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A new species of the Madagascan genus *Rodepirea* Villiers, 1962 (Hemiptera: Heteroptera: Reduviidae: Physoderinae)

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Abstract

Rodepirea ribesi n. sp. (Heteroptera: Reduviidae: Physoderinae) is described based on two male specimens from Madagascar selected from unidentified materials of the collection of the Muséum national d'Histoire naturelle, Paris. The dorsal habitus (and some details) as well as the male genitalia are illustrated with 13 drawings. A key to the species and a distribution map are also provided.

Key words: Heteroptera, Reduviidae, Physoderinae, Madagascar, description, new species.

Resumen

Una nueva especie del género malgache Rodepirea Villiers, 1962 (Hemiptera: Heteroptera: Reduviidae: Physoderinae)

Se describe *Rodepirea ribesi* n. sp. (Heteroptera: Reduviidae: Physoderinae) sobre dos ejemplares machos de Madagascar seleccionados entre el material no identificado de la colección del Muséum national d'Histoire naturelle, Paris. Se ilustran, mediante 13 dibujos, tanto el habitus dorsal (y algunos detalles) como la genitalia masculina. También se presentan una clave de especies y un mapa de distribución.

Palabras clave: Heteroptera, Reduviidae, Physoderinae, Madagascar, descripción, nueva especie.

Laburpena

Rodepirea Villiers, 1962 genero malgaxeko espezie berri bat (Hemiptera: Heteroptera: Reduviidae: Physoderinae)

Rodepirea ribesi n. sp. (Heteroptera: Reduviidae: Physoderinae) deskribatzen da, Madagaskarreko bi arretan oinarrituta, bi ale hauek Muséum national d'Histoire naturelle-ko (Paris) bildumaren identifikatu gabeko materialen artean aukeratu zirelarik. Gainaldeko habitusa (eta xehetasun batzuk) eta arren genitalia irudiztatzen dira 13 irudiren bitartez. Espezie-klabea eta banaketa-mapa ere aurkezten dira.

Gako-hitzak: Heteroptera, Reduviidae, Physoderinae, Madagaskar, deskribapena, espezie berria.

Introduction

Physoderinae is a small subfamily with only 14 known genera and 65 species (Maldonado Capriles, 1990; Forero and Weirauch, 2005; Weirauch, 2006; Cao *et al.*, 2011) and 10 of them (*Befotaka* Villiers, 1962, *Epiroderoides* Villiers, 1962, *Henicocephaloides* Villiers, 1962, *Maroantsetrana* Villiers, 1962, *Mimoelasmadema* Villiers,

1962, *Neophysoderes* Miller, 1955, *Paraphysoderes* Villiers, 1962, *Paulianocoris* Villiers, 1953, *Rodepirea* Villiers, 1962 and *Tribelocephaloides* Villiers, 1962) are distributed exclusively on Madagascar. In addition to those mentioned, there are two further genera known from Madagascar: *Physoderoides* Miller, 1955, distributed on Madagascar and Comores Islands (Signoret, 1860; Miller, 1955; Villiers, 1962) and *Physoderes*, with only

one Madagascan species: *Physoderes brancsiki* Bergroth, 1906. All mentioned Madagascan genera are represented by 25 species (Bergroth, 1906; Miller, 1955; Signoret, 1860; Villiers, 1962, 1964, 1968). The latest work concerning the fauna of Physoderinae from Madagascar is the paper by Villiers (1968), which contained a key and descriptions of all genera and species.

During an examination of unidentified specimens among the materials in the collection of the Muséum national d'Histoire naturelle in Paris, two undescribed male specimens belonging to the genus *Rodepirea* were found. Comparison with the type specimen of *R. lobata* Villiers, 1962 confirmed that these specimens belong to a new, unknown species, described in the present paper.

Material and methods

Examined specimens are preserved in the collection of the Muséum national d'Histoire naturelle, Paris, France. External structures of dry-mounted specimens were examined using a stereoscopic microscope Olympus SZX9 and MST 132. All drawings were made using a camera lucida. Dissected genitalia were boiled in 10% KOH for 4 minutes to remove soft tissue, rinsed in distilled water, and dissected under the stereoscopic microscope Olympus SZX9. Genitalia are stored in PVC microvials with glycerol, attached on the pin with dissected specimen. Measurements were made with an ocular micrometer under stereoscopic microscope Olympus SZX9 and are given in millimeters.

Quoting the labels of specimens: «/» is used to divide data on different rows on the label, «;» is used to divide data on different labels, «[]» is used for author's comments.

Taxonomy

Genus *Rodepirea* Villiers, 1962

Type species: *Rodepirea lobata* Villiers, 1962: 232 (by original designation).

Rodepirea ribesi n. sp.

(Figs. 1, 2, 3, 4a, 5)

Type material:

HOLOTYPE: ♂: Madagascar-Est / Dist. Mananara-N /

Mont Antampone / Vadon-Peyrieras [printed] / VII [handwritten]; *Rodepirea* / sp. n. [handwritten on red] / det. Rédei D., 2008 [printed]; Museum Paris / Coll. Generale [printed]; Holotype [printed on red label]; *Rodepirea* / *ribesi* n. sp. [handwritten] / det. D. Chlond 2010 [printed, date partially handwritten]; [pinned vial with genitalia] (MNHN).

PARATYPE: ♂: Madagascar Est / distr. Mananara – N, / Antananambe / Vadon et Peyrieras [handwritten]; Museum Paris [printed on blue label]; 2-tarsi, straight / labium / det. P. Štys, 19 [printed]; *Rodepirea* / sp. n. [handwritten on red] / det. Rédei D., 2008 [printed]; Museum Paris / Coll. Generale [printed]; Paratype [printed on red label]; *Rodepirea* / *ribesi* n. sp. [handwritten] / det. D. Chlond 2010 [printed, date partially handwritten] (MNHN).

Description:

Colour: Body generally dark brown with yellowish markings. Head dark brown with distinctly paler clypeus. Head covered by yellowish wax. Eyes and ocelli dark. Scapus, pedicellus and basiflagellomere yellowish, distiflagellomere distinctly darker: brown with paler basal part. All labial segments brown. Anterior and posterior pronotal lobes dark brown with paler medial longitudinal suture of posterior pronotal lobe. Medial ridges connecting anterior and posterior pronotal lobes pale. Pale pattern of ridges longitudinally elongated into basal part of posterior lobe (both slightly curved and reaching only half of length of posterior lobe). Lateral margins of both pronotal lobes yellowish. Scutellum dark brown with paler medial longitudinal line (elongation of the line on the pronotum). Hemelytra generally dark brown with yellowish costal margin and veins (on corium and membrane) as well as external margin of clavus. Legs yellowish with dark markings. Coxae and trochanters pale. Fore and middle femora with darker basal half but only on ventral side. All tibiae with dark brown apices, tarsi yellowish with dark apex of second tarsomere. Ventral side of thorax dark brown. Connexiva bicolorous, yellowish with dark brown markings in antero-external corner of each connexivum (markings gradually enlarged into end of abdomen). Abdomen beneath dark brown with yellowish longitudinal markings and with whitish wax on the internal margins of connexiva and external margins of each sternite. Pygophore and parameres dark brown.

Structure: Body small and elongated (Fig. 1). Head with short, erected and curved setae placed on dense granules. Antennifers large and distinctly visible in lateral view. Apices of antennifers directed anteroventrally. Scapus fusiform with adherent and scarce

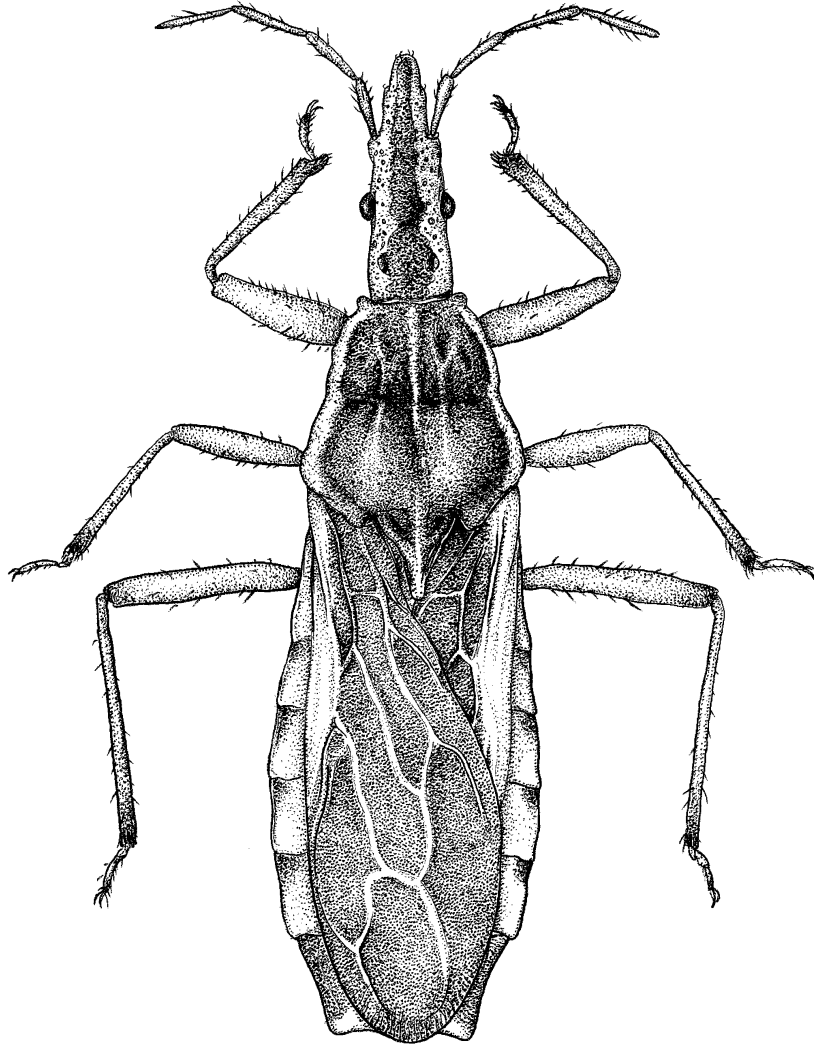


FIGURE 1. *Rodepirea ribesi* n. sp.: Dorsal habitus (Scale bar = 1 mm).

setae. Pedicellus and basiflagellomere with very regularly arranged, erected setae. Distiflagellomere covered by various-sized, dense setae. Almost all surface of the head, except a small area connected with anterior margin of the eye in lateral view and a wide stripe on dorsal surface (Fig. 1), covered by wax (on the surface of the wax visible only basal globular part of each setae). First visible labial segment short and robust (egg-shaped in frontal view). Second visible labial segment straight and elongated with distinctly wider base; surpassing posterior margin of the head. Third

visible labial segment straight and thin. Eyes and ocelli small. Antecular part of head 2.2 times longer than postocular part. Anterior pronotal lobe gibbous with distinct sculpturation (Fig. 1). Lateral margins of anterior pronotal lobe arcuate. Transversal sutura with two medio-lateral, longitudinal ridges connected and fused with anterior and posterior pronotal lobes; ridges divided on anterior pronotal lobe, ridges wide and slightly gibbous on posterior pronotal lobe (Fig. 1). Posterior pronotal lobe longitudinally depressed in the middle; lateral angles of posterior part of posterior

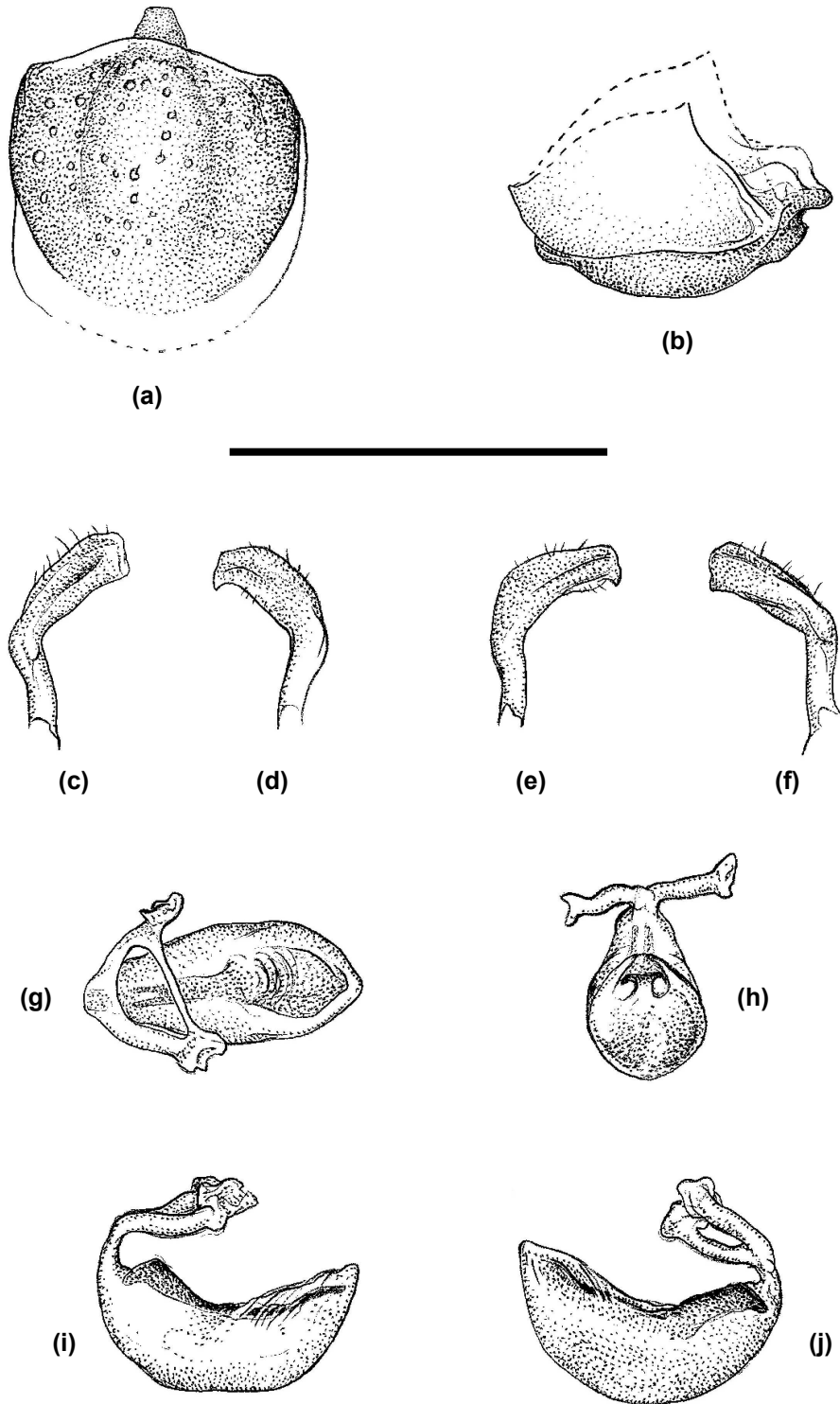


FIGURE 2. *Rodepirea ribesi* n. sp.: (a) Pygophore, dorsal view; (b) Pygophore, median process, lateral view; (c) Left paramere, inner view; (d) Left paramere, outer view; (e) Right paramere, outer view; (f) Right paramere, inner view; (g) Phallus, dorsal view; (h) Phallus, frontal view; (i) Phallus, left lateral view; (j) Phallus, right lateral view (Scale bar = 1 mm).

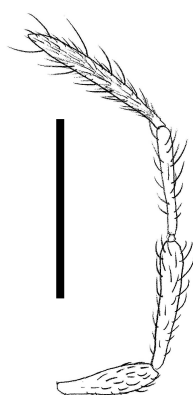


FIGURE 3. *Rodepirea ribesi* n. sp.: Antenna, dorsal view (Scale bar = 1 mm).

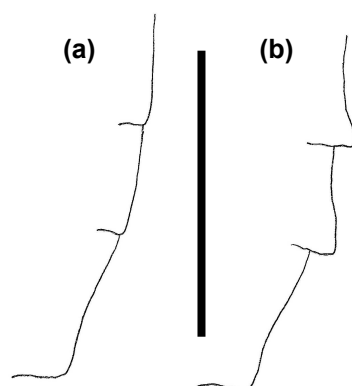


FIGURE 4. Connexiva, dorsal view, of: (a) *Rodepirea ribesi* n. sp.; (b) *R. lobata* Villiers, 1962 (Scale bar = 1 mm).

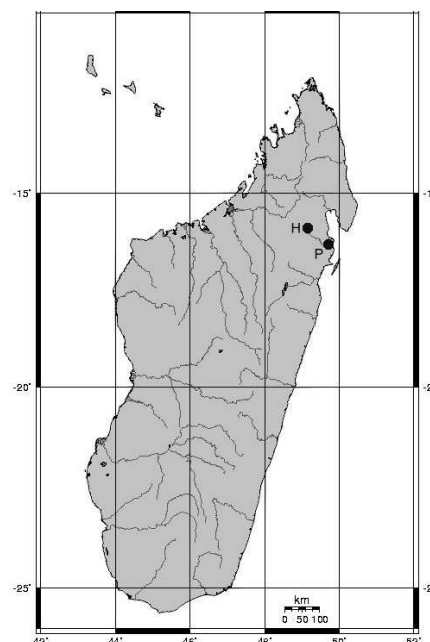


FIGURE 5. Distribution of *Rodepirea ribesi* n. sp. in Madagascar: H: Holotype locality; P: Paratype locality.

pronotal lobe slightly hollowed. Scutellum elongated with depressed medial part, high lateral ridges and short, scarce setae. Setae on legs short and curved, arranged in regular, longitudinal lines. Ventral side of fore femora with setae placed on granules. Hemelytra dull with short and very scarce setae. Membrane not reaching or slightly surpassing apex of abdomen. Abdomen covered by various-sized setae. Connexiva with slightly arcuate external margin. Lateral margins of sternites covered by wax.

Genitalia: Pygophore (Figs. 2a-b) with convex ventral part and slightly depressed latero-ventral parts. Median process of pygophore short, subquadrangular with flattened apex (Figs. 2g-h). Both parameres distinctly curved and slender with various-sized hairs on outer side (Figs. 2c-f). Aedeagus (Figs. 2g-i) elongated and slender with short phallosoma and thong-like dorsal phallosomal sclerite.

Measurements (in mm): Body length: 8.2–8.4; maximum width of abdomen: 2.3; head length: 1.95–2.00; head width: 0.8; length of anteocular part: 2.2; length of postocular part: 1.00–1.05; length of synthlipsis: 0.55; intercellular distance: 0.35; lengths of antennal segments I : II : III : IV = 0.50 : 0.55–0.59 : 0.65 : 0.70; lengths of labial segments I : II : III = 0.4 : 1.5 : 0.5;

maximum length of anterior pronotal lobe: 0.95–1.00; maximum length of posterior pronotal lobe: 1.11–1.12; maximum width of anterior pronotal lobe: 1.60–1.65; maximum width of posterior pronotal lobe: 1.95–2.01; length of scutellum: 0.7; length of hemelytra: 5.00–5.25.

Female: Unknown.

Distribution:

North-East Madagascar (Fig. 5).

Etymology:

It is a great pleasure to dedicate the name of this species to Jordi Ribes on the occasion of his 80th birthday.

Remarks:

Besides the length of antennal segments, *R. ribesi* n. sp. shows some distinct characters such as a slender body and the pale markings on hemelytra, pronotum and head. Each connexiva has the postero-lateral angle short and rounded (the distinctly elongated angles of connexiva is one of the characters of *R. lobata* Villiers, 1962).

Key to the species of the genus *Rodepirea*

- (1) Second antennal segment the same length as fourth segment; connexiva with distinctly elongated postero-lateral angles (Fig. 4b); body dark *R. lobata* Villiers, 1962
 – Fourth antennal segment 1.20–1.27 times longer than second segment (Fig. 3); connexiva without elongated postero-lateral angles (Fig. 4a); lateral margins of head, pronotum and hemelytra pale
 *R. ribesi* n. sp.

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