic of the Congo (Zaire):** 10 (MAT, ZIN) – "P.N.U., Mabwe (585 m), 17–27-XII-1948, Miss. G.F. de Witte" (also "12–15-XII-1948" and "31-XII-1948"); **Tanzania:** 1 (ZMB) – "Tanga, VIII. 02"; 1 (TMB) – "Africa or. Katona, Arusha, Chini"; 3 (TMB, ZIN) – "Morogoro, light trap, II. 1970, T. Pócz" (also "24. I. 70"); **Kenya:** 1 (NRS) – "Brit. O. Africa, Lindblom"; **Namibia:** 1 (SMS) – "30. 12. 1994, Katimo, Mulilo, 1000 m, Nachtfang, Wiesner & Worm"; 5 (DEI, ZIN) – "Rhodesia, Caprivizipfel, v. Benningsen" (determined by A. Grouvelle as "*L. latipes* sp. n." – inedit.); **?Malawi:** 9 (ZMB) – "N Nyassa-See, Langenburg, 1. II–19. III. 99, Füllenborn" (IV. 99); **Zambia** or **Zimbabwe:** 1 (DEI) – "Rhodesia, A. Bodong"; **Zimbabwe:** 1 (CMO) – "Atlantica: 16 mi. W. Salisbury, M.B. Fenton, Feb. 6–11, 76, mistnet"; 1 (ZMB) – "11–12. XII. 1993, 17°53′S/25°49′E, Victoria Falls, Zambezi-NP-Camp, lux, M. Uhlig"; **Mozambique:** 1 (ZIN) – "Matola, XII: 4: 1971, E.N. Kjellesvig Waering"; 1 (FMC) – "Zambesi, Baroma, Dr. C. Branncsik"; **Republic of South Africa:** 2 (ZIN, ZSM) – "Natal, Dezember 1986, K. Werner"; 1 (ZSM) – "St. Lucia, Natal, Jan. 1987, K. Werner"; 1 (ZMB) – "31. I–3. ii. 1995, KwaZulu-Natal, N-dumu Game Res., 26°55′S/32°19′E, F. Koch"; 1 (ZMB) – "8. xii. 1995, KwaZulu-Natal, Itala Game Res., 27°30′S/31°20′E, F. Koch"; 1 (ZMB) – "Transvaal, 24°05′S/30°15′E, Lekgalameetse Nat. Res., 21. XII. 1995, F. Koch".

Comments to description. Length 6.6–10.7, breadth 3.7–4.3, height 2.1–2.5 mm. Rather convex dorsally (most convex at elytra) and slightly convex ventrally; dark brown with somewhat lighter fore part of head including appendages, antennal flagella, pronotal and elytral sides, fore coxae and tarsi; each elytron with 2 bright reddish larger spots, one at scutellum and one behind the middle (the latter sometimes reduced), and also with very small bright reddish contrasting spots usually arranged in 3 irregular rows; dorsum dull and underside with a slight shine; pubescence greyish to golden; pronotum with recumbent uniform hairs, 1.5–2.0 times as long as distance between their insertion; elytra with almost uniform recumbent hairs, striatal hairs only slightly more raised than interstriatal hairs, arranged in two rows and 1.5–2.0 times as long as the distance between their insertions, each hair inserted at a small grain. Head, as a rule, with quite distinct punctures, smaller than eye facets, interspaces between them finely microreticulated. Pronotum and elytra mostly with small, shallow and indistinct punctures (some of them commonly outlined as those on head), interspaces between them finely and densely microreticulated. Eyes usually with raised, but rather fine interfacetal setae. Antennal club com-

paratively wide and oval, with very dense raised hairs on ultimate antennomere. Fore edge of pronotum with a trapezoid emargination. Hypopygidium slightly depressed at sides. Epipleura incomplete. Protibiae of both sexes with a long and rather wide process, in males sharply enlarged and angularly curved at the middle of inner edge. Male protarsus almost as wide as antennal club.

Variations. A certain variability is observed in punctation and sculpture of dorsal sclerites. The characteristic pattern of reddish spots on elytra is quite clear in most cases and only a few specimens have reduced large reddish spots distally, but never unicoloured dark brown or blackish. Longitudinal rows of longer hairs on elytra sometimes scarcely expressed. Antennal clubs of all studied specimens, in contrast to those of *P.* (*L.*) *accepta* sp. nov. and *P.* (*L.*) *implagiata* sp. nov., are completely dark.

Diagnosis. *P.* (*L.*) *bipustulata* is easily recognizable according to the original description due to the characteristic reddish spots on elytra and comparatively wide and long subapical process of protibiae in the both sexes (especially in males). It is very similar to *P.* (*L.*) *accepta* sp. nov. and *implagiata* sp. nov., but differs in the characters mentioned in the key and diagnoses of the latters. *P.* (*L.*) *bipustulata* also resembles *P.* (*L.*) *decellei* sp. nov., *P.* (*L.*) *georgyi* sp. nov., *P.* (*L.*) *harmonica* sp. nov. and *P.* (*L.*) *oviformis* sp. nov., but differs from them not only in the characteristic coloration and the process of the protibiae, but also in a larger and more regularly oval body, shallowly emarginate pronotal fore edge, characters of pubescence, as well as sculpture and punctation.

P. (*L.*) *bipustulata* bears some resemblance to *P.* (*L.*) *perforata* sp. nov., but the latter is easily diagnosed due to its smaller, more compact and more convex body, doubled punctures pressed in simple fossae and arranged in rows, peculiar structures of the thorax and elytral apices [see below key and diagnosis of *P.* (*L.*) *perforata* sp. nov.].

Notes. The specimens from Tanga and Nyassa are named by S. Endrödy-Younga after comparison with the type series.

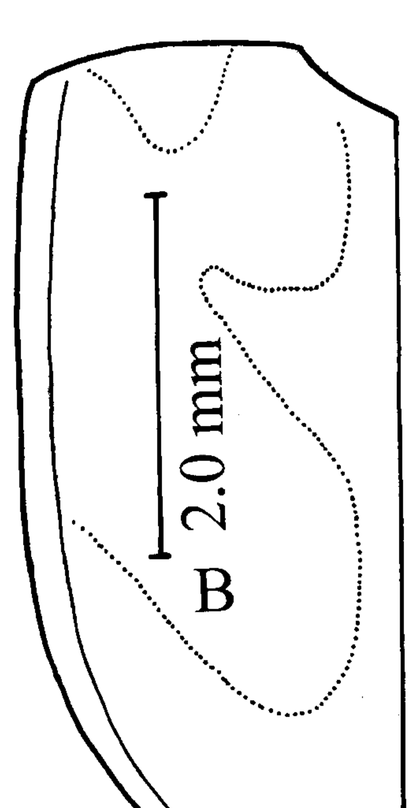
4. *Phenolia (Lasiodites) circumflexa* (Murray, 1867), comb. nov.

Figs 18–24, 180

Lordites circumflexus Murray, 1867: 175 (Nigeria, Calabar); Gemminger & Harold 1868: 829;
Lasiodactylus circumflexus: Grouvelle 1913: 172;
Lasiodactylus coccinelloides Grouvelle, 1915b, **syn. nov.**: 110 [Democratic Republic of the Congo (Zaire)];
Lasiodites circumflexus: Jelínek 1999: 279;
Lasiodites coccinelloides: Jelínek 1999: 279.

Specimens examined – **Ghana:** more than 250 (BRO, SMS, ZIN) – "Tafo, IX. 1967–II. 1968, E.O. Boafo"; **Liberia:** 1 (SMS) – "Peter Town, Montserrado County, 26. III. 1988, F.-T. Krell"; **Ivory Coast (Côte d'Ivoire):** 1 (MAT) – "Danangoro (Maraoué, 22. V. 1975, P.M. Elsen"; 1 (MAT) – "Zepreghe-Koffikro(Daloa), IV. 1961, J. Decelle"; 3 (MAT, ZIN) – "Korea, au sud de Daloa, VI. 1961, J. Decelle"; 19 (MAT, ZIN) – "Bingerville, 1/12. III. 1962, J. Decelle" (II. 1962, X. 1962, XII. 1962, I. 1963, IV. 1964); 1 (MAT) – "Boukakro, N'Divo, V. 1962, J. Decelle"; 1 (MAT) – "Yokopa, près de Gagnoa, X. 1962, J. Decelle"; 1 (MAT) – "Divo, 28. XI. 1963, J. Decelle"; 1 (SMS) – "Elfenbeinküste, Adiodoumé, 10. 4. 1988, F.-T. Krell"; 1 (MAT) – "Forêt classée Bossematié, 05-1995, Dall'Asta & Fernon"; **Nigeria: holotype** of *L. circumflexus* (NHL), designated in the collection as lectotype by S. Endrödy-Younga – "Old Cal.", "68–106", "*circumflexus*"; 1 (NMC) – "Zaria, Samaru, 22. V. 1966, at light, J.C. Deeming"; 1 (ZIN) – "Ile-fe, 10. VI. 1988, F.-T. Krell"; 2 (BRO) – "Ibadan, 17. VII. 1962, D.C. Eidt"; **Cameroon:** 1 (BRO) – "Ngaoundere, April 8, 1976, R.E. Parrott"; 2 (TMB) – "Nanga Eboko, III–IV. 1959, Lenczy"; 1 (MAT) – "Nkolbisson Dept. Nyong, IX. 63, L.G. Saegers"; **Democratic Republic of the Congo (Zaire): lectotype** of *L. coccinelloides*, female (MAT), here designated (designated in collection by S. Endrödy-Younga in 1968) and 4 (MAT, ZMO, ZIN) – "Congo da Lemba, X–XII-1911, R. Mayné"; 1 (MAT) – "Congo da Lemba, XII-1902, Don R. Mayné"; 16 (MAT, ZIN, ZMB) – "Lulua: Kapanga, IV-1933, F.G. Overlaet" (IX-1932, 31-XII-1932, III-1933; 3 (MAT) – "Stanleyville, II-1926, Lt. S. Ghesquiere" ("J. Ghesquière"); 3 (MAT) – "Yangambi, XII-1951, J. Decelle" (VI. 1960); 1 (MAT) – "Lomami, Koniama, 1931, R. Massert"; 2 (MAT, ZIN) – "Lualaba, Ruwe, 20. XII. 1960, V. Allard"; 1 (MAT) – "Massif Ruwenzori, riv. Talya, affl. Lume, 1870 m", "P.N.A., 4-IX-1956, P. Vanschuytbroek"; 1 (MAT) – "Secteur Nord, Bongeya, affl. Talya, rive g., 1100–1250 m, piége lumineaux", "11-III-1957, P. Vanschuytbroek"; 8 (MAT) – "Ituri: Wamba, 7/13-VIII-1930, P. Gèrard"; 3 (MAT, ZIN) – "Tshuapa: Ikela, X. 1956, R. Deguide"; 1 (MAT) – "Luluabourg (Kasai), 7–14-IX-1963, Jan Deheeger"; 2 (MAT, ZIN) – "Madinga (Mayumbe), 26-VIII-1924, A. Collart"; 1 (ZIN) – "P.N.A., 4-IX-1956, P. Vanschuytbroeck", "Massif Ruwenzori, riv. Talya, 1870 m, affl. Lume"; 1 (MAT) – "Beni à Lesse, fin VII-1911, Dr. Murtula"; 1 (MAT) – "Beni, Lt. Borherhoff"; 2 (MAT) – "Kisantu, P. Goossens" (named probably by A. Grouvelle as *Lasiodactylus circumflexus*); 1 (MAT) – "Kibombo, 2-II-1910, Dr. Bequaert" (named probably by A. Grouvelle as *Lasiodactylus circumflexus*); 1 (MAT) – "Eala, X-1917, R. Mayné" (named probably by A. Grouvelle as *Lasiodactylus circumflexus*); **Tanzania:** 1 (NRS) – "Kilimajaro, Sjöstedt, 1905–06", "Kibenoto, 1300 m"; 1 (TMB) – "Morogoro, Bahati camp, pitfall trap, N 22, 2. II. 1987, S. Mahunka & A. Sicsi"; **Malawi:** 1 (ZML) – "S. Province, Thyolo, 3. XI–18. XII. 1984, B. Peterson"; **Republic of South Africa:** 1 (ZMB) "Transvaal, 24°05′S/30°15′E, Lekgalameetse Nat. Res., 21. XII. 1995, F. Koch. "

Comments to description. Length 6.4–11.4, breadth 3.5–4.3, height 2.1–2.6 mm. Moderately convex dorsally and slightly convex ventrally; light brown to almost reddish or blackish, usually with somewhat lighter fore part of head, pronotal sides, appendages, pronotal and elytral sides, fore coxae and tarsi; elytra with a variable pattern of bright reddish contrasting spots,



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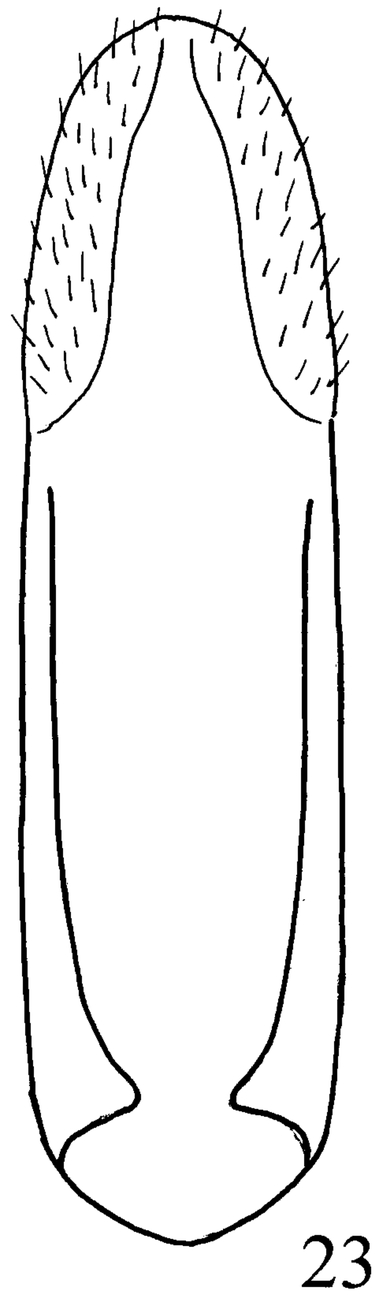

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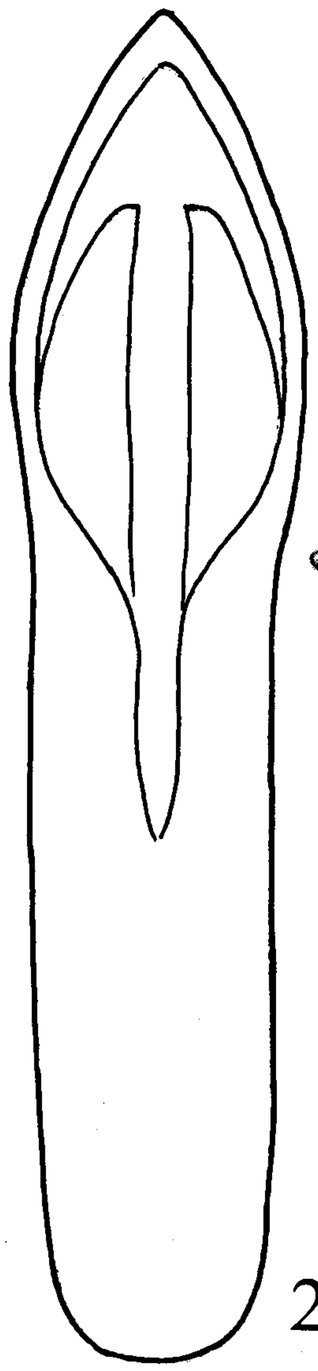

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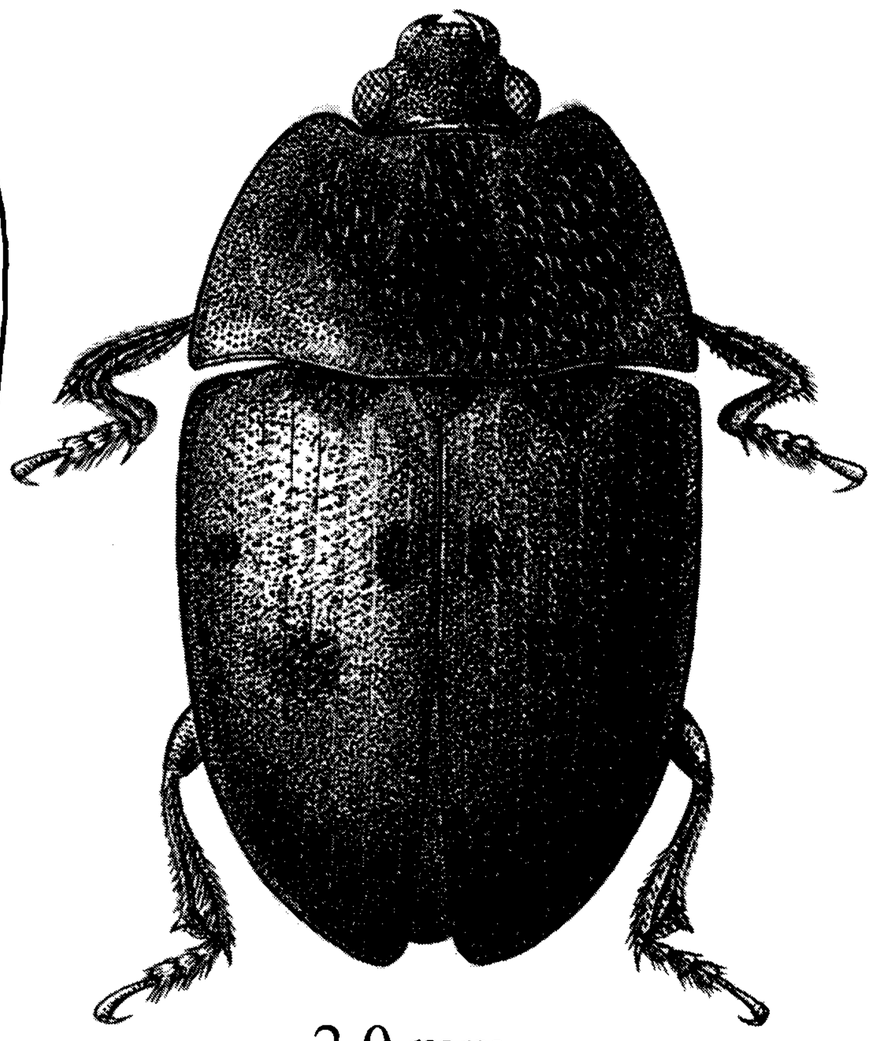

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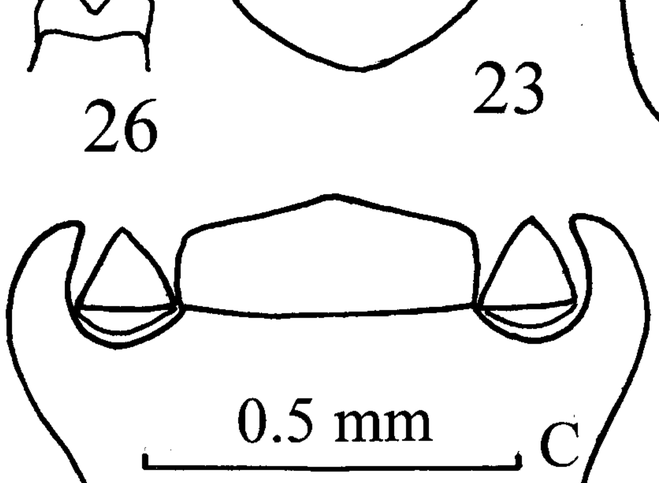

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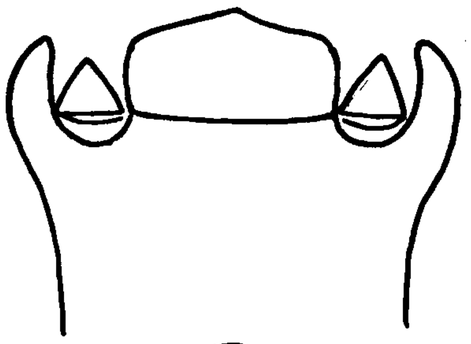

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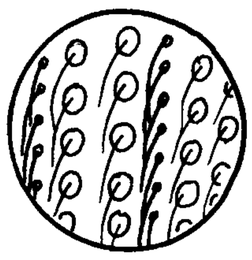

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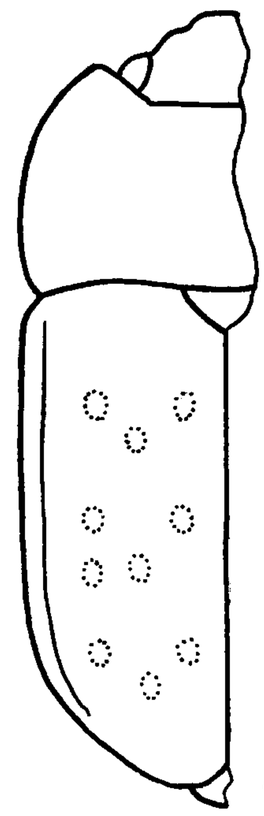

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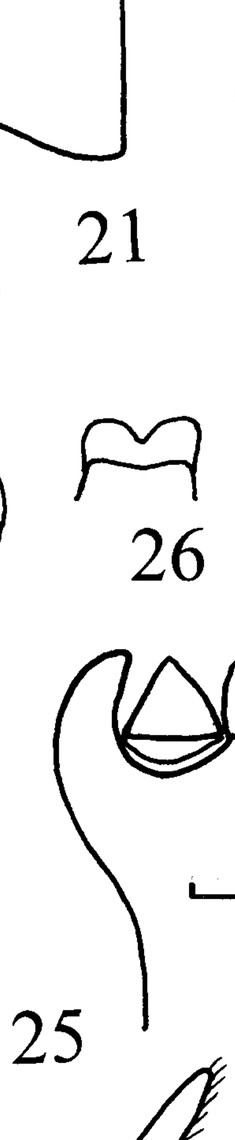

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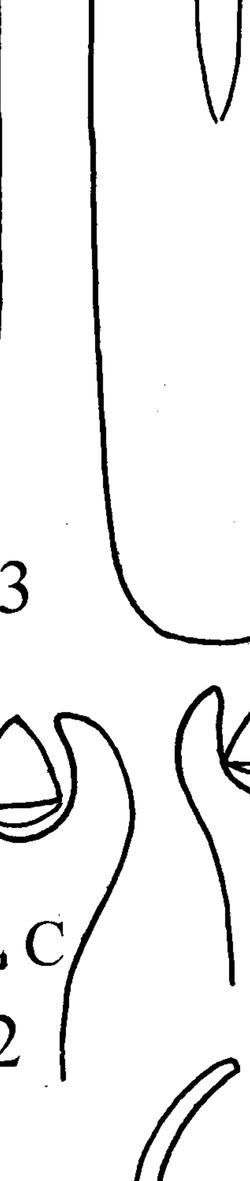

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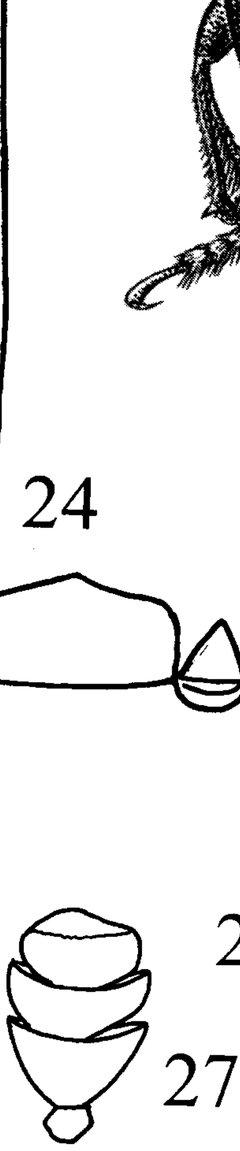

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Figs 20–37. Species of subgenus *Lasiodites* of genus *Phenolia*. (orig.). *P.* (*L.*) *circumflexa,* male (**20–24**): **20** – body, dorsal; **21** – elytron with outline of explanate side and dotted contour of spots on elytra, dorsal; **22** – mentum and antennal grooves, ventral; **23** – tegmen, ventral; **24** – penis trunk, dorsal; *P.* (*L.*) *costipennis* (**25–37**): male from Namibia (**25–33**): **25** – body with outline of explanate sides of pronotum and elytra and dotted contour of spots on elytra, dorsal; **26** – fore edge of head and labrum, dorsal; **27** – antennal club; **28** – antennal grooves, ventral; **29** – punctation and pubescence of elytra; **30** – tegmen, ventral; **31** – idem, lateral; **32** – penis trunk, dorsal; **33** – idem, lateral; lectotype of *P.* (*L.*) *costipennis*, male (**34–36**): **34** – tegmen, ventral; **35** – penis trunk, dorsal; **36** – apex of penis trunk, lateral; female: **37** – ovipositor, ventral. Scales: A – to fig. 20; B – to Figs 21, 25; C – to Figs 22–24, 26–37.

frequently united into one spot with complex outline that covers most of each elytron; usually slightly shining; dorsum with comparatively short, recumbent or subrecumbent, moderately conspicuous, reddish yellow hairs, somewhat longer than distance between their insertions; elytra with two longitudinal rows of shorter and recumbent hairs disposed between longitudinal rows of longer subrecumbent hairs. Head and pronotal surface with quite distinct and almost regular punctures, much larger than eye facets, interspaces between them about a puncture diameter, smoothly and cellularly microreticulated. Elytra with almost indistinct, larger and sparse punctures, interspaces between them smoother; a tendency to form longitudinal rows of punctures slightly expressed. Eyes usually without raised interfacetal setae, but sometimes short and rather fine setae visible between facets. Elytra with very widely subexplanate sides. Metasternum of male somewhat widely depressed in the middle and with nearly even punctation. Hypopygidium rather deeply depressed at sides. Epipleura incomplete. Male protibia strongly curved and enlarged before apex; mesotibia strongly curved inwards and more or less excised along inner edge; metatibia slightly curved. Male protarsus almost as wide as antennal club.

Variations. This species demonstrates a wide variability in elytral coloration and pattern of contrasting light spots. However, small and rounded dark patches behind scutellum and at the middle of elytral disc are traceable in almost all cases. Pronotal shape is rather variable: usually widest near base, but sides varies from arcuately to almost rectilinearly narrowed to hind corners. Surface of this sclerite is more evenly vaulted, never explanate at sides and hind corners, which are less projecting compared to most specimens of *P.* (*L.*) *limbata tibialis*. In some cases pronotal punctures are smaller or very shallow, and sculpture between them extremely contrasting, similar to *P.* (*L.*) *accepta* sp. nov. and *P.* (*L.*) *bipustulata* due to the cellular microreticulation. The microreticulation are never represented by very small punctures. Genitalia of male are very similar to those in *P.* (*L.*) *limbata*, although apex of penis trunk usually is more gradually narrowed than in *P.* (*L.*) *l. limbata* and typical form of *P.* (*L.*) *l. tibialis*.

Diagnosis. This species is very similar to *P.* (*L.*) *limbata tibialis*, but can be separated due to its coarser punctation, almost diffuse and uniform punctures on elytra, cellular microsculpture of dorsal surface, slightly raised remnants of costae (if traceable at all), characteristic features of typical coloration and usually deeper depressed hypopygidium.

An important character that can be used to distinguish *P.* (*L.*) *circumflexa* from *P.* (*L.*) *l. tibialis,* is the pronotal shape. The pronotum of *P.* (*L.*) *circumflexa* has, in comparison to the latter, a shallower and more or less rounded emargination of fore edge, and usually much wider subexplanate sides of elytra. The distinguishing features of this species from other members of *limbata* group are given in the key and in the diagnoses of *P.* (*L.*) *lata* sp. nov. and *P.* (*L.*) *limbata*.

Both *P.* (*L.*) *zairensis* sp. nov. and *P.* (*L.*) *zotti* sp. nov. have some similarity to *P.* (*L.*) *circumflexa* due to their large bodies and large light spots on elytra. However, they differ from *P.* (*L.*) *circumflexa* in more convex dorsum, more curved antennal grooves behind mentum, and dorsal sculpture and punctation (see below key). In addition, *P.* (*L.*) *zairensis* sp. nov. has distinct erect or suberect hairs on dorsum, and the male protibia of *P.* (*L.*) *zotti* sp. nov. is subtriangular and scarcely curved along inner edge.

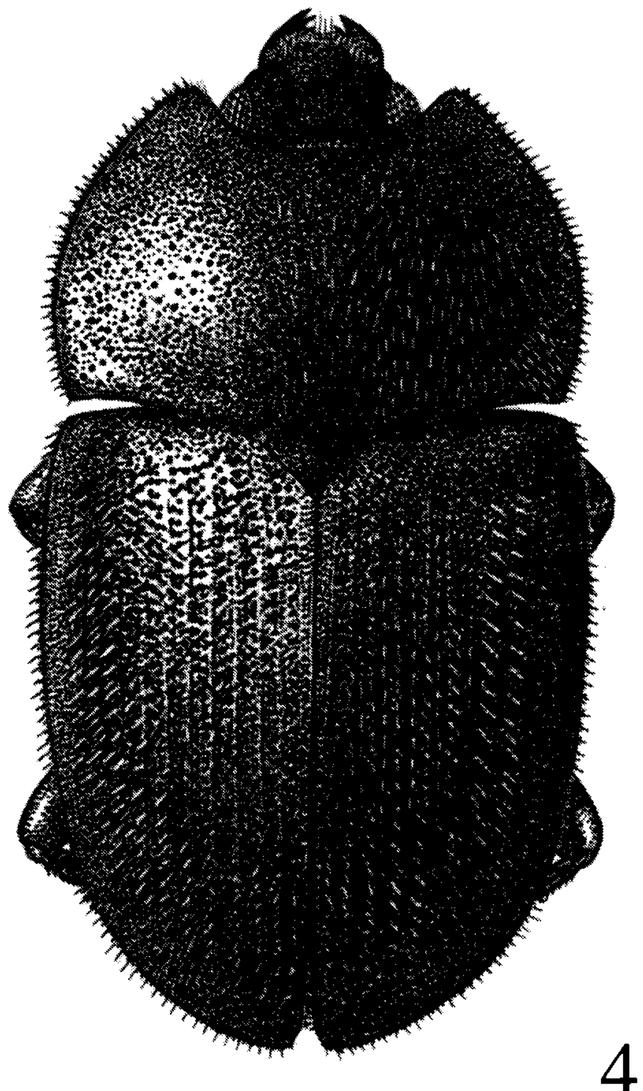
P. (*L.*) *circumflexa* and *P.* (*L.*) *limbata* have some similarity to species of the *immunda* group and *P.* (*L.*) *picta*, but is very different from them in addition to the other characters mentioned, also in distinct characters of sexual dimorphism in tibiae. *P.* (*L.*) *circumflexa* differs from both the *immunda* group and *P.* (*L.*) *picta* in its typical coloration, almost unraised elytral costae, punctation and sculpture on dorsum as well as deeper depressed hypopygidium. From the *immunda* group it differs also in wider pronotal base and shallower emargination of the fore edge and *P.* (*L.*) *picta* differs in having a wider body and wider pronotum that is not narrowed to base. Finally, *P.* (*L.*) *circumflexa* has some resemblance to *P.* (*L.*) *lata* sp. nov. and *P.* (*L.*) *longa* sp. nov., but can be separated from them by the same characters which distinguish it from the *immunda* group and *P.* (*L.*) *picta,* together with the characters mentioned in the below key.

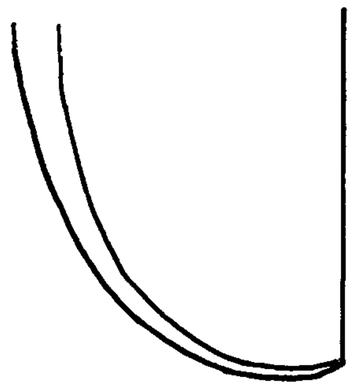
Notes: The exanination of the type specimens of *Lordites circumflexa* and *Lasiodactylus coccinelloides* confirms that they are conspecific.

5. *Phenolia (Lasiodites) costipennis* (Boheman, 1851), comb. nov.

Figs 25–40, 181

Soronia costipennis Boheman, 1851: 569 (lectotype examined – Kirejtshuk 1996b: 47 – NRS – "Caffraria");





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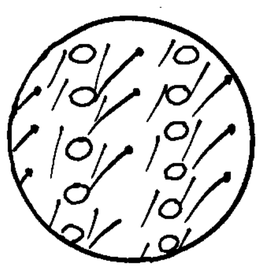

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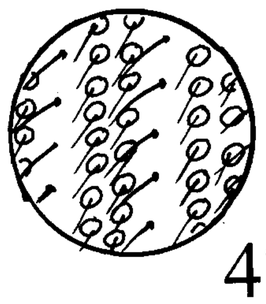

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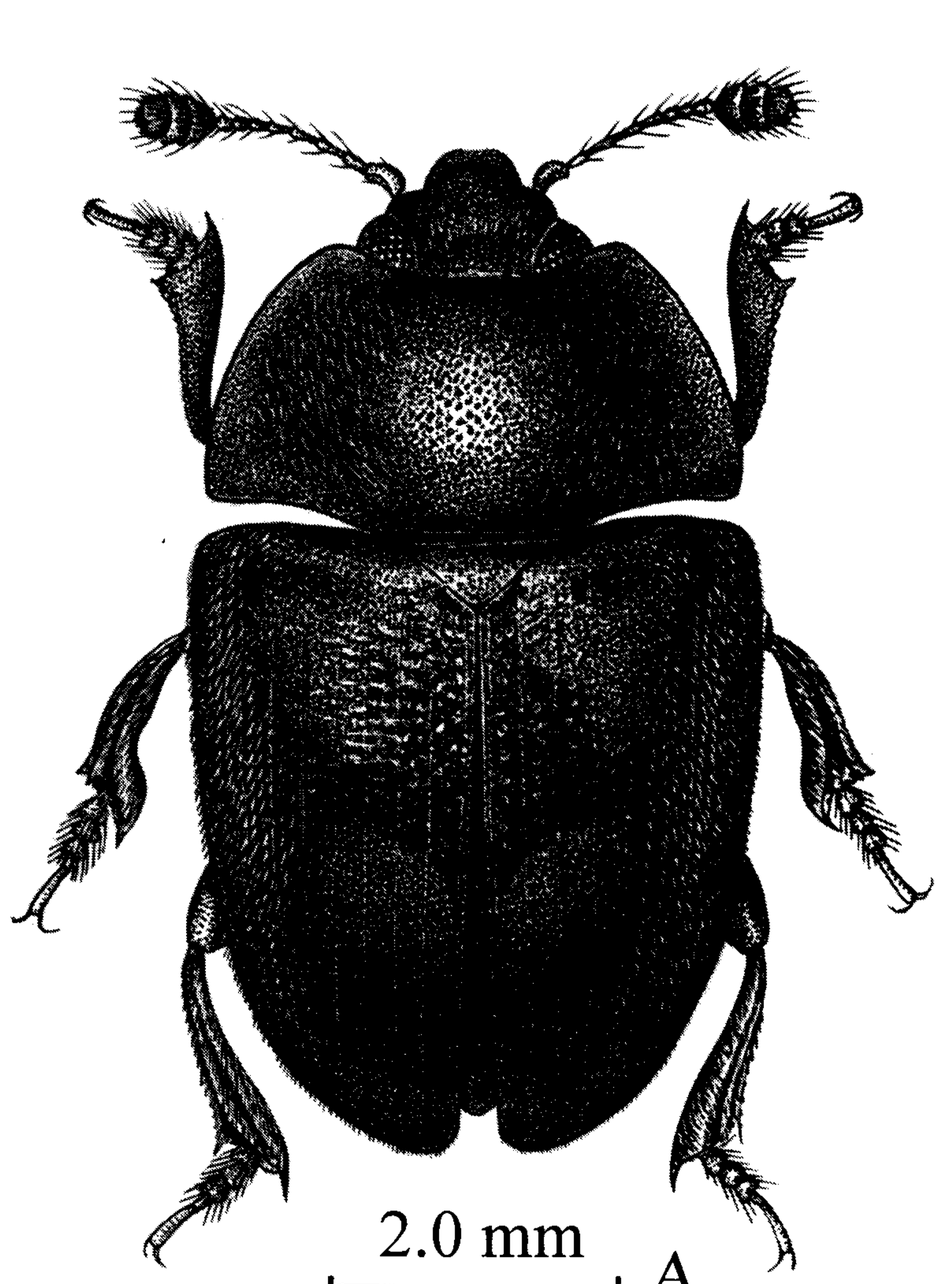

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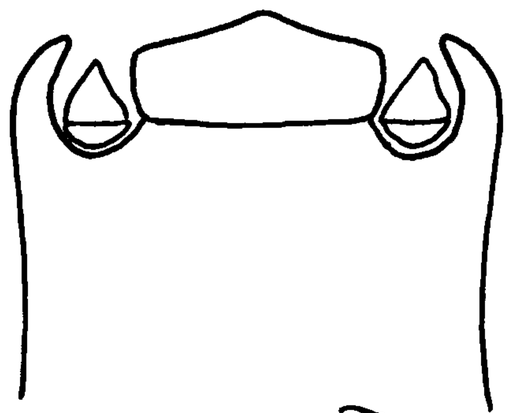

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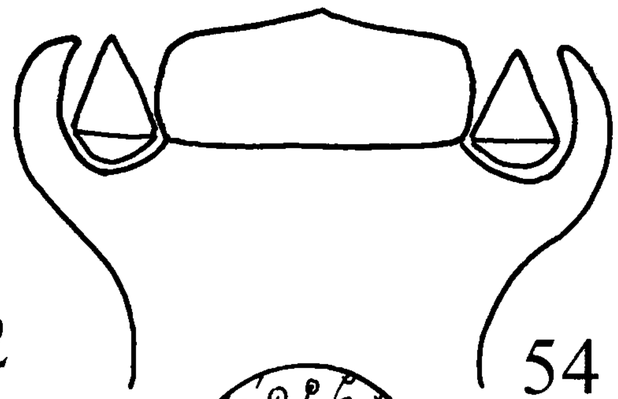
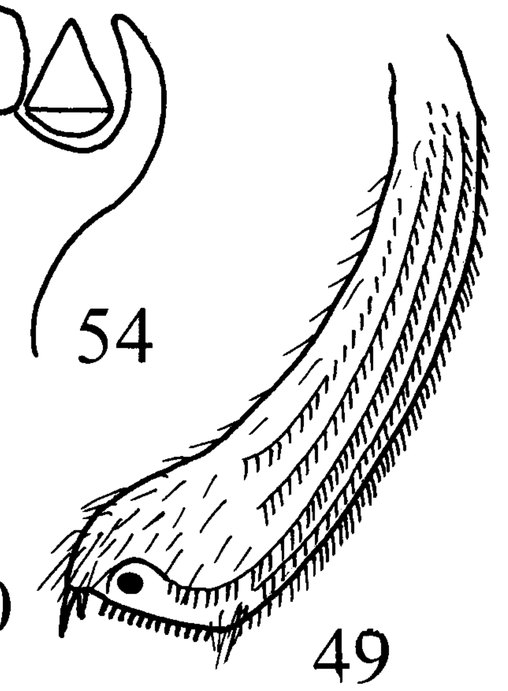


38



52

51

48

54

49

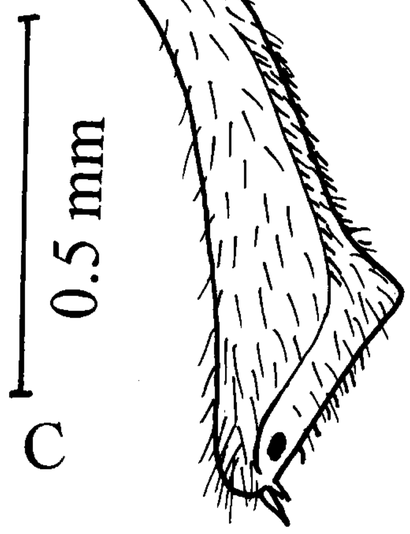
50

43

44

2.0 mm

B



0.5 mm

C

39

40

55

Soronia exarata Boheman, 1851: 570 (lectotype examined – Kirejtshuk 1996b: 47 – NRS – "Caffraria");
Lordites breviusculus Fairmaire, 1868: 775 (type series presumably in MNP – Madagascar);
Lordites costipennis: Gemminger & Harold 1868: 829;
Lordites exaratus: Gemminger & Harold 1868: 829;
Lasiodactylus subproductus Reitter, 1876: 308 (? holotype in the collection of the Muzeum i Institut Zoologii PAN, Warszawa); Jelínek 1969: 279;
Lasiodactylus breviusculus: Grouvelle 1913: 172; Endrödy-Younga 1982: 270;
Lasiodactylus costipennis: Grouvelle 1913: 172; Delobel & Trand 1993: 160;
Lasiodactylus exaratus: Grouvelle 1913: 172;
Lordites (Lordites) breviusculus: Kirejtshuk 1996: 47 (synonymy);
Lordites (Lordites) costipennis: Kirejtshuk 1996: 47 (synonymy);
Lordites (Lordites) exaratus: Kirejtshuk 1996: 47 (synonymy);
Lordites (Lordites) subproductus: Kirejtshuk 1996: 47 (synonymy);
Lasiodites costipennis: Jelínek 1999: 279;
Lasiodites exaratus: Jelínek 1999: 279;
Lasiodites breviusculus: Jelínek 1999: 279.

Delobel & Tran 1993: larvae from West and Central Africa, pest in stored products; Kirejtshuk 1996b: Somalia, Mauritanie, Senegal, Guinea, Liberia, Ivory Coast (Côte d'Ivoire), Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, People's Republic of the Congo (Brazzavile), Democratic Republic of the Congo (Zaire), Burkina Faso (Upper Volta), Tschad, Sudan, Ethiopia, Kenya, Uganda, Tanzania, Rwanda, Burundi, Mali, Namibia, Angola, Rhodesia, Republic of South Africa, Madagascar, Réunion.

Specimens examined – In addition to material mentioned in Kirejtshuk 1996b, more than 500 specimens have been examined (BRO, FMC, MAT, ZMO, NRS, TMB, ZIN, ZMB) – Senegal, Gabon, Cameroon, Burkina Faso (Upper Volta), Somalia, Democratic Republic of the Congo (Zaire), Ethiopia, Kenya, Tanzania, Uganda, Burundi, Republic of South Africa, Zambia, Mozambique, Comores, Seychelles, Madagascar.

Comments to description. Length 3.5–6.3, breadth 2.5–3.5, height 1.5–2.0 mm. Moderately convex dorsally and ventrally; dorsum dark brown to black (rarely light brown), usually with somewhat lighter fore part of head, pronotal and elytral sides, appendages, abdominal apex and underside; elytra with a various pattern of small bright reddish or yellowish spots; usually rather shining, but integument frequently masked by pubescence; dorsum with comparatively short, recumbent or subrecumbent, rather conspicuous, yellow to golden hairs, somewhat longer than distance between their insertions, and also with longer and suberect sparser hairs; on elytra two longitudinal rows of shorter and recumbent hairs disposed between rows of longer suberect hairs. Head and pronotal surface with quite distinct and irregular (usually contiguous) punctures, much larger than eye facets, interspaces between them, as a rule, completely smooth. Elytra with more or less distinct, but shallow punctures, arranged in double rows between rather smooth costae, interspaces between them nearly smooth. Eyes almost in all cases with raised and rather thick interfacetal setae. Antennal grooves subparallel-sided or slightly arcuately convergent in largest specimens. Prosternal process slightly curved along procoxae and strongly widened at truncate apex. Metasternum of male subflattened or slightly and widely depressed in the middle. Hypopygidium usually more or less distinctly depressed at sides (but sometimes without trace of depression). Tibiae simple; male protibia slightly curved and strongly enlarged before apex; male mesotibia strongly curved inwards and more or less excised along inner edge; male metatibia almost straight. Male protarsus 2/3–4/5 as wide as antennal club. Penis trunk strongly dorsoventrally curved before apex.

Variations. Some specimens from Democratic Republic of the Congo, Namibia and other territories have obsolete interfacetal setae and less dense punctation on pronotum with punctures rather well separated from each other. These features are characteristic, especially of larger specimens. However, the sparse punctation of *P.* (*L.*) *costipennis* looks much less regular than that in *P.* (*L.*) *limbata tibialis*. Larger specimens of *P.* (*L.*) *costipennis* frequently have subexplanate sides of the pronotum. Some series include males with weakly or scarcely developed sexual characters in the mesotibia or in both pro- and mesotibiae. Punctation on elytra in all cases uniform and organised in longitudinal rows in accordance with costae, but punctures between costae are rather variable in size. However, some specimens have almost diffuse and rather coarse

◀

Figs 38–54. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *costipennis*, male (**38–40**): **38** – prosternal process, ventral; **39** – protibia, dorsal; **40** – mesotibia, dorsal; *P.* (*L.*) *decellei* sp. nov., male (**41–47**): **41** – body, dorsal; **42** – mentum and antennal grooves, ventral; **43** – protibia, dorsal; **44** – mesotibia, dorsal; **45** – elytral apex, ventral; **46** – punctation and pubescence of elytra of specimen from "Sérédou"; **47** – punctation and pubescence of elytra of specimen from "Oubangi-Chari"; *P.* (*L.*) *limbata tibialis*, form "*grammica*", male (**48–51**): holotype of *P.* (*L.*) *grammica:* **48** – body with outline of explanate sides of elytron, dorsal; **49** – mesotibia, dorsal; **50** – punctation and pubescence of elytra; **51** – tegmen, ventral; *P.* (*L.*) *zotti* sp. nov., male (**52–55**): **52** – penis trunk, dorsal; specimen from "Lulua: Kapanga" (**53–54**): **53** – body, dorsal; **54** – mentum and antennal grooves, ventral; **55** – punctation and pubescence of elytra. Scales: A – to Figs 41, 53; B – to Figs 45, 48; C – to Figs 42–44, 46–47, 49–52, 54–55.

punctation. A considerable variability can be observed in dorsal pubescence, although it is mostly rather conspicuous with longer hairs more erected. Finally, aedeagal sclerites have a very wide scope of variability.

Diagnosis. *P.* (*L.*) *costipennis* is rather different from all members of the Afro-Madagascarean fauna of the subgenus due to its smaller and elongate body, extremely dense dorsal punctation, dense and very conspicuous pubescence, specific characters of sexual dimorphism in tibiae, and structure of aedeagus.

The penis trunk of *P.* (*L.*) *costipennis* has a very distinct shape, which among the African species has some resemblance only to that of *P.* (*L.*) *rotundiclava* sp. nov. The shape of penis trunk demonstrates a wide range of variation in large series of *P.* (*L.*) *costipennis.* Nevertheless, in contrast to *P.* (*L.*) *rotundiclava* sp. nov. the penis trunk of *P.* (*L.*) *costipennis* has a distinct median carina on dorsal surface. *P.* (*L.*) *costipennis* and *P.* (*L.*) *rotundiclava* sp. nov. can also easily be distingushed by the characteristic body shape (especially pronotum), degree of convexity of dorsum and curvature of antennal grooves behind mentum, peculiarities of punctation, sculpture and pubescence and sexual dimorphism in pro- and mesotibiae.

Prosternal process of *P.* (*L.*) *costipennis* is similar to that in the Madagascarean species *P.* (*L.*) *spornraftorum* sp. nov. The latter species differs in having a larger and subflattened body, sparser punctation, sparser and less conspicuous dorsal pubescence, more arcuate antennal grooves, characters of secondary sexual dimorphism, and structure of aedeagus.

P. (*L.*) *costipennis* resembles mostly the Indo-Malayan member of this subgenus, *P.* (*L.*) *chevrolati* (Reitter, 1873), differing from it in the usually much darker coloration, more raised pubescence, markedly narrower male protarsus, and structure of aedeagus.

The variability of some characters makes identification of some specimens rather difficult. In extreme cases, this species and *P.* (*L.*) *limbata tibialis* have overlapping structural characters. In particular, identification of females are sometimes impossible, while the males of both species are easily distinguished by characters of the sexual dimorphism as well as by the shape of aedeagal sclerites. In addition, the scape of *P.* (*L.*) *costipennis* is more or less narrowed distally and less than twice as long as wide, whereas in *P.* (*L.*) *limbata* the scape is subparallel-sided and about twice as long as wide.

Notes. The synonymy of *Soronia costipennis, S. exarata, Lordites breviusculus* and *Lasiodactylus subproductus* have been established by Kirejtshuk (1996b). The synonymy of the two last species name was concluded on basis of the specimens compared with the types by S. Endrödy-Younga. 2. Hefleit from the Muzeum i Institut Zoologii PAN (Warszawa) informed that one type specimen of *L. subproductus* from the Dohrn collection is deposited there ("Stettin collection", "X", "typ", "J. do Prinzipe").

6. *Phenolia (Lasiodites) decellei* sp. nov.

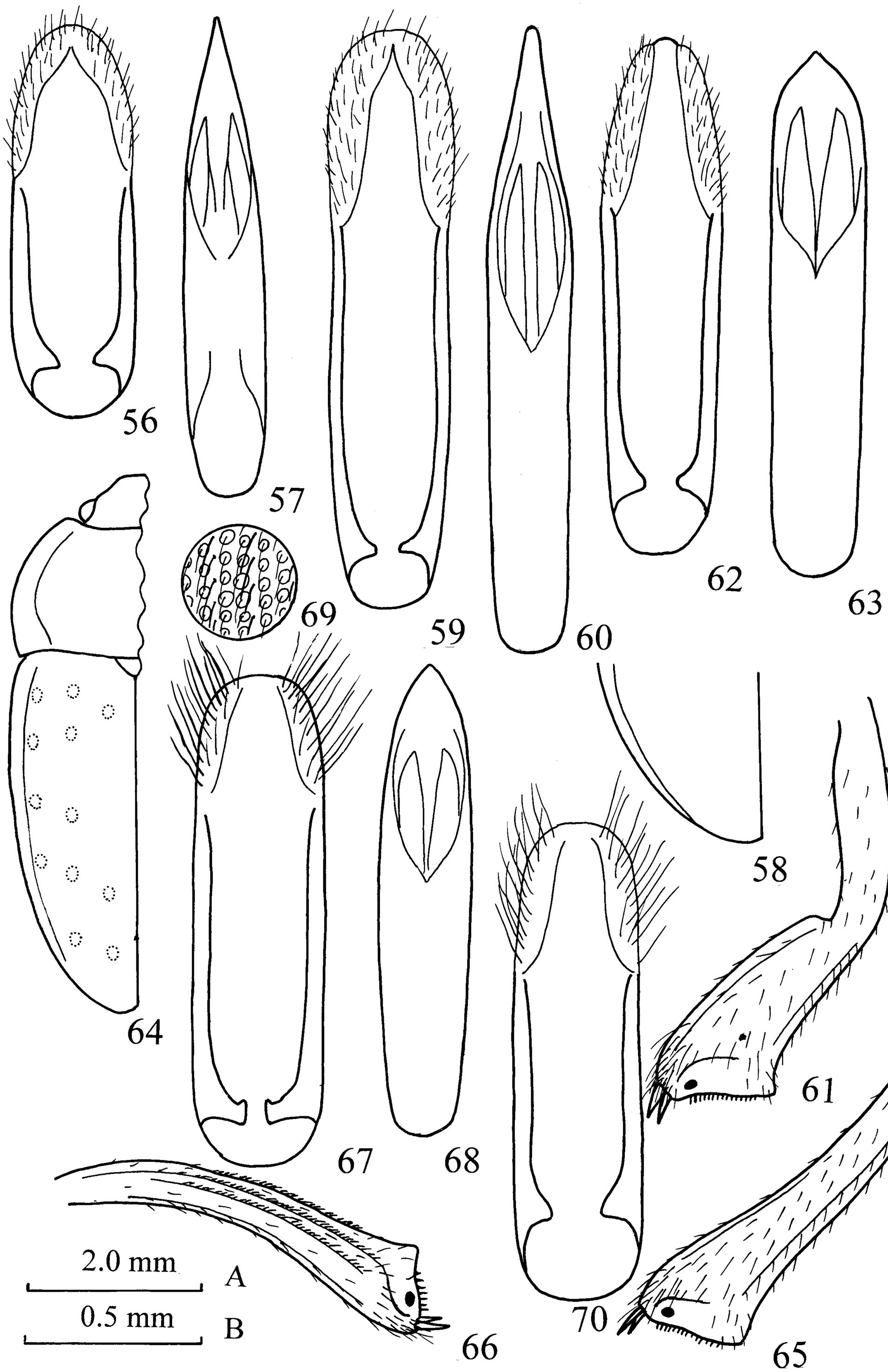
Figs 41–47, 56–57, 182

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype,** male (MAT) and 1 **paratype,** female (ZIN) – "Penghe, 31-I-1914, Dr. Bequaert"; other **paratypes**: 1 (MAT) – "Lulua: Kapanga, II-1933, G.F. Overlaet"; 1 (ZIN) – "Ituri Terr., Bunia, Mont Hoyo, 1200 m, III. 1952 (forêt), N. Leleup", "Recolté dans l'humus"; **Ivory Coast (Côte d'Ivoire):** 4 (MAT, ZIN) – "Bingerville, I–II. 1962, J. Decelle"; 1 (CMO) – "Lampto, 1–6. VI. 1990, J. Kukal., U.V. light"; 16 (SMS, ZIN) – "Adiopadouma, 5. 5. 1988, F.-T. Krell"; 1 (SMS) – "Parc Nat. du Banco, N Abbidjan, 7. 4. 1988, leg. F.-T. Krell"; **Ghana:** 78 (BRO, ZMO, ZIN) – "Tafo, IX–X. 1967–June 1969, E.O. Boafo"; **Benin:** 1 (ZIN) – "MW State, 8 April 1973, J.T. Medler"; 1 (TMB) – "Ashanti region, Kwadaso, 320 m, N 6 42 – E 1 39, S. Endrödi", "N 304, mixed light, 12. II. 1969"; **Nigeria:** 2 (ZMK) – "Ibadan, ca. Jan–Juni 1954, H. Stenholt Clausen"; 1 (MUE) – "8. 1954, Ibadan Univ. Camp, light, T. Short"; 2 (BRO) – "Ibadan, 5. VII. 1962, D.C. Eidt"; 1 (SMS) – "Ile-Ife, 7. VII. 1988, F.-T. Krell"; 1 (SMS) – "Ile-Ife, 9. VII. 1988, F.-T. Krell"; 1 (TMB) – "nr. Siluko, Mai 1973, J.T. Medler"; **Guinea:** 15 (ZMB, ZIN) – "Sérédou, 13. 3–8. 4. 1975, lux, A. Zott" (Dez.–Jan. 1975/1976, 8. II. 1976, 22. 2. 1976); **Cameroon:** 1 (TMB) – "Nanga, Eboko, 29. VII–X, Dr. Lenczy"; 2 (SMS, ZIN) – "Kumba Station, 31. VII. 1988, F.-T. Krell"; **Central African Republic:** 1 (MAT) – "Oubangi-Chari: Bangui, I/III. 1968, ex coll. Breuning".

Description of male (holotype). Length 6.6, breadth 4.1, height 2.3 mm. Rather convex dorsally and slightly convex ventrally; dorsum almost unicoloured dark brown, only pronotal and elytral

▶

Figs 56–70. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *decellei* sp. nov., male (**56–57**): **56** – tegmen, ventral; **57** – penis trunk, dorsal; *P.* (*L.*) *georgyi* sp. nov., male (**58–60**): **58** – elytral apex, ventral; **59** – tegmen, ventral; **60** – penis trunk, dorsal; *P.* (*L.*) *harmonica* sp. nov., male (**61–63**): **61** – protibia, dorsal; **62** – tegmen, ventral; **63** – penis trunk, dorsal; *P.* (*L.*) *immunda*, male, lectotype (**64–69**): **64** – body with outline of explanate sides of pronotum and elytra and dotted contour of spots on elytra, dorsal; **65** – protibia, dorsal; **66** – metatibia, dorsal; **67** – tegmen, ventral; **68** – penis trunk, dorsal; **69** – punctation and pubescence of elytra; *P.* (*L.*) *zotti* sp. nov., male: **70** – tegmen of specimen from "Lulua: Kapanga", ventral. Scales: A – to Figs 58, 64; B – to Figs 56–57, 59–63, 65–70.


56
57
59
60
62
63
69
64
67
68
58
61
65
66
70
2.0 mm
A
0.5 mm
B

sides somewhat lighter; underside and appendages dark reddish to brown; dorsum and underside dull; dorsum with comparatively thin, subrecumbent or recumbent, slightly conspicuous yellow to golden hairs, 1.0–1.5 times as long as distance between their insertions. Elytra with striatal hairs distinctly longer, suberect and rather sparse compared to the interstriatals, which are shorter, recumbent and arranged in rows. Sides of elytra with erect conspicious hairs. Pronotum with a fringe of erected hairs at sides, but disc with both erect and subrecumbent hairs. Head mainly with erect to suberect hairs. Underside with much shorter and less conspicuous recumbent pubescence. Head surface with irregular, shallow and indistinct punctures, as large as eye facets, interspaces between them about a puncture diameter, extremely finely and densely microreticulated. Pronotum with quite distinct punctures towards sides and indistinct at the middle, as large as eye facets, interspaces between them about 1–3 puncture diameters, finely and densely microreticulated by extremely small punctures and very fine lines. Elytra with shallow and indistinct punctures, arranged in longitudinal double rows, well visible at sides; distance between punctures in rows subequal to a puncture diameter, interspaces finely and densely microreticulated by extremely small punctures and lines. Ventrites with small and rather shallow punctures, variable in density and partly lacking, finely and densely microreticulated by extremely fine and dense punctation. Thoracic sterna with more dense, but irregular punctures, varying from subequal to somewhat larger than eye facets. In distal half of metasternum punctures slightly smaller, interspaces between them from half to one puncture diameter, with a rounded depression, having obsolete or absent punctation and microreticulation similar to that on ventrites. Head about 6/7 as long as distance between eyes, rather depressed behind antennal insertions. Eyes with interfacetal setae. Antennae somewhat longer than head width, with scape about twice as long as wide and their club composing 1/4 of total antennal length. Pronotum almost evenly and slightly convex, with slightly subexplanate hind corners, base with a border, sides strongly arcuate and fore edge with deep trapezoid emargination. Elytra evenly sloping towards narrowly explanate sides, longest at suture, apices suboblique and rounded at suture, forming a very small sutural corner. Pygidium with truncate apex from under which a rounded apex of anal sclerite is exposed. Antennal grooves subparallel-sided. Prosternal process subcarinate at subrhomboid apex and moderately curved along coxae. Distance between mesocoxae subequal to and that between metacoxae somewhat more than 1.5 times broader than that between procoxae. Metasternum with a rather deep depression in distal half and strongly concave before fore edge. Hypopygidium distinctly, but not deeply depressed at sides. Epipleura complete, at base about 2.5 times as wide as antennal club. Protibia with a moderately prominent subapical outer corner, subtriangular and nearly regularly curved, somewhat wider than antennal club; mesotibia strongly curved inwards before apex and much narrower than antennal club; metatibia slightly and regularly curved and slightly wider than antennal club. Femora of usual shape, 1.5–2.0 times as wide as metatibia. Protarsus almost as wide as antennal club.

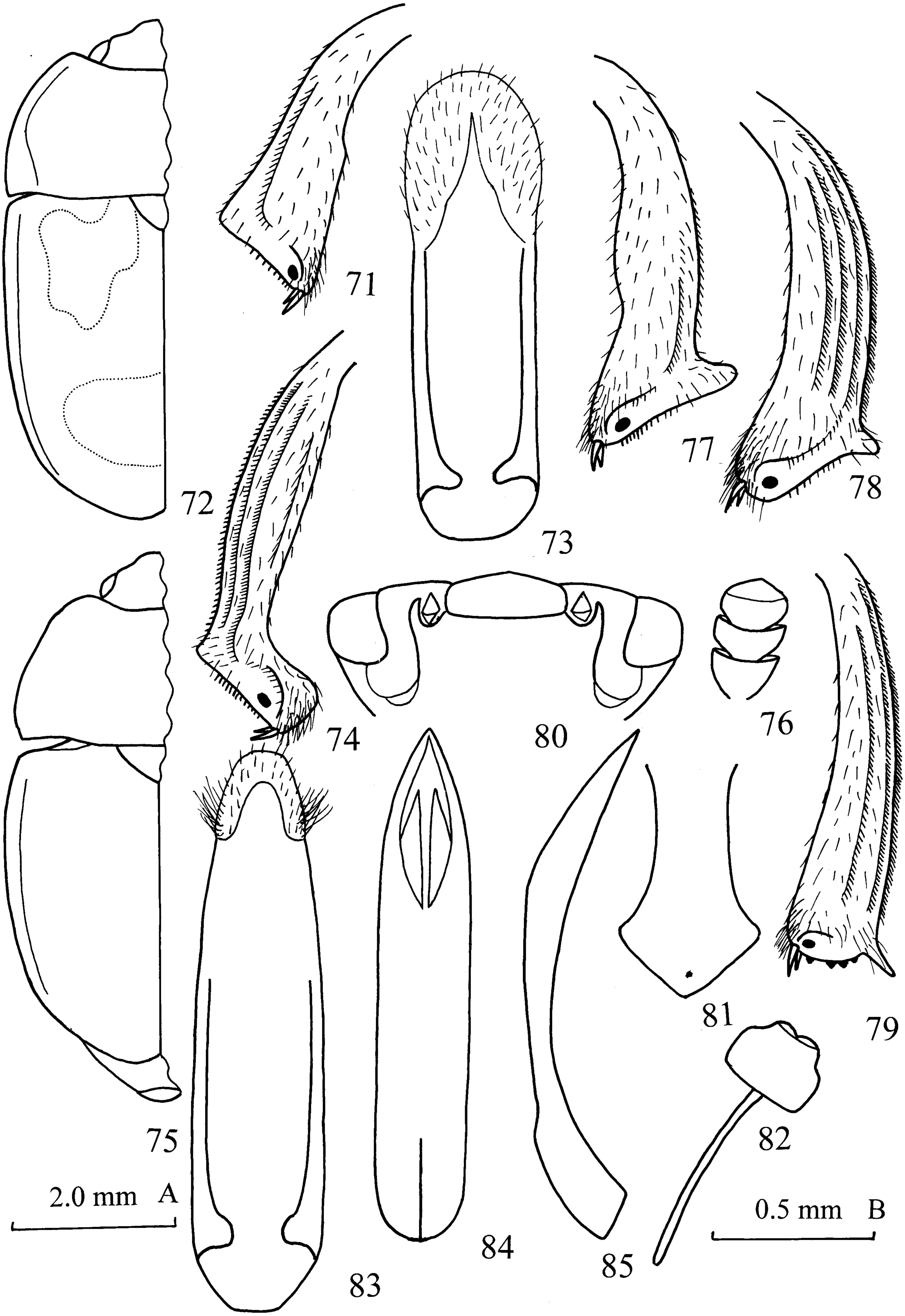
Female. Differs from male in narrower protibia, simple mesotibia, narrower protarsus, less depressed metasternum, widely rounded apices of sclerites of last abdominal segment.

Variations. Length 5.6–7.4 mm. Many paratypes are darker than the holotype, with underside as dark as dorsum. A considerable variability can be observed in punctation and sculpture, particularly on elytra: from quite distinct punctures arranged in double rows to very shallow indistinct punctation (Fig. 46). Metasternum of the paratype (male) from "Oubangi-Chari" has a rather deep fossa at the place where a deep depression is located in other males of the type series. Protibia of the paratype (male) from "Lulua: Kapanga" is rather strongly curved and sharply dilated distally from the middle.

Diagnosis. This new species is well characterized by its unicoloured dorsum with partly erect or suberect hairs, elliptic body shape and particularly by a deep depression (or fossa) in distal

▶

Figs 71–85. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *georgyi* sp. nov., male: **71** – protibia, dorsal; *P.* (*L.*) *zotti* sp. nov., male (**72–73**): **72** – body with outline of subexplanate and explanate sides of pronotum and elytra, and dotted contour of spots on elytra of specimen from "Lulua: Kapanga", dorsal; *P.*(*L.*) *limbata tibialis*, male: **73** – tegmen, ventral; *P.* (*L.*) *immunda*, male: **74** – mesotibia, dorsal; *P.* (*L.*) *implagiata* sp. nov., male (**75–85**): **75** – body with outline of explanate sides of elytra, dorsal; **76** – antennal club; **77** – protibia, dorsal; **78** – mesotibia, dorsal; **79** – metatibia, dorsal; **80** – ventral surface of epicranium; **81** – prosternal process, ventral; **82** – ventral plate and *spiculum gastrale*; **83** – tegmen, ventral; **84** – penis trunk, dorsal; **85** – idem, lateral. Scales: A – to Figs 72, 75; B – to Figs 71, 73–74, 76–85.


71
72
73
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75
76
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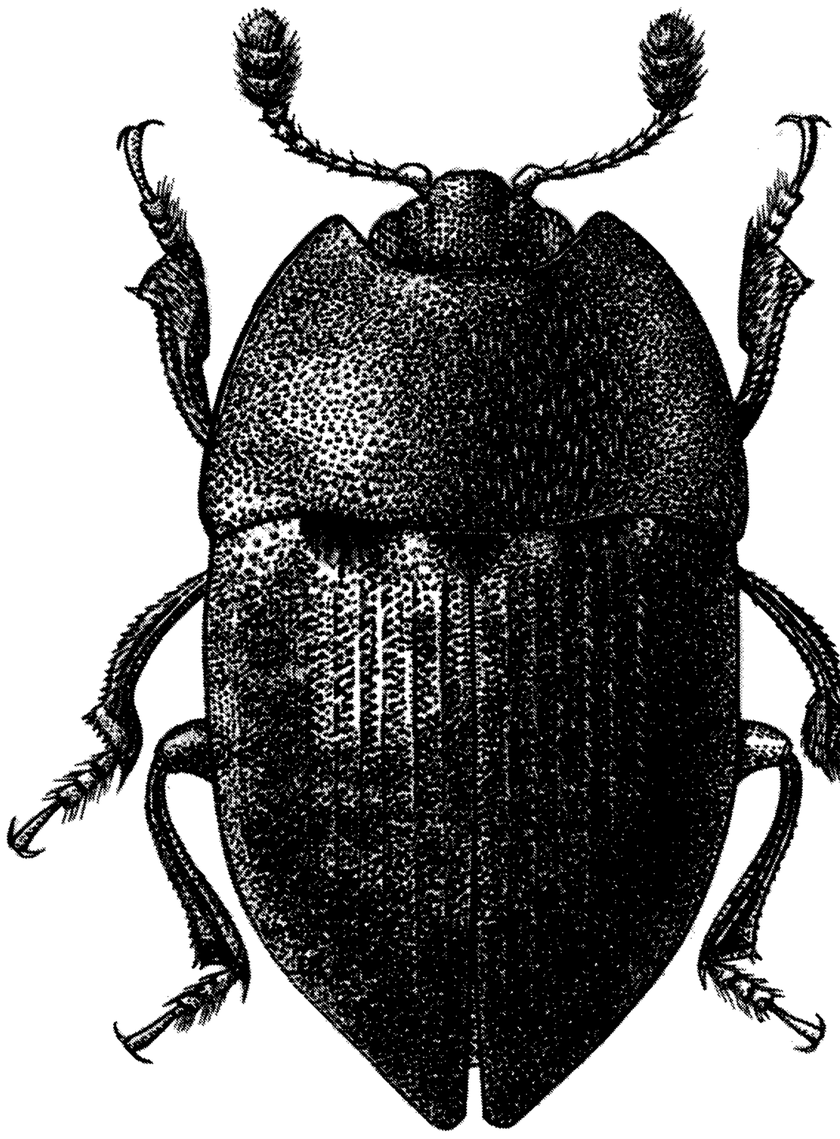
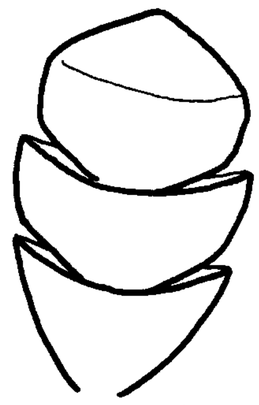
78
79
80
81
82
83
84
85
2.0 mm A
0.5 mm B





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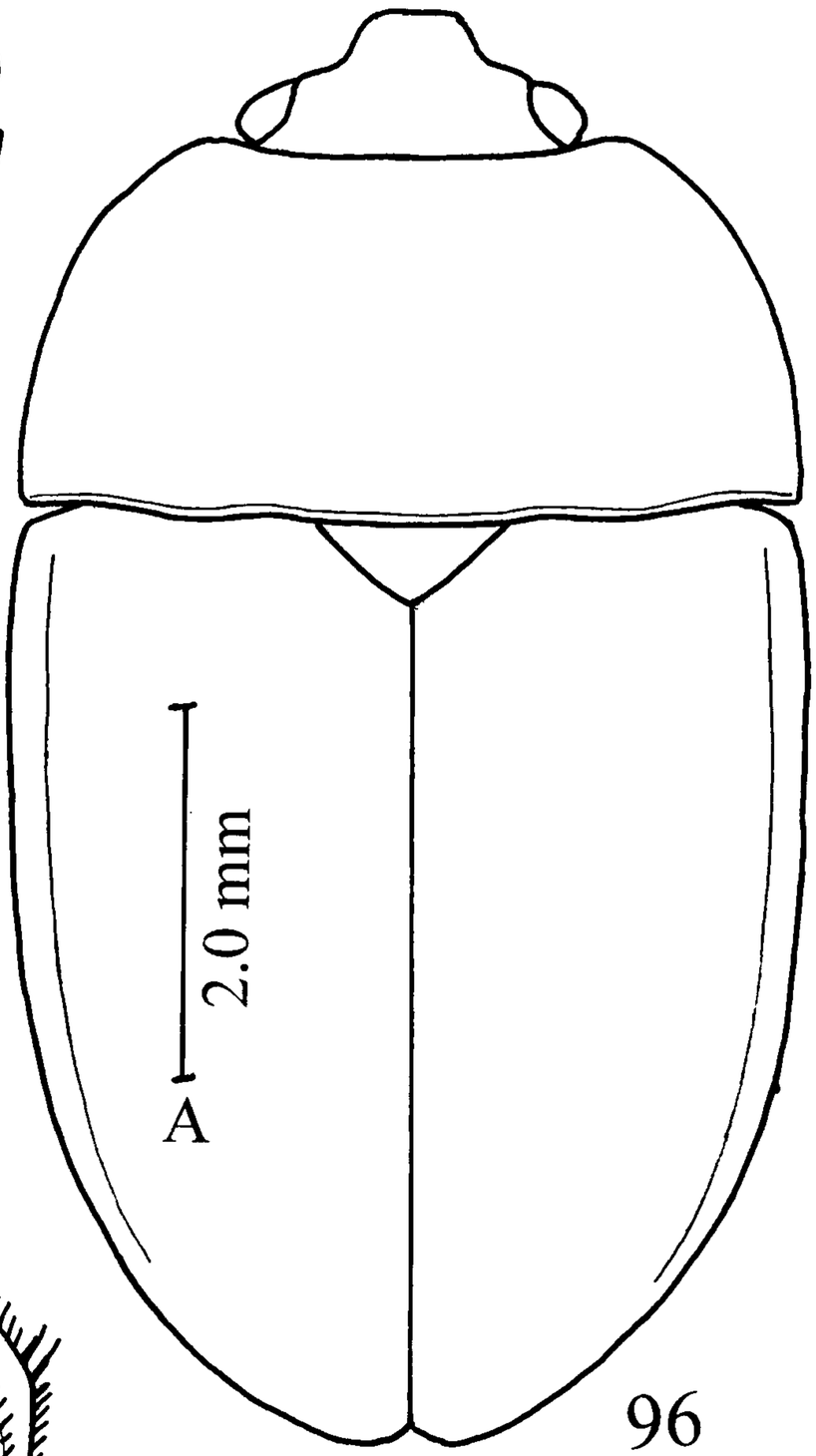
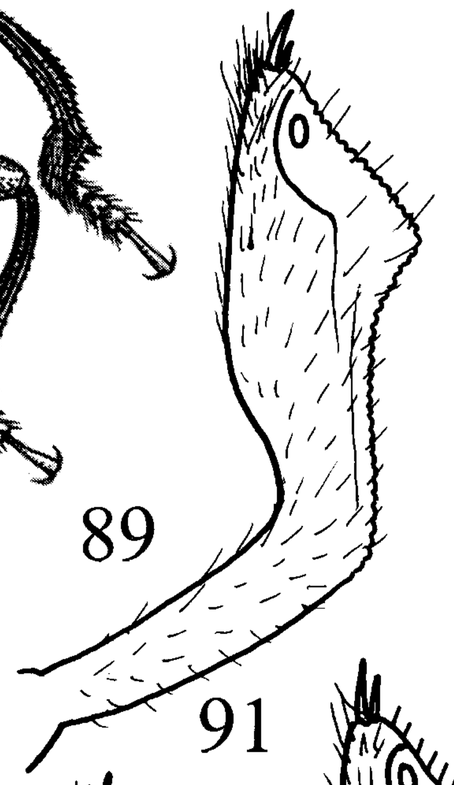


2.0 mm

A

96



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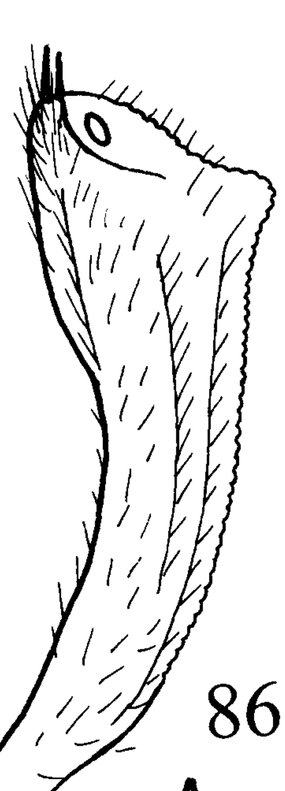

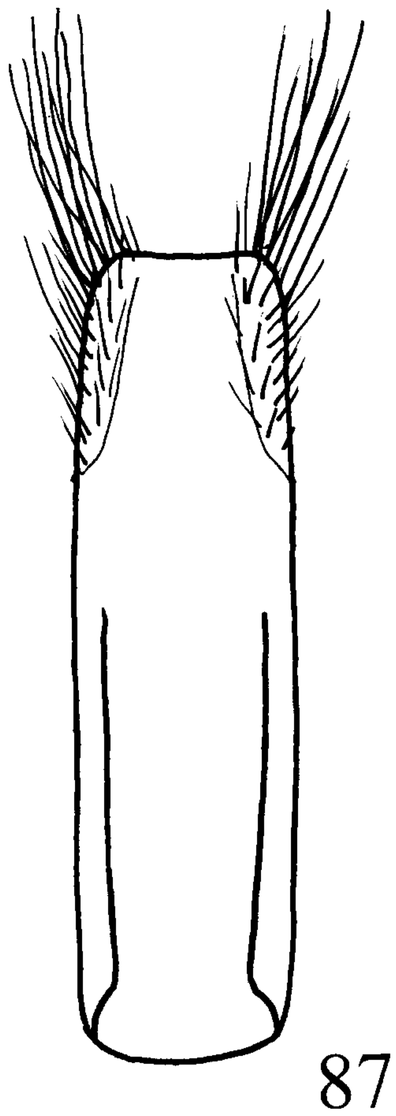

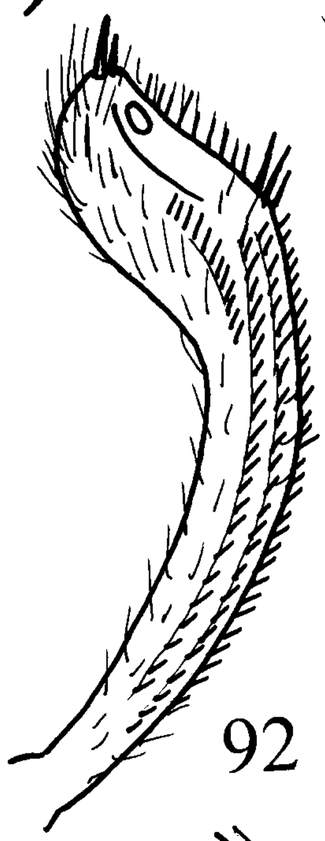

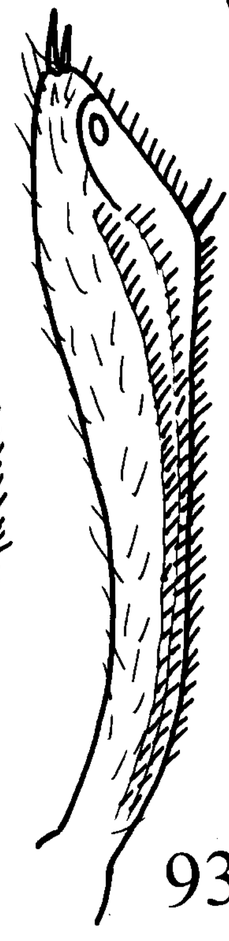

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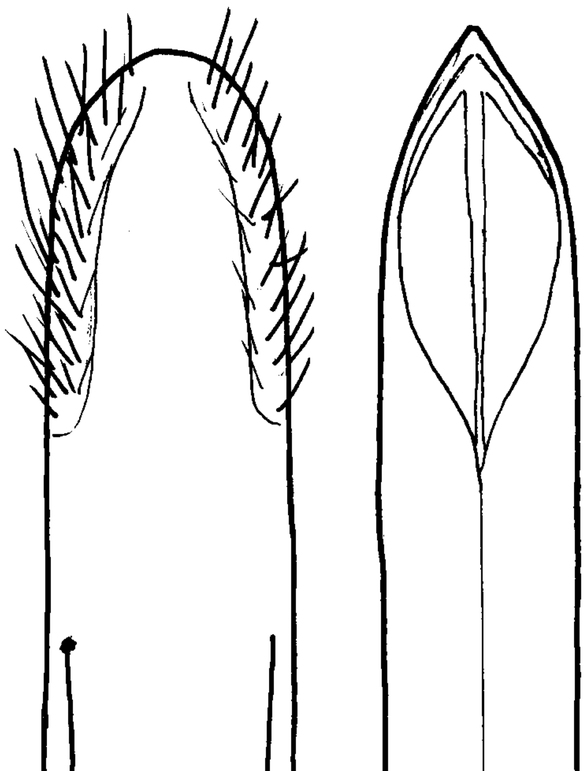

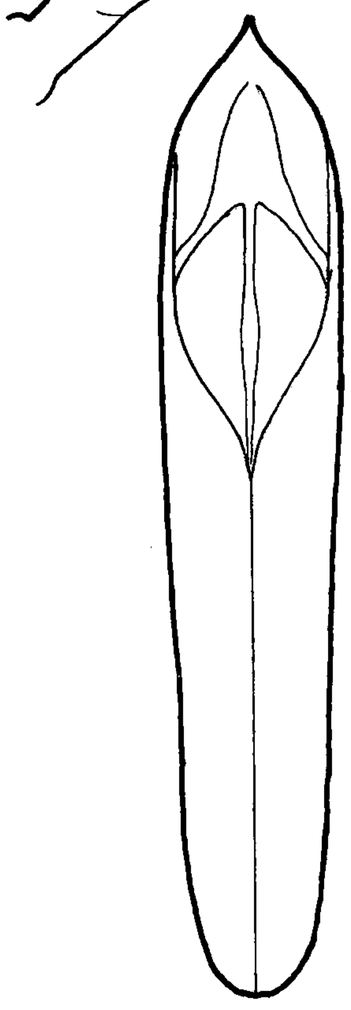

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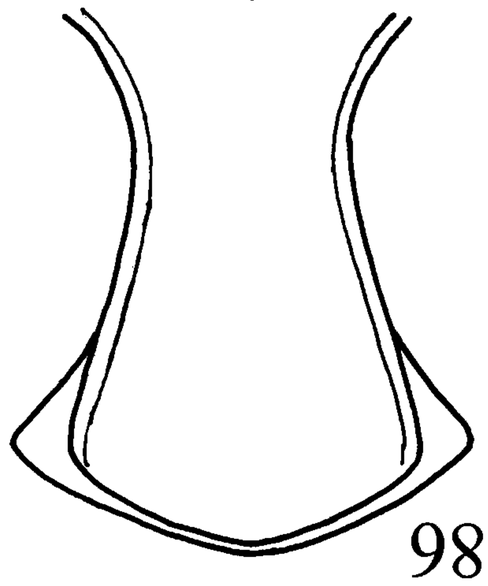
90

87



98

92

93

1.0 mm B

94

95

0.5 mm C

half of male metasternum. It is very similar to *P.* (*L.*) *georgyi* sp. nov. and *P.* (*L.*) *harmonica* sp. nov., but differs from them in the unicoloured dark dorsum and the features of aedeagal structure (Figs 56, 57), from *P.* (*L.*) *georgyi* sp. nov. also in more widely explanate elytral sides and complete epipleura, and from *P.* (*L.*) *harmonica* sp. nov. also in simple male protibia.

P. (*L.*) *decellei* sp. nov. resembles *P.* (*L.*) *accepta* sp. nov., *P.* (*L.*) *bipustulata* and *P.* (*L.*) *implagiata* sp. nov., but is distinguished from them by its more compact and robust body quite characteristic pubescence, punctation and sculpture on dorsum, subparallel-sided antennal grooves and sexual dimorphism in tibiae. From the first two species it also differs in the smaller body.

P. (*L.*) *decellei* sp. nov. is rather similar to *P.* (*L.*) *oviformis* sp. nov. in body shape and size, as well as in the parallel-sided antennal grooves, punctation and sculpture, but differs clearlyin more oval body with more even convexity of dorsum, a rather deep fossa on male metasternum and slightly depressed hypopygidium. Finally, *P.* (*L.*) *decellei* sp. nov. bears some resemblance to *P.* (*L.*) *perforata* sp. nov., although the latter can be easily distinguished due to its subrecumbent pubescence, rows of conjugated punctures pressed in simple fosae on elytra, arcuate antennal grooves, and characteristic structures of the thorax and elytral apices.

Etymology. This new species is named in honour of the curator of Coleoptera in MAT, J. Decelle, who collected many interesting species and provided the senior author with specimens from this museum.

7. *Phenolia (Lasiodites)* pr. *elongata* (Reitter, 1873), comb. nov.

Figs 112–117

Lasiodactylus elongatus Reitter, 1873: 569 ("Patria ignotae") (type should be deposited in MNP); Grouvelle, 1913: 172;
Lordites elongatus: Grouvelle 1896: 72 (Cape).
Lasiodites elongatus: Jelínek 1999: 279.

Specimens examined – **Tanzania:** 1 (ZMB) – "Kilimanj., Scharo"; 1 (ZMB) – "Tanga, 2. II. 03, Meinkof"; 2 (TMB, ZIN) – "Katona", "Arusha-Ju, 1905.XII"; 1 (TMB) – "Tanga Region", "Kwamsambla For. Res., 13. II. 1987", "Mahunka & Sicsi"; 2 (NMW, ZIN) – "Zanzibarküste, Steind. d. 1888"; **Madagascar:** 1 female (MNP) – "Madagasc. Cn, Cher. det.", "Type", "*elongatus*", "308", "*Lordites elongatus* Reitt., Innadog.", "non Typus" (written by S. Endrödy-Younga, "Museum Paris, 1917, Coll. Grouvelle", "*Las. elongatus* det. Endrödy-Younga 1966".

Description of male. Length 6.2–8.2, breadth 3.2–3.8, height 1.5–1.8 mm. Slightly convex dorsally and ventrally; dorsum reddish to brown with somewhat lighter fore part of head, abdominal apex, appendages, pronotal and elytral sides, coxae and tarsi (straw yellow); elytra with a various pattern of bright yellow contrasting spots, arranged in 3 irregular rows; underside and proximal part of femora somewhat darker, but prohypomera and epipleura as light as other lightened parts; rather shining; dorsum with comparatively short, recumbent or subrecumbent, moderately conspicuous, yellowish hairs, somewhat longer than distance between their insertions, besides them, there are sparser and longer, rather conspicuous subrecumbent hairs; elytra with 2 irregular longitudinal rows of shorter and recumbent hairs disposed between rows of longer and nearly subrecumbent hairs. Head and pronotal surface with quite distinct and almost regular punctures, about as large as eye facets (some punctures at sides of pronotum arranged in irregular wavely transverse rows of 3–9 punctures), interspaces between them 1/3–2/3 of a puncture diameter, almost or completely smooth. Elytra with distinct, rather large and sparse punctures in between slightly raised costae, interspaces between them smoothly alutaceous or completely smooth; some punctures contiguous or fused in pairs arranged in scarcely expressed longitudinal rows. Metasternum and ventrites with distinct punctures, much larger than eye facets, interspaces between them narrower than a puncture diameter and smooth; prosternum with somewhat denser and less regular punctures, but interspaces between them with dense microreticulation. Head about 7/9 as long as distance between eyes, slightly depressed behind antennal insertions. Antennae markedly longer than head breadth, their scape about 1.5 times as long as wide at base and narrowed to apex, their club about 2/7 of total antennal length, about 1.5 times as long as wide and with last antennomere

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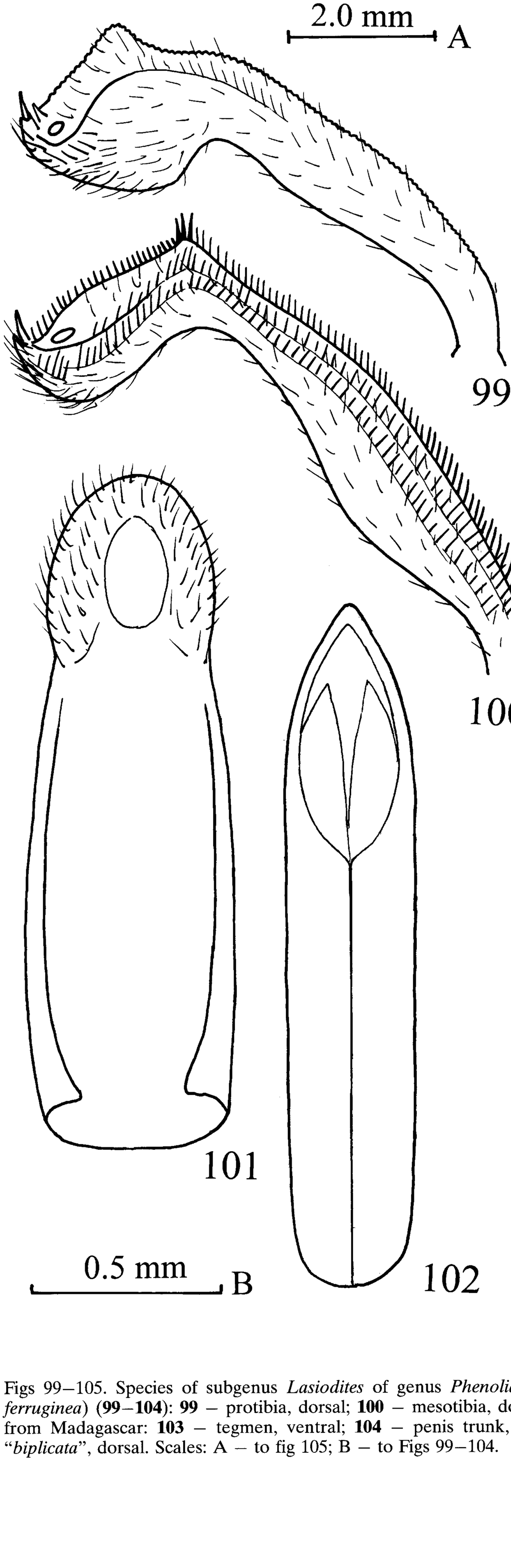
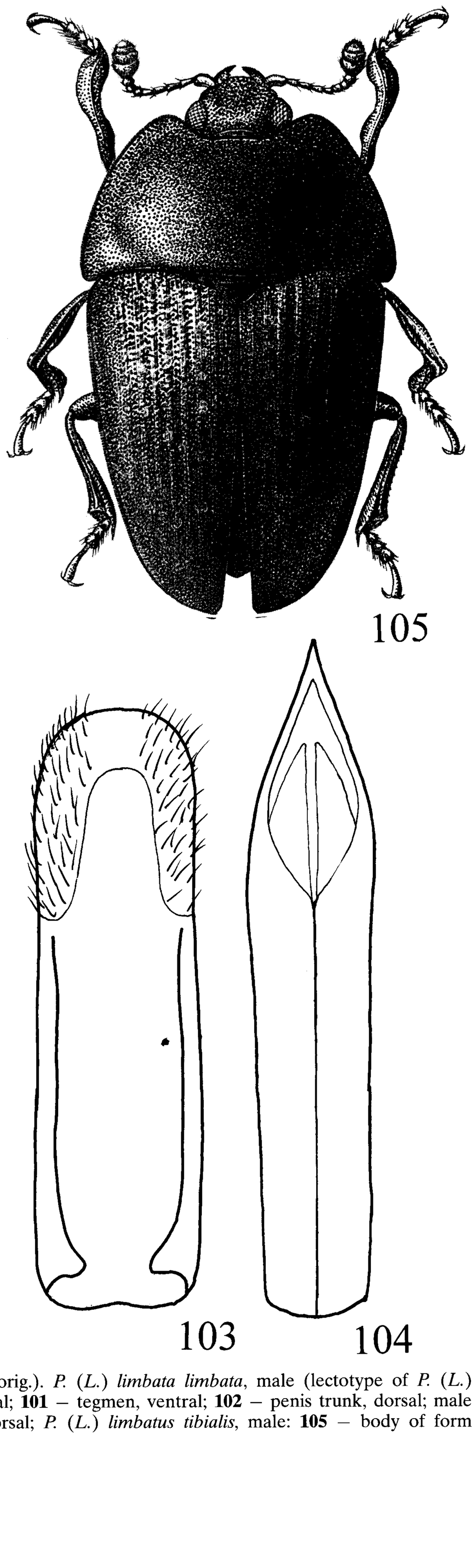
Figs 86–98. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *intermixta* sp. nov., male (**86–88**): **86** – male protibia, dorsal; **87** – tegmen, ventral; **88** – penis trunk, dorsally; *P.* (*L.*) *lata* sp. nov., male (**89–95**): **89** – body, dorsal; **90** – prosternal process, ventral; **91** – protibia, dorsal; **92** – mesotibia, dorsal; **93** – metatibia, dorsal; **94** – tegmen, ventral; **95** – penis trunk, dorsal; *P.* (*L.*) *limbata limbata*, male (lectotype of *P.* (*L.*) *ferruginea*) (**96–98**): **96** – body with outline of explanate sides of elytra, dorsal; **97** – antennal club; **98** – prosternal process, ventral. Scales: A – to Figs 89, 96; B – to fig. 97; C – to Figs 86–88, 90–95, 98.





Figs 99–105. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *limbata limbata*, male (lectotype of *P.* (*L.*) *ferruginea*) (**99–104**): **99** – protibia, dorsal; **100** – mesotibia, dorsal; **101** – tegmen, ventral; **102** – penis trunk, dorsal; male from Madagascar: **103** – tegmen, ventral; **104** – penis trunk, dorsal; *P.* (*L.*) *limbatus tibialis*, male: **105** – body of form "*biplicata*", dorsal. Scales: A – to fig 105; B – to Figs 99–104.

significantly narrower than 2 preceding ones. Eyes with very fine and short interfacetal setae. Pronotum subflattened at disc, sides about as widely subexplanate as width of antennal club. Pygidium with emarginate apex. Antennal grooves strongly curved and convergent just behind mentum, and almost rectilinear at head base. Prosternal process rather curved along coxae and somewhat depressed before subrhomboid and flattened apex. Metasternum of male somewhat widely depressed in distal half. Hypopygidium scarcely or slightly depressed at sides of apex, but rather deeply depressed at base. Epipleura at base about 2.5 times wider than antennal club. Protibia angularly curved at the middle and sharply enlarged along inner edge, about 1.5 times wider than antennal club; mesotibia strongly and gradually curved inwards, somewhat narrower than antennal club; metatibia rather curved and before apex evenly enlarged along inner edge. All trochanters projecting posteriorly. Femora of usual shape, about twice as wide as antennal club. Protarsus of male almost 1/3 as wide as antennal club.

Female. Differs from male in simple pro- and mesotibiae, metatibia only somewhat less curved, flattened metathorax, rounded apices of pygidium and hypopygidium.

Diagnosis. *P.* (*L.*) pr. *elongata* is rather similar to *P.* (*L.*) *immunda*, *P.* (*L.*) *subtilis* sp. nov. and *P.* (*L.*) *tricostata* sp. nov., but can be distinguished from them by the characters mentioned in the below key. In contrast to other species of the *immunda* group, this species is more shining and its male metatibia is more strongly curved and more enlarged (see the diagnosis of *P.* (*L.*) *subtilis* sp. nov.).

This species has some resemblance to the narrowest specimens of *P.* (*L.*) *limbata tibialis*, but differs from them in widely subexplanate pronotal sides and wider explanate elytral sides, curved metatibia in the both sexes, prosternal process strongly depressed before apex, distinctly emarginate apex of male pygidium and male protibia enlarged just behind the middle of inner edge. Finally, this species has the body outline similar to that in *P.* (*L.*) *longa* sp. nov., but distinct from the latter in elytral length (at most 2.5 times as long as pronotum), widely (sub) explanate pronotal and elytral sides, sparser and distinct punctation, less raised and less conspicuous pubescence, narrower antennal club, depressed apex of prosternal process, different tibiae of both sexes, and emarginate apex of male pygidium.

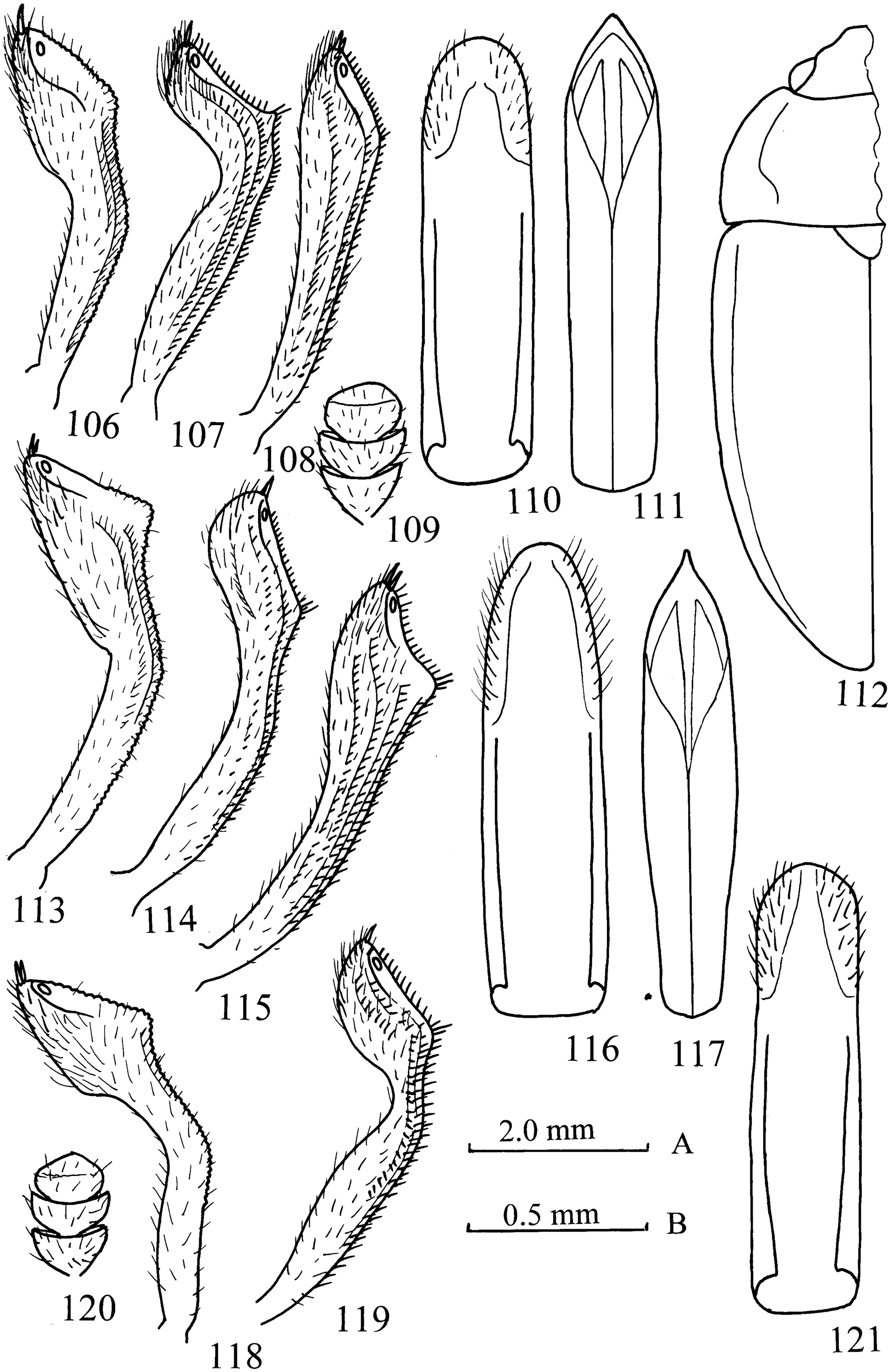
Notes. A single specimen without any geographical data from the "Mus. Chevrolat" (MNP) was used for the original description of this species. Grouvelle (1896, 1913) found that this species should be interpreted as member of the South African fauna. Unfortunately, the holotype remains unknown to the authors. N. Berti, the curator of the collection of Nitidulidae in MNP, was unable to locate this specimen, which could be interpreted as the holotype. Instead she sent the specimen which was identified by A. Grouvelle and S. Endrödy-Younga as "*Lasiodactylus elongatus*". This specimen corresponds with the original description. Thus the authors interpret it as conspecific with the type. A more precise interpretation of this name necessitates the study of a specimen, which can be treated as the holotype. If such a specimen is not found, the specimen from the Grouvelle's collection presents the best candidate for a neotype designation.

8. *Phenolia (Lasiodites) georgyi* sp. nov.

Figs 58–60, 71

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype,** male (MAT) and 4 **paratypes** (MAT, ZIN) – "Lubumbashi, 1. III. 1975, W. Beun" (don A. Allaer); 1 **paratype** (MAT) – "Elisabethville (á la lumière), IX. 58–V. 59, Ch. Seydel"; **Tanzania:** 2 **paratypes** (ZIN, ZMB) – "Daressalam".

Description of male (holotype). Length 6.3, breadth 3.2, height 2.1 mm. Strongly convex dorsally and slightly convex ventrally; dark brown, pronotal and elytral sides, underside and appendages somewhat lighter, elytra with small lighter spots arranged in 3 irregular rows; dorsum and underside slightly shining; dorsum with comparatively short, subrecumbent or recumbent, slightly conspicuous yellowish hairs, somewhat longer than distance between their insertions, with distinctly longer and partly suberect, rather sparse and moderately conspicuous hairs; elytra also with two longitudinal rows of shorter and recumbent hairs disposed between rows of longer hairs, becoming more distinctly erect towards elytral apices; the underside with much shorter and less conspicuous pubescence. Head surface with quite distinct punctures, slightly larger than eye facets, interspaces between them somewhat broader than a puncture diameter, extremely finely and densely microreticulated. Pronotum with distinct punctures, much larger than eye facets, interspaces between them about 1–3 puncture diameters, finely and densely microreticulated by small punctures with completely


106
107
108
109
110
111
112
113
114
115
116
117
2.0 mm
A
0.5 mm
B
118
119
120
121

smooth intervals. Elytra with shallow but rather distinct punctures, more or less clearly arranged in longitudinal double rows; interspaces between punctures in rows about a puncture diameter and those between rows about 2–3 puncture diameters, finely and densely cellularly microreticulated. Pygidium and underside with shallow and large irregular punctures, interspaces between them mostly much broader than a puncture diameter, finely and densely cellularly microreticulated to completely smooth on ventrite 1 and metasternum. Head about 7/9 as long as the distance between eyes, strongly depressed between antennal insertions. Eyes with short and fine interfacetal setae. Antennae about as long as head width, scape about twice as long as wide, their club composing somewhat more than 1/4 of total antennal length, about 1.5 times as long as wide and width subequal to antennomeres 9–11. Pronotum almost evenly and slightly convex, even at hind corners, base with distinct border, sides strongly arcuate and fore edge arcuately emarginate. Elytra evenly sloping towards narrowly explanate sides (somewhat more widely explanate than width of antennal flagella), longest at suture, their apices suboblique and somewhat extended at suture, without clear sutural corner. Pygidium has subtruncate apex. Antennal grooves well developed and slightly arcuate (subparallel-sided). Mentum of usual shape, 3 times as wide as long. Prosternal process slightly curved along coxae, with subrhomboid and subcarinate apex. Distance between mesocoxae subequal to and that between metacoxae about twice as broad as that between procoxae. Metasternum with a wide and shallow depression in distal half and strongly concave before fore edge. Hypopygidium deeply depressed at sides. Epipleura incomplete (Fig. 58), at base about 1 and 3/4 as wide as antennal club. Protibia with a moderately prominent subapical outer corner, subtriangular and nearly regularly curved, about 1.5 times as wide as antennal club; mesotibia strongly curved inwards before apex and slightly narrower than antennal club; metatibia almost straight and about as wide as antennal club. Femora of usual shape, about 1.5–2.0 times as wide as metatibia. Protarsus slightly narrower than antennal club and approximatelly half as wide as protibia.

Female. Protarsus 2/3 as wide as antennal club. Mesotibia subtriangular, slightly curved and as wide as antennal club. Elytral apices more extended posteriorly compared to male.

Variations. Length 5.8–7.3 mm. One paratype from Dar Es Salam has 2 additional larger spots: one humeral and one subscutellar on each elytron. Its antennal club with ultimate antennomere somewhat narrower than the 2 preceding ones. Some variability in punctation and sculpture is observed in some paratypes. Sometimes the dorsum is almost dull and the colour of pronotal sides and protibia are lighter.

Diagnosis. *P.* (*L.*) *georgyi* sp. nov. particularly resembles *P.* (*L.*) *intermixta* sp. nov., but differs from it in less distinct punctation and contrastingly microreticulated interspaces of dorsum, subparallel-sided antennal grooves, deeper depressed hypopygidium and especially in apex of both tegmen and penis trunk. *P.* (*L.*) *georgyi* sp. nov. is characterized by the comparatively wide ultimate antennomere, almost as wide as penultimate one. This character is different from that in *P.* (*L.*) *intermixta* sp. nov. and many other members of the subgenus.

This new species is also very similar to *P.* (*L.*) *decellei* sp. nov. and *P.* (*L.*) *harmonica* sp. nov. due to its moderate body size with elliptic shape, considerable convexity of body, subparallel-sided antennal grooves and strongly depressed hypopygidium. It differs from them in small light spots on disc of elytra, narrowly explanate elytral sides, more clearly arcuate antennal grooves and shape of male protibia. *P.* (*L.*) *georgyi* sp. nov. also resembles *P.* (*L.*) *accepta* sp. nov., *P.* (*L.*) *bipustulata* and *P.* (*L.*) *implagiata* sp. nov., but differs from them by the smaller size of body, narrowly explanate elytral sides, different punctation, sculpture and pubescence, and secondary sexual characters.

P. (*L.*) *georgyi* sp. nov. has a not quite definite similarity to other species of the subgenus. The shape of its convex and elliptic body is most similar to that of *P.* (*L.*) *quadrimaculata* and *P.* (*L.*) *quadrinotata,* but it differs from them in

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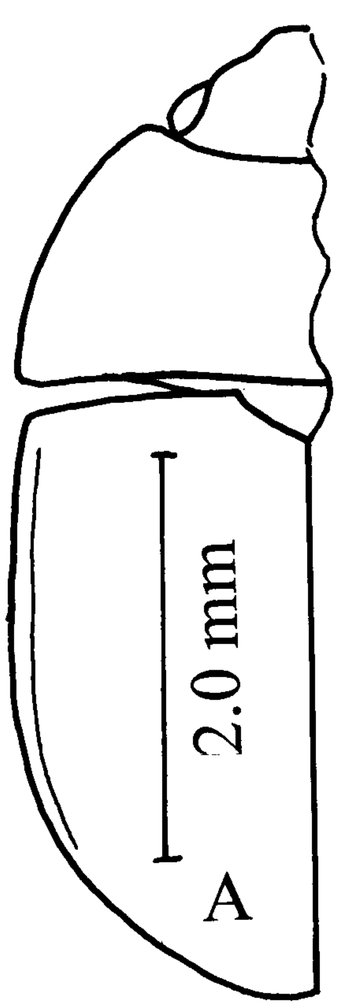
Figs 106–121. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *bakkei* sp. nov., male (**106–111**): **106** – protibia, dorsal; **107** – mesotibia, dorsal; **108** – metatibia, dorsal; **109** – antennal club; **110** – tegmen, ventral; **111** – penis trunk, dorsal; *P.* (*L.*) *pr. elongata*, male (**112–117**): **112** – body with outline of explanate sides of elytra, dorsal; **113** – protibia, dorsal; **114** – mesotibia, dorsal; **115** – metatibia, dorsal; **116** – tegmen, ventral; **117** – penis trunk, dorsal; *P.* (*L.*) *longa* sp. nov., male (**118–121**): **118** – protibia, dorsal; **119** – mesotibia, dorsal; **120** – antennal club; **121** – tegmen, ventral. Scales: A – to fig. 112; B – to Figs 106–111, 113–121.



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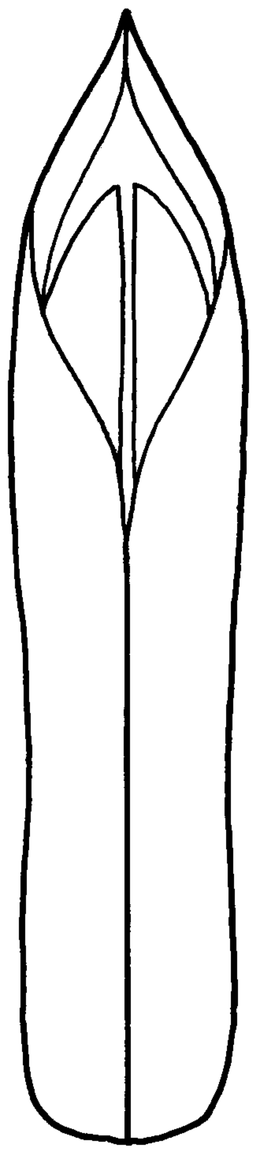

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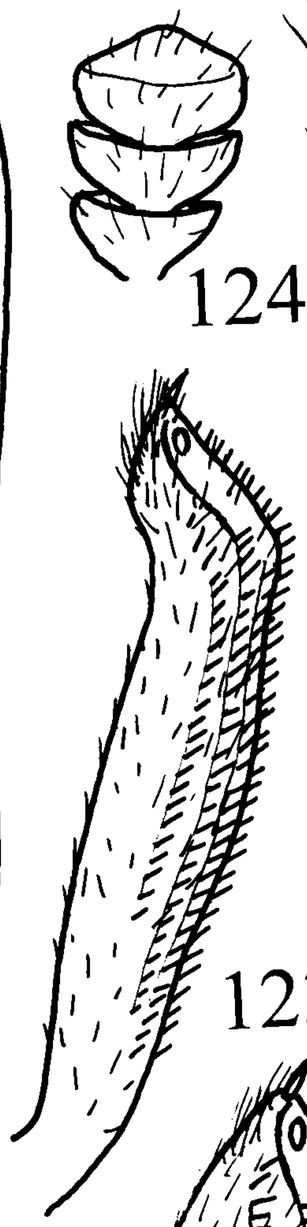

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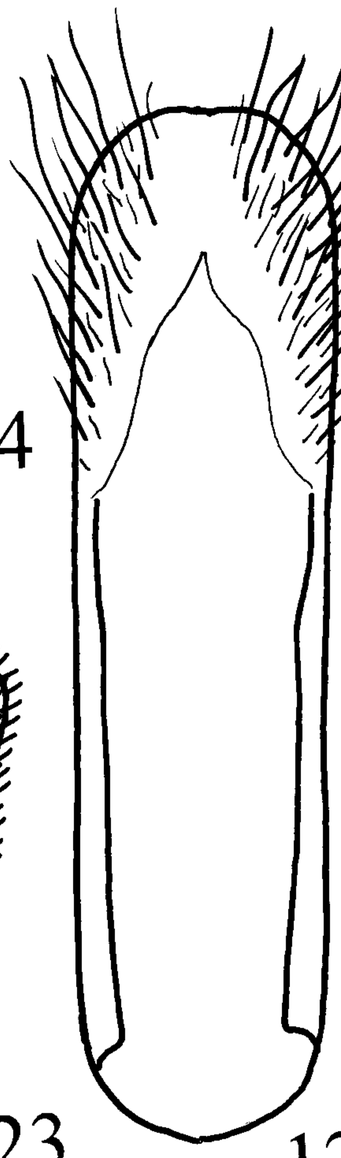

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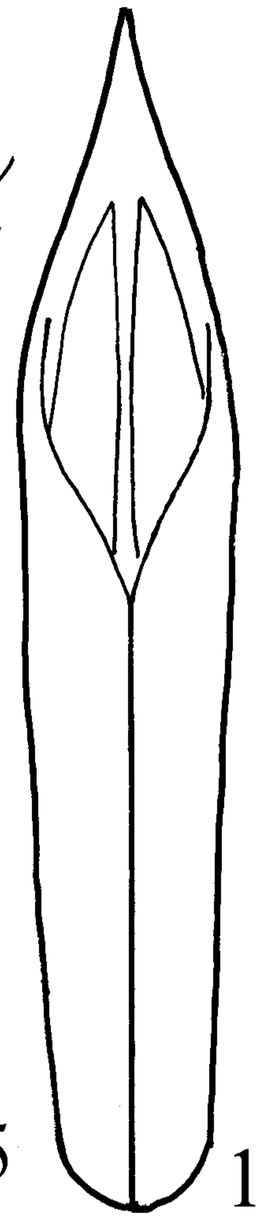

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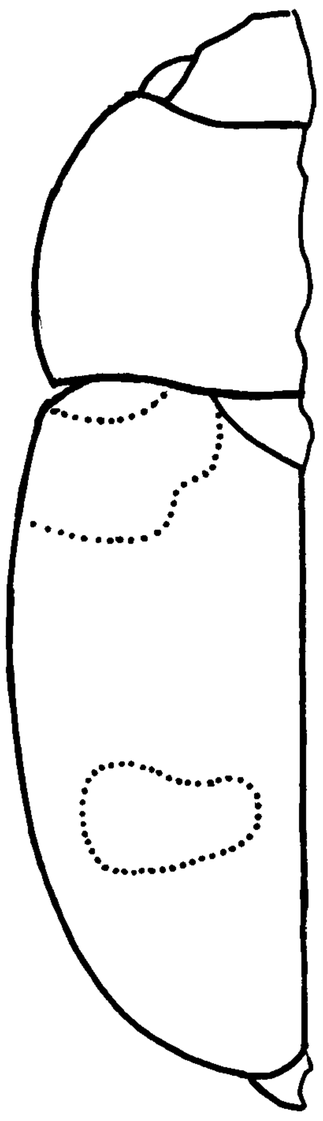

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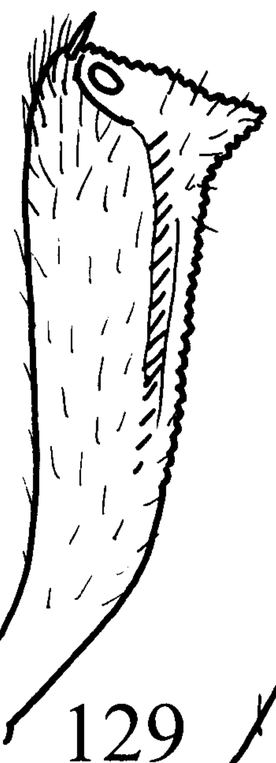

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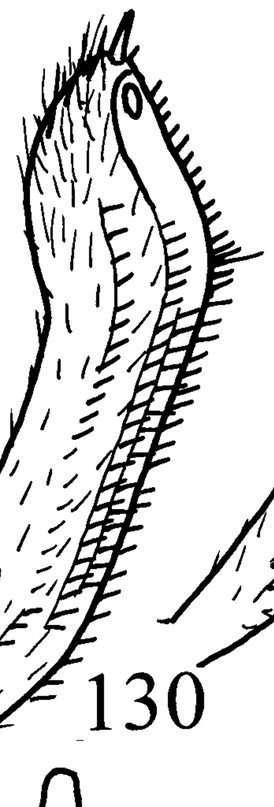

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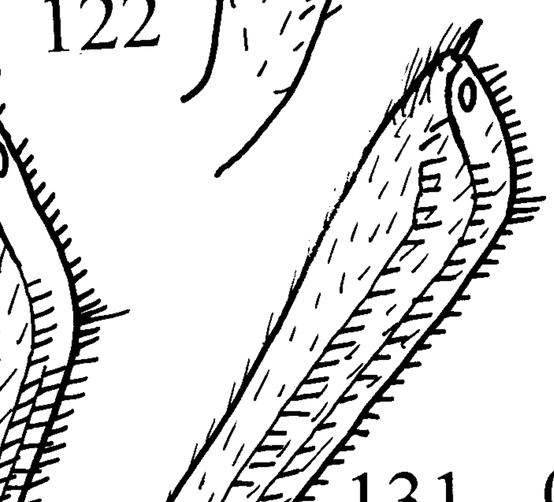

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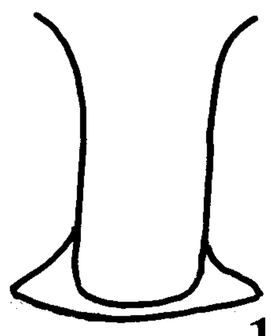
0.5 mm B



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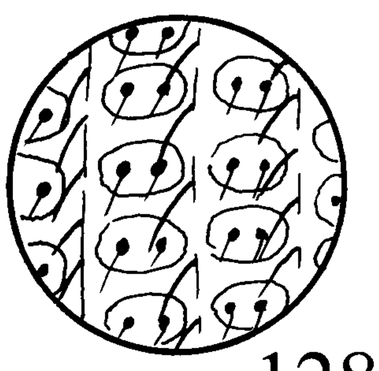

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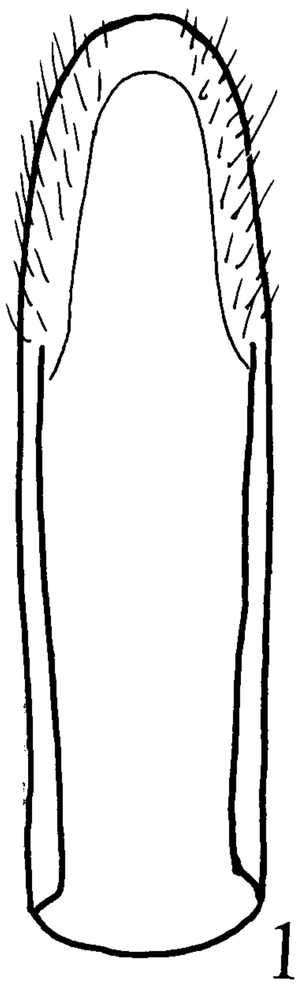

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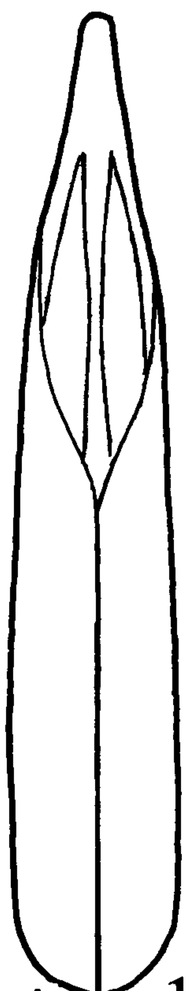

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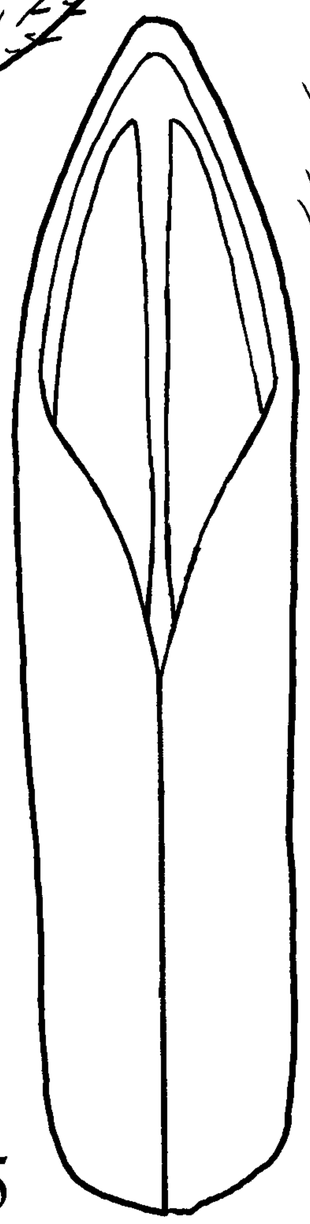

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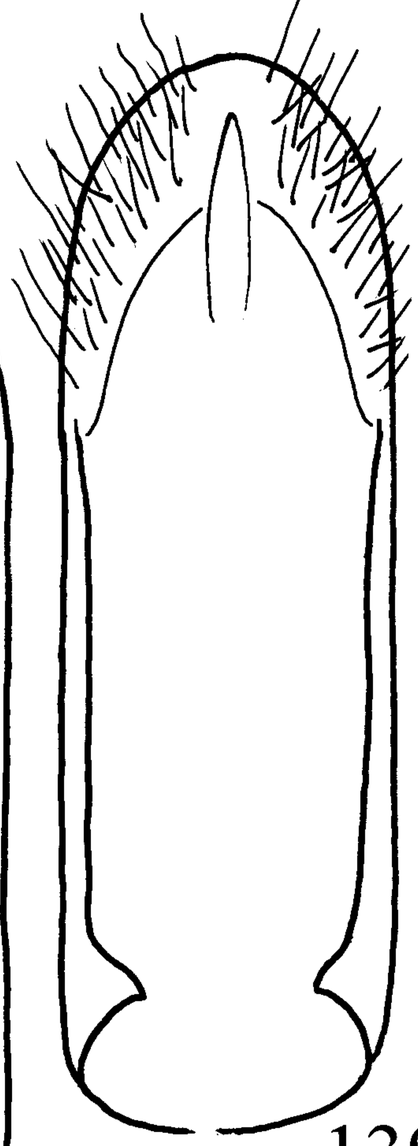

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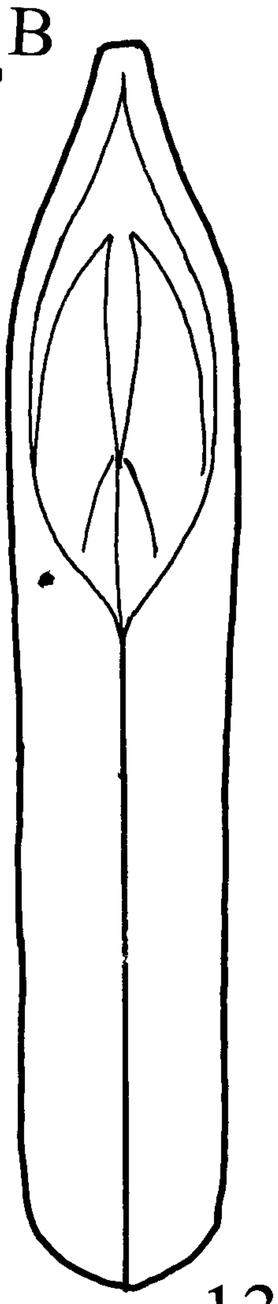

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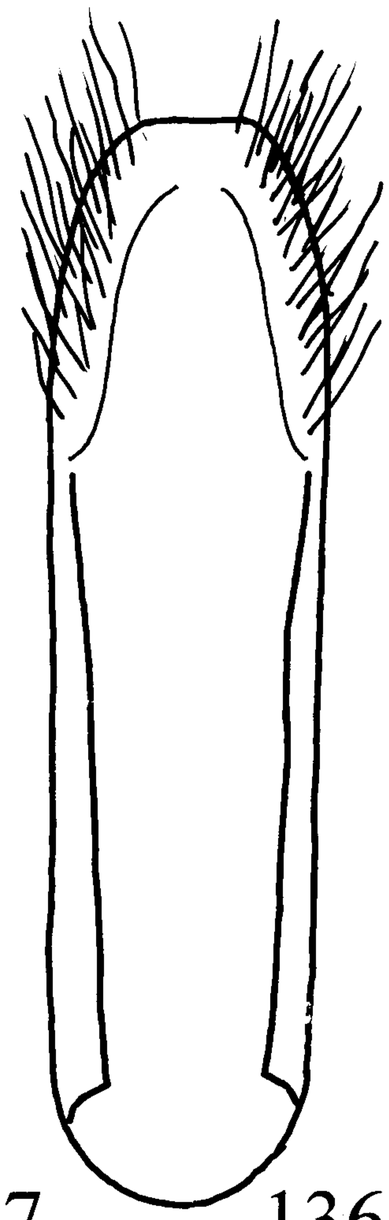

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pattern of light spots on elytra, more widely explanate elytral sides, punctation and sculpture, deeper depression between antennal insertions on head, more extended female elytral apices, less curved and strongly developed antennal grooves, deeply depressed hypopygidium. *P.* (*L.*) *georgyi* sp. nov. differs also from *P.* (*L.*) *quadrinotata* in a more clearly emarginate fore edge of pronotum, wider prosternal process and shape of male protibia.

Etymology. This new species is dedicated to the first author's father, Georgy T. Kirejtshuk, to whom he is much obliged for the encouragement in his study during many years.

9. *Phenolia (Lasiodites) harmonica* sp. nov.

Figs 61–63, 183

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype** (MAT) – "Albertville: Moyenne, Kimbi, 950 m, I-1951, N. Leleup, 16 akunga (Sat. for.)", "Récolté dans l'humus": 1 **paratype** (ZIN) "P.N.G., Miss. H. De Saeger, Aka, 22.-V-1952, H. De Saeger, 3497".

Description of male (holotype). Length 6.2, breadth 3.6, height 1.7 mm. Rather convex dorsally and ventrally; bright reddish brown body, except elytra which are dark brown, sides of pronotum and elytra and appendages lighter; dorsum and underside slightly shining; dorsum with comparatively short subrecumbent or recumbent slightly conspicuous reddish hairs, slightly longer than distance between their insertions, and also with distinctly longer, suberect and rather sparse, moderately conspicuous hairs; elytra with two longitudinal rows of shorter and recumbent hairs disposed between rows of longer erect hairs; underside with much shorter and less conspicuous pubescence. Head surface with irregular, very dense and distinct punctures, nearly as large as eye facets, interspaces between them extremely narrow and finely alutaceous. Pronotum with not quite distinct and shallow punctures, much larger than eye facets; interspaces between them from 1 to 3 puncture diameters, finely and densely microreticulated by extremely small punctures and very fine lines. Elytra with distinct punctures, more or less clearly arranged in longitudinal double rows; interspaces between punctures in rows somewhat larger than a puncture diameter and between rows about 2–3 puncture diameters, finely and densely microreticulated by extremely small punctures. Pygidium with very small and sparser punctures, interspaces between them cellularly microreticulated. Ventrites and thoracic sterna with rather shallow and large, but quite distinct punctures, interspaces between them as large as or somewhat narrower than a puncture diameter, finely and densely microreticulated by extremely fine and dense punctation. Head about 3/4 as long as distance between eyes, depressed behind antennal insertions. Eyes with interfacetal setae. Antennae somewhat longer than head width, with subparallel-sided scape about twice as long as wide and their club composing more than 1/4 of total antennal length. Pronotum almost evenly and slightly convex, with slightly subexplanate hind corners, base with a very weak and narrow border and sides strongly arcuate. Elytra evenly sloping towards moderately explanate sides, longest at suture, apices arcuately suboblique to suture, without distinct sutural corner. Pygidium with truncate apex. Antennal grooves subparallel-sided. Prosternal process subcarinate at subrhomboid apex and moderately curved along coxae. Distance between mesocoxae subequal to and that between metacoxae somewhat more than 1.5 times as broad as that between procoxae. Metasternum with a wide and rather deep depression in distal half and strongly concave before fore edge. Hypopygidium distinctly and deeply depressed at sides. Epipleura complete, at base about 2.5 times as wide as antennal club. Protibia with a moderately prominent subapical outer corner, sometimes angularly curved and sharply widened at the middle, much wider than antennal club; mesotibia moderately curved inwards before apex and much narrower than antennal club; metatibia subtriangular and almost as wide as antennal club. Femora of usual shape, 2.0–2.5 times as wide as metatibia. Protarsus not more than 2/3 as wide as antennal club. Tegmen with a smooth median convexity at apex.

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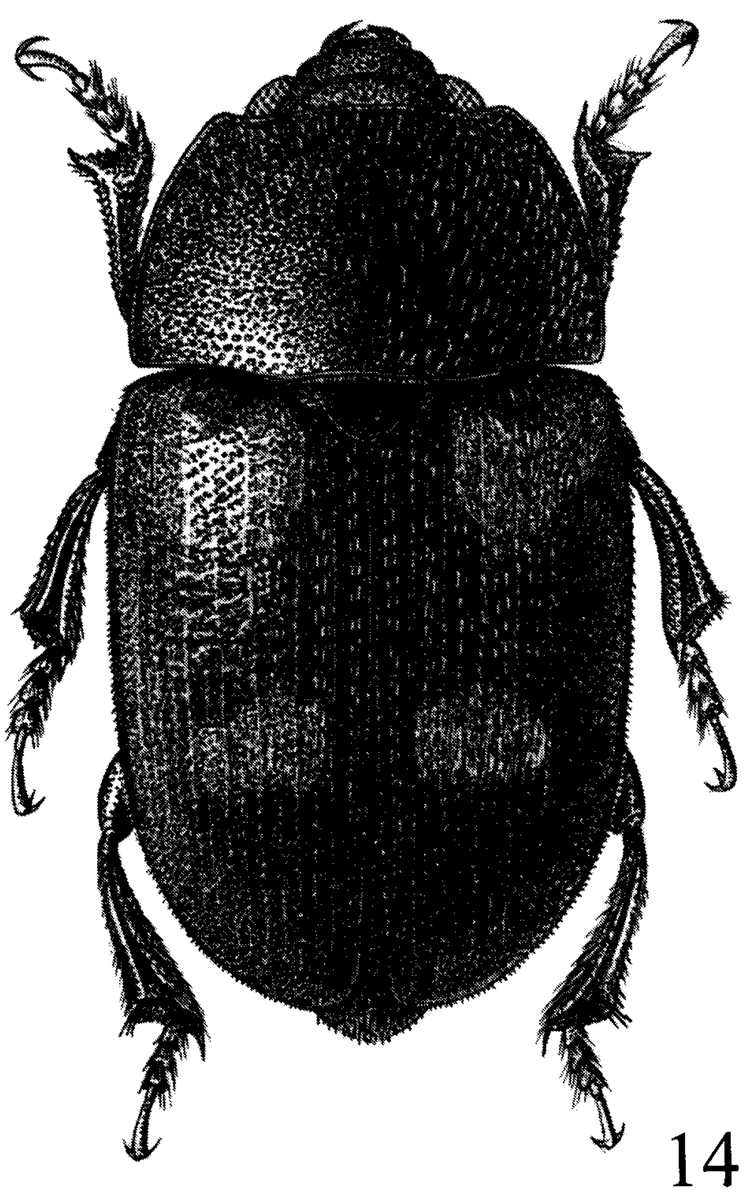
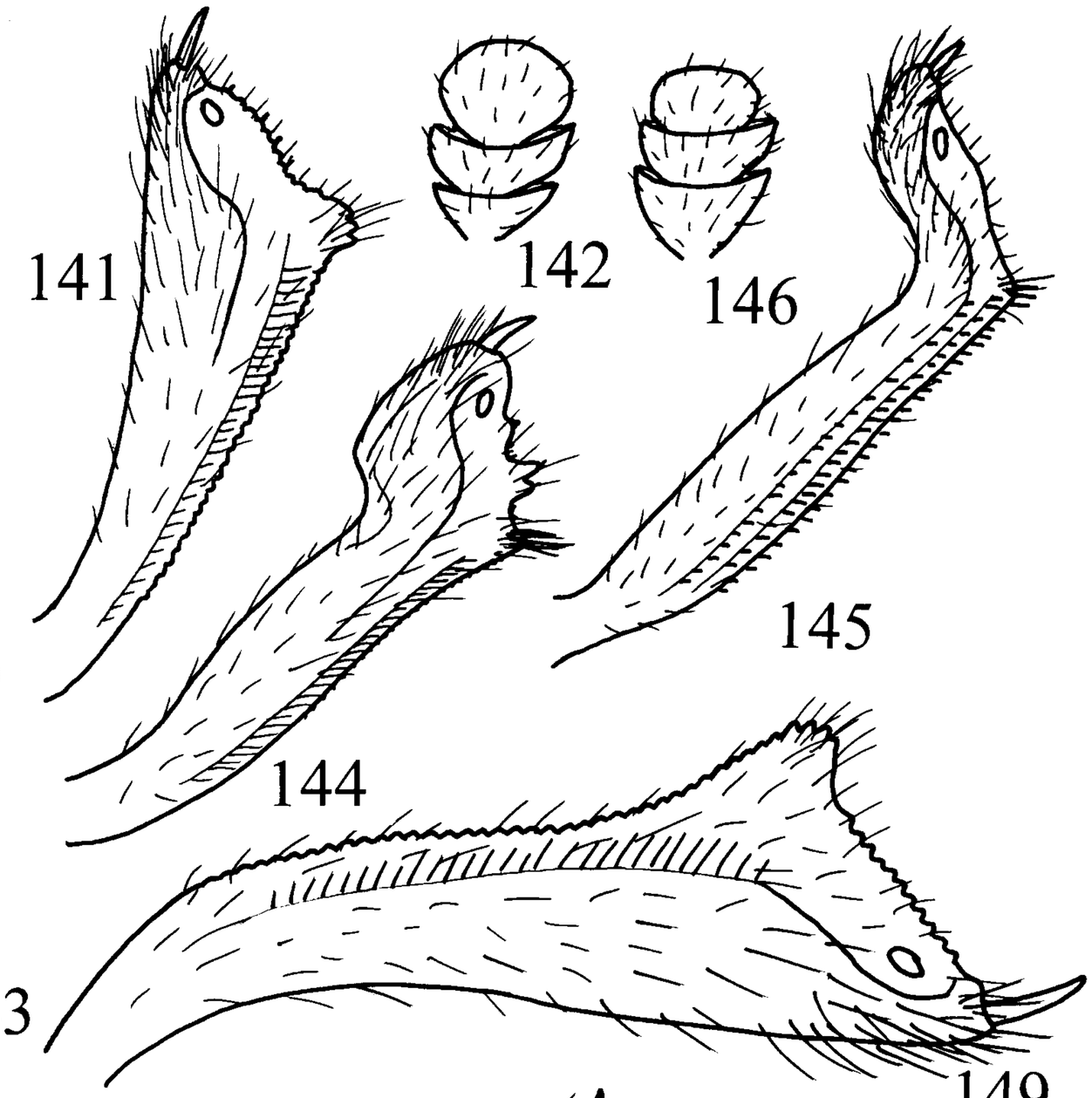
Figs 122–140. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *longa* sp. nov., male: **122** – penis trunk, dorsal; *P.* (*L.*) *oviformis* sp. nov., male (**123–126**): **123** – mesotibia, dorsal; **124** – antennal club; **125** – tegmen, ventral; **126** – penis trunk, dorsal; *P.* (*L.*) *perforata* sp. nov., male (**127–135**): **127** – body with outline of explanate sides of elytra, dorsal; **128** – punctation and pubescence of elytra; **129** – protibia, dorsal; **130** – mesotibia, dorsal; **131** – metatibia, dorsal; **132** – prosternal process, ventral; **133** – antennal club; **134** – tegmen, ventral; **135** – penis trunk, dorsal; *P.* (*L.*) *picta*, male (**136–137**): **136** – tegmen, ventral; **137** – penis trunk, dorsal; *P.* (*L.*) *quadrimaculata*, male (**138–140**): **138** – body with dotted contour of spots on elytra, dorsal; **139** – tegmen, ventral; **140** – penis trunk, dorsal. Scales: A – to Figs 127, 138; B – to Figs 122–126, 128–137, 139–140.





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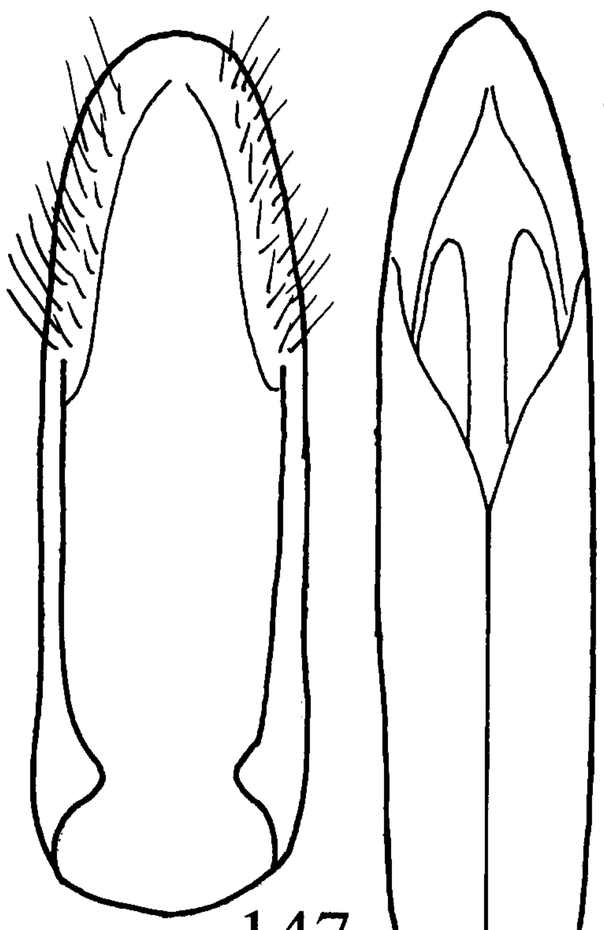

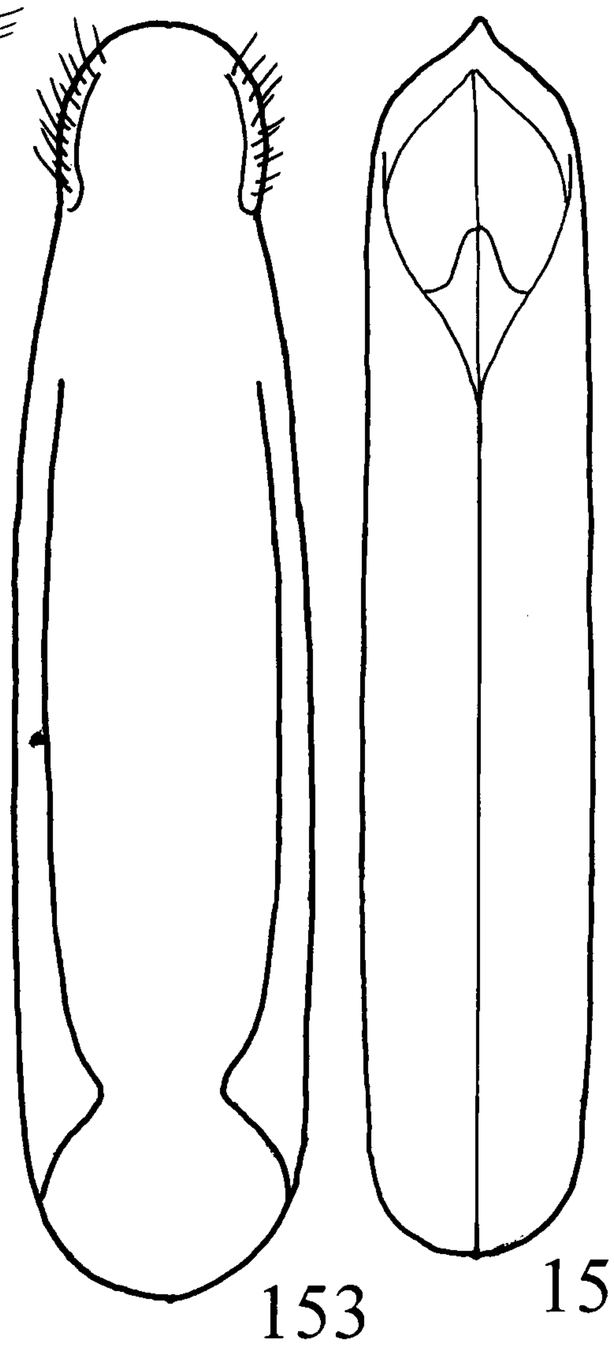

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Figs 141–154. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *quadrimaculata*, male (**141–142**): **141** – protibia, dorsall; **142** – antennal club; *P.* (*L.*) *quadrinotata*, female: **143** – body, dorsal; male (**144–148**): **144** – protibia, dorsal; **145** – mesotibia, dorsal; **146** – antennal club; **147** – tegmen, ventral; **148** – penis, dorsal; *P.* (*L.*) *robusta* sp. nov., male (**149–154**): **149** – protibia, dorsal; **150** – mesotibia, dorsal; **151** – metatibia, dorsal; **152** – antennal club; **153** – tegmen, ventral; **154** – penis trunk, dorsal. Scales: A – to fig. 143; B – to Figs 141–142, 144–154.

Variations. Length 5.8–6.2 mm. The paratype has almost unicoloured brownish body, pronotal sides almost not narrowed to base, less distinct punctures on thoracic sterna and somewhat wider apex of penis trunk.

Diagnosis. This new species is closely related and very similar to *P.* (*L.*) *decellei* sp. nov. and *P.* (*L.*) *georgyi* sp. nov., but differs from both mainly in shape of male protibiae, wider and rather arcuate apex of penis trunk, and smooth median convexity at tegmen apex. Besides, this new species differs from the second also in lack of small yellowish spots on elytra, more widely explanate elytral sides and complete epipleura. The similarity of *P.* (*L.*) *harmonica* sp. nov. with other members of the subgenus are the same as those mentioned in the diagnoses of *P.* (*L.*) *decellei* sp. nov. and *P.* (*L.*) *georgyi* sp. nov.

Etymology. The name of this new species is formed from the Latin *harmonicus* meaning "harmonious", "coordinated", "concerted".

10. *Phenolia (Lasiodites) immunda* (Boheman, 1851), comb. nov.

Figs 64–69, 74, 184

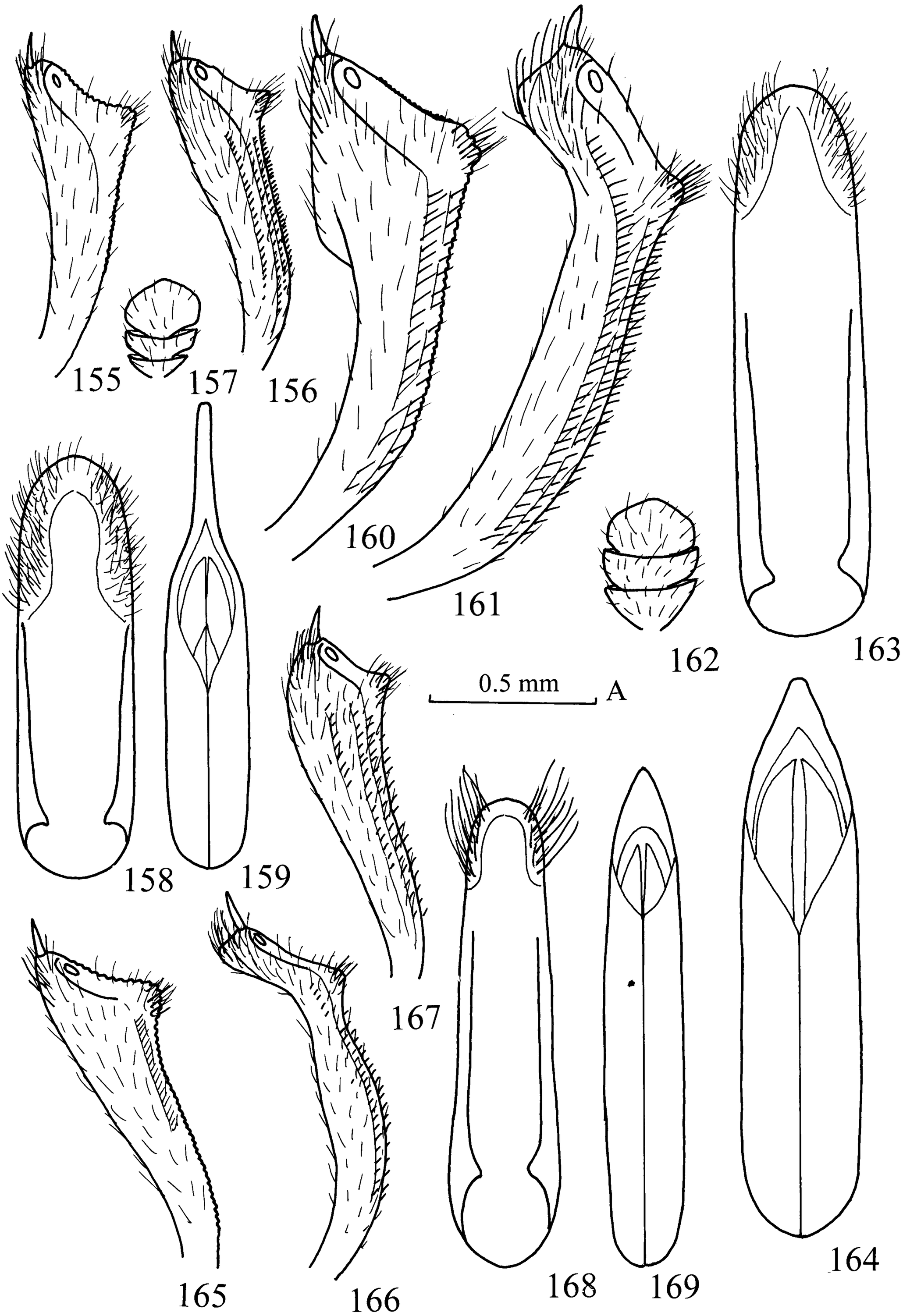
Soronia immunda Boheman, 1851: 571 ("Caffraria");
Soronia curvipes Boheman, 1851: 572 ("Caffraria"), **syn. nov.;**
Lordites immundus: Gemminger & Harold 1868: 829;
Lordites curvipes: Gemminger & Harold 1868: 829;
Lasiodactylus immundus: Grouvelle 1913: 172;
Lasiodactylus curvipes: Grouvelle 1913: 172;
Lasiodites immundus: Jelínek 1999: 279;
Lasiodites curvipes: Jelínek 1999: 279.

Basilewsky 1972: Sainte-Hélène (as *Lasiodactylus maculatus*).

Specimens examined – **Republic of South Africa: lectotype** of *Soronia immunda*, male (NRS), here designated (in collection designated by Endrödy-Younga) and 3 **paralectotypes** (NRS) – "Caffraria, J. Wahlb.", "*Soronia immunda* Boh."; **lectotype** of *Soronia curvipes*, male (NRS), here designated (in collection designated by Endrödy-Younga) and 3 **paralectotypes** (NRS) – "Caffraria", "J. Wahlb."; 1 (NRS) – "De Vylder, S. Africa"; 2 (ZMK) – "Caffraria", "Mus. Drews"; 1 (NMW) – "Grouvelle, 1901, Cap, *Lordites elongatus* Reitt."; 1 female (ZMB) – "C. B. Esp. Raffray" (named as *L. elongatus* by S. Endrödy-Younga); 4 (TMB, ZIN) – "Transvaal, Bergvliet Gorge, 15 km E from Sabie, light trap, 4. XI. 1980, leg. Endrödy S."; 9 (CMO, ZMO, ZIN) – "Natal, 75 km WSW Eastcourt Cathedral Peaks For. Sta., 7–31. XII. 79, S. & J. Peck", "Rainbow Gorge, Podocarp Forest, pen trap, 1500 m" (also "mini-dung cup traps", "rotten wood, moss fleshy & woody fungi"); 1 (CMO) – "Ngome Forest, Natal, 1. X–4. XI. 70, H. & M. Townes"; 2 (CMO, ZIN) – "TVL, 1100 m, 30 km NE Thabazimbi, 24,25. XI. 1984, H. & A. Howden"; 4 (BRO, ZIN) – "Vict. E. Hogsback, Feb. 2–6, 1976, R.E. Parrott"; 1 (FMC) – "Cape Peninsula, Kirestenbosch, 5: i. 1966", "ex damp decaying sawdust under log", "D.H., A.C. & A.H. Kistner"; **Nossi-Bé:** 1 (NMW) – "Coll. Plason"; **Sainte-Hélène:** 1 (MAT) – "Centre Teutonto Hall, 1600 ft, lampe UV, II. 1967", "J. Decelle et N. Leleup" (named as others from St. Helena by P. Basilewsky as *Lasiodactylus maculatus*); 2 (MAT, ZIN) – "Centre Teutonto Hall, 1500–1700 ft, lampe UV, 27. III. 1967" (V. 1967), "J. Decelle et N. Leleup"; 1 (MAT) – "Varneys, 19. IV. 1976, A. Loveridge"; 1 (MAT) – "on skins of granefruit, St. Helene Id., Varneys", "13. IV. 1966, A. Loveridge".

Comments to description. Length 6.7–8.6, breadth 2.9–3.5, height 1.1–1.4 mm. Slightly convex dorsally and ventrally; pronotal and elytral sides widely explanate; light brown to almost blackish, usually with lighter fore part of head, appendages, pronotal and elytral sides, procoxae and all tarsi (usually straw yellow), antennal flagella, distal part of femora, tibiae and tarsi in most cases as light as other lightened parts; elytra with a variable pattern of bright yellow contrasting spots, frequently arranged in 3 irregular rows. Body slightly shining to almost dull; with comparatively short, recumbent, moderately conspicuous, yellowish hairs, about twice as long as distance between their insertions; besides them, there are sparser and longer, rather conspicuous subrecumbent hairs. Each elytron with 6 more or less raised costae and 2 irregular longitudinal rows of shorter and recumbent hairs disposed between rows of longer and subrecumbent hairs. Head and pronotal surface with quite distinct and almost regular punctures, much larger to maximum twice as big as eye facets, interspaces between them 1/3–1 puncture diameter, smooth or finely cellularly microreticulated. Elytra with distinct, large and sparse punctures, interspaces between them smoothly alutaceous; a tendency to form longitudinal rows of punctures more or less expressed. Eyes with very short interfacetal setae. Antennal grooves strongly curved and convergent just behind mentum and almost rectilinear at head base. Prosternal process rather curved along coxae and with very widely rounded, subtruncate and flattened apex. Metasternum of male somewhat widely depressed in distal half. Hypopygidium scarcely or slightly depressed at sides. Male protibia subtriangular or slightly angularly curved at the middle and slightly wider than antennal club; mesotibia strongly curved inwards before apex; metatibia narrow and slightly curved. Male trochanters slightly projecting posteriorly. Protarsus of male almost 1/2 as wide as antennal club.

Diagnosis. This species is very similar to *P.* (*L.*) *tricostata* sp. nov., but differs from it in less smoothed interspaces between punctures on dorsum, 6 more or less raised costae on each elytron, not so widely explanate pronotal sides, not contiguous and distinctly separated punctures on elytra, male trochanters less projecting poster-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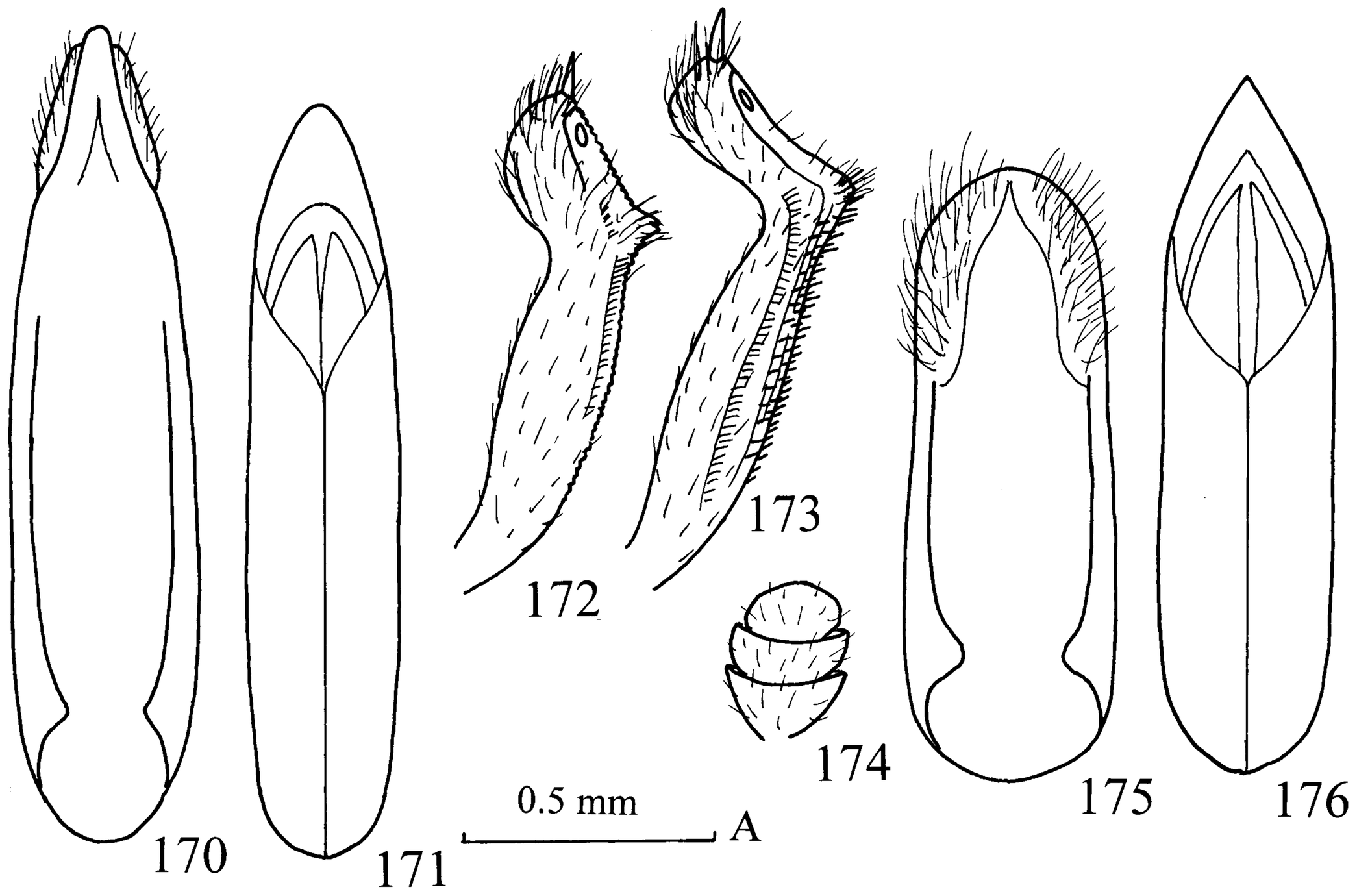

Figs 170–176. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *tricostata* sp. nov., male (**170–171**): **170** – tegmen, ventral; **171** – penis trunk, dorsal; *P.* (*L.*) *zairensis* sp. nov., male (**172–176**): **172** – protibia, dorsal; **173** – mesotibia, dorsal; **174** – antennal club; **175** – tegmen, ventral; **176** – penis trunk, dorsal. Scale: A – to Figs 170–176.

iorly, peculiar shape of male mesotibia and widely rounded apex of tegmen. *P.* (*L.*) *immunda*, together with *P.* (*L.*) *tricostata* sp. nov., are very well characterized by their elongate bodies with widely explanate pronotal and elytral sides, more or less raised costae, characteristc shape of male pro- and mesotibiae and rather narrow sclerites of aedeagus. *P.* (*L.*) *immunda* sp. nov. and *P.* (*L.*) *tricostata* sp. nov. can be distinguished from the other species of the *immunda* group according to the key above. The separation of the narrowest species of this species group, *P.* (*L.*) *limbata tibialis* and *P.* (*L.*) *longa* sp. nov., is discussed in the diagnosis of *P.* (*L.*) pr. *elongata.* In addition, *P.* (*L.*) *immunda* is distingushed from the narrowest specimens of *P.* (*L.*) *l. tibialis* also due to (as a rule) sparser punctation on dorsum, more raised costae on elytra and narrower sclerites of aedeagus.

Notes. Examination of the type series of *Soronia immunda* and *S. curvipes* allowed the authors to establish a conspecifity of the specimens used for the proposal of these names.

11. *Phenolia (Lasiodites) implagiata* sp. nov.

Figs 75–85, 185

Specimens examined – **Cameroon: holotype,** male (SMS) – "Kumba Station, 31. VII. 1988, F.-T. Krell"; **Nigeria:** 1 **paratype,** female (ZIN) – "Ile-Ife, 9. VII. 1988, F.-T. Krell"; other **paratypes: Ghana:** 2 (TMB, ZISP) – "25. 3. 86, Ashanti-Reg., Umg. Kumasi, Hiermeier"; **People's Republic of the Congo (Brazzaville):** 5 (TMB, ZIN) – "Kindamba, Me'ya, Bangou Forest", "12. 11. 1963, N 171, soil trap in forest, Balogh & Zicsi"; 1 (TMB) – "Kindamba, Sibiti, IRHO, rain forest", "1. 12. 1963, N 316, soil trap in forest, Balogh &Zicsi"; **Democratic Republic of the Congo (Zaire):** 1 (MAT) – "Lulua: Kapanga, XII-1932, G.F. Overlaet".

Description of male (holotype). Length 6.7, breadth 3.5, height 1.9 mm. Rather convex

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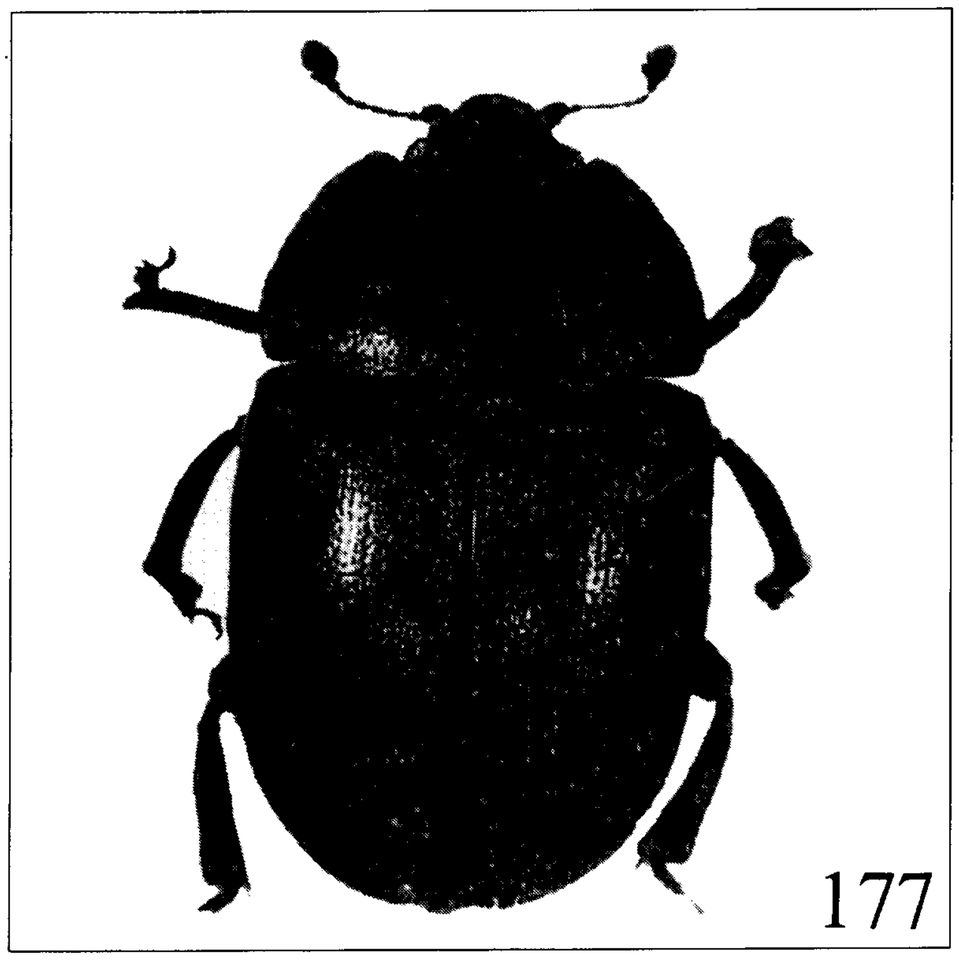
Figs 155–169. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). *P.* (*L.*) *rotundiclava* sp. nov., male (**155–159**): **155** – protibia, dorsal; **156** – mesotibia, dorsal; **157** – antennal club; **158** – tegmen, ventral; **159** – penis trunk, dorsal; (*L.*) *spornraftorum* sp. nov., male (**160–164**): **160** – protibia, dorsal; **161** – mesotibia, dorsal; **162** – antennal club; **163** – tegmen, ventral; **164** – penis trunk, dorsal; *P.* (*L.*) *subtilis* sp. nov., male (**165–169**): **165** – protibia, dorsal; **166** – mesotibia, dorsal; **167** – metatibia, dorsal; **168** – tegmen, ventral; **169** – penis trunk, dorsal. Scale: A – to Figs 155–169.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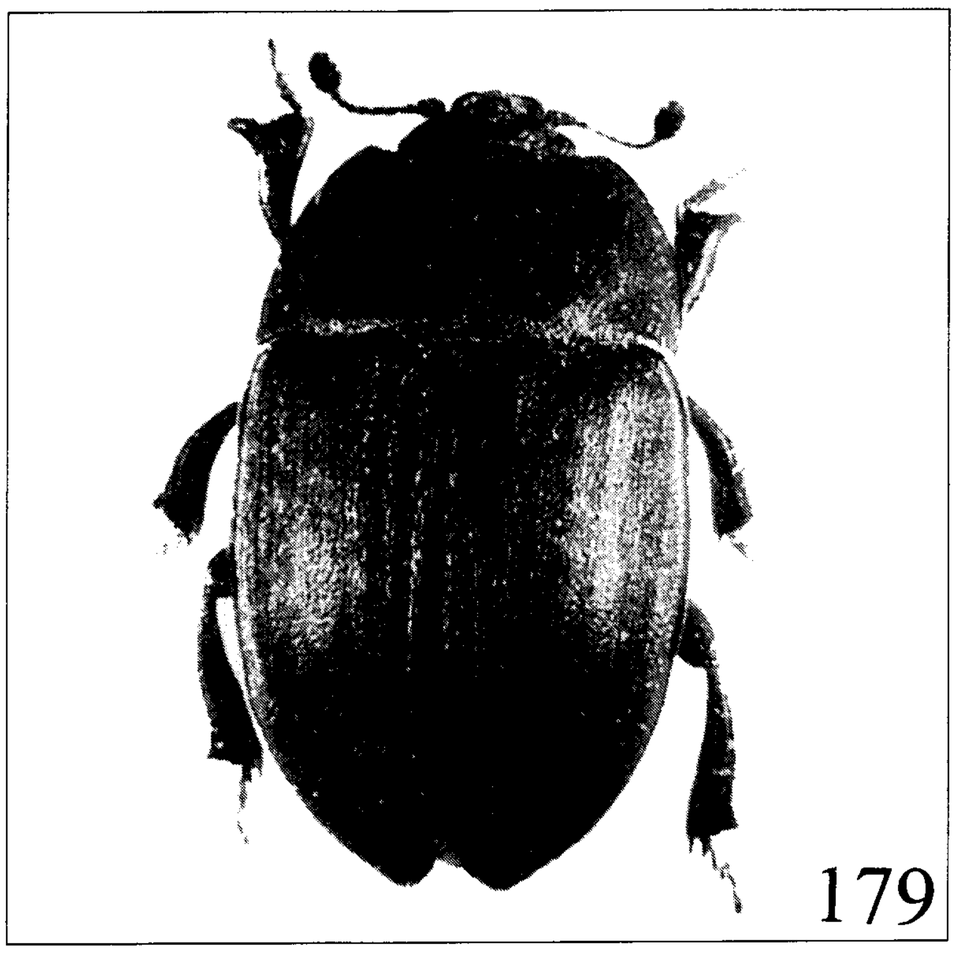
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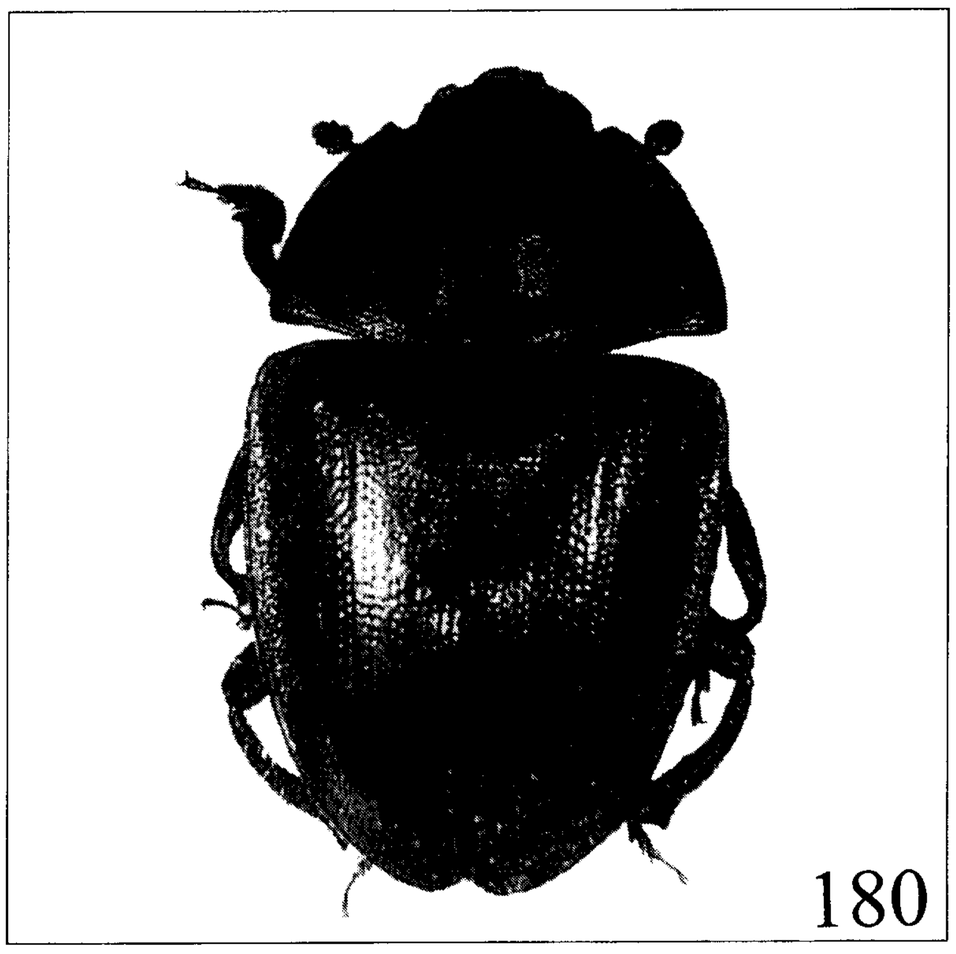
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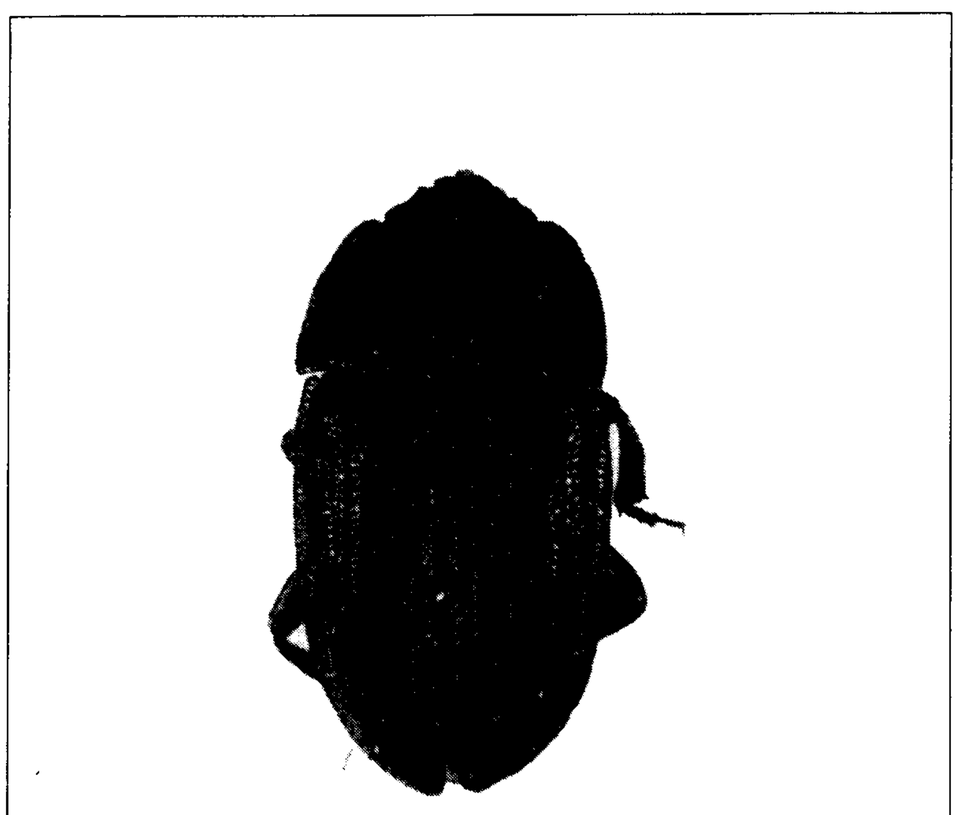
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dorsally and slightly convex ventrally; dorsum dark brown to blackish, but pronotal and elytral sides, abdominal apex as well as underside and appendages dark reddish brown; dorsum dull, and underside with a slight shine; dorsum with comparatively short, subrecumbent, moderately conspicuous, greyish yellow hairs, slightly longer or slightly shorter than distance between their insertions; elytra with two longitudinal rows of shorter hairs disposed between longitudinal rows of longer hairs; underside somewhat shorter and less conspicuously pubescent. Head, pronotal and elytral surface with distinct punctures, as large as eye facets or somewhat larger, interspaces between them 1.0–2.5 puncture diameters, finely and contrastingly alutaceous to microreticulated; elytra with indistinct longitudinal rows of punctures. Surface of pygidium and ventrites 2–5 with small and rather shallow punctures (smaller than eye facets), interspaces between them somewhat broader than a puncture diameter, finely and densely microreticulated. Prosternal process with shallow and obsolete punctures, rather coarsely alutaceous; mesosternum with quite distinct punctures, subequal to eye facets or slightly larger, interspaces between them markedly broader than a puncture diameter, but middle part of mesosternum without punctures. Surface of metasternum and ventrite 1 with similar punctation and sculpture as on head and pronotum; metasternum in distal half with a rounded and deepened smooth area lacking punctures. Head about 2/3 as long as distance between eyes, slightly depressed between antennal insertions. Antennae scarcely longer than width of head, scape about twice as long as wide and their club composing 1/4 of total antennal length. Pronotum almost evenly and slightly convex, with scarcely subexplanate hind corners, base with very fine and distinct border and sides strongly arcuately narrowed in distal fourth and slightly arcuately narrowed anteriorly. Elytra evenly sloping towards narrowly explanate sides, longest at suture, apices suboblique and rounded at suture, forming a weak sutural corner. Pygidium with emarginate apex. Antennal grooves somewhat arcuate behind mentum, slightly but distinctly convergent. Prosternal process subcarinate, moderately curved along coxae and with rhomboid apex. The distance between mesocoxae subequal to and that between metacoxae about twice broader than that between procoxae. Metasternum slightly depressed in distal half and strongly concave before fore edge. Hypopygidium scarcely depressed at sides and with a widely subangulate apex. Epipleura incomplete, at base about 2.5 times as wide as antennal club. Tibiae with a very prominent subapical process; protibia subtriangular and nearly regularly curved, somewhat wider than antennal club; mesotibia evenly curved and much wider than antennal club; metatibia slightly and regularly curved, somewhat wider than antennal club. Profemur slightly wider, but meso- and metafemora more than 1.5 times as wide as corresponding tibiae. Protarsus about 1/3 as wide as antennal club.

Female. Differs from male in lack of sexual characters in tibiae (pro- and mesotibia slightly curved and with smaller subapical process), less arcuate pronotal sides, more projecting elytral apices at suture, and widely rounded apices of pygidium and hypopygidium.

Variations. Length 5.4–7.3 mm. The variability is manifested in pronotal shape, punctation, sculpture and development of pubescence. The paratype from Nigeria has pronotum widest basally and gently arcuate at sides, punctation of its dorsum is finer and less distinct, but the integument between punctures is with very fine, but rather contrasting sculpture, and the pubescence is short but more conspicuous. The paratype from "Lulua: Kapanga" is largest, with reddish underside and appendages, and more smooth integument between punctures on dorsum.

Diagnosis. *P.* (*L.*) *implagiata* sp. nov. has characters, including secondary sexual dimorphism, which are most similar to the corresponding characters of *P.* (*L.*) *bipustulata,* especially the prominent subapical process on its tibiae. However, this new species differs from *P.* (*L.*) *bipustulata* in smaller body size, unicoloured dorsum with sparse and less conspicuous pubescence, narrower and lighter antennal club, and even inner edge of male protibia. *P.* (*L.*) *implagiata* sp.

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Figs 177–182. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). **177** – *P.* (*L.*) *accepta* sp. nov., male, Ivory Coast: Camoé Park, holotype; **178** – *P.* (*L.*) *bakkei* sp. nov., female, Democratic Republic of the Congo (Zaire): Kivu, paratype; **179** – *P.* (*L.*) *bipustulata*, aberrant female, Zimbabwe: Victoria Fall; **180** – *P.* (*L.*) *circumflexa*, male, Democratic Republic of the Congo (Zaire): Kapanga; **181** – *P.* (*L.*) *costipennis*, female, Zaire: Eala; **182** – *P.* (*L.*) *decellei* sp. nov., female, Ivory Coast: Adiopodoumè, paratype.


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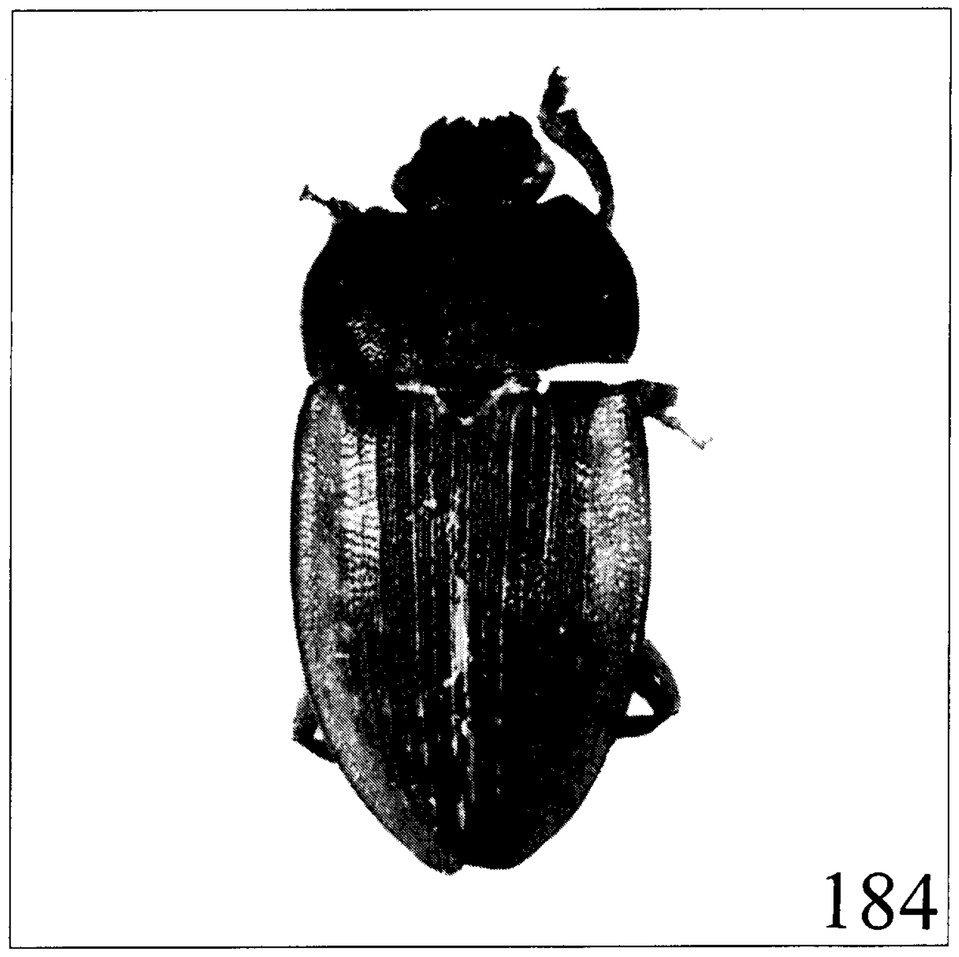
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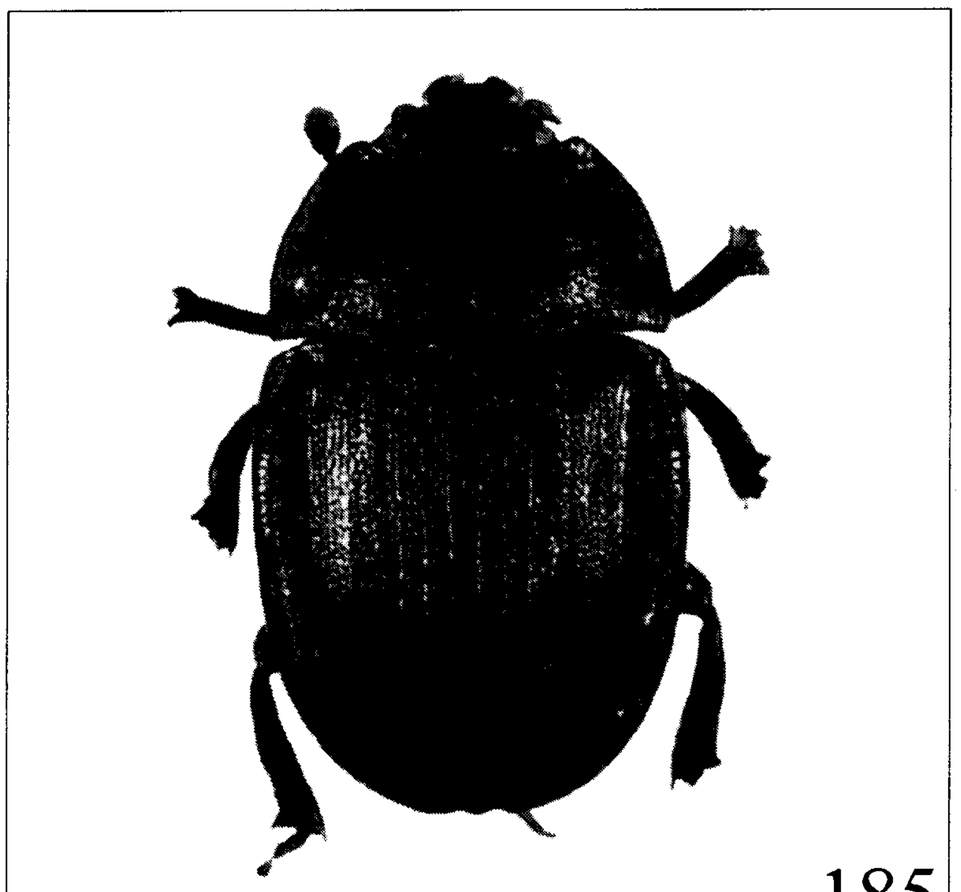
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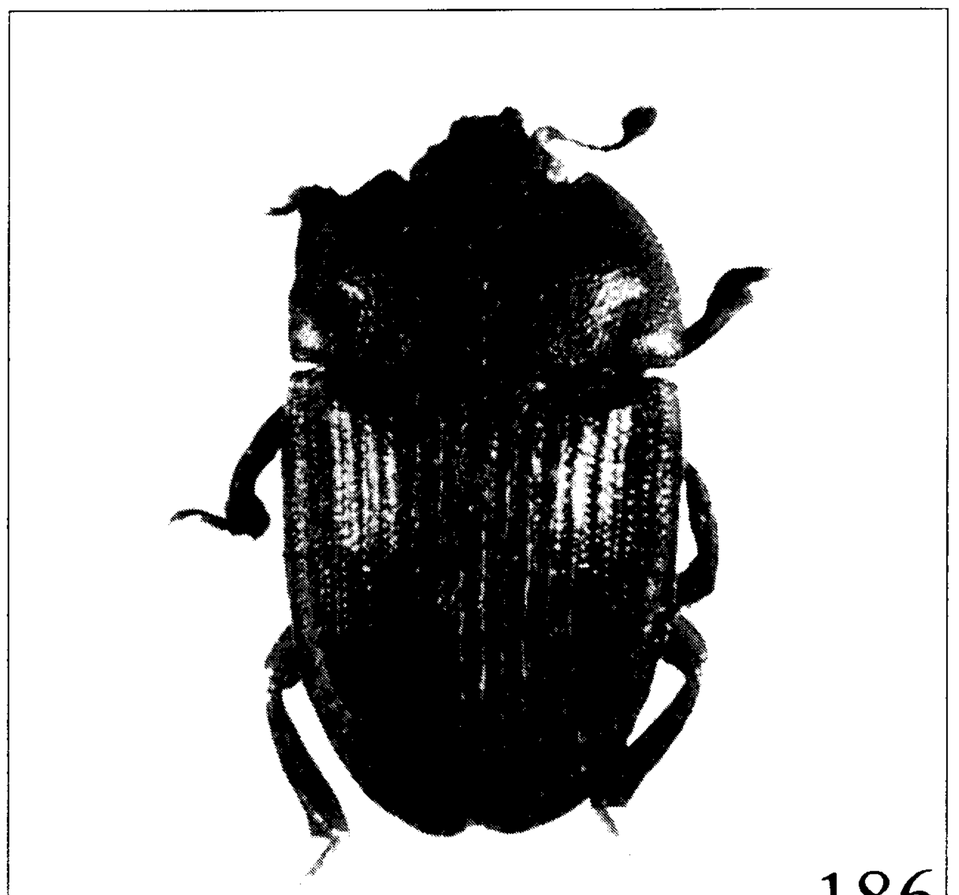
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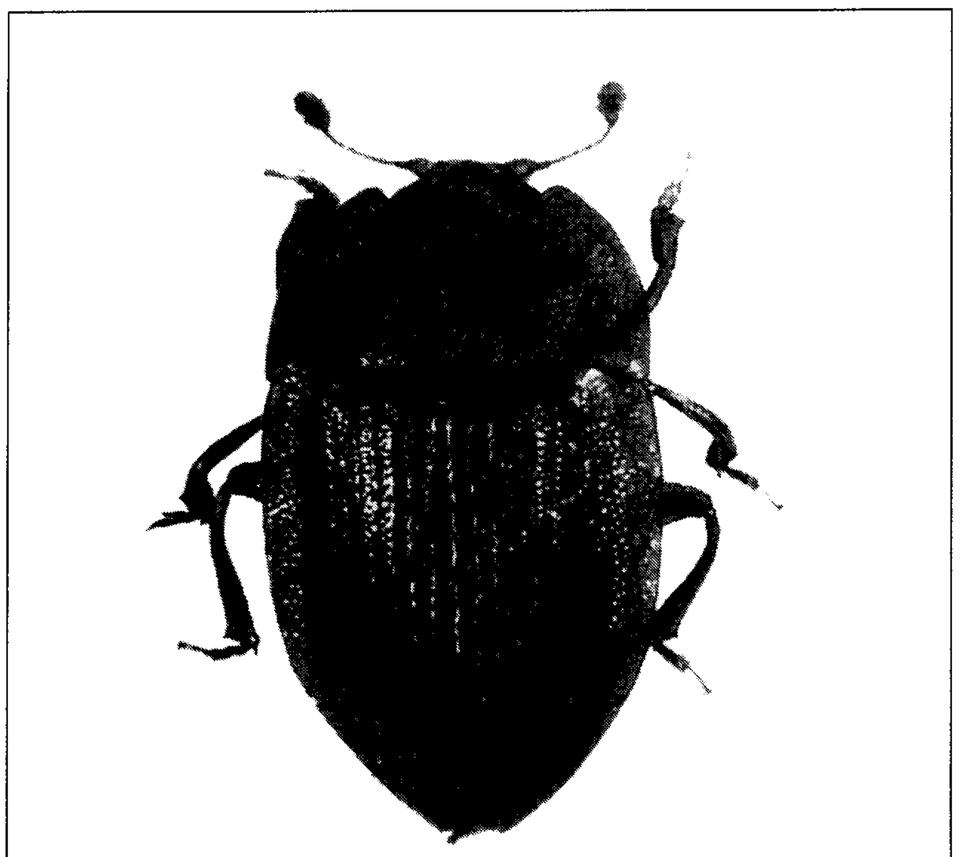
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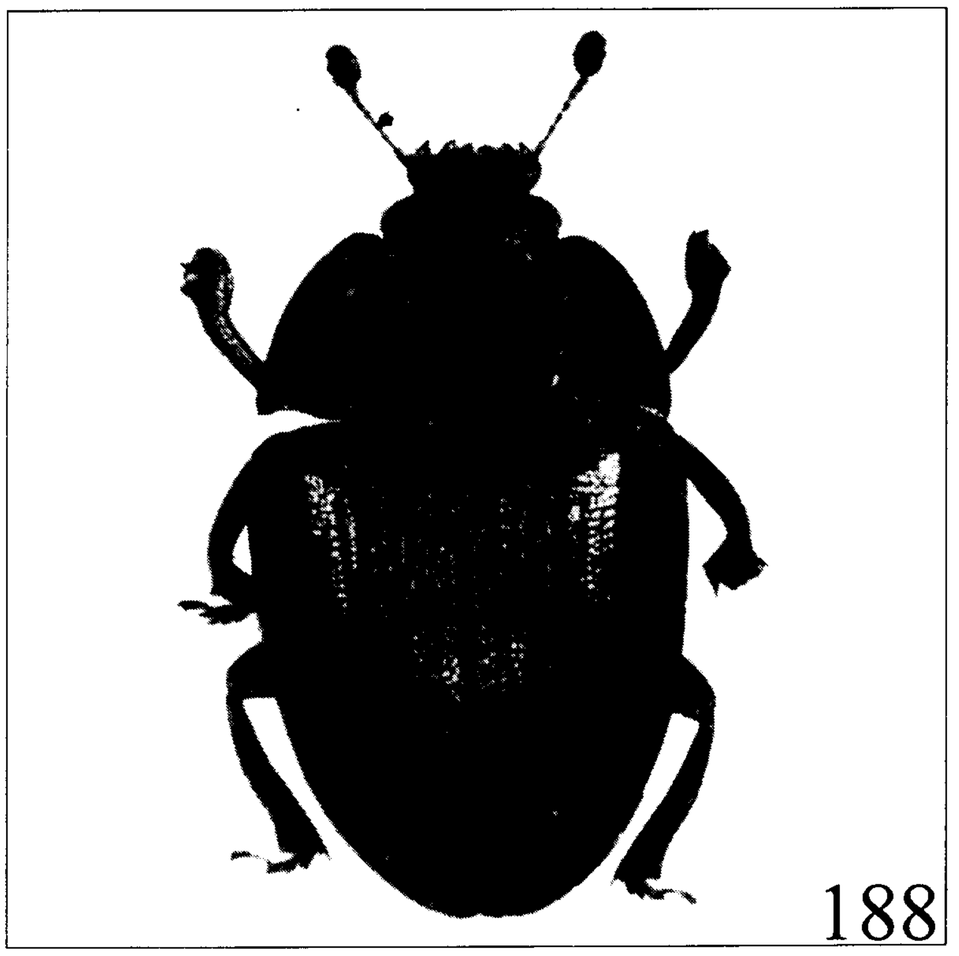
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nov. , together with *P.* (*L.*) *bipustulata,* resembles *P.* (*L.*) *acccepta* sp. nov., *P.* (*L.*) *decellei* sp. nov., *P.* (*L.*) *oviformis* sp. nov. and *P.* (*L.*) *robusta* sp. nov., but is distinguished from them by the characters listed in the diagnosis to *P.* (*L.*) *bipustulata* and in the below key. *P.* (*L.*) *implagiata* sp. nov. has also some resemblance to *P.* (*L.*) *perforata* sp. nov. The latter is separated from all the species of the subgenus by its characteristic prosternal process, mesosternum, proportion of distances between coxae in each pair, punctation and sculpture as well as the shining stripe along hind edge of hypopygidium.

Etymology. The name of *P.* (*L.*) *implagiata* sp. nov. is formed from the Latin negative prefix and *plaga* meaning "space", "the cardinal points", "region", "country".

12. *Phenolia (Lasiodites) intermixta* sp. nov.

Figs 86–88, 186

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype,** male (MAT) and 11 **paratypes** (MAT, ZIN) – "Lulua: Kapanga, XII-1932, F.G. Overlaet" (II-1932, IV. 1933); 1 **paratype** (MAT) – "Elisabethville (lumière) XI-1951–II-1952, Ch. Seydel".

Description of male (holotype). Length 6.2, breadth 3.2, height 1.7 mm. Rather convex dorsally and moderately ventrally; reddish brown body, except elytra which are dark brown, but prohypomera, epipleura, mouthparts, antennal flagella, tarsi and explanate sides of elytra lighter; elytra with very small yellowish reddish spots arranged in 3 irregular rows; dorsum and underside nearly dull, but elytra somewhat shining; dorsum with comparatively short, recumbent, slightly conspicuous yellowish hairs, somewhat longer than the distance between their insertions, and with distinctly longer, recumbent, rather sparse and moderately conspicuous hairs; elytra with two longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent hairs; underside with much shorter and less conspicuous pubescence. Head surface with shallow and distinct, but not quite regular punctures, about as large as eye facets, interspaces between them about 1/3–1/2 of a puncture diameter, extremely finely, densely and cellularly microreticulated. Pronotum with quite distinct punctures, somewhat larger than those on head, interspaces between them 0.5–1.0 of a puncture diameter, contrastingly and very densely cellularly microreticulated. Elytra with distinct punctures, more or less clearly arranged in longitudinal double rows of punctures (sometimes doubled punctures almost conjugated), separated by a row of small punctures; interspaces between punctures about subequal to or narrower than diameter of a large puncture and smooth. Underside with shallow and indistinct punctures, markedly smaller than eye facets, interspaces between them about a puncture diameter, finely and densely microreticulated by extremely fine and dense cells. Head about 9/11 as long as distance between eyes, rather depressed behind antennal insertions. Eyes without raised interfacetal setae. Antennae slightly shorter than head width, scape less than twice as long as wide and narrowed to apex, their club composing more than 1/4 of total antennal length. Pronotum almost evenly and rather convex at disc, with slightly subexplanate hind corners, base with distinct border, apex moderately deeply excised and sides strongly arcuate. Elytra evenly sloping towards moderately explanate sides, as widely explanate as width of antennal flagella, apices arcuately suboblique and rounded at suture, forming a small sutural corner. Pygidium with truncate apex. Antennal grooves arcuately convergent behind mentum. Prosternal process subcarinate at subrhomboid apex, moderately curved along coxae. Distance between mesocoxae subequal to and that between metacoxae somewhat more than twice as broad as that between procoxae. Mesosternum with a weak carina. Metasternum with a rather deep depression in distal half and also a rather distinct depression before fore edge. Hypopygidium distinctly, but not deeply depressed at sides. Epipleura almost complete, reaching sutural corner, at base about twice as wide as antennal club. Protibia subtriangular and angularly curved at the middle, somewhat wider than antennal club; mesotibia slightly curved inwards before apex and slightly wider than antennal club; metatibia scarcely curved and slightly wider than

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Figs 183–188. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). **183** – *P.* (*L.*) *harmonica* sp. nov., male, Democratic Republic of the Congo (Zaire): Aka, paratype; **184** – *P.* (*L.*) *immunda*, male, Republic of South Africa: Natal; **185** – *P.* (*L.*) *implagiata* sp. nov., female, Nigeria: Ile-Ife, paratype; **186** – *P.* (*L.*) *intermixta* sp. nov.,male, Democratic Republic of the Congo (Zaire): Kapanga, paratype; **187** – *P.* (*L.*) *lata* sp. nov., male, Democratic Republic of the Congo (Zaire): Katongo, paratype; **188** – *P.* (*L.*) *limbata limbata,* male, Madagascar: Ambatombé.

antennal club. Femora of usual shape, 1.5–2.0 times as wide as metatibia. Protarsus almost 1/2 as wide as antennal club. Tegmen subtruncate at apex.

Female. Differs from male in slightly more projecting elytral apices, absence of sexual characters in pro- and mesotibiae, narrower protarsus, and rounded apices of sclerites of last abdominal segment.

Variations. Length 5.5–7.2, breadth 2.9–3.4 mm. The variability is manifested in punctation and development of characters of sexual dimorphism in shape of tibiae. Spots on elytra are in all cases well expressed. Punctures on elytra can be partly conjugated in pairs and arranged in longitudinal rows.

Diagnosis. *P.* (*L.*) *intermixta* sp. nov. has a very characteristic structure of aedeagus. Many of its features are rather similar to *P.* (*L.*) *limbata tibialis,* in particular to the ? form "*grammica*". *P.* (*L.*) *intermixta* sp. nov. is distinguished by more shining body surface, almost complete epipleura, sparse and irregular punctation on pronotum, very regular and strictly seriate punctation of elytra, lack of raised interfacetal setae, distinctly depressed metasternum just behind fore edge and shape of apex of tegmen. To a certain degree *P.* (*L.*) *intermixta* sp. nov. resembles *P.* (*L.*) *georgyi* sp. nov., but is distinguished by more shining body surface, more explanate elytral sides, more distinct and denser punctation of pronotum, coarser and strictly seriate punctation of elytra, more arcuately convergent antennal grooves and distinctly depressed fore part of metasternum and peculiar apex of tegmen.

Etymology. The name of *P.* (*L.*) *intermixta* sp. nov. is formed from the Latin *inter* meaning "between", "among" and *mixtus* meaning "mixed".

13. *Phenolia (Lasiodites) lata* sp. nov.

Figs 89–95, 187

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype,** male (MAT) and 2 **paratypes** (MAT, ZIN) – "Katongo, af. Mulabe (1750 m), 18. IV. 1948, Mis. G.F. de Witte, 1524a"; other **paratypes:** 1 (MAT) – "Lubango, affl. dr. Senze (af. dr. Lufira) (1750 m), 5. IV. 1948, Mis. G.F. de Witte, 1540"; 5 (MAT, ZIN, ZMB) – "Kivu, Itombwe, 2 300 m, Mulenge, Nyalengwe, X-59, N. Leleup", "Biot. 115 A, humus en forêt" (Biot N 114); 1 (MAT) – "Kivu: Terr. Mwenga, 1900 m, Luiko, 19. I. 1952, N. Leleup (forêt montagne)"; 1 (MAT) – "Congo dorsale de Lubero, Mt. Kasongwere, VIII. 1963, M.J. Cèlis"; 1 (MAT) – "Secteur Tshiaberimu, riv. Musavaki, 2720 m, affl. Talya Nord", "12–15. III. 1954, P. Vanschuytbroeck & H. Synave, 7947-51"; 1 (MAT) – "Hintumo (lieu-dit), Musa Baki ex P.N.A., 2450 m, près riv.", "25. III. 1954, P. Vanschuytbroeck & H. Synave, 7961-62"; 1 (MAT) – "Secteur Tshiaberimu, Kirungu (lieu-dit), 2720 m", "25–29. VIII. 1953, P. Vanschuytbroeck & H. Synave, 5216-19"; 1 (ZIN) – "Massif Ruwenzori, Kalonge, 2010 m, Riv. Nyamwamba, affl. Butahu", "2–3-II-1953, P. Vanschuytbroeck & J. Kekenbosch, 2214-21"; 1 (MAT) – "N. Lac Kivu: Rwankwi, VI-1951, J.V. Leroy"; 1 (MAT) – "Kudelungu, 1750 M, 3-IV-1950, N. Leleup"; 1 (ZIN) – "Lulua: Kalenge, II-1934, F.G. Overlaet"; 1 (MAT) – "Kibali-Ituri: Terr. Djugu, Mt. Aboro, 2200 m, N. Leleup, I-1954"; 3 (MAT, ZIN) – "Katanga: Kundelungu, 1720 m, I-1950, N. Leleup", "Rcolt dans Courbire 5P.H.S.) (sous bosquet) "; 1 (MAT) – "Kivu: Source de la Kalimabenge, terr. Uvira, III-57, N. Leleup, 2800 m"; **Ethiopia:** 1 (MUE) – "VII. 1971, Kafa, Bonga Forest, G. de Rougemont"; 1 (ZIN) – "Ethiopia, R.O.S. Clarke"; **Kenya:** 1 (MAT) – "Molo (Mau Escarpment) 2150–2200 m, 11/12-IV-1957", "P. Basilewsky et N. Leleup"; 2 (NRS, ZIN) – "Elgon, E side 2550 m, A. Holm, 26/12–3/1. 1965"; 1 (NRS) – "Mt.Elgon, N o sid, 2150 m, 31/12. 65, A. Holm"; **Burundi:** 1 (MAT) – "Mugera, fin 1965, J.J. Rwabuneza"; **Rwanda:** 4 (MAT, ZMO, ZIN) – "Tshuruyaga, for. Rugege, 2400 m, B. Basilewsky, 22/I-1953".

Description of male (holotype). Length 5.6, breadth 3.2, height 1.3 mm. Moderately convex dorsally and slightly convex ventrally; light brown, pronotal and elytral sides, mouth parts, antennal flagella, distal half of femora, tibiae and tarsi somewhat lighter; rather shining; elytra with some small blackish spots and very small yellowish spots arranged in 3 not quite regular rows; dorsum with comparatively short, recumbent and slightly conspicuous reddish hairs, slightly longer than distance between their insertions, and with distinctly longer and subrecumbent and rather sparse, moderately conspicuous hairs; elytra with two longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent hairs. Head surface with shallow and indistinct punctures, as large as eye facets, interspaces between them about 1/3 of a puncture diameter, extremely finely and densely microreticulated. Pronotum with quite distinct punctures, as large as eye facets, interspaces between them about 1/2–2/3 of a puncture diameter, finely and densely cellularly microreticulated. Elytra with shallow and indistinct punctures, more or less clearly arranged in longitudinal double rows between weak costae; interspaces between punctures in rows about a puncture diameter, finely alutaceous or very densely microreticulated. Ventrites punctated as head and pronotum, interspaces between punctures somewhat smoothed or very finely and densely microreticulated. Thoracic sterna with much larger and less regular punctures, interspaces between them about 1/4–1/2 of a puncture diameter, alutaceous or smooth in distal half of metasternum, but in depression at distal half of metasternum with sparser and distinct punctation. Head about 7/10 as

long as distance between eyes, rather depressed behind antennal insertions. Eyes without raised interfacetal setae. Antennae significantly longer than head width, scape about 1.5 times as long as wide and narrowed towards apex, club composing 2/7 of total antennal length. Pronotum slightly convex at disc and widely explanate at sides (1.5 times as widely explanate as width of antennal club), base with hind corners rather projecting posteriorly, fine and distinct border, and sides strongly arcuate. Elytra evenly sloping towards very widely explanate sides (as widely explanate as pronotal sides in fore part of pronotum), longest at suture, apices suboblique and forming very small sutural corners. Pygidium with truncate apex. Antennal grooves curved behind mentum and subrectilinearly convergent posteriorly. Prosternal process medially flattened, slightly curved along coxae and with truncate and very widened apex. Distance between mesocoxae subequal to and that between metacoxae somewhat more than twice as broad as that between procoxae. Metasternum slightly medially depressed. Hypopygidium distinctly, but not deeply depressed at sides. Epipleura incomplete, at base about 3 times as wide as antennal club. Protibia with a moderately prominent subapical outer corner, angularly curved and sharply dilated at the middle of inner edge, somewhat wider than antennal club; mesotibia strongly curved inwards and dilated before apex, slightly narrower than antennal club; metatibia gently curved and as wide as antennal club. Femora of usual shape, although metafemur with concave hind edge, about 1.5–2.0 times as wide as metatibia. Protarsus almost 1/3 as wide as antennal club.

Female. Differs from male in narrower and simple protibia, simple meso- and metatibiae, less depressed metasternum, widely rounded apices of sclerites of last abdominal segment and elytral apices more projecting posteriorly.

Variations. Length 3.8–7.1, breadth 2.6–3.5 mm. Some paratypes have blackish pronotal disc, blackish spots on elytra in addition to yellowish ones (like holotype) or only yellowish spots. Many paratypes are darker and frequently more shining than the holotype, with very variable and constrasting pattern of yellowish and blackish spots. A considerable variability can be observed in punctation and sculpture. Sometimes the double rows of punctures on elytra show a tendency to transverse conjunction in pairs. One female from Ruvenzori has completely fused pairs of punctures in double rows. Level and width of explanation of pronotal and elytral sides are somewhat variable, but in all cases these sides are much more widely explanate compared to those in other broad species of the subgenus. Shape of male tibiae is somewhat variable, but it maintains the similar general character as the holotype.

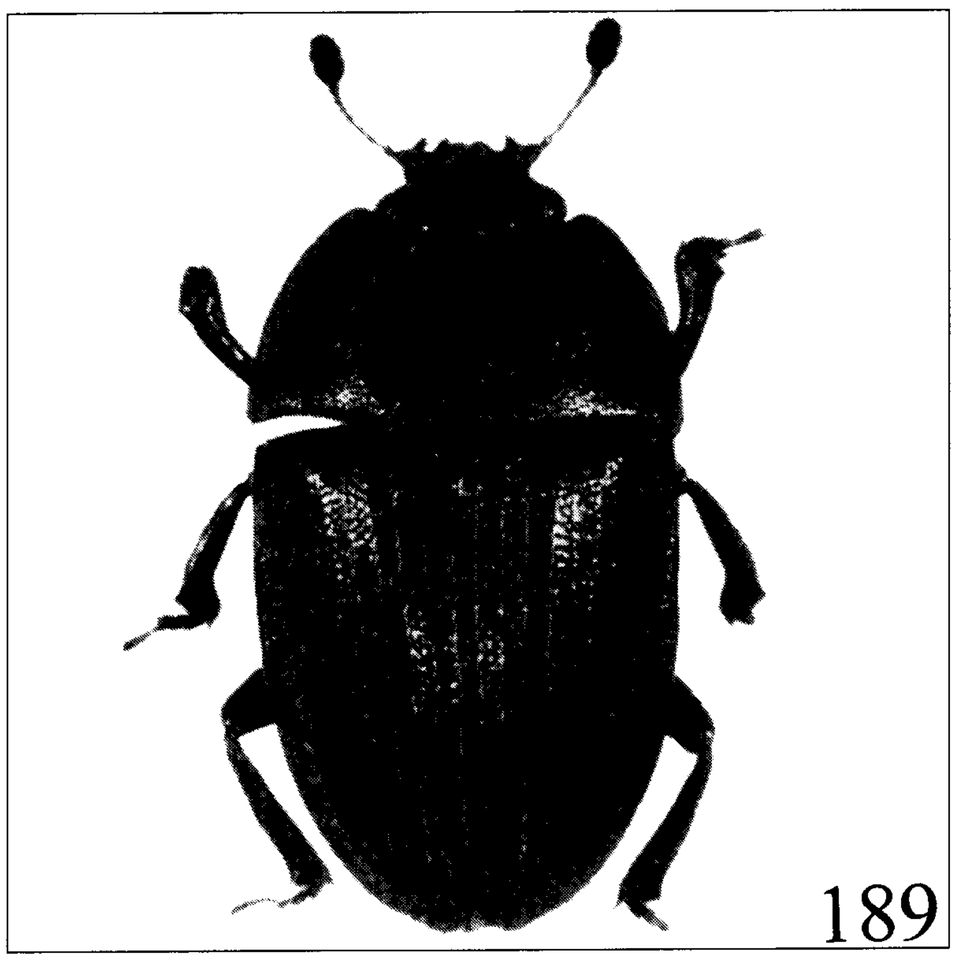
Diagnosis. This new species is quite distinct from all members of the subgenus due to its very wide body with widely explanate pronotal and elytral sides. The only species with a resembling body shape is *P.* (*L.*) *limbata*, in particular *P.* (*L.*) *l. tibialis* ? form "*acutipennis*". The authors regard *P.* (*L.*) *limbata* as a close relative. *P.* (*L.*) *lata* sp. nov. differs from *P.* (*L.*) *limbata,* in addition to features mentioned above, other features include the absence of raised and well visible interfacetal setae, shape of antennal grooves, flattened prosternal process, shape of male protibia and especially curved male metatibia. *P.* (*L.*) *lata* sp. nov. also has a certain resemblance to *P.* (*L.*) *picta*, but can be distinguished by the same characters that separate *P.* (*L.*) *lata* sp. nov. and *P.* (*L.*) *limbata.* In addition, the characters of sexual dimorphism in *P.* (*L.*) *lata* sp. nov. are more expressed in all tibiae compared to *P.* (*L.*) *limbata* and *P.* (*L.*) *picta.*

Etymology. The name of this new species is formed from the Latin *latus* meaning "wide" or "broad".

14. *Phenolia (Lasiodites) limbata* (Fabricius, 1781), comb. nov.

The morphological characters are extremely variable, but some characters tend to have a pattern in geographical distribution. Most specimens from the eastern part of the range have unspotted elytra, but specimens with small light spots occur rarely. Specimens from the western parts of the range usually have elytra with spots, but unspotted elytra occur among specimens in large series. Specimens from the eastern parts of the range are also, in general, also more robust, more convex, and with somewhat coarser and sparser punctation on pronotum. However, also these characters are not exclusively restricted to the specimens from the eastern parts of the range. Consequently the separation of this species into 2 subspecies should be regarded as provisional.

Diagnosis. *P.* (*L.*) *limbata* is externally most similar to *P.* (*L.*) *circumflexa*, and differs in a deeper trapezoid excision of fore edge of pronotum, and, as a rule, more dense and finer puncta-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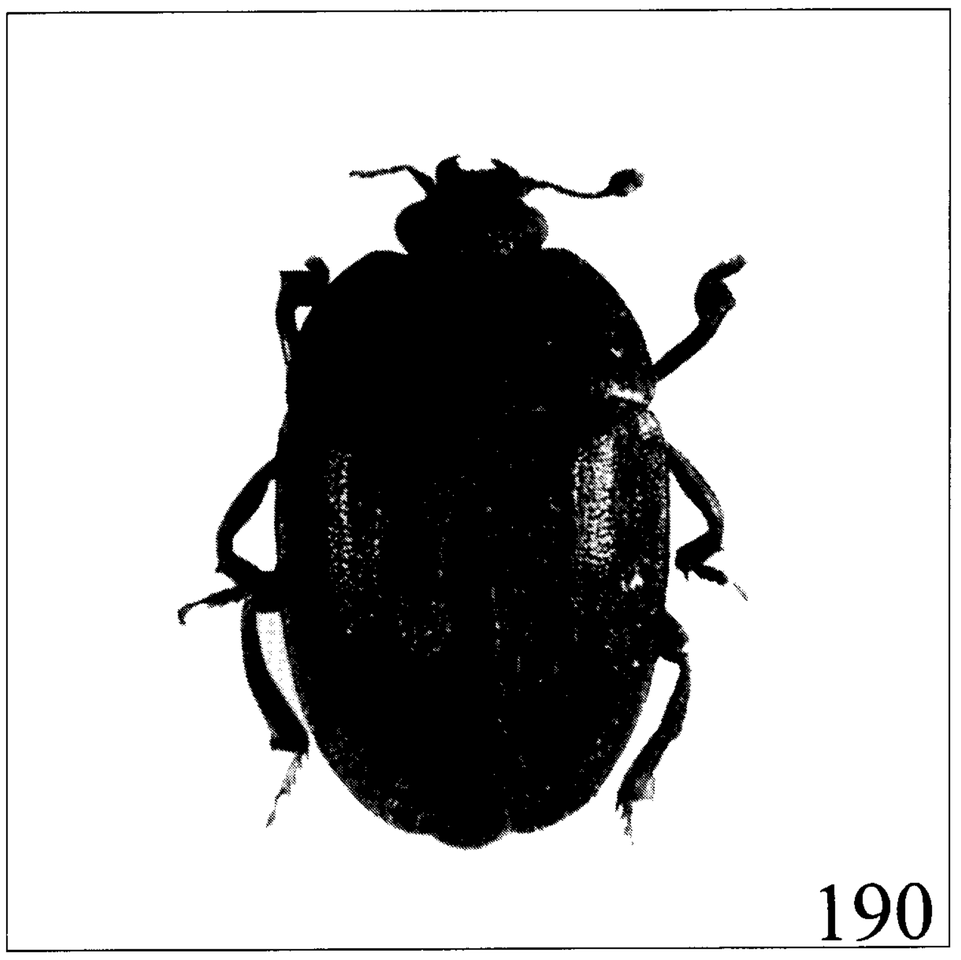
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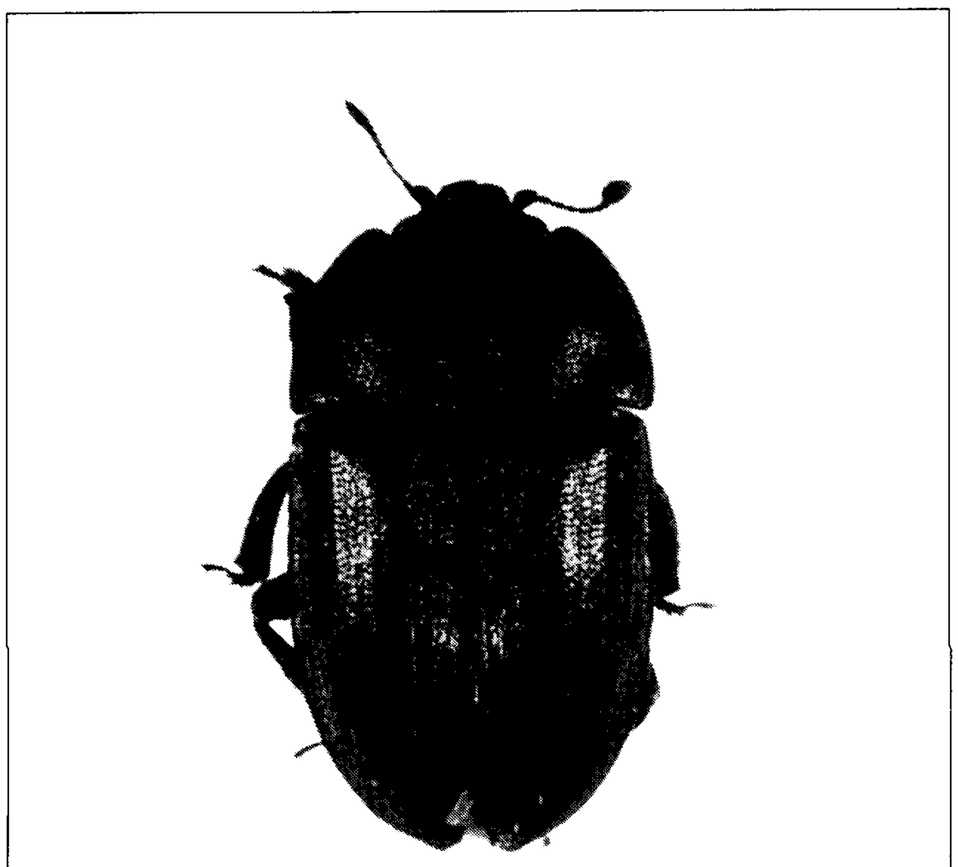
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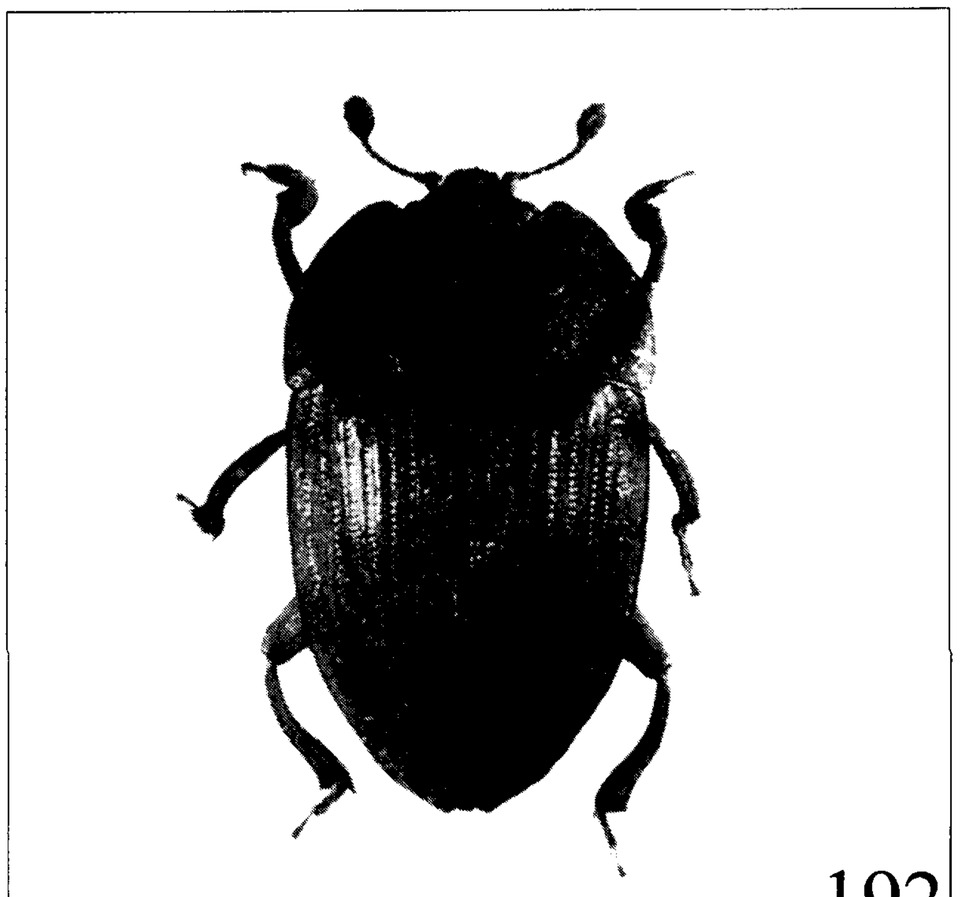
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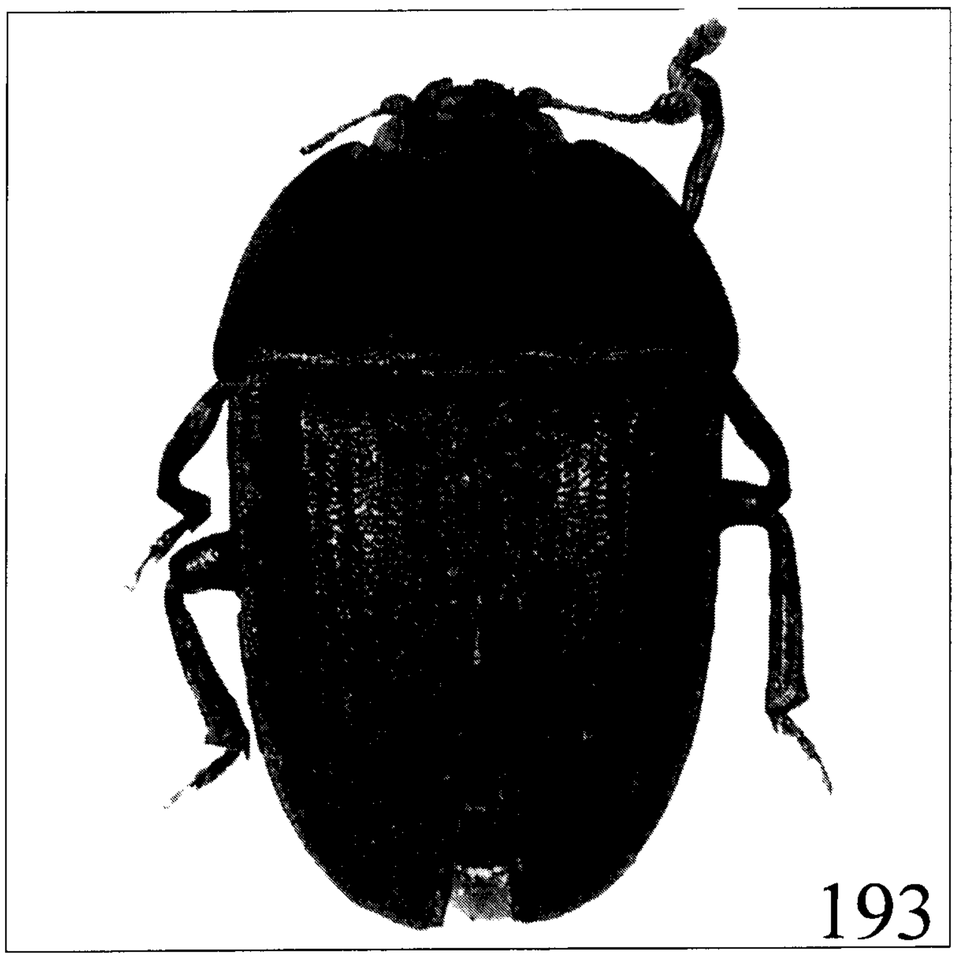
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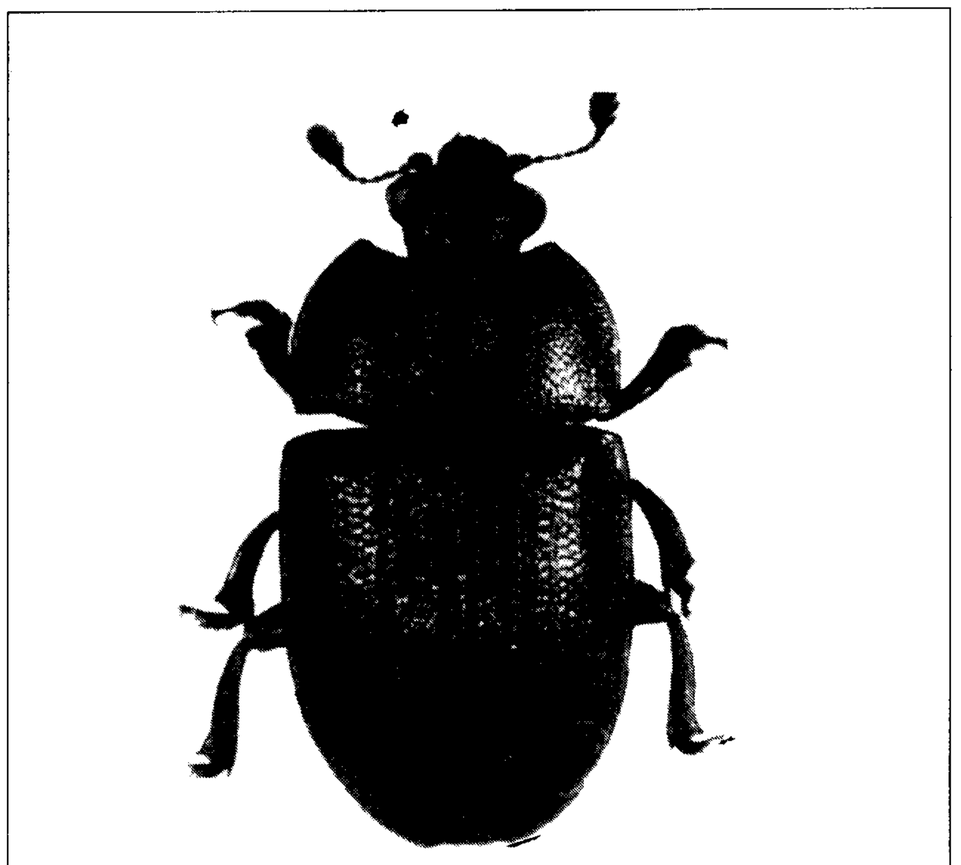
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tion on dorsum, more clearly seriate punctation on elytra and character of coloration [see the diagnosis of *P.* (*L.*) *circumflexa*]. The aedeagus of *P.* (*L.*) *circumflexa* is more similar to that of *P.* (*L.*) *l. tibialis*, but less similar to aedeagus of *P.* (*L.*). *limbata limbata. P.* (*L.*) *limbata* differs from *P.* (*L.*) *picta* mostly in arcuate antennal grooves, characters of sexual dimorphism in pro- and mesotibiae as well as in structure of aedeagus. The narrowest specimens of *P.* (*L.*) *l. tibialis* can be diagnosed from the species of the *immunda* group by more narrowly explanate pronotal and elytral sides, different shape of male protibia and peculiarities of punctation and sculpture (particularly on elytra) [see above – diagnosis of *P.* (*L.*) *pr. elongata*]. The narrowest specimens of *P.* (*L.*) *l. tibialis* can be compared with those of *P.* (*L.*) *longa* sp. nov., but the latter is diagnosed by longer body with slightly and evenly convex dorsum, very long elytra (about 3 times as long as pronotum), not explanate pronotal sides and narrowly explanate elytral sides, wider antennal club, denser and coarser punctation, sculpture of dorsal sclerites, rather dense and conspicuous pubescence, completely simple male protibia and blunt apex of penis trunk. *P.* (*L.*) *l. tibialis* ? form "*acutipennis*" is rather similar to *P.* (*L.*) *lata* sp. nov. and can be separated from it due to less widely explanate pronotal and elytral sides, usually with less raised costae on elytra, more depressed apex of prosternal process, peculiar shape of male protibia and more acute apex of penis trunk. Finally, *P.* (*L.*) *intermixta* sp. nov. is distinct from all forms of *P.* (*L.*) *limbata* due to its regularly elliptic body shape, sparser and more regular dorsal punctation, almost complete elytral epipleura [comparable only to the narrowest specimens of *P.* (*L.*) *l. tibialis*], simple male protibia, and subtruncate apex of tegmen.

Notes. The authors suppose that *P.* (*L.*) *circumflexa, P.* (*L.*) *lata* sp. nov., *P.* (*L.*) *limbata* and *P.* (*L.*) *picta* can be regarded as close relatives with a common ancestral root, and should be treated as members of the *limbata* species group. *P.* (*L.*) *limbata* has different level of similarity to many other members of the subgenus, which we regard as more or less distant relatives. Since most characters of *P.* (*L.*) *limbata* are extremely variable, identification of some specimens is extremely problematic. In some cases even males have different, but unreliable characters, and remain unnamed until a more comprehensive study of this group can be carried out.

P. (*L.*) *limbata* is a very common species of decaying fruits, but is not infrequently sampled in leaf litter and even in soil with a considerable addition of decomposed plant remnants. It has been collected in many countries and it is the most abundant species of *Lasiodites* in the region under consideration.

14a. *Phenolia (Lasiodites) limbata limbata* (Fabricius, 1781), comb. et stat. nov.

Figs 96–104, 188–190

Silpha limbata Fabricius, 1781: 87 (Africa); Fabricius 1787: 50; Fabricius 1792: 254; Fabricius 1801: 342; Olivier 1790: 21; Herbst 1793: 206;
Lordites caliginosus: Erichson 1843: 317 (mentioned as "*L. caliginosus* Kl. inedit. "); Gemminger & Harold 1868: 829;
Lasiodactylus caliginosus Reitter, 1873: 90 (type series might be in MNP – Madagascar), **syn. nov.;** Grouvelle 1913: 172; Endrödy-Younga 1982: 271;
Lordites ferrugineus Grouvelle, 1899: 142 (type series studied – MNP – Zanzibar), **syn. nov.;**
Lasiodactylus limbatus: Grouvelle 1912/1913: 399; Grouvelle 1913: 172;
Lasiodactylus ferrugineus: Grouvelle 1913: 172;
Lasiodites limbatus: Jelínek 1999: 279;
Lasiodites caliginosus: Jelínek 1999: 279;
Lasiodites ferrugineus: Jelínek 1999: 279.

? Endrödy-Younga 1982: Madagascar (fermenting fruits, as *Lasiodactylus grammicus*).

Specimens examined – ~~? holotype~~ of *Silpha limbata* (NHL) (designated in collection by S. Endrödy-Younga as lectotype and synonymyzed with *Lasiodactylus caliginosus*), – box with the specimens of Fabricius' collection; **Tanzania: lectotype** of *Lordites ferrugineus*, male (MNP) here designated (designation in collection was made by S. Endrödy-Younga in 1966) – "Zanguebar Mhonda Ouzigona, A. Hacquard Mis. ap. 1879, 1 Trim 1880", "*Lordytes ferrugineus* ty. Grouv." (written by A. Grouvelle), "ex coll. R. Oberthur"; 5 (NMW) – "Zanzibarküste, Steind. d., 1888"; 1 (NMW) – "Zanzib.", "Coll. Plason"; **Nossi-Bé:** 9 (NMW) – "Fauna Ins. Nossibe", "coll. Plason"; 5 (NMW, ZIN) – "Ins. Nossibe"; 5 (TMB, ZIN) – "Branszik"; **Madagascar:** 3 (ZMB) – "8631", "Madagascar, Goudot", named by S. Endrödy-Younga as *Lasiodactylus caliginosus*; 34 (ZMO, ZIN, ZMB) – "Madagascar Est., Ambatombe pr., Andilamena, 17. I. 1995, G. Dunnay + J. Janák", "forêt dégradée, prairie second, lux"; 1 (ZMB) – "Madagascar Est., 1100–1200 m, P.N. Ranamatana", "Vahiparare, 21–24. I. 1995, G. Dunnay + J. Janák"; 1 (MAT) – "Autsirabé, 11. II. 1967, Y. Gomy"; 3 (MAT, ZIN) – "Tzimbozaza, Tananarive, II-1952, R. Benoist"; 4 (MAT) – "Tananarive, XII-1961, R. Dubois"; 5 (MAT, ZIN) – "Tananarive (lampe U.V.), 15. III-1962, R. Dubois"; 1 (RHL) – "v. Lansberge"; 1 (RHL) – "Duport"; 3 (DEI, ZIN) –

◄

Figs 189–194. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). **189** – *P.* (*L.*) *limbata limbata* (abberant), male, Madagascar: Ambatombé; **190** – *P.* (*L.*) *limbata limbata*, male, Nossi-bé; **191** – *P.* (*L.*) *limbata tibialis,* female of typical form, Zambia: Lusaka City; **192** – *P.* (*L.*) *limbata tibialis,* male of form *acutipennis,* Guinea: Sérédou; **193** – *P.* (*L.*) *limbata tibialis,* male of form *biplicata,* "Ost Africa"; **194** – *P.* (*L.*) *limbata tibialis,* male of form *grammica*, Liberia: Bong Town.

"Ampefy, II. 1930, coll. Olsufiev"; 1 (DEI) – "Forêt Analamazotru-Perinet, Dez. 1930, N. Olsufiev"; 15 (NMW, ZIN) – "Sikora"; 1 (TMB) – "Ambatondralaka"; 3 (MAT) – "route d'Anosilb, ex coll. Breuning"; 6 (MAT, ZIN) – "Ambodivoangy, VI. 1960, J. Vadon"; 1 (MAT) – "Maroantsetra (à la lumière) II/IV-1950, J. Vadon"; 1 (ZIN) – "Maroantsetra".

Comments to description. Length 5.0–8.2, breadth 3.5–4.4, height 1.8–2.6 mm. Rather convex dorsally and slightly convex ventrally; usually dark unicoloured brown or somewhat lighter, but never blackish, frequently with somewhat lighter fore part of head, pronotal sides, antennal flagella and tarsi; rather rarely elytra with bright reddish contrasting spots, arranged in 3 irregular rows; usually slightly shining; dorsum with comparatively short, recumbent moderately conspicuous, reddish yellow hairs, somewhat longer than distance between their insertions and also with longer and more conspicuous hairs intermingled; elytra with two longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent hairs. Head and pronotal surface with quite distinct and almost regular punctures, subequal or larger than eye facets, interspaces between them about a puncture diameter or somewhat narrower, smoothly cellularly microreticulated. Elytra usually with somewhat larger and denser punctures, interspaces between them more smoothed; a tendency to form longitudinal rows of punctures comparatively slightly expressed. Eyes with very short interfacetal setae. Elytra comparatively gently sloped and comparatively widely explanate at sides. Prosternal process very slightly curved between procoxae and subcarinate before subacute apex. Metasternum of male slightly and widely depressed in the middle. Hypopygidium rather deeply depressed at sides. Male protibia strongly curved and enlarged before apex; mesotibia strongly curved inwards and more or less excised along inner edge; metatibia scarcely curved. Male protarsus almost 2/3 as wide as antennal club.

Variations. This subspecies, in contrast to *P.* (*L.*) *l. tibialis* has more or less stable characters in punctation and sculpture. The typical form usually has rather robust and convex body, but in some cases body is rather slender. Most specimens have unicoloured dorsum, but sometimes elytra have more or less visible small light spots. Pronotal shape is variable, but fore edge usually with trapezoid and quite shallow excision. Most specimens have ultimate antennomere much narrower and smaller in antennal club, although this segment and proportions of all segments in the club are rather variable. The ultimate antennomere in the type specimens of *P.* (*L.*) *ferruginea* is about as wide as the previous one.

Diagnosis. This subspecies can be diagnosed by the characters mentioned in the key below. The external features of some specimens from Madagascar demonstrate an intermediate state between the features of the typical *P.* (*L.*) *limbata limbata* and the typical *P.* (*L.*) *l. tibialis*. Some specimens of both subspecies have the characters more attributed to the other subspecies. Despite the ovelapping of characters between the two subspecies, most specimens of *P.* (*L.*) *l. limbata* have the characteristic more acute apex of penis trunk and larger sensillar place at apex of tegmen.

Notes. The synonymy of *Silpha limbata* and *Lasiodactylus caliginosus* was established by S. Endrödy-Younga and notes were made by him on label attached under the specimen in the NHL collection in 1966. The lectotype of *Lordites ferrugineus* has been examined by the senior author, who found it conspecific with the specimens named as "*limbata*" and "*caliginosus*".

14b. *Phenolia (Lasiodites) limbata tibialis* (Boheman, 1851), comb. et stat. nov.

Figs 48–51, 73, 105, 191–193.

? *Nitidula maculata* Palisot, 1811: 160 (type series presumably in MNP – Africa); Kirejtshuk 1996: 48;
? *Lordites inquinatus* Erichson, 1843: 317 (type series schould be deposited in "Sammlung des Grafen von Hagen" and could be lost – "Vaterland unbekannt"); Gemminger & Harold 1868: 829; Kirejtshuk 1996: 48;
Soronia tibialis Boheman, 1851: 568 (lectotype examined – Kirejtshuk 1996b: 48 – NRS – "Caffraria"); Gemminger & Harold 1868: 829;
Soronia caffra Boheman, 1851: 567 (holotype examined – Kirejtshuk 1996b: 48 – NRS – "Caffraria");

▶

Figs 195–200. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). **195** – *P.* (*L.*) *longa* sp. nov., male, Democratic Republic of the Congo (Zaire): Kapanga, paratype; **196** – *P.* (*L.*) *oviformis* sp. nov., male, Tanzania: Morogoro, paratype; **197** – *P.* (*L.*) *picta*, male, Thailand: Soppong; **198** – *P.* (*L.*) *quadrinotata*, female, Kenya: Kibwezi; **199** – *P.* (*L.*) *robusta* sp. nov., female, Tanzania: East Usambara, paratype; **200** – *P.* (*L.*) *rotundiclava* sp. nov., male, Kenya: Nkubu (Meru), holotype (Due to the mounting of the specimen, the picture of the right side has been mirrored in order to show the body shape more clearly).


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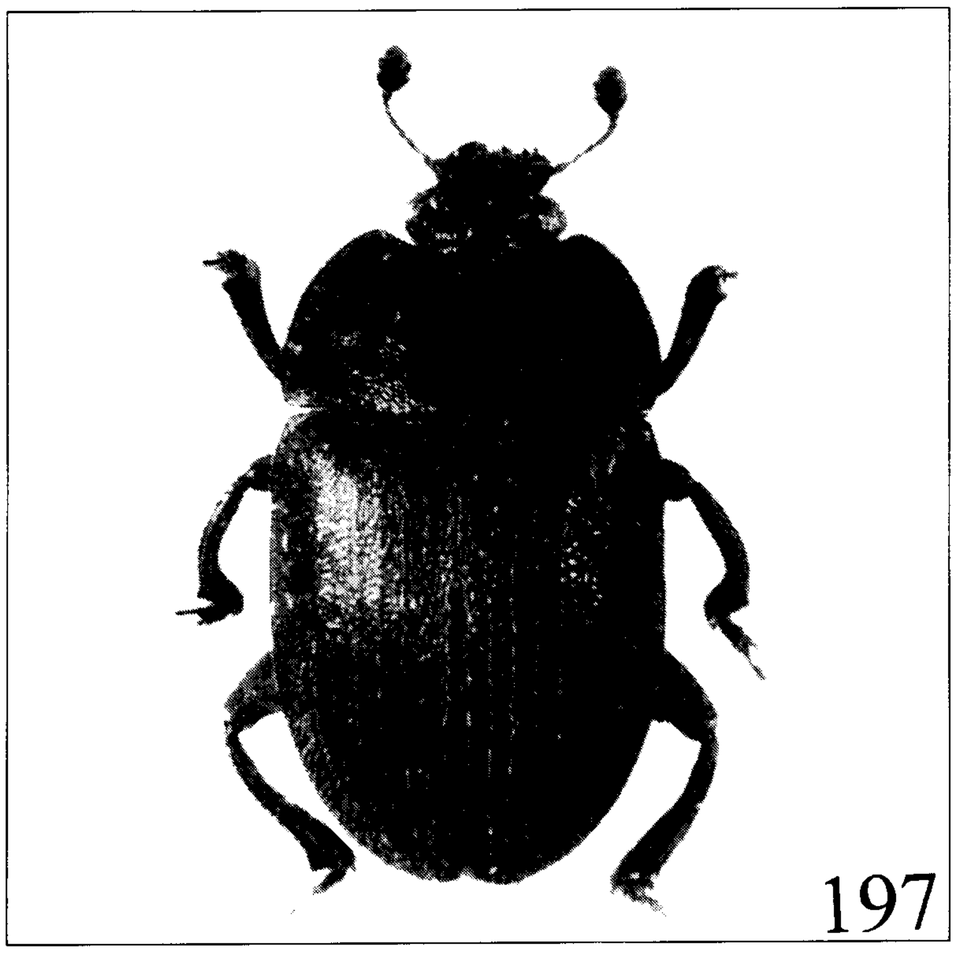
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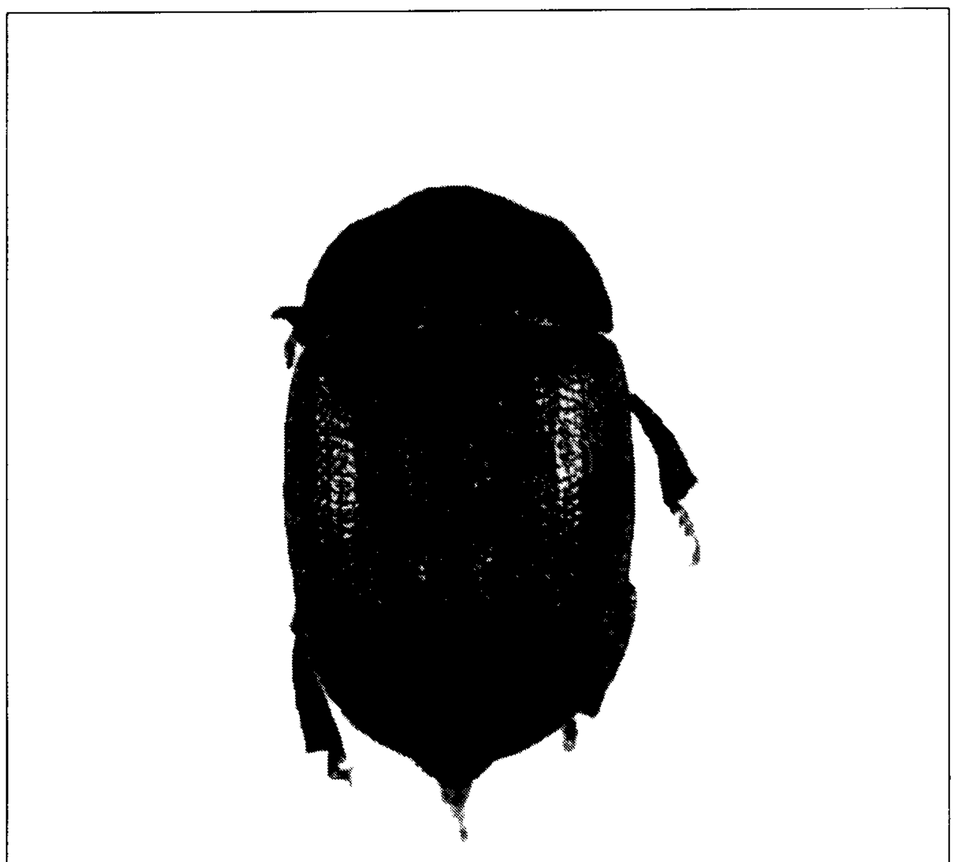
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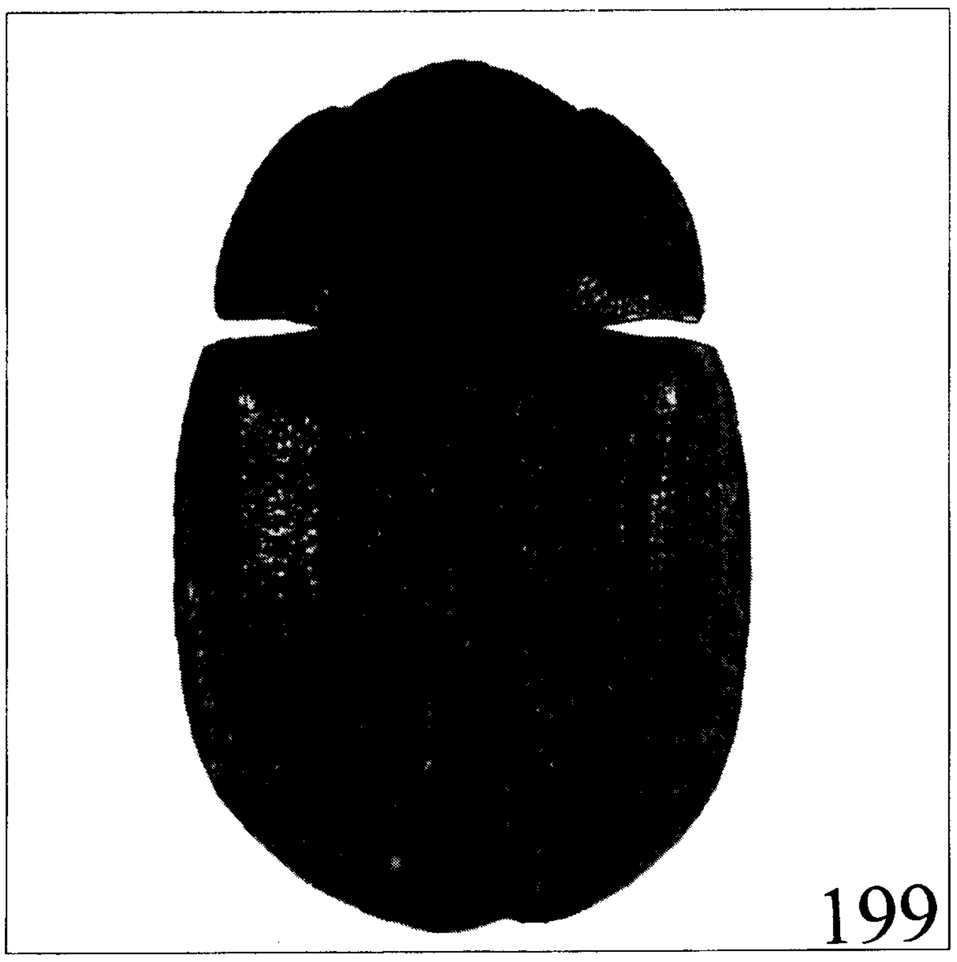
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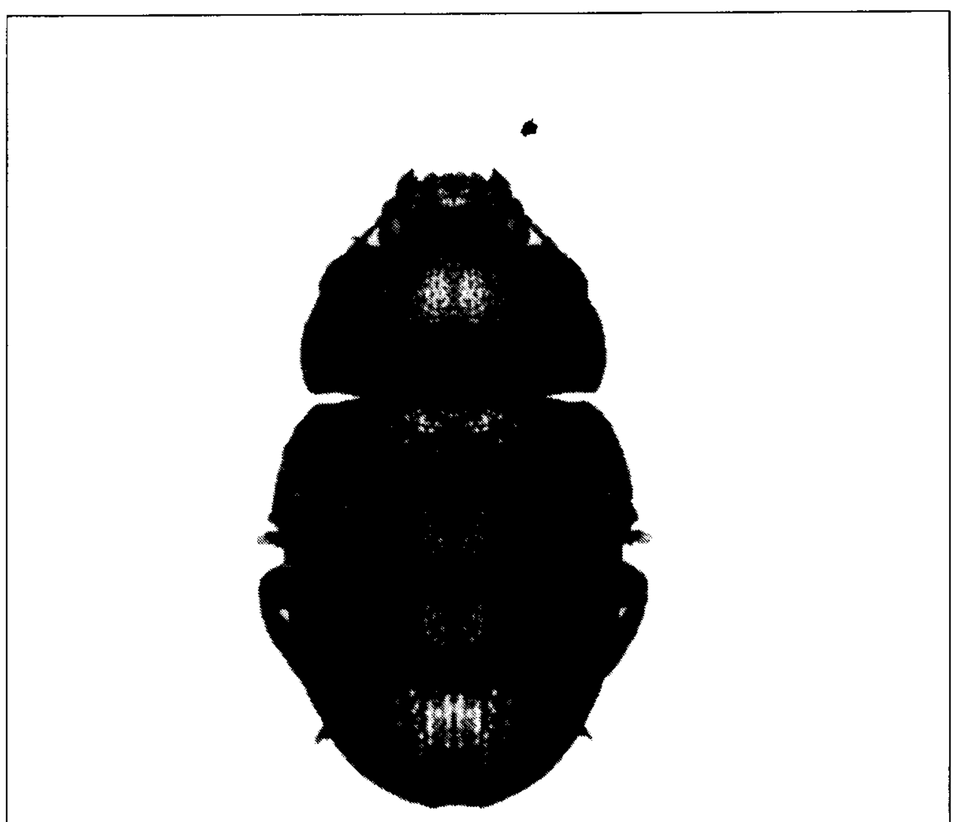
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Lordites grammicus Klug, 1855: 649 (holotype examined – ZMB – Mozambique), **syn. nov.**; Klug 1862: 207; Gemminger & Harold 1868: 829;
? *Lordites inquinatus*: Gemminger & Harold 1868: 829;
Lordites caffer: Gemminger & Harold 1868: 829;
Lordites tibialis: Gemminger & Harold 1868: 829;
? *Lasiodactylus substriatus* Reitter, 1873: 89 (type series presumably in MNP – "Senegambia"); Grouvelle 1913: 173; Kirejtshuk 1996: 48;
Lordites biplicatus Fairmaire, 1880: 181 (type series presumably in MNP – Zanzibar);
Lordites sinuatipennis Fairmaire, 1880: 181 (type series presumably in MNP – Zanzibar);
Lordites curvitibius Kraatz, 1895: 151 (lectotype examined – Kirejtshuk 1996b: 48 – DEI – "Togo");
Lordites maculipennis Kraatz, 1895: 152 (lectotype examined – Kirejtshuk 1996b: 48 – DEI – "Togo");
? *Lasiodactylus inquinatus*: Grouvelle 1896: 72 (as synonym of *L. maculatus*); Grouvelle 1912/1913: 396; Grouvelle 1913: 172;
Lasiodactylus sinuatipennis: Grouvelle 1899: 142;
Lasiodactylus maculipennis: Grouvelle 1912/1913: 396; Grouvelle 1913: 172; Jelínek 1969: 279; Serrano & Borges 1987: 56;
Lasiodactylus biplicatus: Grouvelle 1913: 171;
Lasiodactylus caffer: Grouvelle 1913: 172;
Lasiodactylus curvitibius: Grouvelle 1913: 172; Jelínek 1969: 279;
Serrano & Borges 1987: 56;
Lasiodactylus grammicus: Grouvelle 1913: 172; Endrödy-Younga 1982: 271;
Lasiodactylus tibialis: Grouvelle 1913: 173; Delobel & Tran 1993: 164;
Lasiodactylus acutipennis Grouvelle, 1915a: 521 [type series presumably in MNP – Democratic Republic of the Congo (Zaire)], **syn. nov.;**
Lasiodactylus dorsalis Grouvelle, 1915b: 112 [lectotype examined – MAT – Democratic Republic of the Congo (Zaire)], **syn. nov.;**
Lordites (Lordites) caffer: Kirejtshuk 1996: 48 (synonymy);
Lordites (Lordites) curvitibius: Kirejtshuk 1996: 48 (synonymy);
? *Lasiodactylus elongatus*: Kirejtshuk 1996: 48, non Reitter 1873;
Lordites (Lordites) maculipennis: Kirejtshuk 1996: 48 (synonymy);
Lordites (Lordites) tibialis: Kirejtshuk 1996: 48 (synonymy);
Lasiodites acutipennis: Jelínek 1999: 279;
Lasiodites biplicatus: Jelínek 1999: 279;
Lasiodites dorsalis: Jelínek 1999: 279;
Lasiodites grammicus: Jelínek 1999: 279;
? *Lasiodites maculatus*: Jelínek 1999: 279;
? *Lasiodites substriatus*: Jelínek 1999: 280;
Lasiodites tibialis: Jelínek 1999: 280.

Serrano & Borges 1987: Azores (fruit remnants, as *Lasiodactylus curvitibius* and *L. maculipennis*); Delobel & Tran 1993: pest of manioc (as *L. tibialis*); Kirejtshuk 1996b: Azores, Madeira, Mali, Ethiopia, Guinea, Liberia, Ivory Coast (Côte d'Ivoire), Ghana, Togo, Nigeria, Cameroon, Equatorial Guinea (as *L. tibialis*). Questinable record: Kumashiro & Heu 1996: Hawaii (as *L. tibialis*).

Specimens examined (in addition to those mentioned in Kirejtshuk, 1996b) – Typical form: **(Democratic Republic of the Congo) (Zaire): lectotype** of *L. dorsalis*, male (MAT), here designated (designated in collection by S. Endrödy-Younga in 1968) – "Sankuru: Kondu, Coll. Ed. Luja"; **Cape Verde**: 2 (MAT) – "Ile du Cap Vert. (G. Roussel)" named as "*substriatus* Reitt."; typical form and ? form "*inquinata*" – more than 1600 (AMNY, BRO, CMO, FMC, MAT, MUE, NHL, ZMO, NMW, NRS, RHL, SMS, TMB, ZIN, ZMB, ZSM) – Ivory Coast, Cameroon, Guinea, People's Republic of the Congo, Democratic Republic of the Congo (Zaire), Gabon, Ethiopia, Tanzania, Burundi, Rwanda, Uganda, Mali, Malawi, Namibia, Botswana, Zambia, Zimbabwe, South Africa, Comores.

? form "*acutipennis*" (Fig. 192): **Guinea:** 296 (ZMB, ZIN) – "Sérédoux, lux, 7–8. 4. 1975, Zott" (4, 5. 4. 1975; 16, 18. 4. 1975; 4. 5. 1975, 23, 24. 10. 1974); **Liberia:** 8 (SMS, ZIN) – "Bong Town, 25. II. 1988, F.-T. Krell" (24. III. 1988); 2 (SMS) – "Zwedru, 13(14). III. 1988, F.-T. Krell"; 13 (SMS, ZIN) – "Peter Town, Montserrado County, 26. III. 1988, F.-T. Krell"; **Ivory Coast (Côte d'Ivoire):** 5 (SMS, ZIN) – "Adiopodoum, 3. 4. 1988, F.-T. Krell" (8.4, 5.5, 11.5); 2 (SMS) – "6 km östl. Dabou, 4. 4. 1988, F.-T. Krell"; 1 (SMS) – "Avétonou, 130/150 m, 16. 6. 1988, F.-T. Krell"; **Togo:** 1 (ZMB) – "Bismarckburg, Kling"; **Nigeria:** 1 (SMS) – "Ile-Ile, 9. VII. 1988, F.-T. Krell"; 1 (SMS) – "Nsukka, 22. VII. 1988, F.-T. Krell"; 2 (ZMK); Cameroon: 2 (ZMB) – "Farakoma, 27. 3. 09, Rigenbach"; 3 (SMS, ZIN) – "Kumla Station, 22. VII. 1988, F.-T. Krell"; **Ethiopia:** 1 (SMS) – "Prov. Shawa, Amdo, 25.VII–5. 8. 1988, Rybalow"; **Kenya:** 1 (TMB) – "Mt. Elgon Nat. P., near Chepnyalil Cave, dry evergreen montane forest, 2500 m", "at light, 24–28. I. 1992, O. Merkl & G. Varkonil"; **Tanzania:** 1 (ZMB) – "Daressalam, Hinterland, Nagamoyo, Wegner G."; 1 (ZMB) – "Trochenwald b. Mtotohoru, Methner"; 7 (TMB, ZIN) – "Kibosho, Katona"; 14 (TMB, ZIN) – "Katona, Arusha – Ju.1905"; 1 (TMB) – "Katona, Arusha, Fl. Rau" 2 (TMB) – "Arusha, 1 350 m, 5. III. 1960, Dr. Szunyoghy"; 5 (ZMK, ZIN) – "East Usambara, Amani, 1 000 m, 3–6. II. 1977, H. Enghoff, O. Lomholdt & O. Martin"; 5 (ZMK, ZIN) – "Morogoro rigion, Mwanihana Forest Reserve, 500–600 m, 11–14. IX. 1984..." (700 m, 8–16. IX. 1984); 6 (ZMK) – "Uzungwa, Mts. Morogoro, Mwanihana Forest Res., 1 800–1 850 m, 25–29. IX. 1984..." (1 650 m); 6 (ZMK, ZIN) – "Iringa Region, Uzungwa, Scarp Forest Res., above Chita village, 750 m, 25–29. IX. 1984..." (1400 m, 4–5. XI. 1984); **Uganda:** 1 (ZMH) – "W. Pr. Kibale forest, 12. 3. 1985, M. Nummelin"; and more than 200 specimens (BRO, ZIN, ZMB) – Cameroon, Ghana, Nigeria.

? form "*biplicata*" (Fig. 193): **Ivory Coast:** 1 (MAT) – "Bingerville, 15/31. III. 1962, J. Decelle"; **Democratic Republic of the Congo (Zaire):** 1 (MAT) – "Maniema: Kasongo, VIII/IX. 1959, P.L.G. Benois"; 11 (MAT, ZIN) – "Massif Ruwenzori, Riv. Butahu, 1520, affl. Simliki, dans fruits", "P.N.A., 19-VI-1957, P. Vanschuybroek"; 1 (MAT) – "P.N.G., Miss. H.De Saeger, Morubia/8, 14-VI-1951, Rev. J. Verschuren"; **Tanzania:** 3 (DEI, ZIN) – "OstAfrica", "Coll. Kraatz, det. Grouvelle"; 1 (ZMB) – "Kilimandjaro, 3 500 m, Chr. Schröder"; 5 (ZIN, ZMK) – East Usambara; 1 (TMB) – "Katona, Arusha – Ju. 1903"; **Malawi:** 1 (MAT) – "Chintheche, 20. XII. 1977, R. Jocqué"; **Republic of South Africa:** 1 (ZMB) – "Transvaal, 24° 05′S/30°15′E, Lekgalameetse Nat. Res., 21. XII, 1995, F. Koch".

? form "*grammica*" (Figs 48–51, 194): **Mozambique: holotype** of *Lordites grammicus*, male (ZMB), designated by Endrödy-Younga in collection as lectotype – "Mosambik", "8635"; **Guinea:** 14 (ZMB, ZIN) – "Sérédoux, lux, 4. 4. 1975, leg. Zott"(4. 5. 1975, 7–8. 4. 1975, 14 May 1974, 23. 4. 1975); **Ghana:** 14 (BRO, ZIN) – "Tafo, II. 1968, E.O. Boafo"; (**Democratic Republic of the Congo**) **(Zaire):** 1 (MAT) – "Eala, 23-I-1921, H. Schouteden"; **Tanzania:** 1 (ZMB) – "Dar-Es-Salam, Dr. Holtz, 21. 11. 01"; 1 (ZMB) – "Usambara, Uhlig"; **Kenya:** 1 (ZMB) – "N. Galla, v. Erianger S.G. ", "7. III. 01"; 1 (ZMB) – "Kibwezi, XI. 07, G. Scheffler J.V."; **Namibia:** 1 (MAK) – "Windhoek, 8. 2. 75, H. Roer", "Lichtfang"; **Zimbabwe:** 4 (ZIN, ZMB) – "28. XI–1. XII, 20°33′S/28°30′E, Matopos NP, lux, M. Uhlig, 1993"; 4 (ZIN, ZMB) – "1–5. XII. 1993, 20°13′S/31°00′E Kyle Recr. Park at Lake Matirikwi, lux, M. Uhlig"; 3 (ZIN, ZMB) – "7. XII. 1993, 18°27′S/32°47′E, Nyanga NP, Pungwe Gorge, Pungwe River banks, lux, M. Uhlig"; **Botswana:** 3 (ZIN,

ZMB) – "7. III. 1993, 20°04′33″S/23°21′16″E, Sitatunga-Camp, SE Maun, lux, M. Uhlig"; **Republic of South Africa:** 21 (BRO, ZIN) – "N. Tvl., Woodside, March 3–16, 1976, R.E. Parrott"; 1 (BRO) – "N Tvl., Satarb, Kruger Nat. Pk, March 7, 1976, R.E. Parrott"; **Malawi:** 2 (MAT, ZIN) – "Chinteche, 15. II. 1978, J. Jocqué".

Comments to description. Length 3.6–8.6, breadth 1.9–4.7, height 1.0–2.2 mm. Rather convex dorsally and slightly convex ventrally; extremely variable in coloration, usually dark unicoloured brown or somewhat lighter or blackish, frequently with somewhat lighter fore part of head, pronotal sides, antennal flagella and tarsi; elytra usually with bright reddish contrasting spots, arranged in 3 irregular rows, sometimes also with additional blackish spots; pronotal disc sometimes with blackish spots; slightly shining to almost dull; pubescence as that in the nominative subspecies. Head and pronotal surface with quite distinct and almost regular punctures, usually rather dense and smaller than eye facets (sometimes subequal to or even larger than eye facets), interspaces between them (as a rule) somewhat narrower than a puncture diameter, with more or less developed microreticulation. Elytra usually with somewhat larger and denser punctures, interspaces between them more smoothed; a tendency to form longitudinal rows of punctures more or less expressed, although sometimes without trace of costae and seriate punctation. Eyes at the most with very short interfacetal setae. Elytra with comparatively gently sloping, varying from narrowly to widely explanate sides. Prosternal process slightly (or rarely strongly) curved between procoxae and subcarinate before subacute or sometimes subtruncate apex. Metasternum of male slightly and widely depressed in distal half or subflattened. Hypopygidium moderately to rather deeply depressed at sides. Epipleura incomplete, but rarely almost complete. Male protibia usually strongly curved and more or less enlarged before apex (sometimes nearly triangular and with slightly curved inner edge – ? form "*grammica*"); mesotibia more or less strongly curved inwards and more or less excised along inner edge (sometimes only slightly curved); metatibia at most slightly curved at base. Male protarsus almost 2/3 as wide as antennal club.

Variations. This subspecies in contrast to the nominative one is more polymorphous and very variable in punctation and sculpture. It is possible to group specimens according to combinations of characters, which can be regarded as varieties or ecophenotypic forms. However, in many cases identification of these forms is scarcely possible, or completely impossible. Currently, the authors are not able to interpret the taxonomical significance of the "forms". It is possible that *P.* (*L.*) *limbata tibialis,* or *P.* (*L.*) *limbata* as a whole, might be a complex of very similar species.

The typical form has body quite robust and rather convex dorsally; usually dark; elytra with or without lighter spots; unicoloured legs or distal halves of femora and tibiae contrastingly lighter; hind corners of pronotum subexplanate; dorsal punctation rather dense and fine; elytra with more or less seriate punctation along striae; prosternal process slightly curved along procoxae and subcarinate with subrhomboid apex.

The ? form "*acutipennis*" (Fig. 192) can be characterized by more acute elytral apices in both sexes, projecting posteriorly especially in females; length 3.7–7.4 mm and body rather wide and comparatively flattened dorsally; often with darker pronotal disc (upto completely black) and scutellum; elytra usually with blackish subscutellar spots, dorsal punctation comparatively sparser and coarser; elytra with more raised costae; prosternal process rather curved along procoxae and flattened before subtruncate apex; epipleura almost complete. Externally, this form resembles *P.* (*L.*) *lata* sp. nov., but is well distinguished in narrower explanate pronotal and elytral sides (at most about as wide as antennal club), completely different shape of protibia, and apex of penis trunk. Among the specimens of ? form "*acutipennis*" there are some darker and comparatively smaller specimens with more slender body and more narrowly explanate sides of pronotum and elytra, which could be designated as the ? form "*maculata*" according to the original description of *Nitidula maculata.*

The ? form "*biplicata*" (Fig. 193) includes the largest and widest specimens among *P.* (*L.*) *l. tibialis,* with evenly convex dorsal sclerites and evenly arcuate sides, hind corners of pronotum rather far projecting posteriorly, comparatively sparser and coarser dorsal punctation (almost diffuse on elytra), without trace of costae on elytra, comparatively long legs with especially strongly curved and rather thin male pro- and mesotibiae, prosternal process more curved along procoxae and flattened before subtruncate apex. Penis trunk with somewhat blunt apex [as that in *P.* (*L.*) *longa* sp. nov. and *P.* (*L.*) *picta*].

The males identified as "*biplicata*" usually have comparatively well expressed characters,

whereas the females from the same localities have an appearance more similar to the typical form of *P.* (*L.*) *l. tibialis.*

The ? form "*grammica*" can be characterised by comparatively smaller body (length 4.9–7.3 mm) with subelliptic outline; dorsum with denser and rather large punctures; reduced sexual dimorphism in pro- and mesotibia as well as comparatively short penis trunk and tegmen.

Diagnosis. See the below key and diagnosis of the nominative subspecies and remarks on variations of this subspecies.

Notes. Synonymy of *Soronia tibialis*, *Soronia caffra*, *Lordites maculipennis* and *Lordites curvitibius* was established by Kirejtshuk (1996). The lectotype of *Lasiodactylus dorsalis,* studied by the senior author, is certainly conspecific with specimens for which the above names were proposed and should thus be regarded as a junior synonyn. The studied holotype of *Lordites grammicus* looks like quite different due to its more compact and nearly elliptic body shape (length 6.1, breadth 2.9 mm) with very narrowly explanate sides and gently rounded apices of elytra, weak development of sexual characters in male pro- and mesotibiae, and comparatively short tegmen and penis trunk. However, proportions in aedeagal sclerites of the lectotype of *S. tibialis* are scarcely different from those in the holotype of *L. grammicus.* The authors have not found any realible character which allows descrimination of *L. grammicus* and *S. tibialis* as species or subspecies.

Lasiodactylus acutipennis and *Lordites biplicata* are know to the authors after the original descriptions, and after examination of specimens, partly compared with the types and previously named by S. Endrödy-Younga, A. Grouvelle and J. Jelínek. The specimens examined had characters corresponding to the descriptions of *L. acutipennis* and *L. biplicata* and are consequently regarded as conspecific.

The type series of *Lordites inquinatus*, *Nitidula maculata*, *Lordites sinuatipennis* and *Lasiodactylus substriatus* remain unknown to the authors. The synonymy of *N. maculata* and *L. inquinatus* was proposed by A. Grouvelle (1899). *Lordites sinuatipennis* was synonymized with *Lordites biplicatus* by A. Grouvelle (1913), and therefore it is treated as a junior synonym of *P.* (*L.*) *limbata tibialis.* The other 2 names are provisionally regarded as synonyms by the authors, based on the interpretation of the original descriptions.

15. *Phenolia (Lasiodites) longa* sp. nov.

Figs 118–122, 195

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype,** male (MAT) and 14 **paratypes** (MAT, ZIN) – "Lulua: Kapanga, IV-1933, F.G. Overlaet"; other **paratypes:** 18 (MAT, ZIN, ZMB) – "Lulua: Kapanga, XI-1932, F.G. Overlaet" (XII-1932, II-1933, III-1933, VII-1933, II-1934); 1 (MAT) – "Eala, V-1935, J. Ghesquière".

Description of male (holotype). Length 6.6, breadth 3.0, height 1.5 mm. Slightly convex dorsally and ventrally; almost unicoloured brown; dorsum slightly and underside moderately shining. Elytra with small yellow spots arranged in 3 irregular rows. Dorsum with comparatively short, recumbent and rather conspicuous reddish hairs, slightly longer than the distance between their insertions; distinctly longer and subrecumbent hairs rather sparse and strongly conspicuous. Elytra with 2–3 not quite regular longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent hairs. Head surface with deep and distinct punctures, somewhat smaller than eye facets, interspaces between them 1/4–1/3 of a puncture diameter and smooth. Pronotum with distinct and smaller punctures than those on head, interspaces between them about a puncture diameter and smooth. Elytra with distinct, large, but very shallow punctures, more or less clearly arranged in longitudinal double rows; interspaces between punctures in rows very narrow and between rows about a puncture diameter, smooth or finely alutaceous. Ventrites with punctation as that on pronotum, with interspaces between punctures subequal to or narrower than a puncture diameter, smooth or finely alutaceous. Thoracic sterna with more distinct punctures, subequal to eye facets (except metasternum which has somewhat larger punctures), interspaces between them about 1/2–1 puncture diameter, smooth. Head about 5/6 as long as distance between eyes, moderately depressed behind antennal insertions. Eyes without raised interfacetal setae. Antennae somewhat longer than head width, with scape about twice as long as wide, their club composing 2/7 of total antennal length and 1.3 times as long as wide. Labral lobes moderately exposed. Pronotum almost evenly and slightly convex, with slightly subexplanate hind corners, base with distinct border and sides strongly arcuate. Elytra evenly sloping towards narrowly explanate sides, longest at suture, their apices arcuately narrowed to suture, forming a very small sutural corner. Pygidium with subtruncate apex. Antennal

grooves slightly arcuately convergent behind mentum. Prosternal process subcarinate at subrhomboid apex, moderately curved along coxae. Distance between mesocoxae subequal to and that between metacoxae about twice as broad as that between procoxae. Metasternum slightly depressed in distal half. Hypopygidium distinctly, but not deeply depressed at sides. Epipleura almost complete, at base about 2.5 times as wide as antennal club. Protibia subtriangular, slightly and nearly regularly curved, somewhat wider than antennal club; mesotibia moderately curved inwards before apex and somewhat narrower than antennal club; metatibia slightly and regularly curved and about as wide as antennal club. Femora of usual shape (except metafemur, which has concave hind edge), about twice as wide as metatibia. Protarsus about 1/2 as wide as antennal club.

Female. Differs from male in narrower protarsus, simple mesotibia, not depressed metasternum and rounded apices of pygidium and hypopygidium.

Variations. Length 6.0–8.1 mm. Some paratypes are considerably lighter than the holotype (almost reddish). Punctation of some paratypes are larger and more distinct, and nearly uniform on pronotum and elytra. Finally, because of dense and very conspicuous pubescence most studied specimens appear without shine of integument.

Diagnosis. *P.* (*L.*) *longa* sp. nov. is the narrowest member of the subgenus, characterized by the longest elytra among the members of the subgenus – about 3 times longer than pronotum, very narrowly (sub) explanate pronotal and elytral sides, very conspicuous pubescence, characteristic punctation and smooth surface between punctures. This new species has rather dense and somewhat more raised elytral costae than in other congeners and thus reminding of many species from the genus *Stelidota*. From all species of the *immunda* group and the narrowest specimens of *P.* (*L.*) *limbata tibialis* it differs also in comparatively wide antennal club.

Etymology. The name of this new species is formed from the Latin *longus* meaning "long".

16. *Phenolia (Lasiodites) oviformis* sp. nov.

Figs 123–136, 196

Specimens examined — **Tanzania: holotype,** male (ZMK) and 2 **paratypes** (ZIN, ZMK) – "Uzungwa Mts., Iringa Region, Uzungwa Scarp Forest Res., above Chita Village, 750 m, 23. X–14. XI. 1984, Lowland Rain Forest, N. Scharff"; other **paratypes:** 1 (ZMB) – "Daressalam", 1 (TMB) – "Tanzania sept., Ngare Sero, prope Usa river, 1200 m, 24–31. 3. 1981, H.J. Brauer, ab lucem"; 1 (ZIN) – "Morogoro, light trap, 24. I. 1970, T. Pócs".

Description of male (holotype). Length 5.1, breadth 3.1, height 1.5 mm. Rather convex dorsally and moderately convex ventrally; dark reddish brown to sometimes almost blackish, only pronotal and elytral edges, prohypomera, epipleura, mouth parts, antennae and legs somewhat lighter; dorsum and underside dull; dorsum with comparatively short, recumbent, moderately conspicuous reddish hairs, slightly longer than the distance between their insertions, and also with distinctly longer and suberect and rather sparse, moderately conspicuous hairs; elytra with two longitudinal rows of shorter and subrecumbent hairs disposed between rows of longer erect hairs. Head surface with dense and indistinct punctures, somewhat smaller than eye facets, interspaces between them markedly narrower than a puncture diameter, extremely finely and densely microreticulated. Pronotum with quite distinct but irregular punctures, about as large as eye facets or somewhat larger, interspaces between them less than a puncture diameter, finely and densely microreticulated by extremely small punctures and very fine lines. Elytra with distinct and very small, almost diffuse punctures; interspaces between punctures about 2–3 puncture diameters, finely and densely microreticulated by extremely small punctures and smooth intervals. Ventrites with small and rather shallow (usually unclear) punctures, which become obsolete towards the hind edge, interspaces between them much broader than a puncture diameter, finely and densely microreticulated. Thoracic sterna with indistinct punctation and rather microtuberculate, finely and densely microreticulated. Head about 6/7 as long as the distance between eyes, rather depressed behind antennal insertions. Eyes with well raised interfacetal setae. Antennae somewhat longer than head width, scape about twice as long as wide and their club composing 2/7 of total antennal length. Labrum with very shallow median excision and slightly exposed. Pronotum almost evenly and slightly convex, with unexplanate hind corners, but with a pair of wide depressions at sides of scutellum, base with distinct border and sides moderately arcuate. Elytra evenly sloping towards narrowly explanate sides as widely explanate as width of scape, longest at suture, their apices arcuately narrowed to suture, without sutural corner. Pygidium with truncate apex. Antennal grooves

rectilinearly divergent. Prosternal process subflattened at subrhomboid apex, strongly curved along coxae. Distance between mesocoxae subequal to and that between metacoxae about twice as broad as that between procoxae. Metasternum slightly and widely depressed in distal half. Hypopygidium distinctly and very deeply depressed at sides. Epipleura wide at elytral apices, at base about 2.5 times as wide as antennal club. Protibia subtriangular and nearly simple, about 1.5 times wider than antennal club; mesotibia very slightly curved inwards before apex and somewhat narrower than antennal club; metatibia slightly and regularly curved and slightly wider than antennal club. Femora of usual shape, about 2.0–2.5 times as wide as metatibia. Protarsus almost 3/4 as wide as antennal club.

Female. Differs from male in flattened metasternum, narrower protarsus, simple mesotibia and rounded apices of pygidium and hypopygidium.

Variations. Length 4.9–6,6 mm. Body shape and coloration of the type specimens more or less the same as in the holotype, although the specimen from Dar es Salaam (ZMB) is less broad and somewhat lighter. The punctation and sculpture are rather variable: punctation can be sparser and shallower and sculpture of integument coarser and more contrasting.

The paratype from Morogoro has larger body (length 6.6 and breadth 4.1 mm), almost unicoloured dark reddish brown coloration, blackish elytra, suberect (not erect) dorsal pubescence, pronotum with reduced prescutellar depressions, almost uniform punctation of dorsum with distinct punctures, about as large as eye facets, markedly narrower epipleura at elytral apices, more narrower and more acute apex of penis trunk.

Diagnosis. This new species is very distinct from all members of the subgenus due to labrum shallowly excised in the middle, paramedian prescutellar depressions on pronotum, antennal club segments with subequal width, rectilinearly divergent antennal grooves, comparatively wide epipleura at elytral apices. Besides, it has a peculiar combination of other characters: very irregular punctation of dorsum, coarser sculpture of integument, suberect and erect dorsal pubescence and weakly developed sexual dimorphism in pro- and mesotibiae.

Etymology. The name of this new species is formed from the Latin *ovum* meaning "egg" and Latin *forma* meaning "shape", "appearance", "view", "outline", "form", "model".

17. *Phenolia (Lasiodites) perforata* sp. nov.

Figs 127–135

Specimen examined — **Cameroon: holotype,** male (SMS) – "Kumba Station, 31. VII. 1988, F.-T. Krell"; **Ghana:** 1 **paratype,** male (TMB) – "Ashanti, Kumasi, 330 m, N 6.43 – W 1.36", "light trap, 12. 6. 1967, N 227, Endrödy-Younga".

Description of male (holotype). Length 4.9, breadth 2.8, height 1.4 mm. Rather convex dorsally and moderately convex ventrally; dorsum dark brown, but pronotal and elytral sides and appendages dark reddish brown; elytra with 3 small reddish spots slightly traceable at middle of each elytron. Dorsum dull, but elytra and underside with a slight shine; dorsum with comparatively short, subrecumbent, moderately conspicuous, greyish reddish hairs, varying from slightly shorter to slightly longer than distance between their insertions; elytra with two longitudinal rows of shorter hairs disposed between rows of longer hairs. Head, pronotal and ventral surface with obsolete and scarcely visible punctures, integument extremely finely and contrastingly microreticulated by very small punctures connected with very fine lines or partly microgranulated. Elytra with rows of simple fossae, each with a pair of punctures, arranged in rows between smooth costae, integument at bottom of fossae finely alutaceous. Head about 2/3 times as long as the distance between eyes, slightly depressed between antennal insertions. Antennae scarcely longer than head width, scape about twice as long as wide and their club composing 1/4 of total antennal length. Labral lobes moderately exposed. Pronotum almost evenly and slightly convex, hind corners scarcely subexplanate, base with thick border at scutellum and very fine at hind corners, sides gently arcuately narrowed anteriorly. Elytra evenly sloping to narrowly explanate sides, longest at suture, their apices suboblique, acute at suture and closing with exception of a short sutural corner. Pygidium with widely subtruncate apex. Antennal grooves somewhat arcuate behind mentum, slightly but distinctly convergent (as those in *P.* (*L.*) *implagiata* sp. nov.). Prosternal process flattened, subparallel-sided, barely curved along coxae and with vertically abrupt apex. The distance between mesocoxae about 1.5 times and that between metacoxae nearly 3.0 times as broad as that between procoxae. Mesosternum slightly vaulted in the middle, but deeply transversely excavate behind and bearing longitudinal strings (fibra) between its fore and hind edges of the excavation. Metasternum widely and deeply

depressed along the middle. Submetacoxal line slightly deviated from hind edge of metacoxal cavities in median part. Hypopygidium scarcely depressed at sides and with a widely subtruncate apex and very shining transverse stripe along its hind edge. Epipleura at base almost 2.5 times as wide as antennal club. Tibiae with moderately projecting subapical corner; protibia subtriangular and nearly regularly curved, somewhat wider than antennal club; mesotibia sharply curved inwards at apex and about as wide as antennal club; metatibia with almost straight edges, scarcely narrower than antennal club. Femora of usual shape, about or more than 1.5 times as wide as metatibia. Protarsus about 1/3 as wide as antennal club, meso- and metatarsi even narrower.

Variations. Length 5.1 mm. The paratype has slightly more distinct punctuation on head and pronotum and much wider protibia.

Diagnosis. This species is distinct from all members of the subgenus in the characteristic prosternal process, mesosternum, proportion in distances between coxae of each pairs, shining smooth stripe at hind edge of hypopygidium, extremely short (reduced) protibial spurs. Species of the Australian genus *Gaulodes* and *P.* (*L.*) *perforata* sp. nov. have similar general appearance and shape of elytral apices, but it differs from them in short excision between labral lobes, slightly arcuate antennal grooves, rather excavate mesosternum, more broadly separated metacoxae [see above – "Taxonomical notes and systematic position"].

Etymology. The name of this new species is formed from the Latin *perforo* meaning "to drill through" and "to perforate".

18. *Phenolia (Lasiodites) picta* (Macleay, 1825), comb. nov.

Figs 136–137, 197

Nitidula picta Macleay, 1825: 40 (type series presumably in Macleay Museum at Sydney University – Java); Macleay 1833: 147;
Lordites glabricola Candèze, 1861: 340 (depository unknown – Sri Lanka); Gemminger & Harold 1868: 829;
Lordites costulatus Fairmaire, 1868: 775 (one syntype studied in ZMB, but the lectotype should be designated among specimens in MNP – Nossi-Bé);
Lordites testudinarius [Klug (inedit.)]: Erichson, 1843: 317; Gemminger & Harold 1868: 829;
Lasiodactylus testudinarius Reitter, 1873: 87: (should be deposited, but absent in NMW – Madagascar); Grouvelle 1908: 365; Grouvelle 1913: 173;
Lasiodactylus costulatus: Reitter 1873: 88; Künckel de Herculais, J. 1890: pl. 33; Grouvelle 1908: 365; Grouvelle 1913: 173;
Lasiodactylus glabricola: Reitter 1873: 88; Reitter 1884: 266; Grouvelle 1908: 361; Grouvelle 1913: 173;
Lasiodactylus pictus: Reitter 1873: 88; Reitter 1884: 266; Grouvelle 1908: 361; Arrow 1909: 191; Grouvelle 1913: 173; Hayashi 1978: 18; Kirejtshuk 1992: 187;
Lasiodites pictus: Jelínek 1999: 279.

Hayashi 1978: larva from Japan.

Specimens examined – **Seychelles:** 2 (MAT) – "Mahé Nord, Victoria, P.Z.G. Benoit et J.J. Van Mol, 13. VI. 1972"; 1 (MAT) – "Mahé Nord, Beau Vallon, P.Z.G. Benoit et J.J. Van Mol, 12. VI. 1972"; 1 (MAT) – "Mahé Centre: La Misére, forêt mélangée humide, P.Z.G. Benoit et J.J. Van Mol, 16–17. VI. 1972"; 1 (ZIN) – "Silhouette: Mare Cochons, forêt endemique, 500 m, P.Z.G. Benoit et J.J. Van Mol, 2–8. VII. 1972"; 1 (ZIN) – "Mahé sud: Anse à la Mouche, P.Z.G. Benoit et J.J. Van Mol, 16–31. VII. 1972"; **Nossi-Bé:** 1 syntype, female (ZMB) – "Nossibé/Fairmaire, *Lordites costulatus* Frm., cotype", "coll. G. Hauser"; **Réunion:** 9 (ZIN, ZMB) – "22–23. 1. 1992, Ravine de St. Gilles, Bassin Cormoran, J. Janák"; 3 (ZMB) – "13–14. 1. 1992, Ravine de St. Gilles, Bassin Cormoran env., J. Janák"; and some hundreds of specimens from different museums of the world: Indo-Malayan and Australian regions and Palaearctic Far East.

Comments to description. Length 5.4–8.6, breadth 2.9–4.6, height 1.5–2.6 mm. Rather convex dorsally and slightly convex ventrally; usually dark brown or somewhat lighter to rarely straw yellow, but never blackish, frequently with somewhat lighter fore part of head, pronotal sides, antennal flagella and tarsi; elytra rarely with bright reddish contrasting spots, arranged in 3 irregular rows; usually slightly shining; dorsum with comparatively short, recumbent moderately conspicuous, reddish yellow hairs, somewhat longer than distance between their insertions and also with longer and more conspicuous hairs; elytra with 2–3 longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent or sometimes suberect hairs. Head and pronotal surface with quite distinct and almost regular punctures, usually subequal or smaller than eye facets, interspaces between them markedly narrower than a puncture diameter, smoothly cellularly microreticulated. Elytra usually with somewhat larger and denser punctures, interspaces between them more or less contrastingly cellularly microreticulated; a tendency to form longitudinal rows of punctures more or less expressed. Eyes without interfacetal setae. Elytra comparatively gently sloped towards moderately widely explanate sides. Prosternal process very slightly curved between procoxae and subcarinate before subacute apex. Metasternum of male very slightly and widely depressed in the middle. Hypopygidium slightly and more or less distinctly depressed at sides. Epipleura incomplete. Male protibia simple; mesotibia usually slightly to rarely moderately and gently curved inwards; metatibia scarcely

curved. Protarsus of male slightly narrower than antennal club.

Variations. Pronotal shape is rather variable, but the fore edge in larger specimens usually has a trapezoid and quite shallow excision. In smaller specimens the pronotal apex is arcuately emarginate. Male protibia is somewhat variable, but never strongly curved and sharply enlarged along inner edge. Male mesotibia is rather variable and specimens from the same series sometimes have very different degree of curvature.

Diagnosis. *P.* (*L.*) *picta* is rather similar to the typical specimens (form) of *P.* (*L.*) *limbata tibialis.* The diagnosis of *P.* (*L.*) *limbata tibialis* can partly be applied to *P.* (*L.*) *picta.* However, the antennal grooves of *P.* (*L.*) *picta* are subparallel-sided and its sexual dimorphism is very different, in particular in shape of pro- and mesotibiae. *P.* (*L.*) *picta* also differs from the typical form of *P.* (*L.*) *l. tibialis* due to the more blunt apex of the penis trunk. *P.* (*L.*) *longa* sp. nov. and *P.* (*L.*) *l. tibialis* ? form "*biplicata*" have similar blunt apex of the penis trunk.

Notes. The authors accept the synonyms of this species given in the catalogue by A. Grouvelle (1913). However, it is necessary to note that the type specimens of *L. testudinarius,* which should be deposited in NMW, are not there. These specimens were well characterized in the original description and its synonymy with *P.* (*L.*) *picta* (Grouvelle, 1913) is justified. One specimen in the collection of ZMB, named as *L. testudinarius*, has been examined which has the label as those attached to the syntype of *L. costulatus,* i.e. "Réunion".

19. *Phenolia (Lasiodites) quadrimaculata* (Grouvelle, 1899), comb. nov.

Figs 138–142

Lordites quadrimaculatus Grouvelle, 1899: 143 (type series presumably in MNP – Madagascar: "baie d'Antongil");
Lasiodactylus quadrimaculatus: Grouvelle 1913: 173;
Lasiodites quadrimaculatus: Jelínek 1999: 280.

Specimens examined — **Madagascar:** 2 (MAT, ZIN) – "Maroansetra (à la lumière, II/IV-1950, J. Vadon".

Comments to description. Length 5.7–6.5, breadth 3.2–3.6, height 1.7–1.8 mm. Strongly convex dorsally and ventrally; almost unicoloured chestnut brown with somewhat lighter mouth parts, antennae and tarsi; each elytron with 2 large bright reddish spots (one at shoulder and another behind the middle); almost dull; dorsum with comparatively short, recumbent moderately conspicuous, reddish yellow hairs, about as long as distance between their insertions or shorter, and also with longer and more conspicuous subrecumbent hairs; elytra with 2–3 longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent or suberect hairs. Basal part of head and pronotal surface with quite distinct and almost regular punctures, usually subequal to or larger than eye facets, interspaces between them markedly narrower than a puncture diameter on head and much broader on pronotum, very finely and densely alutaceous or microreticulated. Elytra usually with considerably smaller and indistinct punctures, interspaces between them markedly broader than a puncture diameter on pronotum, very finely and densely alutaceous or microreticulated; a tendency to form longitudinal rows of punctures scarcely expressed. Eyes without interfacetal setae. Pronotum rather strongly and gently convex with sides arcuately narrowed towards convex base. Elytra with comparatively steeply sloping towards very narrowly explanate sides, apices with clear subsutural lines. Antennal grooves slightly arcuately convergent behind mentum and subparallel-sided at basal part of epicranium. Prosternal process very slightly curved between procoxae and subcarinate before widely rounded apex, which is as wide as antennal club. Metasternum of male slightly and widely depressed in the middle. Hypopygidium slightly depressed at sides. Epipleura incomplete, at base almost twice as wide as antennal club. Male protibia subtriangular and rather dilated to apex; mesotibia almost simple; metatibia scarcely curved. Protarsus of male about 2/3 as wide as antennal club.

Female. Differs from male in narrower protibia and protarsus, and rounded apices of the pygidium and hypopygidium.

Diagnosis. This species is easily diagnosed due to its characteristic body shape (especially the peculiar pronotum and elytra), coloration, punctation and sculpture, antennal grooves, prosternal process, epipleura, peculiar sexual dimorphism developed in protibia, but not expressed in mesotibia and comparatively wide protarsus. It resembles *P.* (*L.*) *quadrinotata,* but differs in shape of pronotum, alutaceous or distinctly microreticulated integument, not reduced antennal grooves, wider prosternal process and epipleura, wider male protarsus, peculiar male pro- and mesotibiae, and especially distinct aedeagus.

Notes. The characters in the original description are completely correspondent with those of the specimens examined and, therefore, the authors have no doubtes in the accepted identification.

20. *Phenolia (Lasiodites) quadrinotata* (Grouvelle, 1899), comb. nov.

Figs 143–148, 198

Lordites quadrinotatus Grouvelle, 1899: 143 (type series presumably in MNP – "Ikutha");
Lasiodactylus quadrinotatus: Grouvelle 1913: 173:
Lasiodites quadrinotatus: Jelínek 1999: 280.

Specimens examined – **Ethiopia:** 4 (MAT, ZIN) – "Kaffa Prov.: Mui game reserve, 10. IV. 1972, R.O.S. Clarke"; **Tanzania:** 1 (TMB) – "Morogoro, light trap, 10. 1. 1970, T. Pócs"; 4 (ZMB) – "Ikutha, Coll. Hauser"; **Kenya:** 1 (NHL) – "Emali Range, Sultan Hamud, 4900–5900 ft, 3–40"; 21 (ZMB, ZIN) – "Kibwezi, 16. XII. 07, G. Scheftler J.Y."; **Uganda:** 1 (NRS) – "Karamoja, Distr., 1350 m, 2/5-48, A. Holm".

Comments to description. Length 5.4–6.8, breadth 3.1–3.6, height 1.7–1.9 mm. Strongly convex dorsally and ventrally; almost unicoloured chestnut brown with somewhat lighter mouth parts, antennae and tarsi; each elytron with 2 large bright reddish spots (one at shoulder and another behind the middle); almost dull; dorsum with comparatively short, recumbent moderately conspicuous, greyish yellow hairs, about as long as distance between their insertions or shorter, and also with longer and more conspicuous subrecumbent hairs; elytra with 2–3 longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent hairs. Basal part of head and pronotal surface with quite distinct and almost regular punctures, usually subequal to or larger than eye facets, interspaces between them extremely narrow at basal part of head and somewhat narrower than a puncture diameter on pronotum, smooth or at most very finely and densely alutaceous and usually with very small but deep punctures between larger ones. Elytra usually with quite distinct and shallow punctures, markedly larger than eye facets, interspaces between them somewhat narrower than a puncture diameter, smooth or at most very finely and densely alutaceous; a tendency to form longitudinal rows of punctures scarcely expressed. Eyes without interfacetal setae. Pronotum rather and gently convex, sides scarcely narrowed towards the very convex base. Elytra with comparatively steeply sloping and very narrowly explanate sides, apices with clear subsutural lines. Antennal grooves reduced and traceable only behind mentum, where they are slightly arcuately convergent. Prosternal process very slightly curved along procoxae and subcarinate before widely rounded apex, much narrower than antennal club. Metasternum of male subflattened in the middle and slightly depressed at hind edge. Hypopygidium slightly depressed at sides. Epipleura incomplete, at base about 1.5 times as wide as antennal club. Female tibiae simple. Male protibia angularly curved and strongly dilated along inner edge before apex, much wider than antennal club; mesotibia strongly curved inwards before apex, much narrower than antennal club; metatibia scarcely curved, as wide as antennal club. Male protarsus about 1/2 as wide as antennal club.

Diagnosis. This species is rather similar to *P. (L.) quadrimaculata*, but differs in shape of pronotum, shining and smooth or slightly alutaceous integument, reduced antennal grooves, markedly narrower prosternal process, narrower epipleura and male protarsus, peculiar male pro- and mesotibiae and distinct aedeagus.

Notes. This species is easily identified from the original description, which emphasises the convex body and comparatively long elytra (length about 1–1 1/3 as width). It seems probable that the specimens from Ikutha (the Hauser's collection – ZMB) have the same origin as the types deposited in Paris.

21. *Phenolia (Lasiodites) robusta* sp. nov.

Figs 149–154, 199

Specimens examined – **Tanzania: holotype,** male (ZMK) and 4 **paratypes** (ZMK, ZIN) – "East Usambara, Amani, 1000 m, 5. II. 1977", "H. Enghoff, O. Lomholdt, O. Martin"; 1 **paratype** (ZMK) – "East Usambara Mts., Amani, 1000 m, 20. VII. 1980, M. Stoltze & N. Scharff".

Description of male (holotype). Length 7.6, breadth 5.6, height 2.5 mm. Rather convex dorsally and moderately convex ventrally; dorsum almost unicoloured dark brown, underside and appendages bright reddish, but antennae, epipileura and fore legs much lighter; dorsum almost dull and underside slightly shining; dorsum with comparatively short, subrecumbent or recumbent, slightly conspicuous greyish yellow hairs, about twice as long as distance between their insertions; on elytra two longitudinal rows of shorter and recumbent hairs disposed between rows of longer suberect hairs. Head surface with shallow and dense, but quite distinct and irregular punctures, somewhat larger than eye facets, interspaces between them narrow, fi-

nely and densely microreticulated. Pronotum with quite distinct punctures, as large as punctures on head, interspaces between them markedly narrower than a puncture diameter, finely and densely microreticulated by very sparse and extremely small punctures as well as fine and dense microreticulation. Elytra with punctures and sculpture as those on pronotum, but punctures somewhat smaller, more regular and with a very weak tendency to form longitudinal rows of punctures. Ventrites and prosternum with small and rather shallow (usually not quite clear) punctures, markedly smaller than eye facets, interspaces between them considerably broader than a puncture diameter on ventrites and much narrower than a puncture diameter on prosternum, finely and densely microreticulated. Metasternum with more distinct and deeper punctures, subequal to eye facets, interspaces between them about a puncture diameter or narrower, completely smooth. Head about 5/7 as long as distance between eyes, rather depressed behind antennal insertions. Eyes with extremely fine and scarcely visible interfacetal setae. Antennae somewhat longer than head width, scape about twice as long as wide and their club comparatively small, composing 1/4 of total antennal length. Labral lobes moderately exposed. Pronotum almost evenly and moderately convex, with scarcely subexplanate hind corners, its base rather convex with slightly visible border, sides strongly arcuate. Elytra evenly sloping towards sides as widely explanate that are as width of antennal scape, longest at suture, apices subobliique and rounded at suture, forming a very small sutural corner. Pygidium with distinctly emarginate apex. Antennal grooves strongly reduced, traceable only shortly behind mentum, where they are arcuately convergent. Prosternal process subflattened before somewhat explanate and widely rounded apex, moderately curved along coxae. Distance between mesocoxae subequal and that between metacoxae about twice as broad as that between procoxae. Metasternum slightly triangularly depressed in distal half. Hypopygidium distinctly, but not deeply depressed at sides. Epipleura complete, at base about 2.5 times as wide as antennal club. All tibiae with very prominent subapical outer corner projecting into an acute process, subtriangular, slightly and regularly curved, more than 1.5 times as wide as antennal club; mesotibia rather strongly curved inwards before apex and about as wide as antennal club; metatibia slightly and angularly curved at the middle and slightly wider than antennal club. Femora of usual shape, about 2.5 times as wide as metatibia. Protarsus almost as wide as antennal club.

Female. Differs from male in narrower protarsus, which is about half as wide as antennal club, not depressed metasternum, simple meso- and metatibiae, pygidium with subacute apex and hypopygidium with rounded apex.

Variations. Length 5.2–7.3, breadth 5.4–5.8 mm. Some paratypes are almost unicoloured dark reddish brown with darkened elytra. Some variability is observed in punctation and sculpture: dorsal punctures sometimes less regular and shallower, microreticulation between them represented mostly by very dense and extremely small punctures. One paratype has very large and rather dense punctures on pronotum and almost microtuberculate surface on elytra. Antennal grooves of the largest specimen with subangular apex at head base.

Diagnosis. *P.* (*L.*) *robusta* sp. nov. is very distinct among the members of the subgenus because of its comparatively large, strongly convex and subelliptic body, reddish coloration, reduced antennal grooves, distinctly emarginate apex of pygidium and angularly curved male metatibia. The very prominent outer subapical corner of all tibiae projecting into acute process is reminiscent of that in *P.* (*L.*) *accepta* sp. nov., *P.* (*L.*) *bipustulata* and *P.* (*L.*) *implagiata* sp. nov. (*bipustulata* group), but this new species differs from them also in lighter body coloration, suberect and rather conspicuous dorsal pubescence, complete epipleura, angularly curved male metatibia, and characteristic shape of the apex of penis trunk.

Etymology. The name of this new species is formed from the Latin *robustus* meaning "oak", "robust", "strong", "firm", "healthy", "sound".

22. *Phenolia (Lasiodites) rotundiclava* sp. nov.

Figs 155–159, 200

Specimens examined — **Kenya: holotype,** male (NMB) – "Nkubu (Meru), 2. XI. 83, 1500 m", "Meru Distr., R. Mourglia".

Description of male (holotype). Length 5.8, breadth 3.4, height 1.8 mm. Rather convex dorsally and moderately convex ventrally; dorsum dark chestnut brown; fore part of head, appendages, sides of pronotum and elytra and underside reddish brown; elytra with lighter small spots dispersed at lateral and apical parts; dorsum and underside shining; dorsum with moderately short subrecumbent well conspicuous grey-

ish yellow hair, somewhat longer than distance between their insertions; elytra with two longitudinal rows of shorter hairs disposed between rows of longer hairs. Head and pronotal surface with regular deep punctures somewhat larger than eyes facetes, interspaces between them subequal to or narrower than a puncture diameter, with contrasting microreticulation and very small punctures. Surface of elytra with punctures similar to those on head and pronotum, but sparser and with more smooth interspaces. Ventral surface with punctures, as large as those on dorsum, but much denser and with more contrasting microreticulation. Head about 2/3 of distance between eyes, slightly depressed between antennal insertions. Antennae about 1 and 1/4 as long as width of head, scape 1.5 times as long as wide and the club composing 2/7 of total antennal length. Labral lobes moderately exposed. Pronotum almost evenly and strongly convex, with scarcely explanate hind corners, base very narrowly bordered, sides gently arcuately narrowed anteriorly and posteriorly. Elytra evenly sloping towards the narrowly explanate sides, longest at suture, their apices suboblique, acute at suture and closing, except a very short sutural corner. Pygidium with widely rounded apex. Antennal grooves somewhat rectilinearly convergent behind mentum. Prosternal process slightly convex, subparallel-sided, moderately curved along coxae with rounded apex. The distance between mesocoxae slightly broader and that between metacoxae about twice as broad as that between procoxae. Mesosternum moderately vaulted and somewhat rooflike. Metasternum moderately widely and deeply depressed along the middle. Submetacoxal line slightly arcuately deviated from hind edge of metacoxal cavities in their median part. Hypopygidium scarcely depressed at sides and with subacute apex. Epipleura at base about 1.5 times as wide as antennal club. Tibiae with moderately projecting subapical corner; protibia subtriangular and nearly regularly curved, somewhat wider than antennal club; mesotibia with almost straight inner edge and about as wide as antennal club; metatibia with almost straight edges, scarcely narrower than antennal club. Femora of usual shape, about or more than 1.5 times as wide as metatibia. Protarsus almost 1/4 as wide as antennal club, meso- and metatarsi yet narrower.

Diagnosis. The general appearance of *P.* (*L.*) *rotundiclava* sp. nov., in contrast to congeners, gives some reminiscence of the elongate oval representatives of the *Thalycra* complex of genera, in particular the genus *Australycra* Kirejtshuk & Lawrence, 1992 (Kirejtshuk & Leschen 1998), However, this new species is well distinguishable from the members of the mentioned complex of genera due to its more distinct hind corners of pronotum, well developed antennal grooves extended far behind mentum, as well as its quite characteristic pattern of elytral coloration, structure of prosternal process, legs and male genitalia (see above "Taxonomical notes and systematic position").

Moreover, this new species is easily distinguished from other species of this subgenus by oviform antennal club, with its last segment as wide as and longer than each of the two previous segments. This character is rather distinct in the species of the subgenus *Plesiothina*, which is not recorded in Africa and Madagascar, but has its main distribution in the Indo-Malayan and Australian regions. The penis trunk of *P.* (*L.*) *rotundiclava* sp. nov. has a very narrow and long apex, somewhat similar to that in *P.* (*L.*) *costipennis* and *P.* (*L.*) *chevrolati* (Reitter, 1873), although without raised median carina along dorsal surface. Besides, the characteristic antennal club, this new species differs also from both species in more robust body, more convex dorsum, not explanale pronotal sides, lack of elytral costae, somewhat arcuate antennal grooves behind mentum, very sparse and less regular punctation on dorsum, rather reduced pubescence and characters of sexual dimorphism in pro- and mesotibiae.

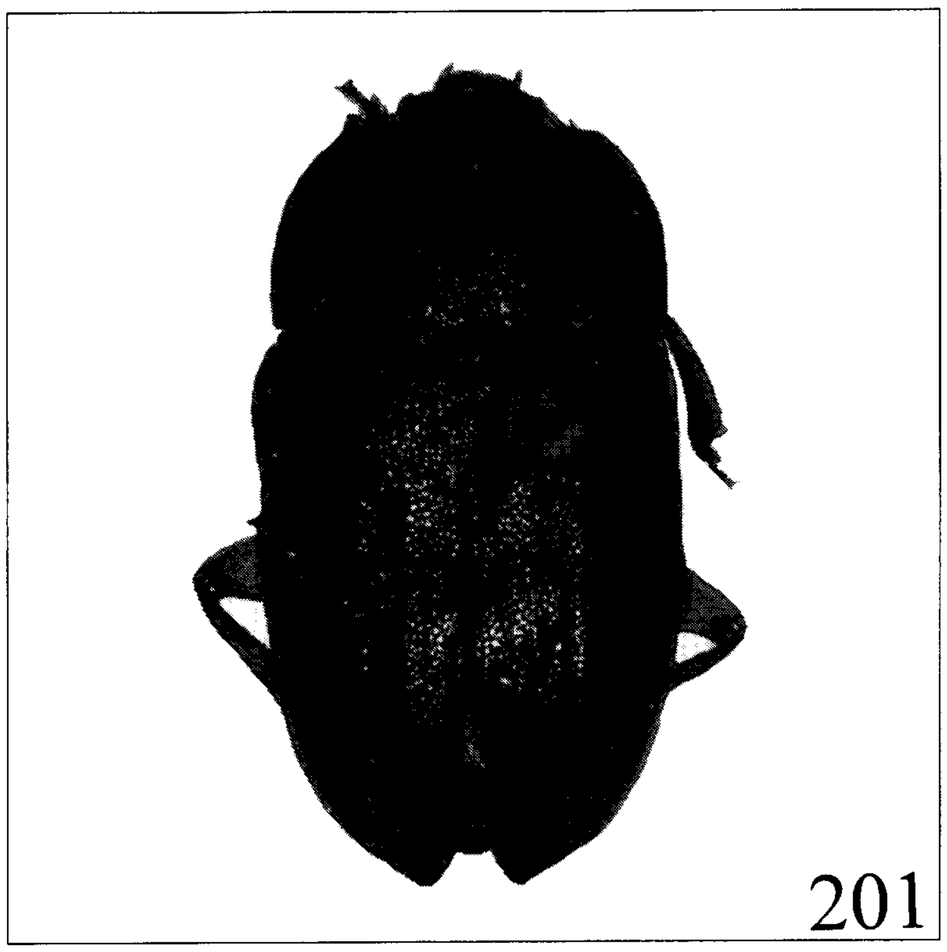
Etymology. The name of this new species is formed from the Latin *rotundus* meaning "rounded" and *clavus* meaning "nail", "peg", "club".

23. *Phenolia (Lasiodites) spornraftorum* sp. nov.

Figs 160–164, 201

Specimens examined — **Madagascar: holotype,** male (MAT) and 1 **paratype,** female (ZIN) – "route d'Anosibé, ex coll. Breuning"; 2 **paratypes**, females (MAT) – "Ambodivoangy, XII. 1959, J. Vadon" (I. 1960).

Description of male (holotype). Length 8.0, breadth 4.1, height 2.3 mm. Slightly convex dorsally and ventrally; brown, with yellowish antennal clubs, procoxae and distal parts of femora and rather light apices; elytra with light very small spots, arranged in 3 irregular rows and one larger subscutellar spot on each elytron; dorsum and underside dull; dorsum with comparatively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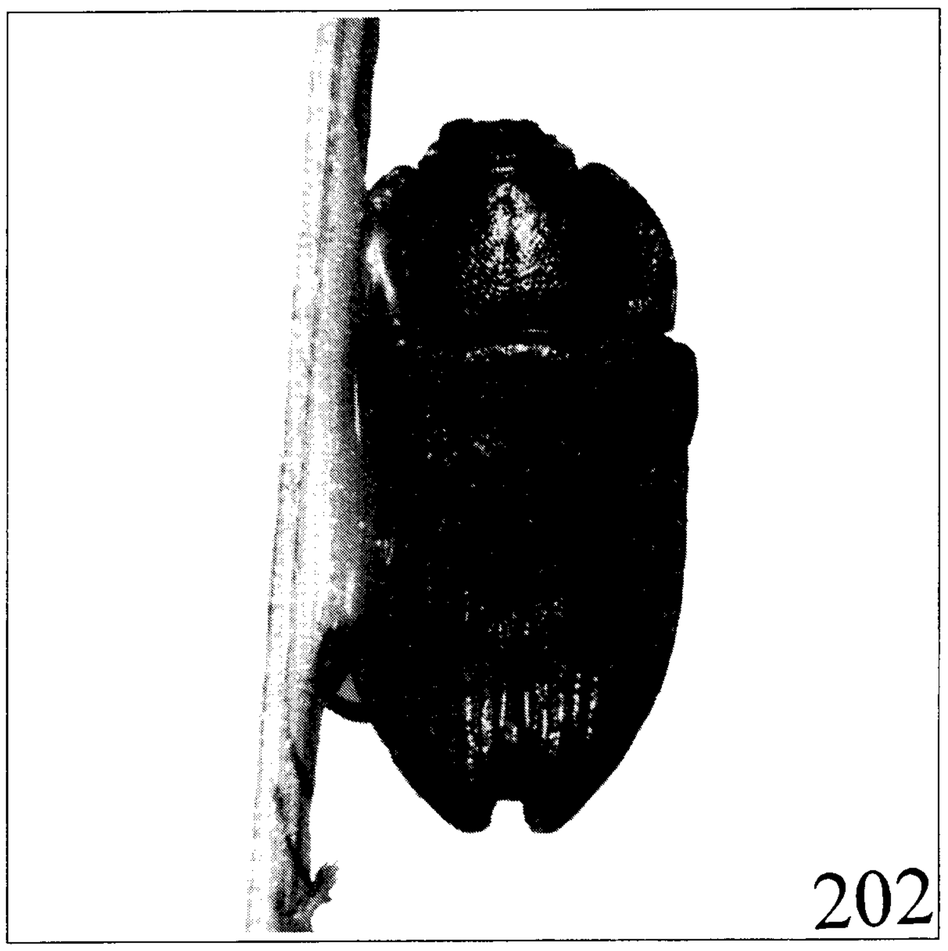
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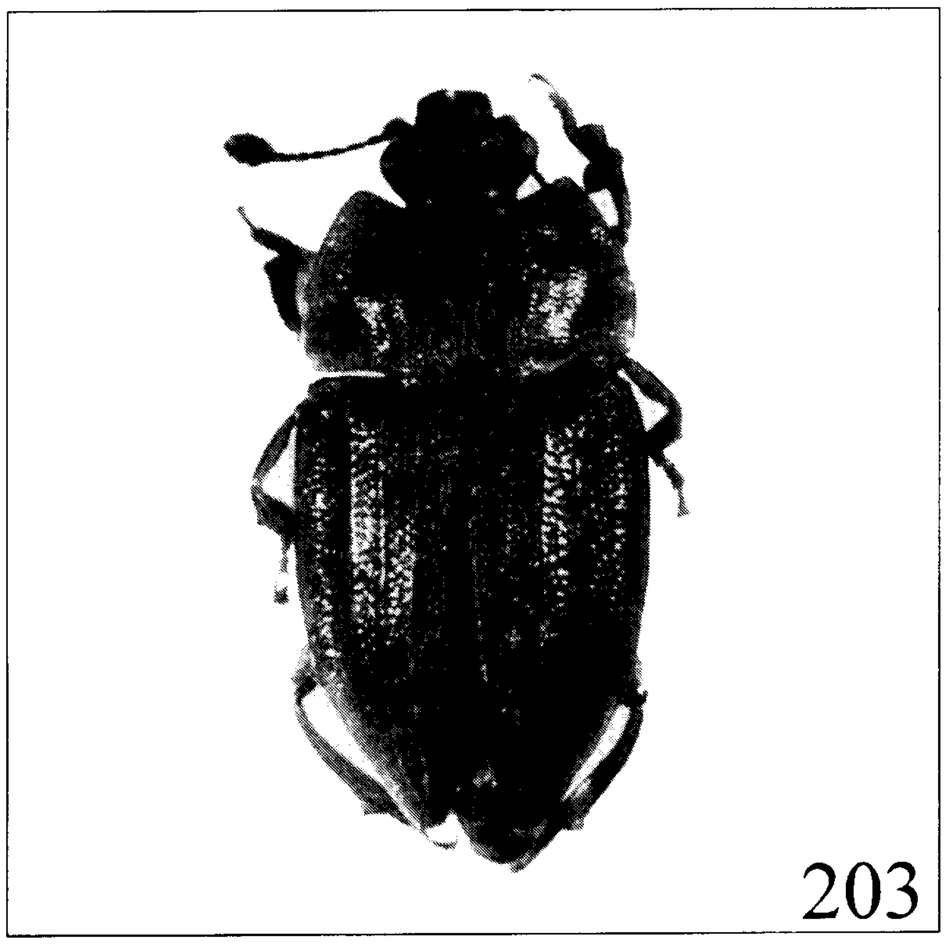
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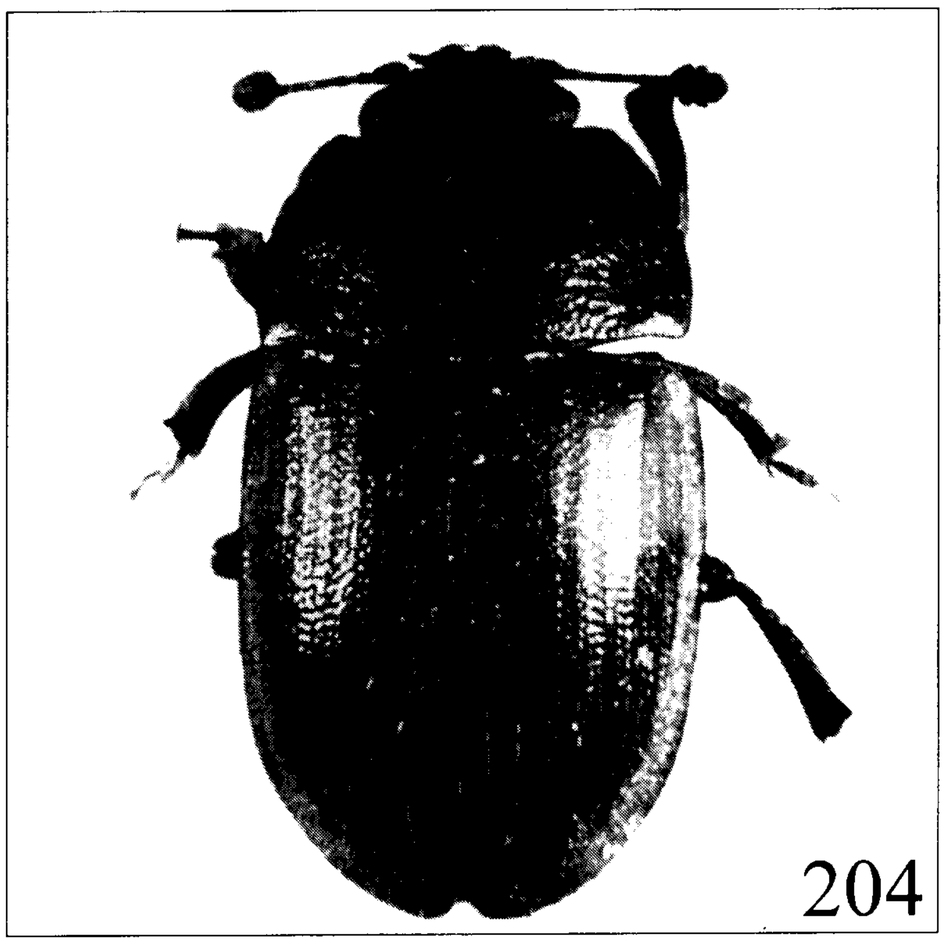
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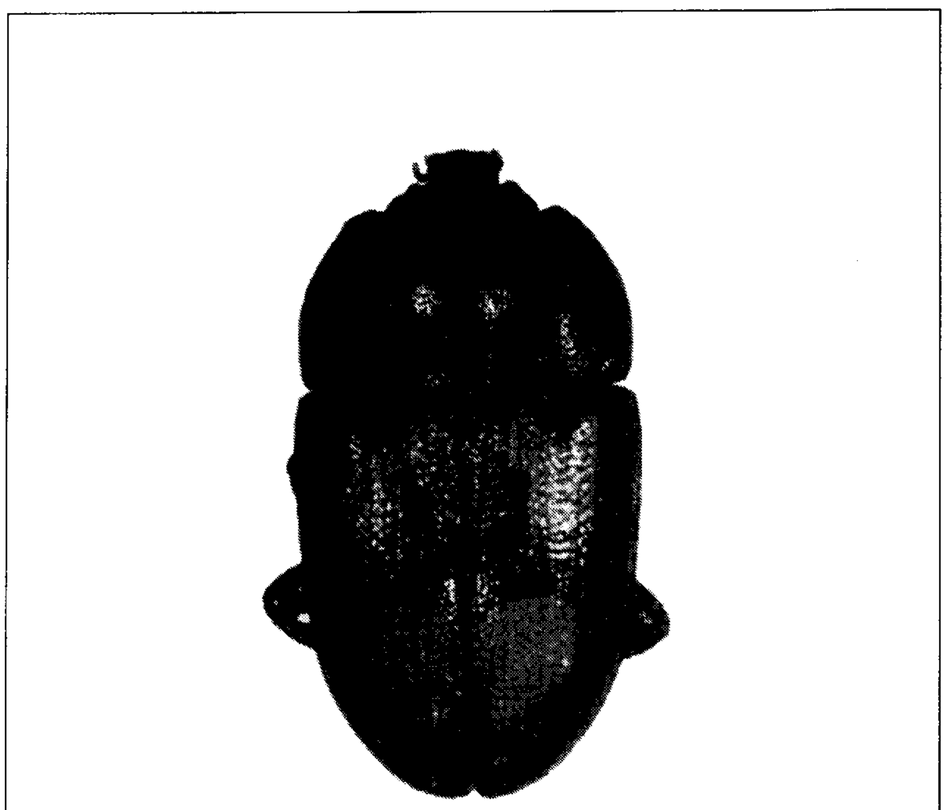
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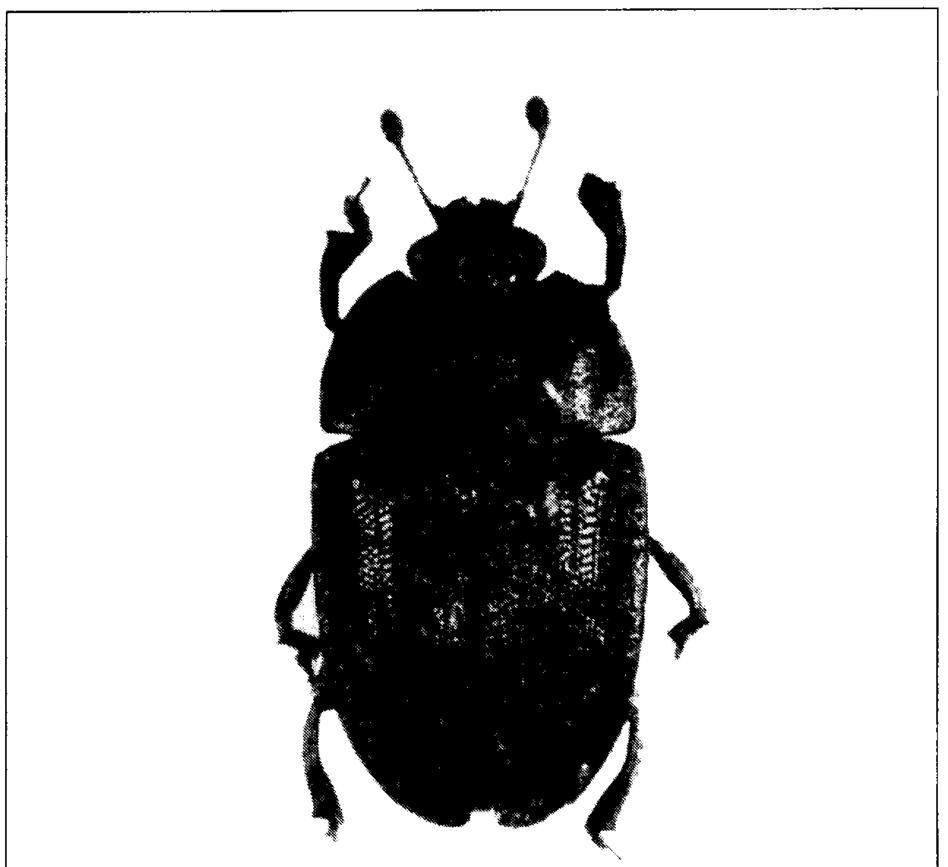
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short subrecumbent or recumbent slightly conspicuous reddish hairs, slightly longer than distance between their insertions; elytra with two longitudinal rows of shorter and recumbent hairs disposed between rows of longer subrecumbent hairs; underside with much shorter and less conspicuous pubescence. Head and pronotal surface with very dense and distinct punctures (frequently contiguous), as large as eye facets, interspaces between them narrow and smoothly microreticulated. Elytra with diffuse and distinct punctures, interspaces between them 1/3–1/2 of a puncture diameter, smoothly microreticulated. Pygidium and ventrites with rather small and somewhat shallower punctures, interspaces between them about as broad as a puncture diameter or broader, finely and densely microreticulated. Thoracic sterna with more distinct punctures, subequal to eye facets, interspaces between them 1/3–1/2 of a puncture diameter, smooth or finely alutaceous. Head somewhat longer than 6/7 of distance between eyes, rather depressed behind antennal insertions. Eyes without interfacetal setae. Antennae somewhat shorter than head width, with scape less than twice as long as wide and subparallel-sided, their club slightly longer than wide and composing almost 1/4 of total antennal length. Pronotum almost evenly and slightly convex, with slightly subexplanate hind corners, base with distinct border and sides strongly arcuate. Elytra evenly sloping to narrowly explanate sides, longest at suture, their apices suboblique and rounded at suture, forming a very small sutural corner. Pygidium with truncate apex, anal sclerite with rounded and exposed apex. Antennal grooves arcuate at mentum and subparallel-sided behind. Mentum of usual shape, about 2.5 times as wide as long. Prosternal process subflattened, slightly curved along coxae and with subtruncate apex. Distance between mesocoxae subequal to and that between metacoxae somewhat more than 1.5 times as broad as distance between procoxae. Mesosternum without carina, almost flat. Metasternum widely and shallowly depressed in distal half and slightly concave before fore edge. Hypopygidium distinctly, but not deeply depressed and with a widely subangular apex. Epipleura at base about twice as wide as antennal club. Protibia with a moderately prominent subapical outer corner, subtriangular and nearly regularly curved, somewhat sharply dilated at the middle of inner edge; mesotibia strongly curved inwards before apex and somewhat narrower than antennal club; metatibia slightly and regularly curved and slightly narrower than antennal club. Femora of usual shape, 2.0–2.5 times as wide as metatibia. Protarsus almost 1/2 as wide as antennal club. Penis trunk with acute apex slightly dorsoventrally curved.

Female. Differs from male in simple tibiae (pro- and mesotibiae about as wide as antennal club), elytral apices very projecting posteriorly, rounded apices of pygidium and hypopygidium, protarsus much narrower than 1/2 antennal club.

Variations. Length 7.1–8.0 mm. Variability can be traced in coloration, punctation and sculpture. One of the paratypes has darker pronotal disc, another has completely dark brown body with the lightened part as in the holotype. Pronotal punctures of the darkest paratype are 1.5 times as large as eye facets.

Diagnosis. This spesies is very distinct among the members of the subgenus by oval (not elongate oval) antennal club, prosternal process rather curved along procoxae and very wide at flattened apex pressed against to surface of mesosternum. The female elytral apices are projecting very far posteriorly and forming a deeper sutural corner in comparison with the females of other members of the subgenus.

Etymology. This new species is named in honour of the outstanding connoisseur of the family Nitidulidae, Karl Spornraft, and his wife, Hella Spornraft, who kindly supported the senior author and his family during a period of very difficult economic situation in Russia.

24. *Phenolia (Lasiodites) subtilis* sp. nov.

Figs 165–169, 202

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype** (MAT) – "Elisabethville (à la lumière), IX. 58–V. 1959, Ch. Seydel"; 2 **paratypes** (MAT, ZIN) – "Lulua: Kapanga, XII-1932, G.F. Overlart" (II-1933).

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Figs 201–206. Species of subgenus *Lasiodites* of genus *Phenolia* (orig.). **201** – *P.* (*L.*) *spornraftorum* sp. nov., female, Madagascar: Route d'Anosibé, paratype; **202** – *P.* (*L.*) *subtilis* sp. nov., male, Democratic Republic of the Congo (Zaire): Elisabethville, holotype; **203** – *P.* (*L.*) *tricostata* sp. nov., male, Rwanda: Forêt Nyungwe, paratype; **204** – *P.* (*L.*) *zairensis* sp. nov., female, Democratic Republic of the Congo (Zaire): Kapanga, paratype; **205** – *P.* (*L.*) *zotti* sp. nov., male, Democratic Republic of the Congo (Zaire): Kapanga, paratype; **206** – *P.* (*L.*)*zotti* sp. nov., male, Liberia: Bong Town, paratype.

Description of male (holotype). Length 9.2, breadth 4.4, height 2.0 mm. Slightly convex dorsally and ventrally; dorsum light brown with somewhat lighter fore part of head, explanate pronotal and elytral sides, abdominal apex, appendages, coxae and tarsi (light brownish); elytra with a pattern of bright yellow contrasting spots, arranged in 3 irregular rows; underside and proximal parts of femora darker, but mesosternum, prohypomera and epipleura as light as other lightened parts; rather shining (especially on metasternum); dorsum with comparatively short, recumbent or subrecumbent, moderately conspicuous, yellowish hairs, somewhat longer than distance between their insertions, in addition there are sparser and longer, rather conspicuous subrecumbent hairs; elytra with 2 irregular longitudinal rows of shorter and recumbent hairs disposed between rows of longer hairs, about 1.5 times as long as distance between their insertions. Head and pronotal surface with quite distinct and almost regular punctures, subequal to or more often somewhat larger than eye facets (some punctures at pronotal sides yet larger and subcontiguous), interspaces between them 1/5–1/2 of a puncture diameter, almost or completely smooth. Elytra with distinct, rather large and sparse punctures, interspaces between them smooth or smoothly alutaceous; some punctures contiguous or fused in pairs arranged in scarcely expressed longitudinal rows between weak costae. Metasternum and ventrite 1 with distinct punctures, somewhat larger than eye facets, interspaces between them markedly broader than a puncture diameter and smooth; prosternum with much denser, larger and less regular punctures, but interspaces with clear microreticulation; other ventrites with quite dense and very distinct punctures, usually smaller or subequal with eye facets, interspaces between them smooth or smoothly alutaceous. Head about 9/11 as long as distance between eyes, rather deeply depressed between and behind antennal insertions. Antennae longer than head breadth, their scape about twice as long as wide at base and narrowed towards apex, their club about 2/7 of total antennal length and 1.5 times as long as wide. Eyes without raised interfacetal setae. Pronotum subflattened at disc, sides markedly more widely explanate than width of antennal club. Pygidium subtruncate at apex. Antennal grooves strongly curved at sides of mentum, subparallel-sided behind mentum and convergent at head base. Prosternal process rather curved along coxae and transversely depressed before subtruncate and flattened apex. Metasternum somewhat widely depressed in distal half and transversely depressed just behind mesocoxal cavities. Hypopygidium scarcely or slightly depressed at sides. Epipleura subcomplete and obsolete at sutural corner, at base about twice as wide as antennal club. Protibia subtriangular and very slightly angularly curved at the middle, slightly wider than antennal club; mesotibia strongly curved inwards, scarcely excised before very slightly dilated apex, narrower than antennal club; metatibia narrow and gradually curved, about as wide as antennal club. All trochanters strongly projecting posteriorly. Femora of usual shape, about twice as wide as metatibia. Protarsus almost 1/3 as wide as antennal club.

Female. Differs from male in simple tibiae, more extended elytral apices, all trochanters scarcely projecting posteriorly, widely rounded apex of sclerites of last abdominal segment (pygidium and hypopygidium).

Variations. Length 8.9–9.6, breadth 4.1–4.4 mm. Some variability is observed in general coloration (from light to dark brown) and development of pigmental spots on elytra. The punctation and sculpture, as well as other features of this species are quite stable.

Diagnosis. *P.* (*L.*) *subtilis* sp. nov. is a member of the *immunda* group and can easily be diagnosed according to the characters given in the below key. It is more similar to *P.* (*L.*) pr. *elongata* than other species of this group, because both species have sparser and larger punctures, less raised pubescence and more strongly curved male metatibia. The transverse depression of male metasternum behind the mesocoxae is deeper in *P.* (*L.*) *subtilis* sp. nov. compared to the weak depression behind mesocoxa in *P.* (*L.*) pr. *elongata*. The antennal grooves of these two species are more similarly outlined compared to *P.* (*L.*) *immunda* and *P.* (*L.*) *tricostata* sp. nov.

Etymology. The name of this new species is formed from the Latin *subtilis* meaning "fine", "thin".

25. *Phenolia (Lasiodites) tricostata* sp. nov.

Figs 170–171, 203

Specimens examined – **Rwanda: holotype,** male (MAT), 9 **paratypes** (MAT, ZIN) – "Forêt Nyungwe, 8. XI–5. XII. 1985, R. Jocqué"; **Zimbabwe:** 2 **paratypes** (AMNY, ZIN) – "S.-RHOD., Mare R., Inyanga Mts., Litter, December 11, 1960, I.M. Newell, N 5075".

Description of male (holotype). Length 5.6, breadth 3.0, height 1.2 mm. Slightly convex dorsally and ventrally; dorsum brown with somewhat lighter fore part of head, explanate pronotal and elytral sides, abdominal apex, appendages including coxae and tarsi (light brownish); elytra with a various pattern of bright yellow contrasting spots, arranged in 3 irregular rows; underside and proximal part of femora darker, but prohypomera and epipleura as light as other lightened parts; rather shining; dorsum with comparatively short, recumbent or subrecumbent, moderately conspicuous, yellowish hairs, 1.5–2.0 times longer than distance between their insertions, and sparser, longer and rather conspicuous subrecumbent hairs; elytra with 4–5 irregular longitudinal rows of shorter and recumbent hairs disposed between rows of longer and nearly suberect hairs. Head and pronotal surface with quite distinct and almost regular punctures (some punctures at pronotal sides arranged in irregurarly wavely transverse rows of 3–9 punctures), about as large as eye facets, interspaces between them 1/3–2/3 of a puncture diameter and almost or completely smooth. Elytra with distinct, rather large and sparse punctures, interspaces between them smoothly alutaceous; some punctures contiguous or fused in pairs arranged in scarcely expressed longitudinal rows between rather raised costae. Metasternum with distinct punctures, somewhat larger than eye facets, interspaces between them markedly broader than a puncture diameter and smooth. Prosternum with somewhat denser and less regular punctures, but interspaces with clear microreticulation. Ventrites with quite distinct and very dense punctures, smaller or subequal to eye facets, interspaces between them smoothly alutaceous, although ventrite 1 with sparser punctures and completely smooth interspaces. Head about 9/11 as long as distance between eyes, deeply depressed behind antennal insertions. Antennae longer than head breadth, scape about twice as long as wide at base and narrowed to apex, club about 2/7 of total antennal length. Eyes without raised interfacetal setae. Pronotum with a pair of small paramedian depressions before the middle and a pair of small paramedian depressions at basal third, sides markedly more widely explanate than width of antennal club. Antennal grooves strongly curved and convergent just behind mentum, and almost rectilinear at head base. Prosternal process rather curved along coxae and with very widely rounded, subtruncate and flattened apex. Metasternum somewhat widely depressed in distal half. Hypopygidium scarcely or slightly depressed at sides. Epipleura nearly complete (obsolete only at sutural corner), at base about twice as wide as antennal club. Protibia subtriangular or slightly angularly curved at the middle and slightly wider than antennal club; mesotibia strongly curved inwards, excised before very strongly dilated apex; metatibia narrow and slightly curved. All trochanters strongly projecting posteriorly. Femora of usual shape, about twice as wide as metatibia. Protarsus almost 1/3 as wide as antennal club.

Female. Differs from male in simple tibiae, extended elytral apices, all trochanters scarcely projecting posteriorly, and widely rounded apex of sclerites of last abdominal segment (pygidium and hypopygidium).

Variations. Length 5.6–7.1, breadth 3.0–3.6, height 1.2–1.8 mm. Considerable variability is observed in general coloration, from straw yellow to dark brown and development of pigmental spots on elytra. The characters of punctation and sculpture as well as other features of this species are quite stable.

Diagnosis. This new species is closely related and resembles *P.* (*L.*) *immunda*, but differs from it in very smooth interspaces between punctures on dorsum, markedly more widely eplanate pronotal sides than width of antennal club, 3 raised costae on each elytron (not 6), contiguous or fused punctures on elytra partly arranged in longitudinal rows, male trochanters much more projecting posteriorly, peculiar shape of male mesotibia and subacute apex of tegmen.

Etymology. The name of this new species is formed from the Latin *tres* meaning "three" and *costa* meaning "rib", "edge".

26. *Phenolia (Lasiodites) zairensis* sp. nov.

Figs 172–176, 204

Specimens examined – **Democratic Republic of the Congo (Zaire): holotype,** male (MAT) – "Secteur Nord, riv. Abia, affl. g. Semliki, 695 m", "4-VII-1957, P. Vanschuytbroeck"; **paratypes:** 1 (MAT) – "Secteur Nord, marais riv. Semliki, route Watalinga, 690 m", "23-VII-1957, P. Vanschuytbroeck"; 2 (MAT) – "Secteur Nord, riv. Talya, affl. dr. Lume, 1245 m", "4-VII-1957, P. Vanschuytbroeck"; 1 (MAT) – "Secteur Nord, Mukandwe, affl. dr. Talya, 1390 m", "11-IX-1957, P. Vanschuytbroeck"; 1 (ZIN) – "Massif Ruwenzori, riv. Talya, affl. Lume, 1870 m", "4-IX-1956, P. Vanschuytbroeck"; 4 (MAT, ZIN, ZMB) – "Secteur Nord, riv. Abyalose, affl. g. Djuma, 800 m", "4-VII-1957, P. Vanschuytbroeck"; 3 (MAT, ZIN) – "Maniema: Kasongo, VIII/IX. 1959, P.L.G. Benois"; 4 (MAT, ZMO, ZIN) – "Kapanga, XII-1933, F.G. Overlaet" (XI-1933, II-1934); 2 (AMNY, ZIN) – "Medje, 27°15′E 2°25′N, IV–V. 1910",

"Lang & Chapin"; **Gabon:** 1 (MAT) – "Ntoum, 5. X. 1985, A. Pauli, réc. lumière".

Description of male (holotype). Length 7.2, breadth 4.0, height 2.4 mm. Rather convex dorsally and moderately convex ventrally; dorsum dark brown, legs and antennae brown, underside reddish brown, epipleura and 2 large spots on each elytron bright reddish; dorsum and underside slightly shining; dorsum with moderately long subrecumbent or recumbent, moderately conspicuous reddish hairs, slightly longer than distance between their insertions, and with distinctly longer and erect, rather sparse, strongly conspicuous hairs. Elytra with two longitudinal rows of shorter and recumbent hairs disposed between rows of longer erect hairs. Head surface with quite distinct and regular punctures, as large as eye facets, interspaces between them about a puncture diameter, extremely finely and densely microreticulated. Pronotum with quite distinct but irregular punctures, about as large as eye facets to much larger, interspaces between them about a puncture diameter at sides, but almost contiguous at disc, finely and densely cellularly microreticulated to completely smooth at sides. Elytra with not quite distinct punctures, deepened in fossae and arranged in unclear double rows, well visible at sides of elytra; interspaces between punctures about 1–2 puncture diameters, smooth microreticulated or completely smooth. Pygidium and ventrites with small and rather shallow (mostly not quite distinct) punctures, interspaces between them somewhat broader than a puncture diameter, finely and densely cellularly microreticulated. Thoracic sterna with more distinct and larger punctures, subequal to eye facets or larger, interspaces between them about a puncture diameter, cellularly microreticulated. Head about 3/4 as long as distance between eyes, rather depressed behind antennal insertions. Labrum with comparatively shallow excision between lobes. Eyes with very short interfacetal setae. Antennae somewhat shorter than head width, with scape about twice as long as wide and distally narrowed, club composing less than 1/4 of total antennal length. Pronotum almost evenly and strongly convex, with slightly subexplanate hind corners, apices very shallowly emarginate, base with distinct border and sides gently arcuate. Elytra evenly sloping towards narrowly explanate sides, longest at suture, apices suboblique and rounded at suture, forming a very small sutural corner. Pygidium with truncate apex. Antennal grooves rather curved and convergent behind mentum. Prosternal process subcarinate at subrhomboid-subtruncate apex, moderately curved along coxae. Distance between mesocoxae 1.5 times and that between metacoxae almost twice as broad as that between procoxae. Metasternum slightly and widely depressed in distal half and strongly concave before fore edge. Hypopygidium slightly depressed and with a widely subangulate apex. Epipleura at base about 2.5 times as wide as antennal club. Protibia with a moderately prominent subapical outer corner, subtriangular, sharply curved and dilated before apex along inner edge, somewhat wider than antennal club; mesotibia strongly curved inwards before apex and much narrower than antennal club; metatibia slightly and regularly curved and about as wide as antennal club. Femora of usual shape, about 2.0–2.5 times as wide as metatibia. Protarsus about 1/2 as wide as antennal club.

Female. Differs from male in rounded apices of pygidium and hypopygidium, simple tibiae (protibia somewhat wider and mesotibia about as wide as antennal club), subflattened metasternum and protarsi nearly 1/3 as wide as antennal club.

Variations. Length 7.1–8.9 mm. General coloration varies from light brown to blackish. Reddish spots on elytra are rather variable, but always visible, some paratypes have united spots in two transverse stripes, although basal one divided by narrow dark interruption along suture. Finally, some paratypes have also reddish elytral apices. Some variability can also be traced in punctation and sculpture. Pronotum frequently has more dense and larger, partly contiguous punctures in comparison with the holotype. The shorter dorsal pubescence of the paratype from Gabon is rather reduced and slightly conspicuous, but the longer erect hairs are visible.

Diagnosis. *P.* (*L.*) *zairensis sp.* nov. resembles *P.* (*L.*) *quadrimaculata* and *P.* (*L.*) *quadrinotata*, but differs from them in larger body, shape of pronotum, shallowly excised labrum, denser and coarser dorsal punctation, suberect dorsal pubescence, contour of antennal grooves. *P.* (*L.*) *quadrimaculata* also differs in shape of male pro- and mesotibiae. *P.* (*L.*) *quadrinotata* differs also in markedly narrower prosternal process and deeper depressed hypopygidium. This new species resembles also *P.* (*L.*) *zotti* sp. nov., but differs in more convex and robust body, suberect hairs on dorsum, characters of punctation and sculpture of integument, outlined subhumeral spots on elytra, sides of hypopygidium less deeply depressed,

strongly curved male protibia and depressed male metasternum.

Etymology. This new species is named after the country of its main distribution.

27. *Phenolia (Lasiodites) zotti* sp. nov.

Figs 52–55, 70, 72, 205–206

Specimens examined — **Guinea: holotype** (ZMB) and 11 **paratypes** (ZMB, ZIN) – "Sérédoux, 4. 4. 1975, lux, Zott" (or also "Sérédou" and 4. 5. 1975, 16. 4. 1975, 8. II. 1976, 9. Febr. 1976); other **paratypes: Ivory Coast (Côte d'Ivoire):** 2 (MAT, ZIN) – "Bingerville, II. 1962, J. Decelle" (II. 1964); **Liberia:** 8 (SMS, ZISP) – "Peter Town, Montserado County, 26. III. 1988, leg. F.-T. Krell"; 19 (SMS, ZIN) – "Bong Town, 24. XI. 1988, Krell" (24. III. 1988, 25. II. 1988); 1 (ZIN) – "Prov. Nimba, Saclepea, 26–27. III. 1988, leg. F.-T. Krell"; **Ghana:** 14 (BRO, ZIN) – "Tafo, IV-1968, E.O. Boafo" (II-1968); 7 (TMB, ZISP) – "Ashanti, Kwadaso, 320 m, N6.42-W1.39", "light trap, 27. 2. 1969, N 319, Endrödy-Younga"; 1 (TMB) – "Ashanti,6 Kwadaso, 320 m, N6.42-W1.39", "light, 13. 3. 1969, N 324, Endrödy-Younga"; 12 (TMB, ZISP) – "Ashanti, Kwadaso, agric. st., 6.42N-1.39W", "light trap, 12. 2. 1969, N 304, Endrödy-Younga"; 4 (TMB, ZISP) – "Ashanti, Kwadaso, 320 m, N6.42-W1.39", "light trap, 26. 2. 1969, N 319, Endrödy-Younga"; 1 (TMB) – "Ashanti, Kwadaso, 320 m, N6.42-W1.39, S. Endrödy-Younga", "N 304, mixed light, 12. II. 1969"; **People's Republic of the Congo (Brazzaville):** 1 (TMB) – "Bouenza, catarract", "30. 11. 1963, N 308, sifted in float, Endrödy-Younga"; **Democratic Republic of the Congo (Zaire):** 1015 (MAT, ZMO, ZIN, ZMB) – "Lulua: Kapanga, IV-1933, F.G. Overlaet" (XII-1932, I-1933, II-1933, III-1993, V-1933); 1 (ZIN) – "Secteur Nord, riv. Mukandwe, affl. Dr. Talya, 1260 m", "2-X-1956, P. Vanschuytbroeck"; **Angola:** 1 (MAT) – "10 km de Salazar, 12. XII. 1966, Mme Giraudet".

Description of male (holotype). Length 5.9, breadth 3.2, height 1.2 mm. Slightly convex dorsally and ventrally; dark reddish brown with blackish elytra; lighter fore part of head, explanate pronotal and elytral sides, appendages, including procoxae and tarsi (usually straw yellow); each elytron with 2 large reddish spots (at scutellum and at the middle); slightly to moderately shining; dorsum with comparatively short, recumbent or subrecumbent, moderately conspicuous, yellowish hairs, 1.5–2.5 times longer than distance between their insertions; elytra with two longitudinal rows of shorter and recumbent hairs disposed between longitudinal rows of longer subrecumbent hairs. Head and pronotal surface with quite distinct and almost regular punctures, somewhat larger than eye facets, interspaces between them 1/3–1 puncture diameter, finely cellularly microreticulated, but nearly smooth on pronotal disc. Elytra with quite distinct, larger and sparse punctures up to twice as large as eye facets, interspaces between them more or less smooth or smoothly microreticulated; a tendency to form longitudinal rows of punctures expressed. Pygidium and ventrites 2–5 with rather small and mostly quite distinct punctures, interspaces between them much narrower than a puncture diameter on pygidium and about a puncture diameter on ventrites; finely and densely cellularly microreticulated on pygidium and almost smooth on ventrites. Ventrite 1 and thoracic sterna with distinct and larger punctures, subequal to eye facets or larger, interspaces between them about 1.5–2.5 puncture diameters, smooth or somewhat cellularly microreticulated. Head about 3/4 as long as distance between eyes, rather depressed behind antennal insertions. Labrum with a comparatively shallow excision between lobes. Eyes usually with scarcely visible, fine and very short interfacetal setae. Antennae somewhat shorter than head width, with scape about 1.5 times as long as wide and not narrowed distally, their club composing less than 1/4 of total antennal length. Pronotum almost evenly and gently convex, with slightly subexplanate hind corners, apex very moderately emarginate, base with distinct border and sides almost regularly arcuate. Elytra evenly sloping to narrowly explanate sides, longest at suture, their apices suboblique and rounded at suture, forming a very small sutural corner. Pygidium with truncate apex. Antennal grooves slightly curved and convergent. Prosternal process subcarinate at subrhomboid-subtruncate apex, moderately curved along coxae. Distance between mesocoxae subequal to and that between metacoxae almost twice as broad as that between procoxae. Metasternum of male somewhat widely depressed in the middle and with nearly even punctation. Hypopygidium rather deeply depressed at sides. Protibia subtriangular, only slightly curved and somewhat enlarged before apex; mesotibia only slightly curved inwards; metatibia scarcely curved. Femora of usual shape, about 2.0–2.5 times as wide as metatibia. Protarsus slightly wider than antennal club.

Female. Differs from the male in simple tibiae, rounded apices of pygidium and hypopygidium, narrower protarsi.

Variations. Length 5.7–7.6, breadth 2.6–3.3, height 1.1–1.4 mm. Coloration varies from dark reddish brown to almost blackish or rarely to straw yellow (immature specimens). The elytra can be unicoloured or have 2 large spots (as in holotype), which sometimes are united in one very large spot with a small dark spot inside. Very rarely elytra have only 2 small yellow spots at elytral base. The surface of head and pronotum is usually as in holotype. Sometimes punctu-

res become larger and denser, or punctures are obsolete with interspaces between them coarsely alutaceous or microreticulated. Elytra sometimes have very large and sparse punctures, with an expressed tendency to form longitudinal rows. Eyes are usually as those in the holotype, although sometimes with completely invisible interfacetal setae. Antennal grooves are frequently rather curved and convergent (more curved than in the holotype – even in paratypes from the Western Africa). Male protibia usually subtriangular and evenly arcuate along inner edge; mesotibia often slightly or moderately curved inwards. However, males from Liberia with unicoloured body have protibia almost angularly curved and somewhat sharply enlarged behind the middle of inner edge, and mesotibia rather strongly curved inwards.

Almost all specimens from Kapanga (collected by G.F. Overlaet) and some from other localities have 4 large reddish characteristic spots on elytra. They are also rather large (7.0 mm and larger) and are comparatively wider than others and the pronotum has shallow emargination at fore edge. Among the paratypes from the Western Africa there are some unicoloured specimens (dark brown or sometimes reddish), which in general are slightly more slender and smaller than those from the Equatorial Africa.

Diagnosis. This new species is most similar to *P.* (*L.*) *zairensis* sp. nov., but differs from it in somewhat smaller, not so dull, less convex body with more regular and distinct punctation, recumbent and subrecumbent shorter pubescence, outline of subhumeral spots on elytra, deeper depression at sides of hypopygidium, less deep depression on male metasternum and less expressed characters of sexual dimorphism in structure of mesotibia.

The larger specimens of *P.* (*L.*) *zotti* sp. nov. with spotted elytra have a considerable similarity to *P.* (*L.*) *circumflexa* in coloration of elytra and peculiarities of punctation. However, the former always have less developed secondary sexual characters in pro- and mesotibiae. *P.* (*L.*) *zotti* sp. nov. is also rather similar to *P.* (*L.*) *intermixta* sp. nov., but differs in more regular punctation on pronotum, less regular and almost unseriate punctation on elytra, shorter antennal grooves, flattened metasternum and deeply depressed hypopygidium.

Etymology. This new species named in a honor of the collector of its holotype and many other insects from Guinea: A. Zott.

Incertae sedis

Lordites claudus Gerstaeker, 1871: 45 (type depository unknown – Zanzibar) seems to be according to the original description conspecific with *P.* (*L.*) *limbata tibialis, P.* (*L.*) *limbata limbata or P.* (*L.*) *circumflexa.*

Lasiodactylus monrovianus Reitter, 1880: 2 (type series presumably in MNP – Liberia) seems to be according to the original description rather similar to *P.* (*L.*) *limbata tibialis* than to *P.* (*L.*) *circumflexa* due to the dense dorsal punctation, although the pattern on its elytra bears more resemblance to *P.* (*L.*) *circumflexa.*

Key to the African and Madagascarean species

1. Body narrow, slender and slightly convex dorsally, about twice or more as long as wide; eyes never with distincly raised interfacetal setae [although *P.* (*L.*) *pr. elongata* and *P.* (*L.*) *longa* sp. nov. have very thin and extremely short interfacetal setae]; pronotum usually widest before base, always with distinct and rather dense punctation. Male: protibia not or slightly curved along inner edge and never strongly widened; mesotibiae always inwardly curved before apex **2**

– Body more oval to rather robust and frequently strongly convex dorsally, not more than twice, but usually much less than twice as long as wide; if body about twice as long as wide, eyes with more or less distinctly raised interfacetal setae [longest specimens of *P.* (*L.*) *costipennis*] or male protibiae strongly curved before apex along inner edge [narrowest specimens of *P.* (*L.*) *limbata tibialis* and *P.* (*L.*) *spornraftorum* sp. nov.]; pronotal punctation variable. Male: mesotibia variable **6**

2 (1). Pronotum narrowly subexplanate at sides; body moderately and gently convex, distinctly more than twice as long as wide; more conspicuous pubescent; elytra about 3.0 times as long as pronotum; antennal club 1.3 times as long as wide; antennal grooves strongly convergent behind mentum; hypopygidium shallowly but distinctly depressed at sides; elytra slightly costate and with rather dense and slightly traceable double row of separated punctures between costae; body nearly unicoloured light brown and only sometimes with contrasting small light spots on elytra arranged in 3 irregular longitudinal rows; pronotum with dense, distinct punctures, partly contiguous or forming irregular oblique rows of 3–7 punctures. Male: trochanters with blunt and not projecting distal corner; metatibia scarcely curved (except for base). 6.0–8.1 mm. Figs 118–122, 195. Democratic Republic of the Congo (Zaire) ..... ***P. (L.) longa* sp. nov.**

– Pronotum widely explanate at sides (at least as wide as the antennal club); body rather slender and subflattened, nearly twice as long as wide; moderately pubescent; elytra about 2.5 times as long as pronotum; antennal club at least

1.5 times as long as wide; antennal grooves curved at mentum sides, but slightly convergent to subparallel-sided behind mentum; elytra with raised costae and clearly seriate punctation; body light brown or brown (rarely very dark), elytra always with some more or less raised small light spots arranged in 3 irregular longitudinal rows; prohypomera, epipleura, antennal flagella, mouth parts, distal part of femora and tibiae always lighter. Male: trochanters with pointed and rather projecting distal corner; metatibia slightly to rather strongly curved to apex **3**

3 (**2**). Pronotum with more trapezoid emargination of fore edge; labral lobes with subangular edges at median excision; dorsum with distinct, large and moderately dense punctures (on pronotum as large as eye facets or larger), interspaces between them smoothly microreticulated; antennal grooves subparallel-sided behind mentum; prosternal process subacute at apex; base of hypopygidium rather deeply depressed at sides. Male: pygidium emarginate at apex; protibia angularly curved and enlarged at the middle of inner edge; meso- and metatibiae rather and evenly arcuate; metasternum flattened in distal half and with uniform punctation and sculpture along the middle. 6.2–8.2 mm. Figs 112–117. Tanzania, Madagascar, ? Republic of South Africa ..... ***P. (L.)* pr. *elongata* (Reitter, 1873), comb. nov.**

– Pronotum with more arcuate emargination at fore edge; labral lobes with rounded edges at median excision, antennal grooves gradually convergent behind mentum or subparallel-sided and convergent before their ends; hypopygidium slightly or scarsely depressed at sides. Male: pygidium subtruncate at apex; metasternum before hind edge with a triangular depression, at the bottom with punctures sparser than in the anterior half and interspaces between them smooth and shining **4**

4 (**3**). Punctures on pronotum sparser and larger – markedly larger than eye facets; elytral sides less widely explanate than width of antennal scape; antennal grooves behind mentum subparallel-sided and convergent before their ends; prosternal process subacute at apex; body dark brown with very bright yellow spots on elytra. Male: mesotibia strongly curved inwards and slightly enlarged before apex; metatibia rather strongly curved along inner edge. 8.9–9.6 mm. Figs 165–169, 202. Democratic Republic of the Congo (Zaire) ..... ***P. (L.) subtilis* sp. nov.**

– Punctures on pronotum denser and smaller – about as large as eye facets or usually smaller; elytral sides about as widely explanate as width of antennal scape; antennal grooves gradually convergent behind mentum; prosternal process subtruncate at apex; body reddish to brown (very rarely dark brown) with bright yellow spots on elytra. Male: mesotibia slightly curved inwards; metatibiae slightly to moderately curved along inner edge **5**

5 (**4**). Elytra never with well raised costae or sometimes with 6 feeble costae; pronotal sides about as widely explanate as width of antennal club; punctures in each longitudinal double row on elytra distinct and never fused; body rather dull; punctation on pronotum distinctly seriate; dorsal pubescence moderately conspicuous. Male: mesotibia only curved inwards, but not enlarged before apex. 6.7–8.6 mm. Figs 64–69, 74, 184. Nossi-Bé, Republic of South Africa, Sainte-Hélène ..... ***P. (L.) immunda* (Boheman, 1851), comb. nov.**

– Each elytron only with 3 well raised costae or sometimes with a very feeble costa between them; pronotal sides markedly more widely explanate than width of antennal club; punctures in each longitudinal double row on elytra more or less transversely fused; body rather shining; punctation on pronotum mostly containing separated punctures; dorsal pubescence slightly conspicuous. Male: mesotibia curved inwards, arcuately excised and strongly enlarged before apex. 5.6–7.1 mm. Figs 170–171, 203. Rwanda, Zimbabwe ..... ***P. (L.) tricostata* sp. nov.**

6 (**1**). Pronotum distinctly narrowed to base with unexplanate sides [except *P.* (*L.*) *costipennis* with narrowly explanate pronotal sides; *P.* (*L.*) *harmonica* sp. nov. with subexplanate hind corners; sometimes females of *P.* (*L.*) *accepta* sp. nov. with pronotum widest at base or *P.* (*L.*) *spornraftorum* sp. nov. with pronotum subparallel-sided at base] **7**

– Pronotum widest at base or slightly narrowed to base, sides frequently widely explanate [pronotum with subexplanate sides in *P.* (*L.*) *bakkei* sp. nov., *P. (L) bipustulata*, *P. (L) circumflexa*, *P.* (*L.*) *implagiata* sp. nov., *P.* (*L.*) *intermixta* sp. nov., *P.* (*L.*) *limbata limbata*, *P.* (*L.*) *zairensis* sp. nov., *P.* (*L.*) *zotti* sp. nov. sometimes pronotum of *P.* (*L.*) *circumflexus* distinctly narrowed as in *P.* (*L.*) *accepta* sp. nov. pronotum in slender specimens of *P.* (*L.*) *limbata tibialis* very rarely outlined as in *P.* (*L.*) *costipennis*] **16**

7 (**6**). Antennal club oviform, last antennomere longer than the two previous ones together and as wide as each of the two previous ones; pronotum narrowed towards base, hind corners not projecting posteriorly; antennal grooves rectilinearly convergent; dorsal punctation coarse and sparse, with slightly traceable longitudinal rows on incostate elytra; body almost regularly elliptic, *Thalycra*-shaped; dorsum almost unicoloured chestnut brown, with slightly traceable lighter spots on elytra and very reduced pubescence. Male: tibiae not sexually dimorphic; metasternum widely depressed in distal half; penis trunk with a long and very narrow apex. 5.8 mm. Figs 155–159, 200 Kenya ..... ***P. (L.) rotundiclava* sp. nov.**

– Antennal club elongate oval, last antennomere not longer and more or less narrower than each of the two previous ones [the last antennomere is longer but distinctly narrower than antennomere 9 only in *P.* (*L.*) *quadrimaculata* and *P.* (*L.*) *robusta* sp. n]; pronotum at most slightly narrowed to base with hind corners more or less projecting posteriorly; body never *Thalycra*-shaped; combination of other characters different **8**

8 (**7**). Pronotum with explanate or subexplanate sides; body usually elliptic and rather elongate, moderately convex dorsally, dull and usually rather hairy, with strongly conspicuous rows of longer hairs on elytra; pronotal punctation strongly confused and dense, punctures sometimes distinctly double or with fused punctures; elytra slightly costate, with punctures arranged in hardly expressed rows; eyes with distinct interfacetal setae; dark brownish to reddish or almost black, elytra with variable pattern of, or without, small lighter spots; distal half of femora and tibiae coloured as body or lighter, rarely darker. Male: protibia subtriangular, strongly widened; mesotibia strongly but shortly curved inwards before apex; metasternum weakly depressed in distal half; penis trunk with a raised median carina at base and strongly curved before very narrow apex. 3.5–6.3 mm. Figs 25–40, 181. Africa (everywhere south of Sahara), Comores, Seychelles, Réunion and Madagascar ..... ***P. (L.) costipennis* (Boheman, 1951), comb. nov.**

– Pronotum with unexplanate sides [sometimes with almost subexplanate sides in *P.* (*L.*) *accepta* sp. nov. and *P.* (*L.*) *limbata tibialis* ? form "*grammica*", or subexplanate hind corners in *P.* (*L.*) *harmonica* sp. nov. and *P.* (*L.*) *spornraftorum* sp. nov.]; body more oval (subovoid) or, if elliptic, not so elongate and rather convex dorsally or subflattened, usually with moderate or weak hairs, with moderately conspicuous or scarcely traceable rows of longer hairs on elytra. Male: penis trunk never so strongly curved or with very narrowed apex **9**

9 (**8**). Pronotum with subexplanate hind corners; elytra with widely or moderately explanate sides; antennal grooves nearly rectilinear (sometimes divergent); pronotal punctation indistinct, sometimes absolete or represented by very small tubercles, interspaces between punctures coarsely and contrastingly microreticulated by very small punctures; body more robust and dull; eyes usually with raised interfacetal setae [although in *P. (L) spornraftorum* sp. nov.

pronotal punctation distinct and sculpture with usual microreticulation; body elongate, somewhat shining and eyes with very short interfacetal setae] **10**

– Pronotum evenly sloped at sides; elytra with extremely narrowly explanate or nearly unexplanate sides; antennal grooves more or less arcuate and convergent behind mentum; pronotal punctation distinct and simple, interspaces between punctures finely and densely, moderately contrastingly microreticulated (sometimes more or less smooth or microreticulated by very small punctures); body more slender and with a faint or moderate shine; eyes without raised interfacetal setae..... **13**

10 (**9**). Body elongate and subflattened dorsally; dorsum with very dense (almost contiguous) and distinct punctures, with smooth interspaces; antennal grooves distinctly divergent; prosternal process at narrowest place not narrower than antennal club; pronotum with subexplanate hind corners; body reddish brown with small yellowish spots on elytra arranged in 3 irregular rows. Male: protibia sharply dilated distally and curved inwards along inner edge; mesotibia strongly curved inwards before apex; metasternum flattened. 7.1–8.0 mm. Figs 160–164, 201. Madagascar..... ***P. (L.) spornraftorum* sp. nov.**

– Body more oval and rather convex dorsally; dorsum with rather sparse punctures, interspaces microreticulated by very small punctures; antennal grooves never divergent; prosternal process at narrowest place much narrower than antennal club; body darker, without or with different pattern of light spots on elytra..... **11**

11 (**10**). Body larger (6.5–9.8 mm) and more convex dorsally, only with subrecumbent and recumbent pubescence on dorsum; pronotum with especially shallow or inconspicuous (usually rather small) punctures or with very small tubercles; elytra evenly convex, with small and very shallow, almost obsolete punctures; prosternal process not carinate; dark brown to pitchy blackish, pronotal sides somewhat lighter, each elytron usually with a comparatively large humeral red spot and some rather small red spots variable in pattern. Male: tibiae with a very prominent and narrow subapical process; protibia subtriangular and nearly regularly curved; mesotibia strongly curved inwards before apex; metasternum moderately or weakly depressed in distal half. Figs 1–6, 9–11, 177. Ivory Coast, Nigeria, Togo, Central African Republic, Democratic Republic of the Congo (Zaire), Kenya, Tanzania, Republic of South Africa..... ***P. (L.) accepta* sp. nov.**

– Body smaller (4.8–7.4 mm) and less convex dorsally, dorsum with erected or suberected hairs between subrecumbent and recumbent pubescence; pronotum with sparse, shallow and rather large punctures (sometimes reduced and scarcely visible); elytra with distinct large punctures arranged in double longitudinal rows and without a trace of small reddish spots; prosternal process somewhat carinate. Male: tibiae without very prominent and narrow subapical process; mesotibia strongly curved inwards before apex..... **12**

12 (**11**). Body reddish with dark brown elytra; elytra slightly tuberculate; prosternal process subtruncate at apex; hypopygidium very deeply depressed at sides. Male: protibia angularly curved at the middle and dilated distally along inner edge; metasternum with a moderately deep depression in distal half. 5.8–6.2 mm. Figs 61–63, 183. Democratic Republic of the Congo (Zaire) ..... ***P. (L.) harmonica* sp. nov.**

– Body dark brown to blackish, with slightly lighter fore part of head, prothoracic and elytral sides, abdominal apex and appendages; elytra not tuberculate; prosternal process clearly rhomboid; hypopygidium slightly or moderately depressed at sides. Male: protibia subtriangular, its inner edge gently emarginate or sometimes slightly dilated at the middle along inner edge; metasternum with a rather deep depression (or deep fossa) in distal half. 5.6–7.4 mm. Figs 41–47, 56–57, 182. Guinea, Ivory Coast, Ghana, Benin, Nigeria, Cameroon, Central African Republic, Democratic Republic of the Congo (Zaire) ..... ***P. (L.) decellei* sp. nov.**

13 (**9**). Fore edge of pronotum subtruncate; body strongly convex; punctures on pronotum and elytra rather large and deep, sometimes forming indistinct longitudinal rows on elytra and with smooth microreticulated interspaces between them narrower than a puncture diameter; elytral sides more narrowly explanate than width of antennal flagella; dark brown to blackish, each elytron with two large, transverse, bright reddish spots (humeral and behind the middle). Male: pro- and mesotibiae strongly or moderately curved, protibiae rather widened; metasternum with a triangular depression before hind edge. 5.4–6.8 mm. Figs 143–148, 198. Ethiopia, Uganda, Kenya, Tanzania..... ***P. (L.) quadrinotata* (Grouvelle, 1899), comb. nov.**

– Pronotum distinctly emarginate at fore edge; body moderately convex; punctures on pronotum and elytra, if deep, of usual size, or, if shallow, rather larger and very sparse, interspaces between them more or less distinctly microreticulated **14**

14 (**13**). Antennal grooves very slightly curved; elytra with slightly traceable small light spots arranged in 3 irregular rows; elytral sides somewhat more widely explanate than width of antennal flagella; body dark brown to almost blackish; dorsum with subrecumbent hairs. Male: protibia triangular, slightly curved; mesotibia strongly curved inwards before apex; metasternum moderately depressed in distal half. 5.8–7.3 mm. Figs 58–60, 71. Democratic Republic of the Congo (Zaire), Tanzania ..... ***P. (L.) georgyi* sp. nov.**

– Antennal grooves strongly arcuately convergent **15**

15 (**14**). Pronotum slightly narrowed to base, with hind corners moderately projecting backwardly; elytral sides about as widely explanate as width of antennal flagella; pronotal surface with moderate, dense and deep punctures separated by about, or somewhat less, than a puncture diameter; elytral surface with subequal to or larger and deeper punctures than those on pronotum, separated by less than a puncture diameter; antennomere 9 not or scarcely wider than 10th and 11th; dorsum nearly unicoloured light to dark brown or with small lighter spots on elytra arranged in 3 irregular rows. Male: pro- and mesotibiae scarcely or slightly modified, at most protibia slightly dilated at the middle of inner edge and mesotibia slightly curved inwards before apex (sometimes mesotibia strongly curved and enlarged); metasternum scarcely depressed in hind half. 4.9–7.3 mm. Figs 48–51, 194 (see also *P.* (*L.*) *limbata tibialis,* Figs 105, 191–193). Throughout Africa south of Sahara, Azores, Madeira, Cape Verde, Seychelles, Réunion, ? Comores and ? Hawaii..... ***P. (L.) limbata tibialis* (Boheman, 1851), comb. et stat. nov., part, ? form "*grammica*"**

– Pronotum strongly narrowed to base, with hind corners weakly projecting posteriorly; elytral sides extremely narrowly explanate, simply bordered; pronotum with large, sparse and shallow punctures separated by more than a puncture diameter; elytral surface with smaller and shallower punctures than those on pronotum, separated by much more than a puncture diameter; antennomere 9 markedly wider than 10th and 11th ones; dorsum chestnut dark brown, each elytron with two large reddish spots: humeral subtriangular and transverse behind the middle. Male: protibia subtriangular and rather dilated to apex; mesotibia almost simple; metasternum slightly and widely depressed. 5.6–6.5 mm. Figs 138–142. Madagascar ..... ***P. (L.) quadrimaculata* (Grouvelle, 1899), comb. nov.**

16 (**6**). Mesosternum deeply excavate behind middle; hypopygidium slightly depressed and with shining stripe along hind edge; dorsum nearly unicoloured blackish with slightly visible small reddish spots across middle of elytra, underside and appendages dark reddish brown; elytral apices closing; protibial spurs strongly reduced; prosternal process subparallel-sided and abrupt at subvertical apex; punctation of head, pronotum and underside almost obsolete and integument extremely finely microgranular; elytra with rows of double punctures and each pair of punctures united in simple fossae between smooth costae; dorsal pubescence subrecumbent; eyes without raised interfacetal setae. Male: protibia rather widened to apex; mesotibia sharply curved inwards before apex; metasternum rather deeply depressed in hind half. 4.9 mm. Figs 127–135. Ghana, Cameroon ..... ***P. (L.) perforata* sp. nov.**

– Mesosternum never excavate behind middle; prosternal process widened before rounded or subangular apex, somewhat projecting behind; punctation of head and pronotum more or less expressed (punctures with traced outlines), integument between punctures various; elytral apices gently vaulted; protibial spurs not reduced..... **17**

17 (**16**). Pronotum microgranular or its punctation consists of strongly irregular and very large punctures, separated by interspaces with very fine punctures; pronotal surface also with extremely coarse microsculpture, sometimes looking like shallow punctures [in some specimens of *P.* (*L.*) *bipustulata* pronotal punctures very small and dense, but punctures on elytra almost obsolete]; pronotum evenly convex, with unexplanate sides; antennal grooves straight **18**

– Pronotal punctation simple, unless obsolete, or between deep and large punctures there are scattered very fine punctures [however, sometimes punctation of *P.* (*L.*) *circumflexa, P.* (*L.*) *bakkei* sp. nov. and *P.* (*L.*) *robusta* sp. nov. looks somewhat like microgranular or very shallow, especially on pronotum]; pronotum with variable convexity; antennal grooves diverse (in the mentioned species distinctly arcuate) **20**

18 (**17**). Body larger (6.6–10.7 mm), with recumbent or subrecumbent pubescence on dorsum; punctures on elytra almost obsolete and scarcely outlined; eyes without raised interfacetal setae; elytra evenly convex and with distinct subsutural lines in distal 1/3; antennal grooves subparallel-sided; dark brown to blackish, with 2 larger contrasting bright reddish spots on each elytron (at scutellum and behind the middle) and some very small reddish spots; hypopygidium slightly depressed and without lateral grooves. Male: protibia sharply dilated behind middle and rather curved along inner edge and a strong subapical projection at outer corner; mesotibia strongly curved before apex; metasternum widely depressed. Figs 7–8, 12–17, 179. Democratic Republic of the Congo (Zaire), Tanzania, Kenya, Namibia, ? Malawi, ? Zambia, Zimbabwe, Mozambique, Republic of South Africa ..... ***P. (L.) bipustulata* (Grouvelle, 1899), comb. nov.**

– Body smaller (5.4–7.0 mm) and nearly unicoloured dark brown to blackish; eyes with or without raised interfacetal setae; elytra without light spots. Male: protibia subtriangular, only slightly curved along inner edge; mesotibia moderately curved before apex **19**

19 (**18**). Eyes without raised interfacetal setae; pronotum with irregular but rather distinctly outlined punctures; antennal club subparallel-sided and about 1.5 times as long as wide; all tibiae with very prominent and narrow subapical process; elytra gently sloped at sides and sutural corner between their apices more or less distinct; antennal grooves slightly arcuate; prosternum with obsolete punctation and its process subcarinate at apex; hypopygidium scarcely depressed; dorsum with subrecumbent pubescence; underside and appendages dark reddish brown. Male: protibia slightly curved along inner edge and with rather prominent subapical corner; mesotibia gently curved; metasternum slightly depressed at distal half. 5.4–7.3 mm. Figs 75–85, 185. Cameroon, Nigeria, Ghana, People's Republic of the Congo (Brazzaville), Democratic Republic of the Congo (Zaire)..... ***P. (L.) implagiata* sp. nov.**

– Eyes with raised interfacetal setae; pronotum with irregular, shallow and indistinctly outlined punctures; pronotum wider, with a pair of wide depressions at sides of scutellum; dorsum with suberect pubescence on dorsum; antennal club elongate oval and less than 1.5 times as long as wide; protibia at most with slightly prominent subapical corner; elytra steeply convex at sides and with apices almost closed; antennal grooves almost straight and divergent; prosternum with raised shallow punctation and its process subflattened; hypopygidium clearly and deeply depressed. Male: protibia only slightly curved along inner edge. 4.9–5.8 mm. Figs 123–126, 196. Tanzania ..... ***P. (L.) oviformis* sp. nov.**

20 (**17**). Pronotal sides clearly unexplanate (at most with a weak depression at each hind corner of pronotum); body as a rule, more convex and with more steeply sloping sides **21**

– Pronotal sides explanate, at least at hind corners; body as a rule, less convex and with more gently sloping sides..... **26**

21 (**20**). Body strongly convex and in general more robust, reddish brown to almost unicoloured blackish with darkened elytra (never with lighter spots on elytra); elytra with scarcely traceable rows of punctures; pronotum with rather large and sparse punctures and frequently small punctures at intervals between them; antennal grooves very weak and arcuately convergent behind mentum; prosternal process subacute at apex; dorsum with subrecumbent pubescence. Male: protibia subtriangular, its inner edge gently emarginate, but with a rather projecting subapical corner; mesotibia strongly curved before apex and with a strong process on outer edge; metatibia distinctly curved at the middle; metasternum flattened. 6.9–8.6 mm. Figs 149–154, 199. Tanzania..... ***P. (L.) robusta* sp. nov.**

– Body moderately convex and usually more slender, coloration variable and often with light spots on elytra [body of *P.* (*L.*) *circumflexa* is rather wide but only moderately convex, and almost always with distinct light spots on elytra]; elytra with distinct rows of punctures; pronotum with more simple, denser and uniform punctation; antennal grooves moderately developed; prosternal process subangular or rounded at apex..... **22**

22 (**21**). Elytra with more or less distinct costae and seriate punctation; body nearly unicoloured dark brown, usually with only small spots on elytra; pronotum with rather coarse and irregular punctation; legs not lighter. Male: protibia subtriangular and slightly angularly curved distally from its middle; mesotibia slightly arcuately excised along inner edge before widened apex; metasternum rather depressed before fore edge and in distal half. 5.2–7.3 mm. Figs 86–88, 186. Democratic Republic of the Congo (Zaire) ..... ***P. (L.) intermixta* sp. nov.**

– Elytra evenly sculptured or with weakly raised costae and with more diffuse punctation; body various, very frequently with smaller and larger light spots on elytra; pronotum with moderate and rather regular punctation [only *P.* (*L.*) *zairensis* sp. nov. with very coarse and irregular punctation on pronotum]..... **23**

23 (**22**). Body always unicoloured, dorsal punctation comparatively deeper and denser, pronotum with irregular transverse rows of contiguous punctures (4–7 punctures); dorsum with recumbent, rather dense and very conspicuous greyish yellow hairs; elytra with narrowly subexplanate sides; hypopygidium deeply depressed at sides. Male: protibia almost angularly curved inwards and somewhat sharply enlarged behind the middle; mesotibia rather strongly curved inwards; metasternum with a weak triangular depression in distal half. 6.2–6.7 mm. Figs 106–111, 178. Guinea, Democratic Republic of the Congo (Zaire)..... ***P. (L.) bakkei* sp. nov.**

– Body with light spots on elytra [sometimes *P.* (*L.*) *zotti* sp. nov. can have a reduced or no light spots on elytra]; dorsal punctation less deep and markedly sparser, usually without conjunction between punctures; dorsum with less conspicuous and less dense recumbent hairs or, if hairs conspicuous and greyish, they are clearly erect or suberect; elytra with moderately or widely subexplanate sides (at least as widely subexplanate as width of antennal scape) **24**

24 (**23**). Body smaller (5.3–7.6 mm); dorsum usually at least with an expressed shine to sometimes completely smooth and shining interspaces between punctures; dorsal pubescence recumbent or subrecumbent; hypopygidium deeply depressed; body unicoloured reddish to dark brown or often blackish, usually each elytron with 2 large bright reddish spots: triangular between scutellum and shoulder and behind the middle (sometimes the spots subcontiguous or reduced); legs not lighter than most part of body. Male: protibia subtriangular, inner edge gently emarginate (rarely sharply but weakly enlarged behind the middle); mesotibia strongly curved before apex; metasternum slightly depressed in posterior half. Figs 52–55, 70, 72, 205–206. Ivory Coast, Guinea, Ghana, Liberia, People's Republic of the Congo (Brazzaville), Democratic Republic of the Congo (Zaire), Angola ..... ***P. (L.) zotti* sp. nov.**

– Body larger (7.1–11.4 mm); dorsum almost dull (rarely shining), with subrecumbent, suberect or erect hairs. Male: pro- and mesotibiae always strongly curved inwards, and protibia also sharply widened before apex; metasternum medially slightly depressed **25**

25 (**24**). Dorsum with recumbent or subrecumbent hairs; pronotum with quite regular and not so dense punctures; hypopygidium rather deeply depressed at sides; body wider and less convex, coloration very variable, elytra in almost all cases with rather large contrasting reddish to yellowish spots differently outlined; elytra with widely subexplanate sides (more widely subexplanate than width of antennal scape). 6.4–11.4 mm. Figs 18–24, 180. Ghana, Liberia, Ivory Coast, Nigeria, Cameroon, Democratic Republic of the Congo (Zaire), Tanzania, Malawi, Republic of South Africa ..... ***P. (L.) circumflexa* (Murray, 1867), comb. nov.**

– Dorsum with 2 types of hairs: subrecumbent and erect or suberect hairs (bristles); pronotum with strongly irregular punctures; hypopygidium slightly or scarcely depressed at sides; body narrower and more convex, its coloration more constant: dark brown with 2 large contrasting bright reddish spots on each elytron: at base and behind the middle; elytra with moderately subexplanate sides (about as widely subexplanate as width of antennal scape). 7.1–8.9 mm. Figs 172–176, 204. Gabon, Democratic Republic of the Congo (Zaire) ..... ***P. (L.) zairensis* sp. nov.**

26 (**20**). Antennal grooves straight or almost straight and slightly convergent; pronotal punctation usually rather dense; hypopygidium slightly depressed; sexual dimorphism not expressed in tibiae (or slightly expressed only in mesotibia), if sexual dimorphism expressed in pro- and mesotibiae, sexual difference demonstrated in metatibia as well **27**

– Antennal grooves arcuately convergent behind mentum; punctation and coloration rather variable; hypopygidium moderately or well depressed; sexual dimorphism usually strongly expressed in curvature of pro- and mesotibiae, while metatibiae of both sexes simple **28**

27 (**26**). Pronotal and elytral sides at least as widely explanate as antennal club, or frequently wider; body coloration usually reddish to light brown, elytra always with light small spots and frequently with additional blackish small spots intermingled, pronotal disc sometimes with blackish small spots; prosternal process flattened before subtruncate apex; elytral apices acuminate in both sexes. Male: protibia strongly curved and sharply enlarged behind the middle of inner edge; mesotibia strongly curved and somewhat enlarged inwards; metatibia somewhat curved along inner edge. 3.8–7.1 mm. Figs 89–95, 187. Democratic Republic of the Congo (Zaire), Ethiopia, Kenya, Burundi, Rwanda ..... ***P. (L.) lata* sp. nov.**

– Pronotal and elytral sides narrowly explanate, but never as wide as antennal club; body coloration usually dark brown to almost black (very rarely reddish) with various pattern of light small spots (sometimes united into one comparatively large spot on each elytron); prosternal process subcarinate before subacute apex; elytral apices gently rounded at sides (only sometimes subacute in females). Male: sexual dimorphism in tibiae scarcely expressed (at most male mesotibiae can be somewhat curved). 5.4–8.6 mm. Figs 136–137, 197. Seychelles, Madagascar, Nossi-Bé, Réunion, Indo-Malayan and Australian regions, Palaearctic Far East and ? Hawaii ..... ***P. (L.) picta* (Macleay, 1825), comb. nov.**

28 (**26**). Pronotum with a rather arcuate emargination at fore edge; pronotal punctation usually coarser and sparser; elytra, as a rule, nearly unicoloured dark brown and without small light contrasting spots. 5.0–8.2 mm. Figs 96–104, 188–190. Tanzania (Zanzibar), Madagascar, Nossi-Bé ..... ***P. (L.) limbata limbata* (Fabricius, 1781), comb. nov.**

– Pronotum with a rather trapizoid emargination at fore edge; pronotal punctation rather variable, but more frequently comparatively fine and very dense; elytra, as a rule, with light contrasting reddish to yellowish spots of various configuration (although more often these spots very small and forming 3 irregular rows). 3.6–8.6 mm. Figs 105, 191–193 (see also thesis "15 (14)" ? form "*grammica*" Figs 48–51, 73, 194). Throughout Africa south of Sahara, Azores, Madeira, Cape Verde, Seychelles, Réunion, ? Comores and ? Hawaii ..... ***P. (L.) limbata tibialis* (Boheman, 1851), comb. et stat. nov.**

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