# Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 16: the genera *Fryerius* and *Stenotrella* from Madagascar

# Таксономия подсемейства Podoscirtinae (Orthoptera: Gryllidae). Часть 16: роды *Fryerius* и *Stenotrella* из Мадагаскара

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ABSTRACT. Two Madagascan genera belonging to the subtribe Podoscirtina of the tribe Podoscirtini are considered: *Fryerius* Uvarov, 1940 and *Stenotrella* Gorochov, 2005. A new subgenus and four new species of these genera are described from Madagascar: *F. (Dentitrella) dilucidus* **subgen.** et **sp.n.**; *F. (D.) expolitus* **sp.n.**; *F. (D.) proximus* **sp.n.**; *S. analamazaotra* **sp.n.** 

РЕЗЮМЕ. Рассмотрены два мадагаскарских рода, принадлежащие подтрибе Podoscirtina трибы Podoscirtini: *Fryerius* Uvarov, 1940 and *Stenotrella* Gorochov, 2005. С Мадагаскара описаны один новый подрод и четыре новых вида из этих родов: *F*. (*Dentitrella*) dilucidus **subgen**. et **sp. n**.; *F*. (*D*.) expolitus **sp.n**.; *F*. (*D*.) proximus **sp.n**.; *S. analamazaotra* **sp.n**.

## Introduction

This paper is the sixteenth communication in a series of publications on the taxonomy of the cricket subfamily Podoscirtinae. It is devoted to the genera Fryerius Uvarov, 1940 and Stenotrella Gorochov, 2005 from Madagascar and continued the third, fourth, fifth, thirteenth, fourteenth and fifteenth communications which dealt with the Madagascan taxa [Gorochov, 2004, 2005, 2006, 2021a, b, 2022]. Only three genera of the tribe Podoscirtini (Fryerius, Stenotrella and Podoscirtus Serville, 1839) were known from Madagascan Region (including also the Seychelles and Comores) before my investigations. Now fifteen genera of this tribe have been described from Madagascar. Thirteen of them are endemic to this island, but two species of *Fryerius* have been described from Seychelles and Comores, and one species of Brevitrella Gorochov, 2004 has been described from Africa. The Madagascan *Calyptotrypus grandidieri* Saussure, 1878 and *C. madecassus* Saussure, 1878, originally included in this enigmatic genus [Saussure, 1878] and then interrogatively attributed to *Fryerius* [Gorochov, 2004], cannot be considered as real representatives of the latter genus until examination of their types. All previously known species of the Madagascan genus *Stenotrella* were originally described as representatives of the genus with the homonymic name *Stenogryllodes* Chopard, 1952. New material on *Fryerius* and *Stenotrella* shows that they are probably related to each other and somewhat separated from other genera of the subtribe Podoscirtina. Moreover, this material contains a few new taxa which are described here.

## Material and methods

The material used in this paper is deposited at the Zoological Institute, Russian Academy of Sciences, St Petersburg (ZIN). It was collected by Russian entomologists in two protected areas near the Andasibe Village (Madagascar) with the assistance of the Mitsinjo Association, which oversees the study of the nature of these areas. All the specimens are dry and pinned. Photographs of their morphological structures were made using a Leica M216 stereomicroscope and DFC290 camera.

Taxonomic part

Tribe Podoscirtini Saussure, 1878

Subtribe Podoscirtina Saussure, 1878

Genus Fryerius Uvarov, 1940

NOTE. Up to now, this genus contains eight species from Madagascar, Seychelles and Comores [Gorochov, 2004, 2006]

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which are characterized by the presence of three moderately large to very large ocelli, the male metanotal gland well developed and with a large (but not deep) concavity having an almost lamellar median process at the middle, a more or less slit-like inner tympanum, and the male genitalia with only a pair of distal (apical) epiphallic lobules and with two pairs of ectoparameres (the first pair is more lateral, longer and articulated with the epiphallus and endoparameres, but the second pair is more medial, shorter and connected with the dorsal part of the rachis). Firstly, this genus was placed in "Podoscirtus" generic group [Gorochov, 2004, 2005]; later this group was interpreted as the subtribe Podoscirtina [Gorochov, 2021a] including all the Madagascan genera except for Fryerius, but then this genus was tentatively returned to Podoscirtina [Gorochov, 2021b]. The new material on the Madagascan Podoscirtina shows that the latter opinion is most probably correct, because there are some species having most part of the abovementioned characters but with a strong reduction of the median ocellus and a more primitive structure of the inner tympanum. These species are separated from all the other congeners and must be included in a new subgenus.

#### Subgenus Dentitrella Gorochov, subgen.n.

Type species Fryerius (Dentitrella) dilucidus sp.n.

DIAGNOSIS. Body rather thin and elongate, poorly pubescent or more or less shining. Head with only a pair of rather large and convex lateral ocelli around base of rostral dorsum (Figs 1, 7, 12). Male metanotum with well developed or partly reduced gland; in first case, this gland typical of Fryerius, i.e. with rather large but not deep median concavity having short and rather wide as well as more or less lamellar median process at middle (Figs 2-3); in second case, this gland represented by small transverse fold at middle of metanotum and small rounded median tubercle near it (Figs 8, 13). Wings long, strongly protruding beyond apices of hind femora; tegmina with narrow dorsal field having rather long mirror, chords and apical area (Figs 16-18). Legs with rather large, oval and open inner and outer tympana (inner one slightly immersed; Fig. 1), as well as with hind tibia having distinctly spine-like denticles which similar to its articulated spines but clearly shorter (Figs 6, 11, 15). Male genitalia somewhat asymmetrical, with left and right ectoparameres in both ectoparameral pairs slightly or strongly different in length and/or shape (Figs 19-24, 26-29, 31-32, 34-37, 39-40); spermatophore with elongate ampulla and short but rather thick anterior tube, as well as with lamellar plate-like anchor (attachment plate) having distinct and angular posterodorsal projection (Figs 25, 30, 38).

INCLUDED SPECIES. Type species; F. (D.) expolitus **sp.n.**; F. (D.) proximus **sp.n.** 

COMPARISON. The new subgenus differs from the nominotypical one in the absence of a median ocellus, the both tympana open, and the male genitalia somewhat asymmetrical.

ETYMOLOGY. This generic name originates from the Latin word "denticulus" (denticle, tooth) and the generic name *Malgasotrella* (due to distinctly spine-like denticles between the articulated spines of the hind tibia).

#### Fryerius (Dentitrella) dilucidus Gorochov, sp.n. Figs 1–6, 16, 19–25.

MATERIAL EXAMINED. Holotype — ♂, **Madagascar**, Toamasina Prov., Moramanga Distr., Analamazaotra Forest Station near Andasibe Vill. (18°56'S, 48°25'E), ~900 m, primary forest, at light, 8–20.III.2013, A. Gorochov (ZIN). Paratype — 1 ♂, same province and district, ~10 km NW of Andasibe Vill., Torotorofotsy Forest Reserve, ~1000 m, secondary forest, at light, 22.II— 11.III.2013, A. Gorochov (ZIN).

DESCRIPTION. Male (holotype). Body coloration yellowish with whitish tinge and following marks: head with dark brown both area between lateral ocelli and a pair of stripes on dorsum along posteromedial edges of eyes, brown dorsum of rostrum and short longitudinal stripe on each gena behind upper half of eye, blackish dot very near anteroventral edge of each eye, small darkenings in dorsolateral corners of clypeus and on distal parts of some other mouthparts (labrum, mandibles, maxillae and each of three last segments of their palpi), and light brown antennal flagellum and areas on pedicel (Fig. 1); pronotum with almost light brown disc and light brown longitudinal stripe on middle part of each lateral lobe (Fig. 1); tegmina with light brown to yellowish most part of venation, whitish some crossveins in basal area of dorsal field and in lateral field as well as membranes between R and M, and more or less transparent other membranes (Fig. 16); hind wings also with transparent membranes and light brown to yellowish venation; legs with brown small spot on each (inner and outer) surfaces of fore and middle femora near their apices, two longitudinal lines on outer surface of hind femur (on its middle and ventral parts) and apical areas of this femur, as well as with light brown reticular pattern on dorsal surface of this femur, large inner area on fore tibia, smaller one on middle tibia, distal two thirds of hind tibia and most part of all tarsi (but hind tibia with a pair of longitudinal dark brown stripes on proximal part of this tibia and few brown spots on its rest part having also dark brown to blackish articulated spines and spurs, and hind tarsus with distinct dark and light marks; Fig. 6); other parts of body with a pair of brown posterodorsal spots on ninth abdominal tergite, almost dark brown paraprocts and anal plate having very large reddish brown median area on dorsum of latter plate, and brown longitudinal median band on ventral surface of genital plate (Figs 4, 5). Epicranium distinctly depressed dorsoventrally, with very large and vertical eyes, very narrow and rather long rostrum between antennal cavities (scape almost 3.5 times as wide as apex of this rostrum), rather small and not deep concavity on dorsum behind ocelli, and with these ocelli as in Fig. 1; mouthparts short, with maxillary palpi also rather short (apical segment of these palpi as long as scape and pedicel together and gradually widening to rounded apex). Pronotum also depressed dorsoventrally, barely narrowing to head, with straight anterior and slightly sinuate posterior edges of disc as well as with barely concave ventral edge of each lateral lobe; metanotal gland with anterodorsal edge of median process almost angular in dorsal view and with small but distinct apical notch (Fig. 2); tegmina with dorsal field as in Fig. 16, and with lateral field having very narrow areas between Sc and M, 18-19 oblique and slightly sinuate branches of Sc, sparse crossveins between these branches in proximal half of this field and in R-M area, but lacking crossveins in Sc-R area; legs with large oval outer tympanum, slightly narrower and insignificantly immersed inner tympanum, and hind tibia having some spine-like denticles between articulated spines as long as half of latter spines (Fig. 6). Anal plate as in Fig. 4; genital plate approximately three times as long as previous plate, with distal half gradually narrowing to almost angular apex (Fig. 5); genitalia and spermatophore (Figs 19-25): epiphallus slightly asymmetrical, with short anterior part strongly curved backwards and having well projected lateral corners, and with posteroapical lobules rather small but having wide notch between them; right lateral ectoparamere long and rather narrow (almost knife-like) as well as approximately 2.2 times as long as shortened left one; rachis symmetrical, long and moderately wide (having rather wide



Figs 1–15. Fryerius, males: 1-6 - F. dilucidus **sp.n.**; 7–11 - F. expolitus **sp.n.**; 12–15 - F. proximus **sp.n.**; 1, 7, 12 - head with pronotum and parts of fore legs, anterior / dorsolateral view; 2–3, 8, 13 - metanotal gland (2–3) or its rudiment (8, 13), dorsal view; 4, 9 - anal plate with genital plate (4) or only with its base (9), posterodorsal view; 5, 10, 14 - genital plate, ventral view; 6 - hind leg without most part of femur, lateral view; 11, 15 - hind leg (15 - with distal part of middle leg), lateral view.

Рис. 1–15. *Fryerius*, самцы: 1–6 — *F. dilucidus* **sp.n.**; 7–11 — *F. expolitus* **sp.n.**; 12–15 — *F. proximus* **sp.n.**; 1, 7, 12 — голова с переднеспинкой и частями передних ног, передний / верхнебоковой вид; 2–3, 8, 13 — метанотальная железа и ее рудимент (8, 13), вид сверху; 4, 9 — анальная пластинка с генитальной пластинкой (4) или только с ее основанием (9), верхнезадний вид; 5, 10, 14 — генитальная пластинка, снизу; 6 — задняя нога без большей части бедра, сбоку; 11, 15 — задняя нога (15 — с дистальной частью средней ноги), сбоку.



Figs 16–18. *Fryerius*, right tegmen of male: 16 - F. *dilucidus* **sp.n**.; 17 - F. *expolitus* **sp.n**.; 18 - F. *proximus* **sp.n**. Рис. 16–18. *Fryerius*, правое надкрылье самца: 16 - F. *dilucidus* **sp.n**.; 17 - F. *expolitus* **sp.n**.; 18 - F. *proximus* **sp.n**.

bilobate apex), mostly membranous but with a pair of thin longitudinal sclerotized stripes and semimembranous area between them; medial ectoparameres also rather long (but somewhat shorter than right lateral ectoparamere) and well sclerotized as well as slightly asymmetrical and more or less hooked in distal parts but connected with each other in middle parts by distinct sclerotized transverse ribbon (this ribbon arcuate and with median part moderately projected backwards); formula moderately large but not long, in form of clearly asymmetrical and somewhat corrupted plate having rather small and also asymmetrical apodeme-like sclerotization; rami very short, triangularly plate-like; spermatophore with ampulla clearly longer than anchor and tube together (Fig. 25).

Variation. Paratype (Fig. 3) distinguished from holotype by somewhat different shape of median process of metanotal gland having more or less widely rounded anterodorsal edge lacking any apical notch (this male possibly belonging to new subspecies of this species), and by slightly lighter and less contrast coloration of ninth abdominal tergite, anal plate and legs.

Female unknown.

Length in mm. Body 23–25; body with wings 35–38; pronotum 3.4–3.8; tegmina 24–27; hind femora 13–14.5.

COMPARISON. Differences of this species from two other new species of this subgenus will be given after their descriptions. From all other congeners, it is distinguished by the characters listed in the subgeneric diagnosis (see the previous comparison).

ETYMOLOGY. This species name is the Latin word "dilucidus" (light) due to the light body coloration.

#### *Fryerius (Dentitrella) expolitus* Gorochov, **sp. n.** Figs 7–11, 17, 26–33.

MATERIAL EXAMINED. Holotype —  $\vec{O}$ , **Madagascar**, Toamasina Prov., Moramanga Distr., Analamazaotra Forest Station near Andasibe Vill. (18°56'S, 48°25'E), ~900 m, primary forest, at light, 8–20.III.2013, A. Gorochov (ZIN).

DESCRIPTION. Male (holotype). General appearancre more or less similar to that of *F*. (*P*.) *dilucidus* **sp.n**. but body smaller, more shining and with different coloration: epicranium dark brown with six yellowish longitudinal stripes on dorsum (a pair of medial stripes running from yellowish transverse spot behind ocelli and connected with each other by few light lines; Fig. 7), yellowish lateral ocelli, light greyish brown rostral apex and area under this apex and under

Рис. 19–41. *Fryerius*, самец: 19–25 — *F. dilucidus* **sp.n.**; 26–33 — *F. expolitus* **sp.n.**; 34–41 — *F. proximus* **sp.n.**; 19–22, 26–29, 34– 37 — гениталии; 23–24 — задняя половина гениталий; 25, 30, 38 — сперматофор; 31, 39 — правый эпифаллический эктопарамер; 32, 40 — левый эпифаллический эктопарамер; 33, 41 — рахис без основания; 19, 26, 34 — сверху; 20, 27, 33, 35, 41 — снизу; 21, 28, 36 слева; 22, 29, 37 — справа; 23 — снизу / слегка сбоку; 24 — снизу / слегка спереди; 25, 30–32, 38–40 — сбоку.



Figs 19–41. *Fryerius*, male: 19–25 — *F. dilucidus* **sp.n.**; 26–33 — *F. expolitus* **sp.n.**; 34–41 — *F. proximus* **sp.n.**; 19–22, 26–29, 34–37 — genitalia; 23–24 — posterior half of genitalia; 25, 30, 38 — spermatophore; 31, 39 — right epiphallic ectoparameres; 32, 40 — left epiphallic ectoparameres; 33, 41 — rachis without base; 19, 26, 34 — dorsal view; 20, 27, 33, 35, 41 — ventral view; 21, 28, 36 — left view; 22, 29, 37 — right view; 23 — ventral / slightly lateral view; 24 — ventral / slightly anterior view; 25, 30–32, 38–40 — lateral view.

antennae, grevish brown areas under eyes and on upper parts of genae, and light greyish brown lower parts of genae; antennae and palpi uniformly light brown to yellowish; other mouthparts more or less light greyish brown; pronotum with brown disc having characteristic whitish pattern on anterior half and yellowish median spot near posterior edge, and with dark brown upper half of each lateral lobe as well as yellowish to whitish rest of this lobe (Fig. 7); metanotum light greyish brown with brown median tubercle at middle (Fig. 8); tegmina transparent with light greyish brown to light greyish venation and few small spots and stripes of same color on membranes between anal chords and between costal chord and nearest oblique vein (Fig. 17); hind wings similar to tegmina in coloration but with barely darker distal parts; fore and middle legs light brown to yellowish with brown marks on femoral apices and on tarsi, but middle tibia also with darkened marks on basal part; hind leg more or less yellowish with three large brown to dark brown areas on outer surface of femur (distal area located also on other surfaces of this femur), and with dark brown hind tibia and tarsus (including their armament) having light brown subbasal area of tibia and brown distal part of tarsus (Fig. 11); thoracic sternites greyish brown, but abdominal ones light brown with darkened median areas on two last sternites; pleurites light brown; rest of tergites greyish brown; anal plate dark brown with very large whitish median area (Fig. 9); genital plate light brown with three longitudinal brown areas on basal half and almost yellowish transverse band in middle part (Fig. 10); cerci grevish brown with dark brown to blackish areas on proximal parts. Head and pronotum very similar to those of F. (D.) dilucidus sp.n. in structure (Fig. 7); metanotal gland strongly reduced, i.e. with small transverse fold near middle of metanotum and small tubercle-like convexity near it (Fig. 8); tegmina long, distinctly protruding beyond abdominal apex and apices of hind femora, with venation as in Fig. 17; hind wings much longer, strongly protruding beyond tegminal apices; both tympana oval, open, rather large, amost equal to each other in size (but inner one barely immersed); hind legs with articulated spines and denticles rather long (denticles spine-like, and longest of them almost equal to half of nearest articulated spine in length; Fig. 11); anal plate approximately trice shorter than genital plate (structure of these plates as in Figs 9, 10); genitalia and spermatophore as in Figs 26-30): epiphallus slightly asymmetrical (almost as in F. dilucidus sp. n.), but its anterior part narrower, dorsoapical lobules much larger (longer) and completely curved upwards as well as with narrower notch between them; ectoparameres also asymmetrical, but difference in size between left and right epiphallic ectoparameres less significant than in this species (Figs 31, 32), and difference in shape between left and right rachial ectoparameres stronger than in this species (left ectopramere not hooked and with rounded apical lobule, but right one distinctly hook-like; compare Figs 21, 22 and 28, 29); rachis smaller than in F. (D.) dilucidus sp.n., more asymmetrical and with partly twisted apical part (Fig. 33); formula longer and less asymmetrical; endoparameral apodemes shorter; spermatophore with clearly longer anchor which together with tube even longer than ampulla (Fig. 30).

Female unknown.

Length in mm. Body 20.5; body with wings 29; pronotum 3; tegmina 21.5; hind femora 11.

COMPARISON. The new species differs from F. (D.) *dilucidus* **sp.n.** in the characters listed above.

ETYMOLOGY. This species name is the Latin word

"expolitus" (shiny, beautiful) due to the shiny body with beautiful coloration.

#### *Fryerius (Dentitrella) proximus* Gorochov, **sp.n.** Figs 12–15, 18, 34–41.

MATERIAL EXAMINED. Holotype —  $\bigcirc$ <sup>7</sup>, **Madagascar**, Toamasina Prov., Moramanga Distr., Analamazaotra Forest Station near Andasibe Vill. (18°56'S, 48°25'E), ~900 m, primary forest, at light, 8–20.III.2013, A. Gorochov (ZIN).

DESCRIPTION. Male (holotype). Coloration and structure of body very similar to those of F. (D.) expolitus sp.n. but with following differences: dorsum of head with brown to light brown median area between medial yellowish longitudinal stripes (this area with less distinct yellowish transverse lines than in F. expolitus sp.n.; Fig. 12); pronotum with almost uniformly light greyish brown disc having a pair of short greyish brown stripes running along posterior edge, and with yellowish each lateral lobe having light greyish brown to greyish brown band along dorsal edge (this band in posterior part almost as wide as half of this lobe, and in more anterior portion, this band distinctly narrower; Fig. 12); metanotum with whitish tubercle-like convexity at middle (Fig. 13); each tegmen with more distinct slightly darkened spots in majority of membranes of apical area and near distolateral part of mirror (Fig. 18); legs with more uniform fore and middle tarsi and slightly lighter hind tarsus as well as clearly lighter hind femur and tibia (this femur with only two brown areas and brown median outer stripe, but most part of hind tibia light greyish brown with greyish brown dorsal surface and armament; Fig. 15); other body parts as in F. (D.) expolitus sp.n. in coloration, but darkened ventromedian band on abdomen distinctly lighter and somewhat longer (running from middle of abdomen to genital plate), rounded median area of anal plate greyish, and genital plate somewhat lighter (almost whitish with proximal half having brown ventromedian stripe and a pair of much narrower stripes along lateral edges, and with light brown most part of distal half; Fig. 14); apex of latter plate narrowly rounded (widely rounded in F. expolitus sp.n.; compare Figs 10 and 14); genitalia and spermatophore as in Figs 34–38, distinguished from those of  $\hat{F}$ . (D.) expolitus sp.n. by some fine but distinct details of structure: epiphallus with wider anterior part (see Figs 26 and 34); right epiphallic ectoparamere with somewhat wider subbasal part and narrower short bridge between this part and widened basal part (see Figs 31 and 39); left epiphallic ectoparamere with distinct and rounded ventral projection in subbasal part as well as with similar dorsal projection near it (in proximal half), but in F. expolitus sp.n., this ectoparamere without ventral projection in subbasal part and with distinct dorsal projection in distal half (see Figs 32 and 40); right rachial ectoparamere with clearly smaller (shorter) hook (see Figs 28 and 36); left rachial ectoparamere more curved, and apically somewhat wider in profile (see Figs 27, 29 and 35, 37); rachis with wider lateral sclerites (see Figs 33 and 41); spermatophore with ampulla almost as long as anchor together with tube (not distinctly shorter or longer; Fig. 38).

Female unknown.

Length in mm. Body 22.5; body with wings 31; pronotum 2.9; tegmina 22; hind femora 10.6.

COMPARISON. Differences of this species from F. (D.) expolitus **sp.n.** are listed above. From F. (D.) dilucidus **sp.n.**, the new species differs in the same characters as F. (D.) expolitus **sp.n.** 

ETYMOLOGY. This species name is the Latin word "proximus" (nearest) due to a significant similarity of the new species to *F*. (*D*.) *expolitus* **sp.n**.

#### Genus Stenotrella Gorochov, 2005

NOTE. The generic name *Stenotrella* was proposed instead the preoccupied generic name *Stenogryllodes* Chopard, 1952 [Gorochov, 2005] which is a junior homonym of the genus *Stenogryllodes* Chopard, 1936 with one unclear species from Oligocene of Europe [Chopard, 1936]. This genus is more or less related to *Fryerius*, because their male genitalia are similar in having one pair of distal (apical) epiphallic lobules and two pairs of ectoparameres (epiphallic and rachial), but rachial ectoparameres are fused with each other and forming characteristic large unpaired oval lobe located on dorsal surface of rachis (Figs 52, 56). To date, *Stenotrella* contains three species from Madagascar originally included in *Stenogryllodes* Chopard, 1952: *Stenotrella lucens* (Chopard, 1952), *S. seyrigi* (Chopard, 1952) and *S. sceleton* (Gorochov, 2004). Here, a new species of this genus is described.

#### Stenotrella analamazaotra Gorochov, sp.n. Figs 42–54.

MATERIAL EXAMINED. Holotype —  $\bigcirc$ , **Madagascar**, Toamasina Prov., Moramanga Distr., Analamazaotra Forest Station near Andasibe Vill. (18°56'S, 48°25'E), ~900 m, primary forest, on leave of bush, 8–20.III.2013, A. Gorochov (ZIN). Paratypes: 2  $\bigcirc$   $\bigcirc$ , 6  $\bigcirc$ , same data as for holotype, but 11.II—20.III.2013, A. Gorochov, L. Anisyutkin (ZIN).

DESCRIPTION. Male (holotype). General appearance more or less similar to that of *S. lucens* but with following characteristic features: coloration almost uniformly greyish brown with dark brown eyes and light greyish brown mouthparts having distal part of apical segment of each maxillary palpus greyish brown, with light greyish brown legs (except for tarsi and apex of hind femur) and membranes of tegmina, and with almost yellowish tegminal venation and hind wings



Figs 42–50. *Stenotrella analamazaotra* **sp.n**.: 42 — anterior half of body with spread tegmina; 43 — head with pronotum and left fore leg; 44 — hind leg without coxa and most part of femur; 45 — right tegmen; 46, 48 — genital plates; 47 — body without head and partly without pronotum and some appendices; 49–50 — distal part of ovipositor; 42, 44, 47, 50 — dorsal view; 43 — anterior / slightly dorsal view; 46, 48 — ventral view; 49 — lateral view; 42–46 — male; 47–50 — female.

Рис. 42–50. *Stenotrella analamazaotra* **sp.n**.: 42 — передняя половина тела с расправленными надкрыльями; 43 — голова с переднеспинкой и левой передней ногой; 44 — задняя нога без коксы и большей части бедра; 45 — правое надкрылье; 46, 48 — генитальные пластинки; 47 — тело без головы и частично без переднеспинки и некоторых придатков; 49–50 — дистальная часть яйцеклада; 42, 44, 50 — сверху; 43 — спереди / слегка сверху; 46, 48 — снизу; 49 — сбоку; 42–46 — самец; 47–50 — самка.

(but membranes in latter wings transparent) as well as body venter including genital plate (Figs 42-46); head rather strongly flattened dorsoventrally, with slightly concave dorsum behind lateral ocelli, not large and almost round eyes, a pair of distinct and strongly convex lateral ocelli located rather far from each other (median ocellus absent), and rather long and almost angular (in profile) rostrum which approximately twice narrower than scape (Figs 42, 43); pronotum almost as wide as head, slightly narrowed in subanterior part, with concave anterior and straight posterior edges of disc, low transverse keel on disc near (along) its posterior edge, and rather low and rounded each lateral lobe having distinct fold around oblique concavity in middle part of upper half (Figs 42, 43); metanotal gland undeveloped (Fig. 42); tegmina rather long, distinctly protruding beyond abdominal apex and approximately reaching apices of hind femora, with venation as in Fig. 45; hind wings somewhat protruding beyond apices of these femora; legs unspecialized, with outer tympanum oval and moderately large, without inner tympanum (but with narrow longitudinal concavity on inner side of fore tibia), with rather insignificantly widened (thickened) proximal half of hind femur, as well as with spines and denticles of hind tibia almost as in some representatives of genus Fryerius from subgenus Dentitrella subgen.n. (Fig. 44); anal plate also similar to that of this subgenus but almost uniform in coloration; genital plate approximately 2.5 times as long as anal plate, strongly narrowing to narrow distal third and with very narrowly rounded (almost angular) apex (Fig. 46). Genitalia and spermtophore as in Figs 51-54: epiphallus similar to that of S. lucens, but longer, with longer distal (narrowed) part and clearly deeper posteromedian notch (compare Figs 51-52 and 58); epiphallic ectoparameres stick-like and distinctly not reaching epiphallic apices (almost as in S. sceleton, but in S. lucens, they practically reaching epiphallic apices; see Figs 52, 56, 58); rachis not protruding beyond epiphallic apices (clearly protruding beyond them in both



Figs 51–58. Stenotrella, male: 51-54 — S. analamazaotra sp.n.; 55-57 — S. sceleton; 58 — S. lucens; 51-53, 55-58 — genitalia; 54 — spermatophore; 51, 55, 58 — dorsal view; 52, 56 — ventral view; 53-54, 57 — lateral view; [55-57 — after Gorochov, 2004; 58 — after Chopard, 1952].

Рис. 51–58. *Stenotrella*, самец: 51–54 — *S. analamazaotra* **sp.n**.; 55–57 — *S. sceleton*; 58 — *S. lucens*; 51–53, 55–58 — гениталии; 54 — сперматофор; 51, 55, 58 — сверху; 52, 56 — снизу; 53–54, 57 — сбоку; [55–57 — по Gorochov, 2004; 58 — по Chopard, 1952].

aforementioned congeners; see Figs 51–53, 55–57 and 58); dorsal oval plate of rachis similar to that of *S. sceleton*; see Figs 52 and 56); formula and its apodeme as in Figs 52, 53; spermatophore with ampulla somewhat more globular than in *Dentitrella* **subgen. n.**, and with anchor distinctly lower than in latter taxon (Fig. 54).

Variations. Other males sometimes barely lighter, with lighter rostral apex, darker low transverse keel on disc near (along) its posterior edge, or lighter most part of narrow area between R and M in each tegmen.

Female. Coloration and structure of body as in males, but dorsal tegminal field sometimes with slightly darker (almost greysh brown) membranes, this field also with 9–10 slightly oblique longitudinal veins as well as rather dense and partly irregular (reticular) crossvenation (Fig. 47), lateral tegminal field with 10–11 oblique and slightly arcuate Sc branches as well as very narrow Sc-R area and rather numerous and more or less regular crossveins in all areas, anal plate short and simple as well as with rounded apex, genital plate and distal part of ovipositor as in Figs 48–50.

Length in mm. Body:  $\bigcirc$  18–20,  $\bigcirc$  18.5–21; body with wings:  $\bigcirc$  22–25,  $\bigcirc$  24–28; pronotum:  $\bigcirc$  3.3–3.7,  $\bigcirc$  3.6–4.1; tegmina:  $\bigcirc$  15–17;  $\bigcirc$  17–19.5; hind femora:  $\bigcirc$  12.5–14,  $\bigcirc$  13–15; ovipositor 15.2–17.5.

COMPARISON. The new species is most similar to *S. lucens* but differs from it in some characters of the male genitalia listed above. From *S. sceleton*, the new species is distinguished by a more uniform coloration, longer wings and much longer male genitalia having a distinctly narrower (in profile) distal part of the epiphallus (compare Figs 51–53 and 55–57), and from *S. seyrigi*, by a significantly larger body, much longer wings and the presence of outer tympana on the fore tibiae (*S. seyrigi* lacks tympana, and its generic belonging is in need of examination).

ETYMOLOGY. This species is named after the Analamazaotra Forest Station located very near its type locality. Acknowledgements. This study was performed in the frames of the state research project No. 1021051302540-6 (Russian Federation).

### References

- Chopard L. 1936. Orthoptères fossiles et subfossiles de l'ambre et du copal // Annales de la Société entomologique de France. Vol.55. P.375–386.
- Chopard L. 1952. Notes sur les Orthopteroides de Madagascar. IV. — Faune de la forêt de mousses du Tsaratanana // Memores de l'Institut Scientifique de Madagascar. Ser.E. T.1. F.2. P.463– 516.
- Gorochov A.V. 2004. Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 3: Podoscirtini from Madagascar and nearest regions // Zoosystematica rossica. Vol.12. No.2 (2003). P.187–215.
- Gorochov A.V. 2005. Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 4: African Podoscirtini and geography of the tribe // Zoosystematica rossica. Vol.13. No.2 (2004). P.181–208.
- Gorochov A.V. 2006. Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 5: new Indo-Malayan and Madagascan Podoscirtini // Zoosystematica rossica. Vol.15. No.1. P.33–46.
- Gorochov A.V. 2021a. Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 13: new taxa of the subtribe Podoscirtina from Africa // Zoosystematica rossica. Vol.30. No.1. P.64–77. https:// doi.org/10.31610/zsr/2021.30.1.64
- Gorochov A.V. 2021b. Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 14: the genera Ocellotrella gen. n. and Neozvenella from Madagascar // Russian Entomological Journal. Vol.30. No.4. P.381–389. https://doi.org/10.15298/rusentj.30. 4.01
- Gorochov A.V. 2022. Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 15: Asymmetrella gen. n., Zvenellomorpha and Ultratrella from Madagascar // Russian Entomological Journal. Vol.31. No.3. P.218–229. https://doi.org/10.15298/rusentj. 31.3.02
- Saussure H. 1878. Gryllides (2e partie) // Mémoires de la Société de Physique et d'Histoire naturelle de Genève. Vol.25. No.2. P.369–702, pl.16–19.