



New crickets (Orthoptera: Gryllidae) from the mountain forests of South Africa

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ABSTRACT

A new material on the genera *Prolandrevia* Gorochov, 2005 (Landrevinae: Prolandrevini), *Stalacris* Desutter-Grandcolas, 2013 (Phalangopsinae: Phalangopsini) and *Parametrypa* Brunner-Wattenwyl, 1873 (Podoscirtinae: Podoscirtini) from the mountain forests of the Limpopo Province (South Africa) is considered. The following new taxa are described: the subgenus *Urolandrevia* subgen. nov. (inside the first genus); *Prolandrevia* (*U.*) *irisovi* sp. nov. (Wolkberg Mts); *P. (U.) spinula* sp. nov. (Soutpansberg Mts); *S. oskolskyi* sp. nov. (Wolkberg Mts); *Parametrypa dentata curvitibia* subsp. nov. (Soutpansberg Mts). A previously unknown male of the nominotypical subspecies of the latter species, *P. d. dentata* Gorochov, 2021, is also described. Some data on the ecological characteristics of these taxa and on the historic geography of South Africa and adjacent territories are briefly presented. These data allow us to propose a hypothesis that the distribution of the above-mentioned genera along the coast of the Indian Ocean from Eastern Cape to Swaziland and in the isolated mountain forests of the Limpopo Province, located rather far from this coast, could have appeared as a result of partial aridization of the former large forest area, which occupied a significant territory of South Africa (and some nearest countries) and had a similar endemic fauna of crickets.

Key words: Gryllidae, new taxa, South Africa

Новые сверчки (Orthoptera: Gryllidae) из горных лесов Южной Африки

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РЕЗЮМЕ

Рассмотрен новый материал по родам *Prolandrevia* Gorochov, 2005 (Landrevinae: Prolandrevini), *Stalacris* Desutter-Grandcolas, 2013 (Phalangopsinae: Phalangopsini) и *Parametrypa* Brunner-Wattenwyl, 1873 (Podoscirtinae: Podoscirtini) из горных лесов провинции Лимпопо (Южная Африка). Описаны следующие новые таксоны: подрод *Urolandrevia* subgen. nov. (в составе первого рода); *Prolandrevia* (*U.*) *irisovi* sp. nov. (горы “Wolkberg”); *P. (U.) spinula* sp. nov. (горы “Soutpansberg”); *S. oskolskyi* sp. nov. (горы “Wolkberg”); *Parametrypa dentata curvitibia* subsp. nov. (горы “Soutpansberg”). Описан также ранее неизвестный самец номинативного подвида последнего вида – *P. d. dentata* Gorochov, 2021. Кратко приведены некоторые данные по экологическим особенностям этих таксонов и по исторической географии Южной Африки и соседних территорий. Эти данные позволяют предложить гипотезу о том, что распространение вышеупомянутых родов вдоль побережья Индийского океана от Восточного Капа до Свазиленда и в изолированных горных лесах провинции Лимпопо, расположенных довольно далеко от этого побережья, могло возникнуть в результате частичной аридизации бывшего крупного лесного региона,

занимавшего значительную территорию Южной Африки (и некоторых ближайших стран) и имевшего сходную эндемичную фауну сверчков.

Ключевые слова: Gryllidae, новые таксоны, Южная Африка

INTRODUCTION

The cricket fauna of mountain forests in South Africa is comparatively poor but very characteristic. It includes representatives of the following endemic genera: *Parametrypa* Brunner-Wattenwyl, 1873 (Podoscirtinae: Podoscirtini); *Prolandreva* Gorochov, 2005 (Landrevinae: Prolandrevini); *Stalacris* Desutter-Grandcolas, 2013 (Phalangopsinae: Phalangopsini). The first two genera were found in forests of the Vernon Crookes Nature Reserve not far from the Durban City (KwaZulu-Natal Province of South Africa; Gorochov 2010, 2021). This reserve is one of the sparse remnants of the narrow forest zone along the coast of the Indian Ocean, which possibly running from the Eastern Cape Province of South Africa to Swaziland as a minimum, because the short-winged genus *Prolandreva* was also discovered in these regions (Gorochov 2005, 2010). However, the apterous genus *Parametrypa* was additionally founded rather far from the sea coast (including the Limpopo Province of South Africa; Gorochov 2021: “Northern Province”), and the probably forest short-winged genus *Stalacris* was founded in the same province of South Africa and possibly in Swaziland (Desutter-Grandcolas 2013). So, these data allow us to propose a hypothesis that such generic distribution could have appeared as a result of partial aridization of the former large forest area, which occupied a significant territory of South Africa (and some nearest countries) and had a similar endemic fauna of crickets, and that now this fauna has been preserved only along the coast of the Indian Ocean and in the isolated montane forests situated rather far from this coast. This hypothesis is more or less supported by the results of our last trip in the Limpopo Province. These results are represented below.

MATERIAL AND METHODS

The material studied (including type specimens) is deposited at the Zoological Institute, Russian Academy of Sciences, Saint Petersburg. All the specimens are dry and pinned. The photographs of their

morphological structures were made with a Leica MZ 16 stereomicroscope. The joint field work was organized by the Department of botany and plant biotechnology (Faculty of Science of the University of Johannesburg) and the Laboratory of insect systematics (Zoological Institute of the Russian Academy of Sciences) in 2021.

SYSTEMATICS

Subfamily Landrevinae Saussure, 1878

Tribe Prolandrevini Gorochov, 2005

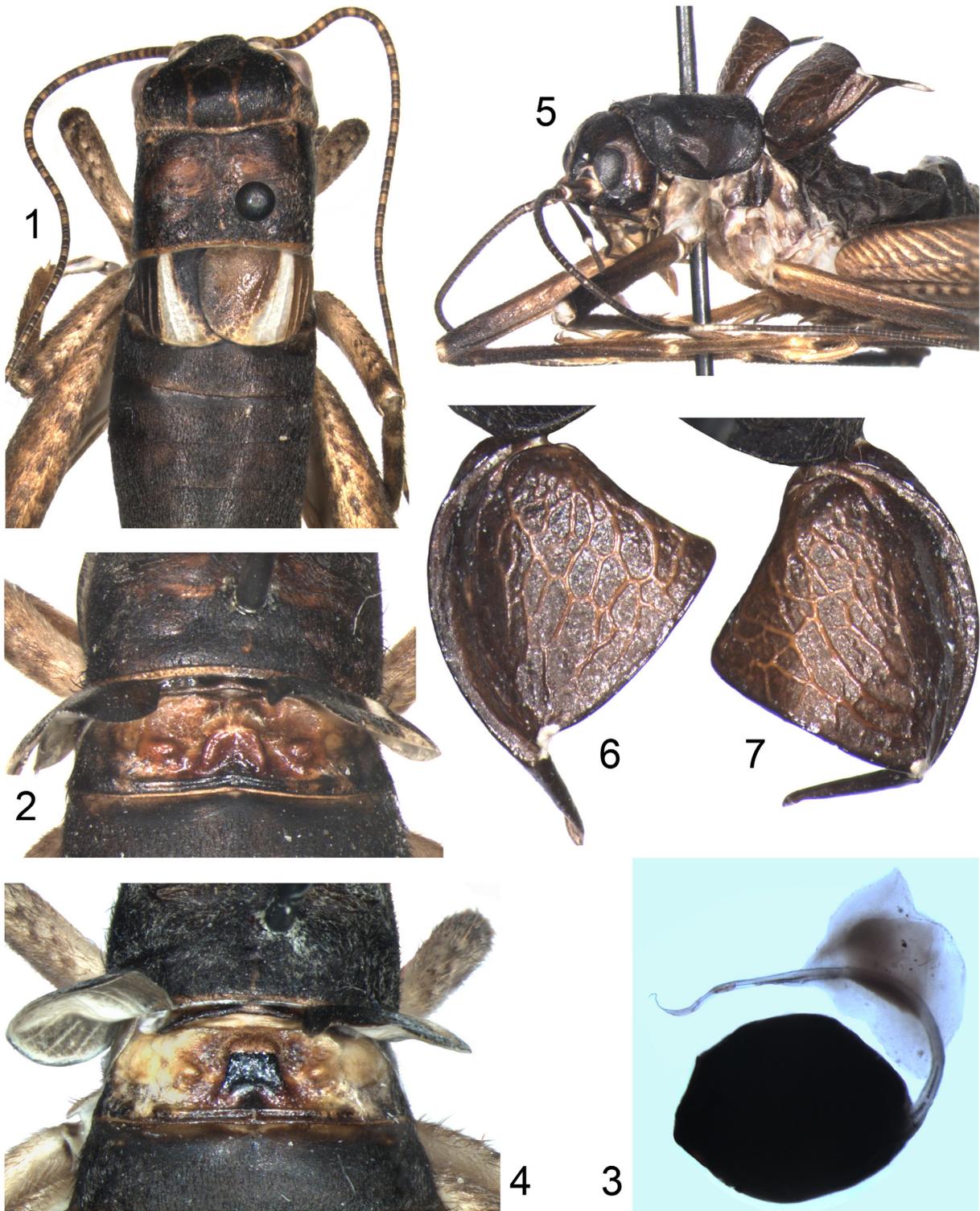
Genus *Prolandreva* Gorochov, 2005

Subgenus *Urolandreva* Gorochov subgen. nov.

Type species: *Prolandreva (Urolandreva) irisovi* Gorochov sp. nov.

Etymology. The new subgeneric name consists of the Latinized Greek prefix “Uro-” (with tail, caudate, etc.) and the generic name *Landreva* due to the very long ovipositor in this subgenus.

Diagnosis. Size and structure of body more or less similar to those of nominotypical subgenus (including presence of short tegmina without stridulatory apparatus only in male); coloration also similar, rather dark but with distinct light lateral parts of male dorsal tegminal fields (Fig. 1) or most part of these fields. However, male head of new subgenus less widened (not wider than pronotum) and with shorter mouthparts directed mainly downwards but not forwards (compare Figs 8 and 25), and apex of male genital plate with small roundly triangular lobule or soft spinule (this lobule often curved upwards, and rest of genital plate sometimes looking as almost apically truncated; Figs 22, 23). Male genitalia distinguished from those of nominotypical subgenus by following characters: epiphallus with narrower distal half and more strongly curved anterolateral parts (these parts directed posterodorsally, not anterodorsally; see Figs 9–11, 15, 16, 19–21 and 26–28); membranous ventral surface of dorsal (epiphallic) fold proximally with a pair of rather wide but lamellar sclerotized plates (*p*) having a pair of thin and very long sclerotized ribbons (*rb*) reaching distal halves



Figs 1–7. *Prolandrevia* Gor. and *Stalacris* Des.-Grand., male: 1–3 – *P. (Urolandrevia) irisovi* sp. nov.; 4 – *P. (U.) spinula* sp. nov.; 5–7 – *S. oskolskyi* sp. nov. Body without posterior parts from above (1, tegmina in rest position) and from side (5, tegmina erected); metanotal gland (tegmina erected) from above (2, 4); spermatophore from side (3); dorsal fields of left (6) and right (7) tegmina.

of rami (Figs 9–11, 15, 16, 19–21); distal part of this surface with more or less V-shaped sclerite (*v*) or with its traces (*t*); ectoparameres undeveloped (Figs 10, 11, 15, 16, 20, 21); endoparameres with narrow but rather short (small) apodemes (*en*); rachis (*r*) rather small, connected with endoparameres, almost spine-like, consisting of a pair of very narrow semisclerotized lobules and usually having additional sclerotized or membranous (*l*) lobules (Figs 10, 15, 20); formula absent (Figs 10, 15) but sometimes small and rather simple (*f*) in shape (Fig. 20); rami (*rm*) long and narrow (Figs 9–11, 19). Ovipositor long, 1.1–1.5 times as long as hind femur, with dorsoventrally flattened apical part having numerous drilling denticles laterally (Gorochov 2010: figs 12–14).

Included species. Type species; *P. (U.) spinula* sp. nov.; *P. mirabilis* Gorochov, 2010 (KwaZulu-Natal Prov. of South Africa).

Comparison. The new subgenus differs from the nominotypical one in the male head narrower and with shorter mouthparts directed more downwards, the male genital plate not notched apically (in *Prolandrevia* s. str., the apex of this plate is slightly notched, but really it has a very short lobule strongly curved upwards; Figs 29, 30), and the above-listed characters of the male genitalia: the ventral surface of the epiphallic fold in *Prolandrevia* s. str. is without rather wide and lamellar plates as well as without their sclerotized ribbons (Figs 26, 27); distally this surface also lacks any V-shaped sclerite but has distinct and articulated ectoparameres (Fig. 27); the endoparameral apodemes of the nominotypical subgenus are longer; its rachis is distinctly wider and consisting of a pair of wider lobules (Fig. 27); formula in *Prolandrevia* s. str. is developed, and its rami are distinctly shorter and almost plate-like (Figs 26, 28). I cannot exclude that these subgenera may be two related genera.

***Prolandrevia (Urolandrevia) irisovi* Gorochov sp. nov.**

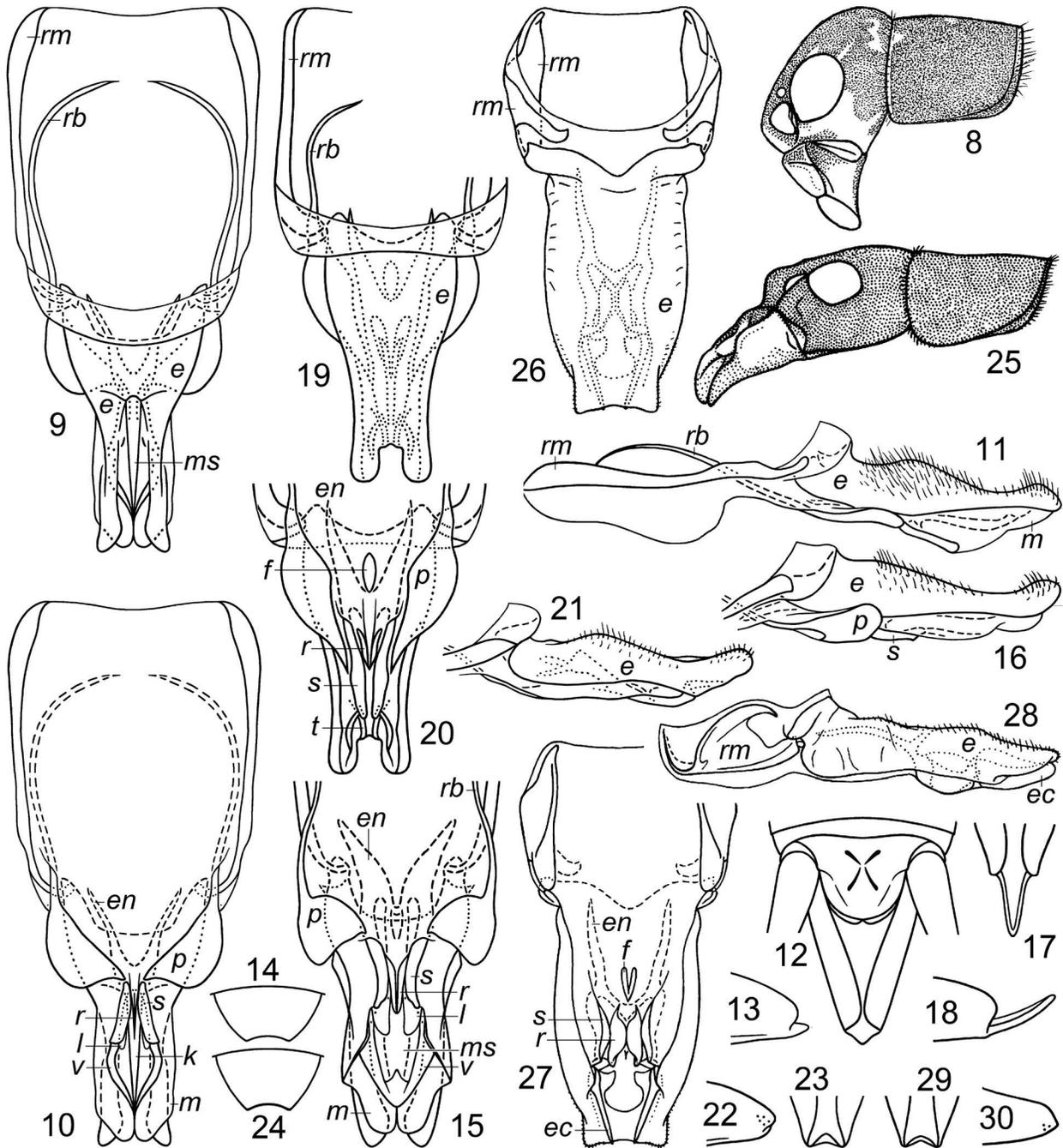
(Figs 1–3, 8–14)

Etymology. The new species is named in memory of Grigory Irisov, the excellent insect photographer and great lover of nature helping me in some our previous African, American and Indonesian trips.

Type material. *Holotype* – male, SOUTH AFRICA: Limpopo Prov., Wolkberg Mts, ~8 km NEE of Haenertsburg Vill., 23.98° S, 29.98–9° E, 1200–

1400 m, on bush branch in forest at night, 15–18 November 2021, A. Gorochov. *Paratypes*: 11 males, 5 females, same data as for holotype, but some specimens collected on ground, rocks, tree trunks and bush leaves.

Description. *Male* (holotype). Body moderately small for this genus, slightly pubescent and with dark brown coloration having following marks (Figs 1, 2, 8): head with yellowish narrow stripes along medial edges of eyes, a few short longitudinal lines on hind part of dorsum, short oblique line behind each eye and spots on dorsal surfaces of scapes, with whitish ocelli, with light greyish transverse triangular spot along clypeal suture, rather large area under each eye and on lower part of each gena as well as visible parts of mandibles, with yellowish to whitish lower half of clypeus having a pair of brown arcuate sublateral lines, with light brown to yellowish clypeus, with brown antennal pedicel and flagellum having numerous small light brown spots, and with yellowish to light greyish other mouthparts having maxillary palpi distinctly spotted (brownish grey with whitish portions around articulations of two basal segments, at apices of all other segments and in middle part of apical segment); pronotum with only traces of lightish spots in anterolateral corners of disc and in its middle (median) part; other tergites uniform but with metathoracic dorsum brown to light brown; tegmina brown to dark brown with moderately narrow whitish lateral parts of dorsal fields; legs light brown with greyish brown spots which rather small on femora and tarsi as well as clearly larger on tibiae (femora with apical spots larger than other femoral spots, and each tibia and tarsus with 3 darkened spots); anal plate light greyish brown with darker almost X-shaped spot at middle and a pair of small anterolateral areas; paraprocts and cerci uniformly brownish grey (slightly darker than most part of previous plate); venter of body light brown with barely darkened sternites of pterothorax, with whitish to yellowish pleurites having upper darkened areas of different size, and with almost dark brown genital plate. Head typical of Landrevinae, but almost as wide as high, not wider than pronotum and almost semiglobular (however, with roundly angular rostrum, flattened anterodorsal surface of epicranium, and mouthparts directed downwards but not more or less forwards; Figs 1, 8); ocelli distinct but small and located in corners of moderately transverse triangle (lateral ocelli rounded and almost twice as large as more transverse median



Figs 8–30. *Prolandreva* Gor.: 8–14 – *P. (Urolandreva) irisovi* sp. nov.; 15–18 – *P. (U.) spinula* sp. nov.; 19–24 – *P. (U.) mirabilis* Gor.; 25–30 – *P. (Prolandreva) aenigmata* Gor. Head with pronotum of male from side (8, 25); male genitalia with or without posterior parts from above (9, 19, 26), from below (10, 15, 20, 27) and from side (11, 16, 21, 28); male abdominal apex from above (12); distal part of male genital plate from above (17, 23, 29) and from side (13, 18, 22, 30); female genital plate from below (14, 24). Abbreviations: *e* – epiphallus; *ec* – ectoparamere; *en* – endoparameral apodeme; *f* – formula; *k* – median keel; *l* – membranous lobule; *m* – longitudinal ventral (mainly membranous) fold; *ms* – median sclerotized stripe of epiphallus; *p* – ventroproximal plate; *r* – rachis; *rb* – sclerotized ribbon of ventroproximal plate; *rm* – ramus; *s* – stick-like sclerite of longitudinal ventral fold; *v* – distal V-shaped sclerite. [25–28 – after Gorochov (2005), modified.]

ocellus); space between antennal cavities approximately 1.2 times as wide as each scape; metanotal gland with a pair of small lateral tubercles and larger but low median tubercle having slightly concave posterior half and dense hairs on anterior half (Fig. 2); tegmina strongly shortened, reaching middle part of anterior abdominal tergite, partly overlapping each other in rest position (Fig. 1); each tegmen similar to another one in structure, with dorsal field widely rounded apically and having poorly distinct traces of venation, and with lateral field distinctly narrower than previous one and having 3–4 longitudinal veins only; anal plate not long, almost triangular but with widely rounded apex and characteristic X-shaped impression at middle of dorsum (Fig. 12); genital plate much longer than anal one and with distal part having small (short) roundly angular posteromedian lobule and more widely rounded posterolateral lobules around it (all these lobules curved upwards, but posteromedian one slightly and posterolateral lobules more strongly and longitudinally; Figs 12, 13). Genitalia similar to those of *P. (U.) mirabilis* but with following differences: epiphallus with anteromedian part curved upwards but not upwards-backwards, with distal two thirds dorsally having a pair of more or less sclerotized and elongate areas as well as median sclerotized stripe (*ms*) between them separated from these areas by membranous parts, and with apex less bifurcated (in *P. mirabilis*, epiphallus completely more or less sclerotized and with distinctly bifurcated apex; compare Figs 9, 11 and 19, 21); ventral part of epiphallic fold membranous but forming a pair of additional lateral longitudinal folds, and each of these folds with apical sac-like lobe (*m*), with longitudinal sclerotized stripe in middle part (*s*) as well as with wide but short sclerotized ventroproximal plate (*p*) having long and thin sclerotized ribbon (*rb*) (in *P. mirabilis*, membranous ventral area of epiphallic fold with less distinct additional lateral longitudinal folds lacking apical lobes, with ventral longitudinal sclerotized stripes in more distal position, with distinctly longer sclerotized ventroproximal plates and with shorter its sclerotized ribbon; see Figs 9–11 and 19–21); semimembranous keel (*k*) located between these lateral folds distinct (indistinct in *P. mirabilis*); V-shaped sclerite (*v*) at base of apical lobes of these folds narrow and with very narrow apical part (in *P. mirabilis*, this sclerite undeveloped or presented by its traces, a pair of small elongate sclerotizations on posteromedian part of epiphallic fold; Figs 10

and 20: *t*); rachis (*r*) slightly narrower; small membranous lobules (*l*) around its apex developed, but formula (*f*) indistinct (in *P. mirabilis*, these lobules probably absent, and formula more or less developed; Figs 10, 20). Spermatophore as in Fig. 3.

Variations. Head often with light vertical line from rostral apex to light triangular spot near clypeal suture and without darkened lines on lower half of clypeus, or with darker (brownish grey) previous triangular spot and areas under eyes; pronotum sometimes with somewhat larger reddish brown spots on middle part of disc; tegmina sometimes with less distinct (yellowish or greyish) lateral parts of dorsal fields.

Female. General appearance as in males but with following characters: light longitudinal lines on posterior part of epicranial dorsum sometimes longer; rostral apex often with a few very small light brown marks near median ocellus; dorsal part of both head and pronotum sometimes almost uniformly dark brown; pronotal disc and other tergites often brown to light brown and with numerous and small poorly distinct darker spots; anal plate without X-shaped darkened mark; genital plate brown or light brown; ovipositor more or less light brown; tegmina and metanotal gland absent; anal plate with only slight traces of X-shaped impression; genital plate as in Fig. 14; ovipositor 1.4–1.5 times as long as hind femur and with distal part approximately as in *P. (U.) mirabilis* (Gorochov 2010: figs 12–14).

Length (mm). Body: male 16.0–19.5, female 16.0–18.0; pronotum: male 2.4–3.1, female 3.0–3.3; tegmina, male 2.2–2.5; hind femora: male 9.0–11.0, female 10.0–11.5; ovipositor 15.0–16.0.

Comparison. The new species differs from *P. (U.) mirabilis* in the body somewhat smaller, the male head with the mouthparts directed slightly more downwards, the clypeus in the both sexes having a less projected (less keel-like) transverse fold between its upper and lower parts, the tegmina somewhat longer (clearly protruding beyond the metanotum) and with much narrower light parts of the dorsal fields, the tergites of the female pterothorax and abdomen darker, the male anal plate with a darkened X-shaped impression (absent in *P. mirabilis*), the male genital plate with the posteromedian lobule slightly longer and less curved upwards, the female genital plate slightly shorter, the ovipositor clearly longer, and the characters of the male genitalia listed in the description.

***Prolandreva (Urolandreva) spinula* Gorochov sp. nov.**

(Figs 4, 15–18)

Etymology. The species name is the Latin word “spinula” (spinule, small spine) due to the presence of a spinule-like median lobule at the male genital plate apex.

Type material. *Holotype* – male, SOUTH AFRICA: Limpopo Prov., Soutpansberg Mts, 4–5 km N of Louis Trichardt Town, 22.98–9° S, 29.90–1° E, 1300–1500 m, on big stone in forest floor at night, 19–27 November 2021, A. Gorochov. *Paratypes*: 8 males, 4 females, same data as for holotype, but some specimens collected in same conditions as previous species.

Description. *Male* (holotype). Size, coloration and structure of body very similar to those of *P. (U.) irisovi* sp. nov. but with following differences: head rostrum with light dorsum before median ocellus and laterally as well as with distinct yellowish median stripe from rostral apex to light triangle near clypeal suture; pronotum uniformly dark brown with only a pair of small lightish marks in anterolateral corners of disc; metanotal dorsum yellowish with blackish posterior half of median tubercle (Fig. 4); cerci light brown; posteromedian lobule of genital plate with whitish dorsal elongate area; tegmina with slightly roundly angular medial parts of distal edges reaching posterior part of anterior abdominal tergite in rest position; median tubercle of metanotal gland with almost flat posterior half of dorsum (Fig. 4); genital plate with long and narrow (spinule-like) posteromedian lobule (Figs 17, 18); genitalia distinguished from those of *P. (U.) irisovi* sp. nov. only by less convex middle part of epiphallus (compare Figs 11 and 16: *e*), slightly shorter membranous apical lobes of ventral longitudinal folds (see Figs 10, 11 and 15, 16: *m*), more roundly angular (not widely rounded) posterolateral edges of ventroproximal sclerotized plates (Figs 9, 10 and 15: *p*), wider some other important structures (V-shaped sclerite at base of above-mentioned membranous apical lobes, including its apical part; endoparameres and their apodemes; rachis; median sclerotized stripe of epiphallus) (Figs 9, 10 and 15: *v*, *en*, *r*, *ms*), indistinct keel between ventral membranous folds and larger membranous lobules around apex of rachis (Figs 10 and 15: *k*, *l*). Spermatophore indistinguishable from that of type species.

Variations. Light longitudinal lines on head dorsum often longer than in holotype; dorsal surface of

scape sometimes almost completely yellowish; coloration of tegmina varied as in type species.

Female. Body practically indistinguishable from that of female of *P. (U.) irisovi* sp. nov., but coloration of head rostrum, scape and cerci often as in holotype of *P. (U.) spinula* sp. nov.

Length (mm). Body: male 17.5–20.0, female 17.0–19.0; pronotum: male 2.8–3.2, female 2.8–3.3; tegmina, male 2.5–3.0; hind femora: male 10.0–11.5, female 11.0–12.5; ovipositor 15.5–17.0.

Comparison. The new species is most similar and related to *P. (U.) irisovi* sp. nov. but clearly differs from it in a much longer (spinule-like) posteromedian lobule of the male genital plate and the above-listed small characters of the male genitalia (especially in a significantly wider V-shaped sclerite and its apical part).

Subfamily Phalangopsinae Blanchard, 1845

Tribe Phalangopsini Blanchard, 1845

Genus *Stalacris* Desutter-Grandcolas, 2013

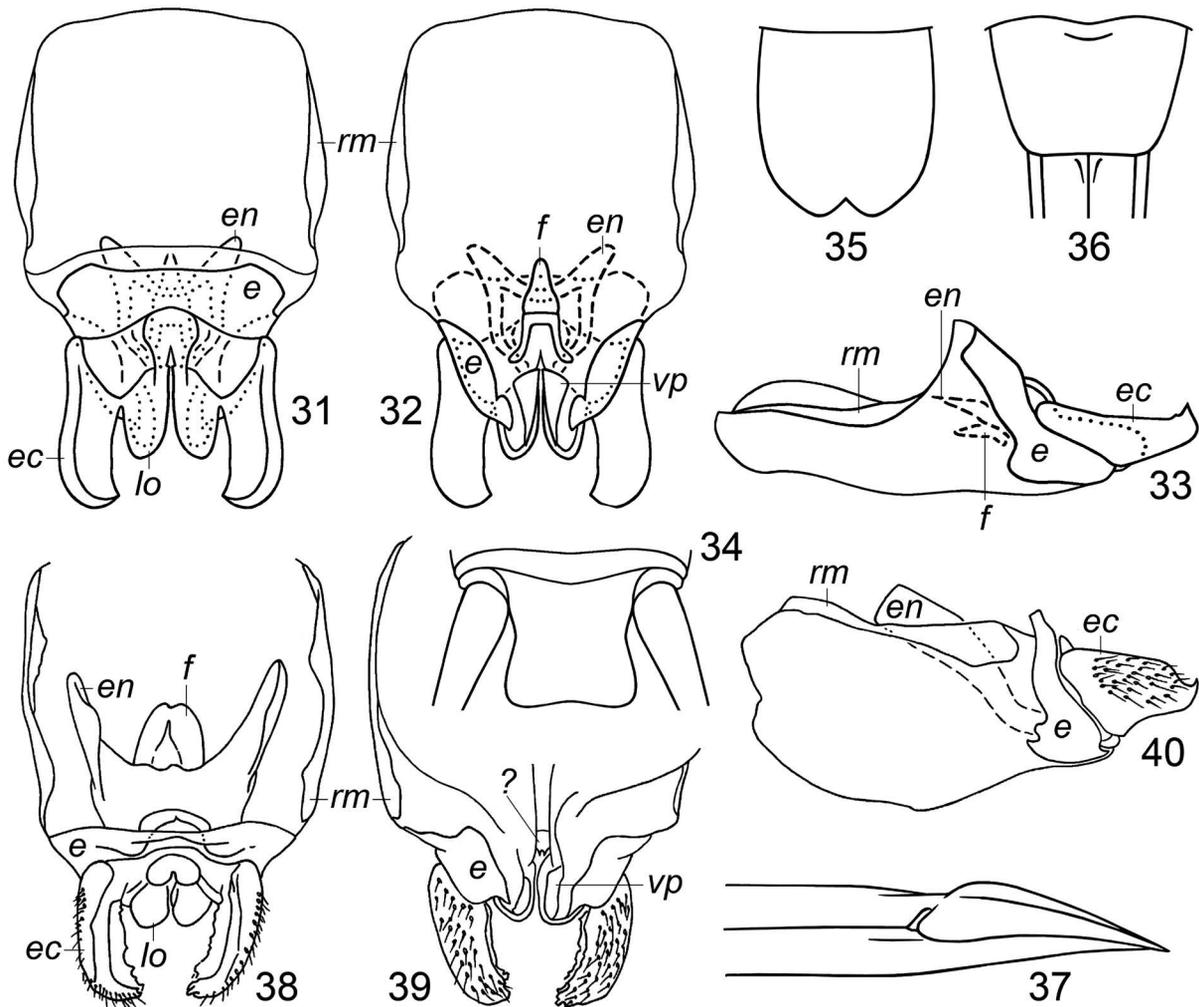
***Stalacris oskolskyi* Gorochov sp. nov.**

(Figs 5–7, 31–37)

Etymology. The new species is named after the botanist Aleksei Oskolsky (Oskolski) who organized our interesting trip in the Limpopo Province.

Type material. *Holotype* – male, SOUTH AFRICA: Limpopo Prov., Wolkberg Mts, ~8 km NEE of Haenertsburg Vill., 23.98° S, 29.98–9° E, 1200–1400 m, on ground talus along forest road at night, 15–18 November 2021, A. Gorochov. *Paratypes*: 2 males, 5 females, same data as for holotype.

Description. *Male* (holotype). General appearance (Fig. 5) very similar to that of holotype of *S. meridionalis* Desutter-Grandcolas, 2013: body medium-sized, more or less shining; coloration uniformly dark brown (almost blackish) but with whitish membranes of antennal cavities, most part of mouthparts (upper parts of clypeus and mandibles with grey areas, labial palpi slightly and maxillary palpi distinctly darkened) and rather short part of each antennal flagellum near its proximal part, greyish to whitish fore coxae and most parts of other coxae, greyish all sternites and other parts of latter coxae, brown to grey pleurites of pterothorax as well as legs and cerci (legs with darker tibiae, cerci with lighter bases), and brown metanotum and genital plate; head rather short and clearly higher than wide, with short and widely rounded (in profile) as well as narrow rostrum (scape



Figs 31–40. *Stalacris* Des.-Grand.: 31–37 – *S. oskolskyi* sp. nov.; 38–40 – *S. meridionalis* Des.-Grand. Male genitalia with or partly without posterior parts from above (31, 38), from below (32, 39) and from side (33, 40); anal plate with last tergites of male from above (34); male genital plate from below (35); genital plate with ovipositor base of female from below (36); distal part of ovipositor from side (37). Abbreviations: *lo* – posteromedial semisclerotized lobe; *vp* – ventral sclerotized plate of this lobe; ? – possibly rachis invisible in new species; others – as in Figs 8–30. [38–40 – after Desutter-Grandcolas (2013), modified.]

almost 2.5 times as wide as rostrum between antennal cavities), with rather large and almost triangular eyes, with very small ocelli situated in shape of elongated triangle (median ocellus located near apex of rostrum), and with long and thin maxillary palpi having obliquely truncated apices; legs also long and thin, without tympana, with 4 pairs of moderately large and articulated dorsal spines on each hind tibia (these spines situated in distal half of tibia, a pair of them located very near apical spurs, and additional small dorsal and unpaired spine developed between latter spines), with not numerous and very small dor-

solateral denticles near and between these spines, with inner apical spurs of this tibia distinctly longer than outer ones (dorsal inner spur almost reaching middle of non-denticulated basitarsus, middle inner spur slightly shorter, ventral inner spur almost equal to dorsal and middle outer spurs, and ventral outer spur shortest); tegmina strongly shortened but with dorsal fields overlapping each other in rest condition, with cellular and irregular traces of veins and veinlets in dorsal fields, with extremely narrow lateral fields lacking venation, and with almost truncated each medial edge having large angular projection

in proximal half and thin distal spine (this spine directed backwards as well as ventrally and medially; Figs 5–7); hind wings and distinct metanotal gland undeveloped; anal plate almost quadratic but with slightly narrowed middle part and truncate-notched posterior edge (Fig. 34); genital plate clearly but not strongly longer than previous plate, more or less rounded in distal part, and with distinct and angular but not very deep posteromedian notch (Fig. 35). Genitalia also similar to those of *S. meridionalis*, but with following differences: epiphallus (*e*) somewhat longer and with less deep (almost indistinct) dorsomedian concavity (compare Figs 31 and 38); ectoparameres (*ec*) longer, distinctly lower and dorsally concave (not clearly dorsally convex; see Figs 33 and 40); posteromedial semisclerotized lobes (*lo*), connected with ectoparameres by a pair of narrow semisclerotized areas, distinctly longer and having triangular (not elongately rounded) ventral sclerotized plates (Figs 32 and 39: *vp*); endoparameres (*en*) with much narrower (shorter) transverse bridge, connecting left and right endoparameres with each other, and with much shorter endoparameral apodemes (Figs 31, 32 and 38); formula (*f*) with shorter and much narrower anterior part (Figs 32 and 38).

Variations. Body barely darker or barely lighter; tegmina sometimes with distinct whitish spot at base of each tegminal spine; legs sometimes with lighter (almost light brown) tarsi as well as spines and spurs of hind tibiae.

Female. Body similar to that of males but with following characteristic features: coloration with row of brown to light brown spots in posterior half of dorsum and behind eyes, with light brown spot on dorsal surface of each scape, sometimes with brown marks on pronotal disc, often with light brown oblique stripes at base of each hind femur, and always with dark brown metanotum as well as almost light brown genital plate and ovipositor; tegmina absent; anal plate triangular with rounded apex; genital plate rather small, somewhat shorter than previous plate (slightly transverse), and almost trapezoidal in shape (Fig. 36); ovipositor somewhat shorter than hind femur, with apical part typical of Phalangopsini (Fig. 37).

Length (mm). Body: male 10.5–12.0, female 11.0–12.5; pronotum: male 2.7–2.9, female 2.8–3.0; tegmina, male 3.0–3.5; hind femora: male 9.5–10.5, female 10.5–12.0; ovipositor 9.5–10.5.

Comparison. This genus includes only 2 species: *S. meridionalis* (type species) and the new one which

differ from each other in the above-listed characters of the male genitalia. The first species was described from environs of Trichardtsdal Village (Desutter-Grandcolas 2013: “Trichardtsdaal”), ~50 km from the type locality of the new species.

Remarks. The genus *Stalacris* was described without including it in any tribe of Phalangopsinae (Desutter-Grandcolas 2013). This was probably due to the absence of female and the unknown structure of its ovipositor. The discovery of female of *Stalacris* allows me to include this genus in the tribe Phalangopsini. The subtribal position of this genus continues to be unclear, but possibly it is related to the African subtribe Phaeophilacridina Gorochov, 2020.

Subfamily Podoscirtinae Saussure, 1878

Tribe Podoscirtini Saussure, 1878

Genus *Parametrypa* Brunner-Wattenwyl, 1873

Parametrypa dentata curvitibia Gorochov

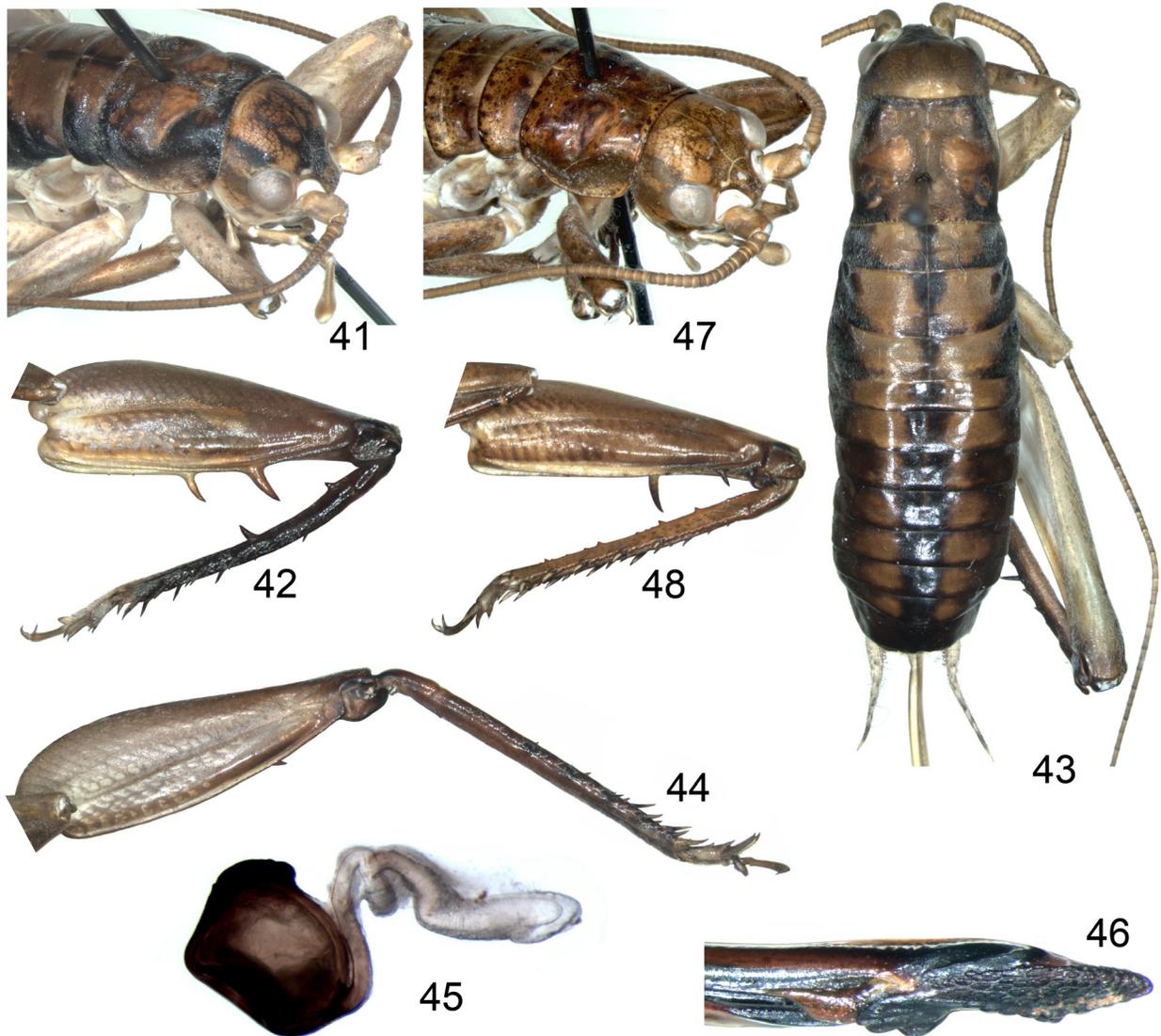
subsp. nov.

(Figs 41–46, 49–56)

Etymology. The subspecies name originates from the Latin prefix “curvi-” (curved) and morphological term “tibia” due to the shape of the male hind tibiae.

Type material. *Holotype* – male, SOUTH AFRICA: Limpopo Prov., Soutpansberg Mts, 4–5 km N of Louis Trichardt Town, 22.98–9° S, 29.90–1° E, 1300–1500 m, on leaf of bush in forest near glade at night, 19–27 November 2021, A. Gorochov. *Paratypes*: 4 females, same data as for holotype, but some specimens collected on thin branches of bushes.

Description. *Male* (holotype). General appearance similar to that of holotype (female) of *P. d. dentata* Gorochov, 2021 (Gorochov 2021) but with some characteristic features. Body slightly smaller and insignificantly more glabrous. Coloration less uniform, brown to light brown with following pattern: head dorsum and thoracic tergites with several dark brown marks as in Fig. 41; lower half of epicranium with greyish brown spots on genae and median arcuate stripe under antennae (this stripe transverse and almost in contact with clypeal suture at middle); ocelli, mouthparts, pleurites and coxae yellowish to whitish with sparse greyish spots on pleurites and coxae; lateral parts of abdominal tergites and most part of anal plate dark brown with large dorsal area on latter plate whitish to greyish and having two small dark



Figs 41–48. *Parametrypa* Br.-W.: 41–46 – *P. dentata curvitibia* subsp. nov.; 47, 48 – *P. d. dentata* Gor. Fore half of male body, laterodorsal and slightly frontal view (41, 47); outer side of hind leg in male (42, 48) and in female (44); female body without left legs and most part of ovipositor from above (43); spermatophore from side (45); distal part of ovipositor from side (46).

median spots connected with each other by dark line (Fig. 52); hind femur with almost dark brown apical part; hind tibia, median parts of two last sternites and most part of genital plate dark brown, but this plate with whitish distal part having a pair of light brown marks around apex (Fig. 53); other abdominal sternites with greyish brown median parts; thoracic sternites barely lighter (greyish); cerci and lateral parts of all abdominal sternites light greyish. Head typical of this genus, with scape approximately 1.2 times as wide as rostrum between antennal cavities, and all ocelli

rounded and small (but distinct; Fig. 41); pronotum almost quadratic (barely longer than wide), slightly and gradually narrowing anteriorly and posteriorly, with insignificantly concave anterior and posterior edges of disc as well as with almost straight ventral edge of each lateral lobe (this edge practically parallel to disc; Fig. 41); wings absent; mesonotum and metanotum similar in structure to abdominal tergites (without any distinct gland; Fig. 41); tympana absent; hind femur with one large outer distoventral spine, one slightly shorter inner ventral spine almost

in middle part (these spines unarticulated; Fig. 42) and 1–2 very small inner ventral denticles in more proximal part; hind tibia distinctly but not strongly arcuate, with two moderately large and unarticulated ventral spines, five pairs of similar but articulated dorsal spines, rather numerous and moderately small denticles along each dorsolateral edge and longitudinal keel-like median convexity on dorsal surface (Fig. 42); anal plate with moderately narrow and almost rectangular distal part outlined by low keel along posterior and lateral edges, and with large flattened (barely concave) dorsal area having two small median impressions and thin groove between them (Fig. 52); genital plate almost twice as long as anal plate and with distal part narrowing to angular apex (Fig. 53). Genitalia more or less similar to those of *P. pubescens* Gorochov, 2021 but with following differences (compare Figs 49–51 and 62–64): epiphallus (*e*) with curved backwards anterolateral parts (*a*) distinctly larger, and with clearly narrower posterior part having dorsoapical spines longer and located somewhat more far from each other; additional sclerites (*as*) around base of rachis distinctly larger and in shape of arcuate plates; rachis (*r*) longer and with much longer lateral ribbons (*lr*); endoparameral apodemes (*en*) shorter; formula (*f*) clearly different in shape (see Figs 54, 55 and 65, 66). Spermatophore as in Fig. 45.

Female. Body similar to that of male (but slightly larger) and especially to that of female of *P. d. dentata* but with following features: coloration varied from that of male to somewhat more uniformly brown one having smaller dark areas only on fore half of head dorsum and on lateral parts of tergites (often pterothoracic and abdominal tergites with additional narrow or somewhat widened dark median stripe; Fig. 43); outer distoventral unarticulated spine of hind femur also slightly varied in size but always significantly smaller than in male and located less distally than in female of nominotypical subspecies (other spines and denticles on this femur absent; Fig. 44); abdomen indistinguishable from that of female of nominotypical subspecies in structure (Figs 46, 56), but coloration of sternites almost as in male or with smaller and less distinct darkenings, genital plate whitish, and ovipositor from brown to light brown.

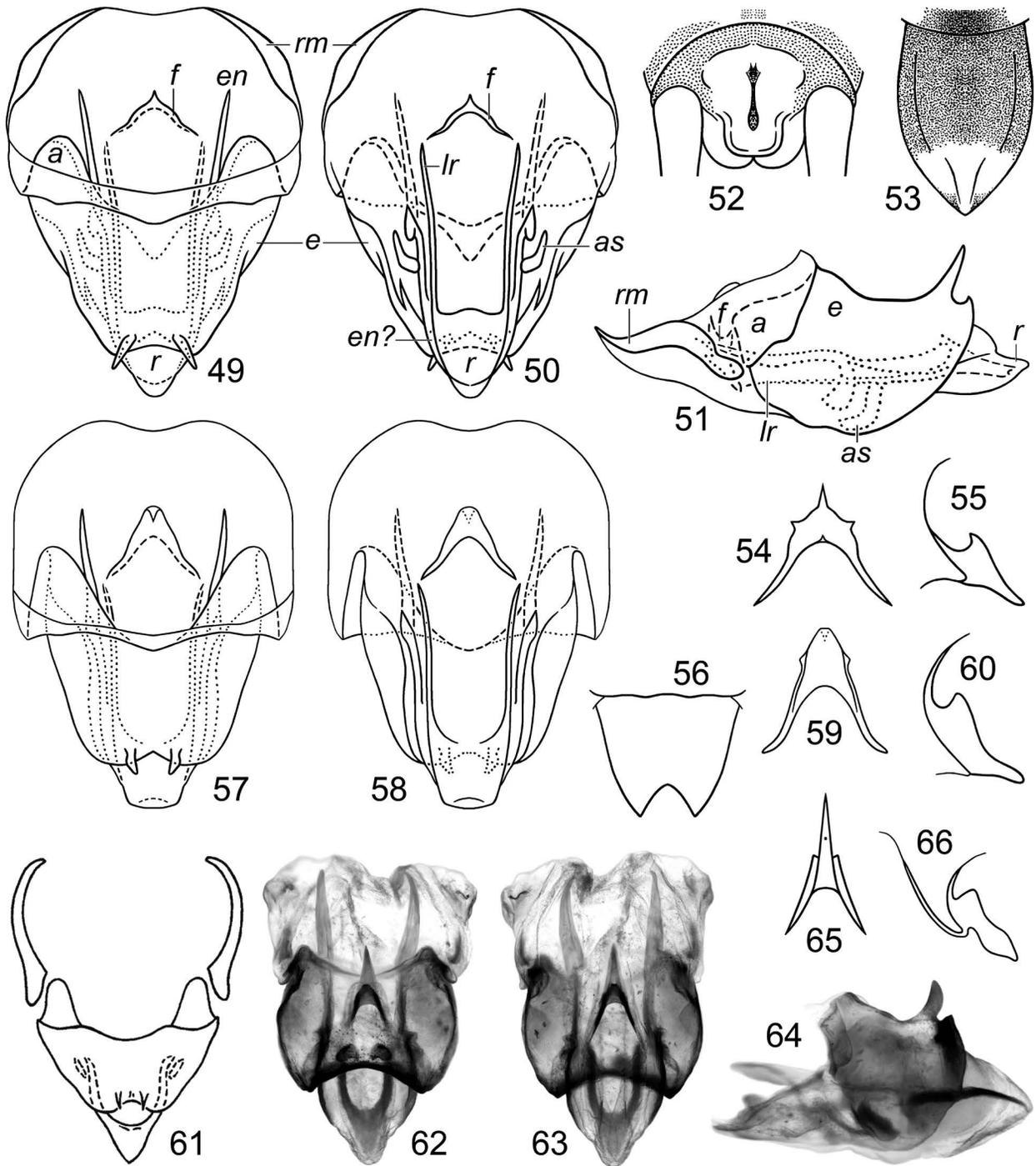
Length (mm). Body: male 19.0 female 18.0–24.0; pronotum: male 3.7, female 3.8–4.2; hind femora: male 13.0, female 12.0–13.5; ovipositor 11.0–11.5.

Comparison. The new subspecies is very similar to the nominotypical one but differs in a less uniform coloration as well as some small but characteristic characters of the hind femur and male genitalia given below, in the redescription of *P. d. dentata*. From the other congeners, the new taxon is distinguished by the same femoral character as *P. d. dentata*, i.e. by the presence of distinct ventral spines on the hind femora (these spines are absent in all the other known species of this genus). The male genitalia of *P. d. curvitibia* subsp. nov. differ from those of *P. pubescens* in the characters listed above (in the description), and from those of possible *P. fortipes* (Walker, 1869), in the epiphallus, endoparameres and/or rachis longer, the apical part of the rachis rounded but not angular, the dorsoapical epiphallic spines located more far from each other, and the rami comparatively shorter (see Figs 49 and 61).

***Parametrypa dentata dentata* Gorochov, 2021**
(Figs 47–48, 57–60)

New material. SOUTH AFRICA: 1 male, 1 female, Limpopo Prov., Wolkberg Mts, ~8 km NEE of Haenertsburg Vill., 23.98° S, 29.98–9° E, 1200–1400 m, on leaves of bushes in forest near road at night, 15–18 November 2021, A. Gorochov.

Description. *Male* (nov.). Body very similar to that of male of *P. d. curvitibia* subsp. nov. but with some differences. Coloration more uniform, brown to light brown with following marks: pronotal disc, pterothoracic tergites and legs with rather numerous and poorly distinct small darkish spots and dots; abdominal tergites with dark brown transverse stripe along each posterior edge; ventrodistal part of hind tibia as well as lateral areas on fore and middle basitarsi almost dark brown; genital plate brown with dark brown posterior part and ventral spot at middle (these dark marks more or less fused with each other), and with a pair of small whitish lateral areas around above-mentioned dark marks. Hind femur with distoventral unarticulated outer spine moderately large (distinctly longer than in female holotype and shorter than in male of previous subspecies), and with ventral unarticulated inner spine (located more proximally) longer than previous one, but all these spines located somewhat more distally than in *P. d. curvitibia* subsp. nov.; hind tibia straight (not arcuate) and with 5–7 significantly smaller (than in latter subspecies) ventral denticles



Figs 49–66. *Parametrypa* Br.-W.: 49–56 – *P. dentata curvitibia* subsp. nov.; 57–60 – *P. d. dentata* Gor.; 61 – *P. fortipes* (Walk.); 62–66 – *P. pubescens* Gor. Male genitalia from above (49, 57, 61, 62), from below (50, 58, 63) and from side (51, 64); male abdominal apex from above (52); male genital plate from below (53); formula of male genitalia, anteroventral (54, 59, 65) and lateral (55, 60, 66) views; female genital plate from below (56). Abbreviations: *a* – anterolateral (curved backwards) part of epiphallus; *as* – additional sclerite near base of rachis; *en* – possibly endoparameres forming scabbard for rachis; *lr* – lateral ribbon of rachis; others – as in Figs 8–30. [61 – after Chopard (1955), modified; 62–64 – after Gorochov (2021).]

(Fig. 48); genitalia very similar to those of this subspecies (see Figs 49–51 and 57, 58), but with somewhat longer anterior epiphallallic parts (curved backwards), wider apical part of epiphallus, almost truncate apical part of rachis, indistinct rami and sclerites around base of rachis, and different shape of formula (its median part longer; very small posterior or ventral median angular projection, which developed and directed forwards in *P. d. curvitibia* subsp. nov., absent; thin anterior or dorsal median angular projection longer and curved upwards-backwards, i.e. not directed upwards-forwards; compare Figs 54, 55 and 59, 60).

Female. Body practically indistinguishable from that of holotype (female) of this subspecies, but hind femur with distoventral unarticulated outer spine insignificantly smaller (this spine in both females significantly smaller than in male of *P. d. dentata* but located almost in same place as in this male, i.e. clearly more distally than in female of *P. d. curvitibia* subsp. nov.).

Length (mm). Body: male 19.5, female 22.0; pronotum: male 3.5, female 4.5; hind femora: male 12.5, female 14.0; ovipositor 12.7.

Comparison. Differences of this subspecies, originally described from environs of Tzaneen Town (~20 km NE of Haenertsburg Vill.) near the locality of the above-listed specimens, and *P. d. curvitibia* subsp. nov. from each other are given above, in the redescription of *P. d. dentata*. From all the other congeners, this subspecies differs in the same characters of the hind femur and male genitalia as *P. d. curvitibia* subsp. nov.

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REFERENCES

- Chopard L. 1955.** Orthoptera Ensifera et Tridactyloidea. *South African Animal Life. Results of the Lund University Expedition in 1950–1951*, 2: 266–301.
- Desutter-Grandcolas L. 2013.** *Stalacris* Desutter-Grandcolas n. gen., an amazing cricket from South Africa (Orthoptera, Grylloidea, Phalangopsidae). *Zootaxa*, 3613(2): 195–200. <https://doi.org/10.11646/zootaxa.3613.2.8>
- Gorochov A.V. 2005.** New and little known crickets of the subfamilies Phaloriinae, Phalangopsinae and Landrevinae (Orthoptera, Gryllidae) from Indonesia and South Africa. *Proceedings of the Russian Entomological Society*, 76: 25–46. [In Russian].
- Gorochov A.V. 2010.** A review of the genus *Prolandrevia* Gorochov (Orthoptera: Gryllidae: Landrevinae). *Proceedings of the Zoological Institute RAS*, 314(3): 318–322.
- Gorochov A.V. 2021.** Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 13: new taxa of the subtribe Podoscirtina from Africa. *Zoosystematica Rossica*, 30(1): 64–77. <https://doi.org/10.31610/zsr/2021.30.1.64>