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Dismegistus madagascariensis sp. nov., the first representative of the family Parastrachiidae (Hemiptera, Heteroptera) in Madagascar

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Abstract

The species *Dismegistus madagascariensis* **sp. nov.** is described from Andohahela National Park, southeastern Madagascar. It represents the first record of the genus *Dismegistus* Amyot & Serville, 1843, and the family Parastrachiidae (Hemiptera, Heteroptera, Pentatomomorpha, Pentatomoidea) from the island. The new species is compared with the six previously described congeners, and a checklist with their distributions is provided.

Key Words

Afrotropical Region, new record, new species, Pentatomomorpha, Pentatomoidea, taxonomy

Introduction

Since the publication of the Linnean "Systema Naturae" (10th edition, Linnaeus 1758), animal species are not only named by a binominal name (binomen), but also classified in a hierarchical system. While the systematic placement of many taxa did not pose a great challenge to the zoologists of the past, there are some taxa that keep travelling throughout the accepted system. Among the true bugs (Hemiptera, Heteroptera), we can mention several such travellers, for example, *Joppeicus paradoxus* Puton, 1881 (Cimicomorpha, Joppeicidae) (for review, see Roca-Cusachs and Kment 2022), *Meschia* Distant, 1910, and *Heissothignus* Slater & Brailovsky, 2006 (Pentatomomorpha, Meschiidae) (see Malipatil 2014; Malipatil et al. 2021; Lu et al. 2025), *Thaumastella* Horváth, 1896 (Pentatomomorpha, Thaumastellidae) (see Kment et al. 2024), or *Eumenotes* Westwood, 1846 (Pentatomomorpha, Dinidoridae) (see Lis et al. 2012; Kment and Kocorek 2014). In the case of *Serbana borneensis* Distant, 1906 (Pentatomomorpha, Phloeidae or Pentatomidae), the systematic placement remains unresolved even at the beginning of the era of DNA-based phylogenetics and phylogenomics (see Grazia et al. 2008; Rider et al. 2018; Roca-Cusachs et al. 2022; López and Schwertner 2023; Luo et al. 2025). Another genus that has travelled considerably throughout the superfamily Pentatomoidea is *Dismegistus* Amyot & Serville, 1843.

The genus was initially described by Amyot and Serville (1843) for *Cydnus circumcinctus* Hahn, 1834, within the category “Séhirides” (which can be compared to Sehirinae in our current classification) as part of their expansive concept of the “Spinipedes.” At that time, the latter group encompassed species from the Cydnidae as well as certain representatives of the existing tribe Sciocorini (Pentatomidae). Dallas (1851) categorized *Dismegistus* alongside *Sehirus* within the family Cydnidae; similarly, Stål (1876) positioned *Dismegistus* close to the sehirine genera within his subfamily “Cydnina.” Nonetheless, Stål (1876) considered his “Cydnina” to be a subfamily within the family Pentatomidae rather than a distinct family. In his world monograph of the genera of the Cydnidae (termed “Cydnides”), Signoret (1881–1884) regarded this group at the subfamilial rank within the family Pentatomidae. Despite his extensive interpretation of the Sehirinae (his “Séhirides”), he had already decided (Signoret 1880) to transfer *Dismegistus* to the tribe Strachiini (referred to as "Strachiides"), thereby formally placing it within the family Pentatomidae. Therefore, this genus was not even mentioned in his revision of the world Cydnidae (Signoret 1881–1884).

The majority of subsequent authors followed Signoret (1880) in considering the genus *Dismegistus* a member of Pentatomidae. However, Bergroth (1923) transferred it from the Pentatominae to the Asopinae based on the morphology of the bucculae and labium. In contrast, Hesse (1925), like Jeannel (1913) previously, retained it in the Pentatominae.

Leston (1956) examined the morphology and anatomy of *Dismegistus* in detail, demonstrating that the genus should be excluded from the Pentatomidae and returned to the Cydnidae. He also indicated its undeniable affinity with the Sehirinae and placed it in this subfamily.

In the analysis of the higher classification of the Cydnidae by Dolling (1981), the systematic position of *Dismegistus* was reviewed. Despite his broad conception of the Cydnidae, in which he included also the families Thaumastellidae and Thyreocoridae, Dolling disagreed with Leston (1956), thereby excluding *Dismegistus* from the Cydnidae and categorizing the genus as Pentatomoidea *incertae sedis*.

In the same year, Schaefer (1981) studied the stridulitrum and plectrum in certain "primitive" Pentatomoidea, incorporating a single species of this genus into his investigations, specifically *D.* cf. *fimbriatus* (Thunberg, 1783). However, he was unaware of Dolling's (1981) study, as both papers were published in the same month. Therefore, contrary to Dolling, he placed *Dismegistus* within the subfamily Sehirinae, consistent with the previous classification by Leston (1956).

Following this, Schaefer et al. (1988) aimed to ascertain the correct systematic position of the genus *Parastrachia* Oshanin, 1922, within Pentatomoidea by referencing certain morphological characters of *Dismegistus*. Although the authors cited Bergroth's (1923) paper, they failed to comment on the close relationship between *Dismegistus* and *Parastrachia*, despite Bergroth (1923) having discussed these two genera together.

For over a decade, species of this genus were excluded from analyses of the superfamily Pentatomoidea. This is best illustrated by the fact that even in the most significant work of that period (Schuh and Slater 1995), the genus was not mentioned, despite its previously contentious nature regarding its systematic position within the Pentatomoidea.

Only at the beginning of the 21st century were several papers published describing various morphological characters within the family Cydnidae (Lis and Heyna 2001; Lis and Hohol-Kilinkiewicz 2002a, 2002b; Lis and Schaefer 2005). These included two species of *Dismegistus*, namely *D.* cf. *binotatus* (Westwood, 1837) and *D.* cf. *fimbriatus*. However, in all these studies, the authors interpreted *Dismegistus* as a genus of uncertain systematic position. This treatment was also adopted by Pluot-Sigwalt and Lis (2008) when analyzing the morphology of the Cydnidae spermatheca. Nevertheless, they revealed significant similarities in the structure of this organ in *Dismegistus* and *Parastrachia*.

However, it was not until Grazia et al. (2008) analyzed families within the Pentatomoidea based on morphological features and DNA sequences that the monophyly of a group comprising species representing *Parastrachia* and *Dismegistus* was unequivocally demonstrated. Consequently, they broadened the concept of Sweet and Schaefer (2002) by including *Dismegistus* for the first time in the Parastrachiidae. Subsequent morphological (Lis 2010a, 2010b) and molecular analyses (Wu et al. 2016; Lis and Domagała 2024; Lis et al. 2012, 2024; Luo et al. 2025) have confirmed the affiliation of these two genera to a single monophyletic group, the family Parastrachiidae. However, in the context of nuclear ribosomal DNA gene analyses (Lis et al. 2017), species from both genera did not form a monophyletic group; yet, they were classified within the monophyletic subfamily Sehirinae.

As one can conclude from all the aforementioned data, the systematic position of *Dismegistus* varied not only depending on the author's concept of the families within the Pentatomoidea but also on the characters considered. It was classified either under the Sehirinae or the Cydninae of the Cydnidae, the Pentatominae (Strachiini) or Asopinae of the Pentatomidae, or finally, in a separate family, Parastrachiidae (see also Lis 2025).

The genus *Dismegistus* (from Greek *dis mégistos*, meaning "twice as big") currently includes six valid species, distributed mostly in eastern and southern Africa (Jeannel 1913; Hesse 1925; for a review of the species, see Table 1). The genus was last revised by Jeannel (1913), who provided a key for the five species he considered valid. A catalogue of the genus attempted by Robertson (2009) was incomplete. In this contribution, we describe an additional species of *Dismegistus* from Madagascar, which represents the first record of the genus and the entire family Parastrachiidae from that island (cf. Cachan 1952). The genus is also unknown in the nearby Comoro Islands, sharing a significant part of its fauna with Madagascar (Nicholas et al. 2024). In addition, we review the synonymy and distribution of all six previously described species (see Table 1).

Material and methods

Photographs were taken using a Canon MP-E 65 mm macro lens attached to a Canon EOS 550D camera. Final images were stacked from multiple layers using Helicon Focus 5.1 Pro software. Uncoated specimens were examined with a Hitachi S-3700N environmental scanning electron microscope at the Department of Palaeontology, National Museum of the Czech Republic, Prague. The images were edited using Adobe Photoshop CS (version 8.0).

Table 1. Checklist and distribution of the species of *Dismegistus* Amyot & Serville, 1843, based on original descriptions and published records. The identity of the species and distributional records requires revision.

Species of the genus *Dismegistus*	Distribution
D. binotatus (Westwood, 1837: 8, 34–35, as *Pentatoma binotata*) (synonymy by Stål 1866: 252) = *Cimex sanguineus* DeGeer, 1778: 616, pl. 46: fig. 1 (primary junior homonym of *Cimex sanguineus* Schrank, 1776, Reduviidae) = *Cydnus sanguinolentus* Germar, 1838: 184–185 (synonymy by Dallas 1851: 130) = *Cydnus sanguinolentus* Herrich-Schäffer, 1851: 346, pl. CCCXXIII: fig. 1005 [not 1004] (synonymy by Stål 1865: 28)	Kenya (Jeannel 1913, as *D. sanguineus*), Mozambique (Stål 1865, as *D. binotatus*; 1876, as *D. sanguineus*), Rwanda (Leston 1952; Schouteden 1957), South Africa (Westwood 1837; Dallas 1851; Walker 1867a; Stål 1865, 1876; Distant 1898, both as *D. sanguineus*), Tanzania (Schouteden 1910; Jeannel 1913, both as *D. sanguineus*; Leston 1952)
D. costalis Reiche & Fairmaire, 1849: 438–440 = *Cydnus abyssinicus* Herrich-Schäffer, 1851: 345, pl. CCCXXIII: fig. 1004 [not 1005] (synonymy by Stål 1865: 28) = *Aspongopus rufomarginatus* DeGeer, 1895: 110–111 (synonymy by Schouteden 1905: 15)	Ethiopia (Herrich-Schäffer 1851, as *Cydnus abyssinicus*; Stål 1865, 1876; Lethierry 1881, 1883; Carlini 1895, as *Aspongopus rufomarginatus*; Courteaux 1922; Mancini 1939, 1956), Erithrea (Mancini 1954), Senegal (Reiche and Fairmaire 1849), South Africa (Reiche and Fairmaire 1849)
D. fimbriatus (Thunberg, 1783: 47–48, as *Cimex fimbriatus*) = *Cimex capensis* Gmelin, 1790: 2158 (unnecessary new name for *Cimex fimbriatus* Thunberg, 1783) = *Cydonus* [*sic!*] *circumcinctus* Hahn, 1834: 115, pl. LXV: fig. 195 (synonymy by Germar 1838: 184 and Stål 1865: 29) = *Strachia aenescens* Walker, 1867b: 325–326 (synonymy by Distant 1898: 316)	Ethiopia (Lethierry 1881; Jeannel 1913; Courteaux 1922), Guinea (Villiers 1952), Mozambique (Montandon 1899), Namibia (Schumacher 1913; Hesse 1925), Republic of the Congo (Göllner-Scheiding 2012), South Africa (e.g., Thunberg 1783; Hahn 1834, as *Cydonus circumcinctus*; Dallas 1851; Walker 1867a; Stål 1865, 1876; Wallengren 1875; Distant 1892, 1898; Walker 1867b, as *S. aenescens*), Tanzania (Jeannel 1913), Zimbabwe (Distant 1898, as Mashonaland)
D. funebris Distant, 1900: 169–170, pl. II: fig. 8	Democratic Republic of the Congo (Haut-Katanga) (Schouteden 1913), Tanzania (Distant 1900; Schouteden 1910; Jeannel 1913)
***D. madagascariensis* sp. nov.**	Madagascar (this paper)
D. royeri Jeannel, 1913: 88, 90–91, pl. III: fig. 34	Angola, Kenya, South Africa (Natal) (Jeannel 1913)
D. rufomarginatus Hesse, 1925: 35, pl. 1: fig. 5	Namibia (Hesse 1925)

The following dimensions were measured: body length (from the apex of the mandibular plates to the apex of the abdomen, dorsal view); head length (from the apex of the mandibular plates to the anterior margin of the pronotum, frontal view); head width (width of the head including compound eyes); interocular width (between inner margins of compound eyes); length of each antennomere and labiomere; pronotum length (medially, from the anterior to the posterior margin of the pronotum in anterodorsal view); pronotum width (maximum width between the humeri in dorsal view); scutellum length (medially from the base to the apex); and scutellum width (maximum width at the base between the basal angles of the scutellum).

The morphological terms used follow Tsai et al. (2011), Rédei and Tsai (2021, 2022), Roca-Cusachs et al. (2024), and Salini et al. (2023, 2025). The specialized terms derive from the following papers: antennomeres – Zrzavý (1990); external scent efferent system of the metathoracic scent glands – Kment and Vilímová (2010); trichobothria – Gao et al. (2017); female external genitalia – Zhou and Rédei (2020).

In the examined holotype, the data on labels are quoted verbatim, with a slash (/) separating data on different rows of a single label and a double slash (//) dividing data on different labels. The authors' comments are given in square brackets [], and the following abbreviations are used: [hw] = handwritten, [p] = printed. Unless stated otherwise, the described labels are off white.

Specimens deposited in the following institutional collections were examined or mentioned in this study:

MMBC Moravian Museum, Brno, Czech Republic;
MFNB Museum für Naturkunde, Berlin, Germany;
MNHN Muséum National d'Histoire Naturelle, Paris, France;
MRAC Royal Museum for Central Africa, Tervuren, Belgium;
NMPC National Museum of the Czech Republic, Prague, Czech Republic.

We used the following specimens for direct comparison with the holotype of *D. madagascariensis* sp. nov. Due to the absence of a modern revision of the genus, the species identifications could only be tentative (cf. Lis and Domagała 2024).

Dismegistus* cf. *binotatus (Westwood, 1837): **KENYA:** Nairobi, 1 ♀, Machul[ka lgt.] (NMPC). Ikutha, 1 ♀, x/xii.1960, Muche lgt., ex col. Breuning, Coll. Mus. Tervuren (MRAC). **SOUTH AFRICA:** Mpumalanga, Waterval Boven, Elands river, 10.–11.ii.2000, 1 ♂ [Fig. 4], S. Bečvář lgt. (MMBC). Transvaal, Rustenburg, 9.xii.1950, A. L. Capener lgt., 1 ♂ 2 ♀♀, R. I. Sailer det. as *D. binotatus* (MMBC). **TANZANIA:** T.T.O-Afrika, Marangu, 1.–20.iii.1959, 1 ♂ 2 ♀♀, Lindner leg. (NMPC).

Dismegistus* cf. *fimbriatus (Thunberg, 1783): **SOUTH AFRICA:** Bontebok Nat. Park, 16.–18.xi.1993, 1 ♀, F. Koch lgt. (MFNB). Bothaville, Orange Fr. St., 22.xii.1998, 1 ♂, 15.i.1999, 1 ♀, Dr. Brauns lgt. (MRAC). Cape of Good Hope N.R., 34°16'S, 18°23'E, 24.–25.iv.1995, 1 ♂ 1 ♀, J. Deckert lgt. (MFNB). Cape Province, De Hoop Nature Res., 16.–18.xi.1993, 34°27'S, 20°24'E, 1 ♂, J. Deckert lgt. (MFNB). 'Holub', 2 ♂♂ 5 ♀♀ (NMPC; for collecting details see Kment and Rédei 2018). Mpumalamga, Phabeni, 14.i.2007, 1 ♂, S. Snäll lgt. (NMPC). Mpumalanga, Waterval Boven, Elands river, 10.–11.ii.2000, 2 ♂♂ 1 ♀ [Fig. 5], S. Bečvář lgt. (MMBC). **ZIMBABWE:** Rhodesia mer., Antelope, hospital, i.–ii.1972, 2 ♂♂, Z. Cakl lgt. (MMBC).

Dismegistus royeri Jeannel, 1913: **SOUTH AFRICA:** Natal, 1 spec. (syntype) [Figs 6–7], Dr. Martin lgt., R. Jeannel det. (MNHN).

Results

Dismegistus madagascariensis **sp. nov.**

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Figs 1–3, 8–19

? *Dismegistus pauliani* (nomen nudum): Leston (1956): 92 (Madagascar).

Type locality. South-east Madagascar, Anosy mountain range, Andohahelo plateau [Andohahela National Park], SW of Trafonaomby Mt., 1770–1950 m a.s.l. (ca. 24°33'54"S, 46°43'14"E).

Type material. ***Holotype*****:** ♀ (Figs 1–3), 'Chaînes anosyennes / S. O. du Trafonaomby / plateau Andohahelo / 1770· 1950 m, V. - 1972 [p] // Museum Paris [p] / A. Peyrieras / I. 1974 [hw] // ♀ [p] // HOLOTYPUS / *DISMEGISTUS* / *MADAGASCARIENSIS* / sp. nov. / des. P.Kment & J.A.Lis 2025 [p, red label]' (MNHN). The holotype was remounted on a new piece of card, with a trace of past pinning on the scutellum; hemelytra slightly spread, abdominal ventrites depressed (Fig. 2); both distiflagella, left basiflagellum, both protarsi, right mesotarsus and left metatibia and metatarsus missing (Fig. 1).

Description (female). Coloration (Figs 1, 2). Body, antennae, and legs black, pronotum and propleura bright orange-red; apex of scutellum with narrow reddish-brown margin; clavi black; coria (including hypocostal lamina) reddish-black, basally and along each R+M vein darker (against the surface of abdomen corium appearing black), lateral margins of coria dark red; membranes translucent, fumose brown; anterolateral angle of each mesepisternum red, metepimera reddish-black (Fig. 2).

Structure. Head triangular in dorsal (i.e., frontal) view (Fig. 10), declivous (Figs 8, 9). Mandibular plates slightly surpassing apex of clypeus to form anterior notch (Figs 10, 11). Lateral margins of head elevated dorsally in form of ridges, remaining surface of mandibular plates and clypeus flat (Fig. 10), vertex between eyes and ocelli convex (Fig. 9). Bucculae crescent shaped, ca. as long as labiomere I (Fig. 9). Labium (Fig. 14) reaching middle of mesosternum (Fig. 15). Length of labiomeres III > IV > II > I, labiomere I reaching about head midlength (Fig. 14). Antenna with scape (I) shortest, stoutest, basipedicellite (IIa) and distipedicellite (IIb) about same length, cylindrical, only slightly wider apically than at base (Figs 1, 2), basiflagellum (III) spindle-shaped, slightly flattened, longer than preceding antennomeres, distiflagellum (IV) missing in examined specimen.

Pronotum (Figs 1, 12) with anterior margin shallowly concave, anterolateral and humeral angles broadly rounded; lateral margins narrowly explanate, convex in dorsal view, slightly curved dorsally in lateral view; posterior margin slightly concave in middle. Pronotal disc with very shallow, almost indistinct sublateral depression anterolaterally (Fig. 12). Scutellum triangular with convex surface, insinuate at frenal apices, apex of scutellum broadly rounded posteriorly (Figs 1, 13).

Coria somewhat explanate laterally each with well developed hypocostal lamina (Fig. 2); costal margins of coria convex in dorsal view (Figs 1, 2, 13), each exocorium with depressed medial furrow (Fig. 13: mf) anteriorly between Sc and R+M veins, posterior margin of each corium rounded (Fig. 1); veins of membranes translucent, indistinct.

Thoracic sterna neither grooved or keeled (Fig. 15). External scent efferent system of metathoracic scent glands (Fig. 16) reduced, ostioles V-shaped (Fig. 16: o), each situated between meso- and metacoxal cavities, vestibulum and vestibular scars very short, peritremes not emarginated, peritremal sufaces merging with surrounding metapleura, only median furrow well-developed (Fig. 16: mf); evaporatoria (Fig. 16: ev) rudimentary, mycoid surface limited to small area posteriad of ostioles, elongate patch along suture between meso- and metapleura. Femora simple, oval in cross-section; tibiae with dorsal surface shallowly grooved (Fig. 8). Tarsomere I stoutest, longest, longer than II + III combined, tarsomere III longer than II.

Each abdominal ventrite bearing two trichobothria postero-/posterolaterad of each spiracle (Fig. 18: sp, tr), bothrium of type A (Fig. 19). Female terminalia (Fig. 17) with valvifers VIII semicircular with posterior margin slightly rounded (Fig. 17: vf8), laterotergites IX small, triangular, with lateral margins rounded (Fig. 17: lt9); laterotergites VIII medially fused (Fig. 17: lt8).

Integument and vestiture**.** Pronotum and head shining, scutellum and hemelytra submatte (Fig. 1). Head (Figs 10, 11) impunctate, clypeus basally and apically with shallow transverse wrinkles, mandibular plates laterally with transverse wrinkles fading centrally (Fig. 10). Pronotum with sparse, shallow, concolorous punctures, more pronounced in center of disc (Fig. 12). Scutellar disc with concolorous punctures, sparse, shallow basally, more pronounced, connecting with transverse wrinkles in central and posterior parts of disc (Fig. 13). Clavi and coria with dense concolorous punctures, deeper, denser than on pronotum. Ventral surface of body nearly smooth (Figs 14–19), metepimera with large shallow punctures.

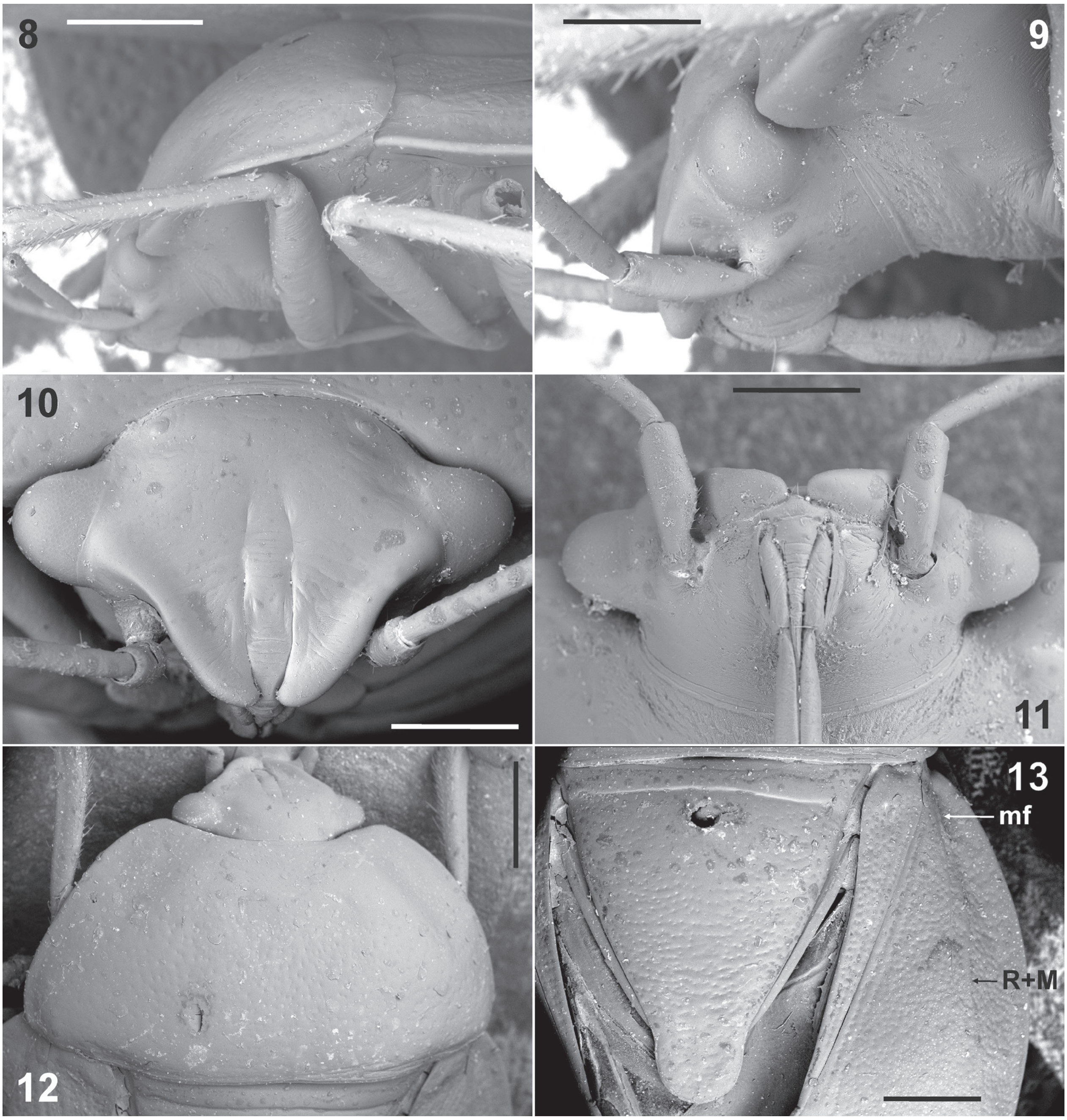
Body bare except distipedicellite (IIb) and basiflagellum (III) with fine, short, semierect pilosity. Each tibia with four rows of stout black semierect spines, one row dorsally on each side of of flattened dorsal surface (Fig. 8), two rows on ventral surface, their spines forming acute angle ventrally; besides the stout spines each tibia bearing additional finer, shorter setae. Tarsi with short, semierect to erect setae, especially dense on ventral surfaces.

Measurements (mm). Body length 8.33; head: length 1.35, width (including compound eyes) 2.10, interocular width 1.37; lengths of labiomeres: I – 0.35, II – 0.60, III – 0.82, IV – 0.76; lengths of antennomeres: I – 0.52, IIa – 1.02, IIb – 1.00, III – 1.32, IV – missing; pronotum: length 2.42, width 5.05; scutellum: length 3.23, width 2.94.

Male. Unknown.

Figures 1–7. Habitus of *Dismegistus* species. **1–3.** *Dismegistus madagascariensis* sp. nov., ♀, holotype (**1.** Dorsal view, **2.** Ventral view, **3.** Holotype labels; body length: 8.33 mm); **4.** *D.* cf. *binotatus* (Westwood, 1837), ♂, South Africa: Waterval Boven, dorsal view (body length: 9.31 mm); **5.** *D.* cf. *fimbriatus* (Thunberg, 1783), ♀, South Africa: Waterval Boven, dorsal view (body length: 8.63 mm); **6, 7.** *D. royeri* Jeannel, 1913, ♀, syntype, South Africa: Natal: **6.** Dorsal view, **7.** Type labels. Scale bar: 1 mm.

Differential diagnosis. The new species is similar in body length to *D.* cf. *fimbriatus*, *D.* cf. *funebris* Distant, 1900, and *D. royeri* Jeannel, 1913. The females of these species, measuring approximately 5.0 mm to nearly 9.0 mm in length, are smaller than those of other species within this genus, such as *D.* cf. *binotatus*, *D.* cf. *costalis* Reiche & Fairmaire, 1849, and *D.* cf. *rufomarginatus* Hesse, 1925, where the female body length typically

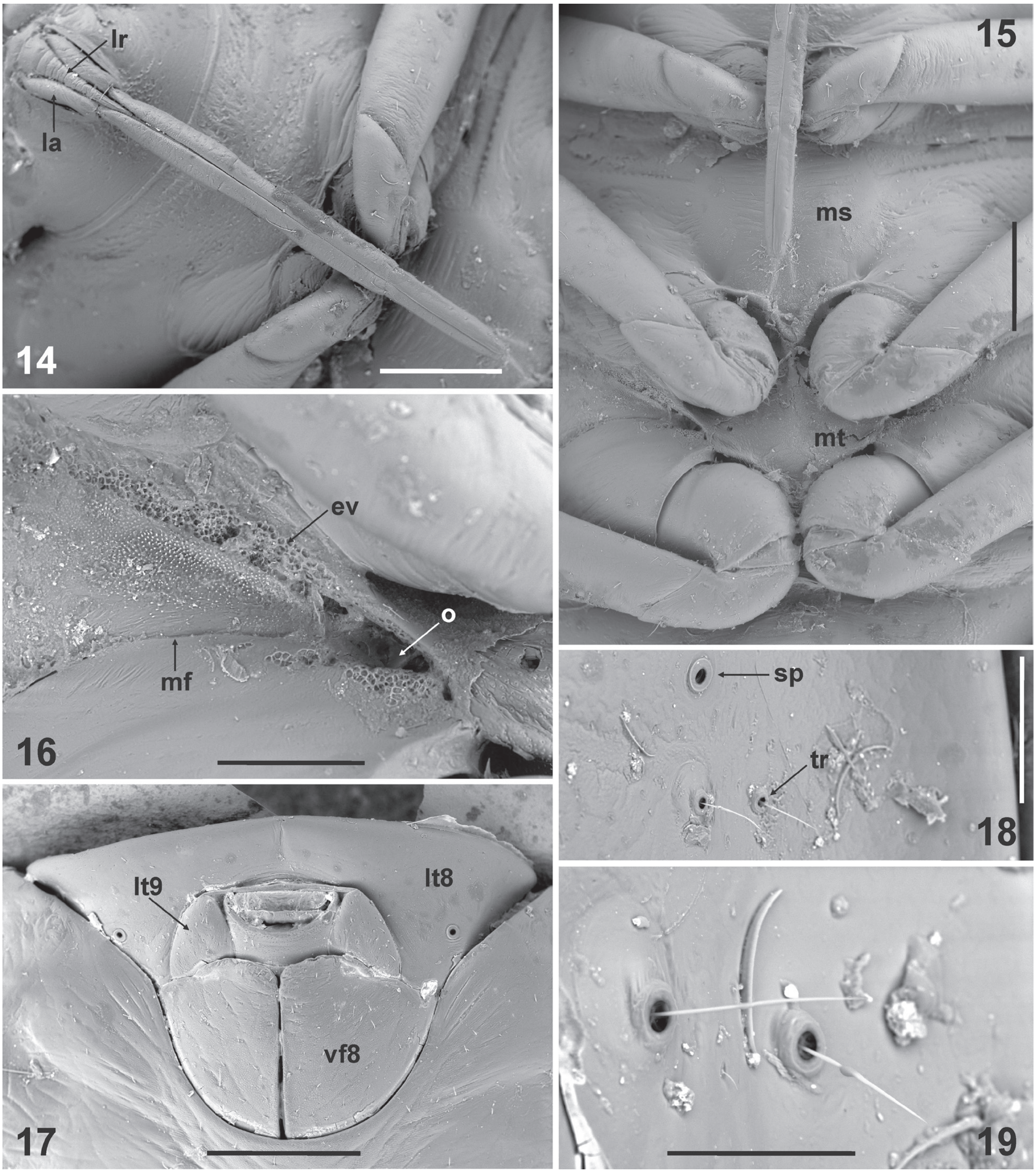


Figures 8–13. Morphology of *Dismegistus madagascariensis* sp. nov., ♀, holotype. **8.** Head, pro- and metathorax in lateral view (magnification 32×); **9–11.** Head: **9.** Lateral view (65×); **10.** Frontal view (60×); **11.** Ventral view (60×); **12.** Pronotum (anterodorsal view, 25×); **13.** Scutellum, clavus, and anterior portion of corium (23×). Lettering: mf – medial furrow, R+M – R+M vein. Scale bars: 0.5 mm (**9–11**); 1 mm (**8, 12, 13**).

exceeds 10.0 mm and can occasionally reach as much as 16.0 mm. However, *D. madagascariensis* can be easily distinguished from *D.* cf. *fimbriatus*, *D.* cf. *funebris*, and *D. royeri* by the coloration of the pronotum and hemelytra. The pronotum of *D. madagascariensis* is uniformly red on the dorsal side, unlike the other three species, where only the lateral portions and posterior parts of the pronotum show red. The same applies to the outer sections of the exocoria, which in *D.* cf. *fimbriatus*, *D.* cf. *funebris*, and *D. royeri* are predominantly red along their length and distinctly differ in color from the darker mesocoria. In *D. madagascariensis*, the base of each exocorium is noticeably darker, resembling the color of the mesocorium. Furthermore, unlike all other species in the genus, the hemelytra of *D. madagascariensis* are broadly expanded laterally, reaching distinctly laterad of the humeral angles.

Etymology. The species epithet is the Latinized adjective *madagascariensis* (*-is*, *-e*), referring to the area of the species distribution.

Habitat and biology. Unknown. The type locality, Andohahela National Park, is situated at the southern end of the Malagasy Highlands. The park is divided into three



Figures 14–19. Morphology of *Dismegistus madagascariensis* sp. nov., ♀, holotype. **14.** Labium (magnification 55×); **15.** Meso- and metasternum (40×); **16.** Ostiole and evaporatorium of metathoracic scent glands (170×); **17.** Female terminalia (70×); **18.** Spiracle and trichobothria on ventrite III (170×); **19.** Detail of trichobothria on ventrite III (500×). Lettering: ev – evaporatorium, la – labiomere I, lr – labrum, lt8–9 – laterotergites VIII–IX, mf – median furrow of peritreme, o – ostiole of metathoracic scent gland, ms – mesosternum, mt – metasternum, sp – spiracle, tr – trichobothrium, vf8 – valvifer VIII. Scale bars: 0.1 mm (**19**); 0.2 mm (**16, 18**); 0.5 mm (**14, 15, 17**).

zones. The first zone, Malio, ranges from 100 meters to the summit of Pic d'Andohahela at 1,956 meters, and has dense lowland and montane rainforest. The second zone, Ihazofotsy-Mangatsiaka, contains dry spiny forest at altitudes ranging from 100 to 1,005 meters at the summit of Pic de Vohidagoro. The third zone, Tsimelahy, is mainly at an altitude of 125 meters and contains the unique Ranopiso transitional forest. The mountains form a natural barrier to the moist trade winds that blow from the east, causing on the eastern side a rainfall of 1,500–2,000 millimeters per year that supports one of the few rain forests south of the Tropic of Capricorn. At the park's western edge, the rainfall is just

600–700 millimeters per year, and the resulting vegetation is a dry, spiny forest characteristic of southern Madagascar (Paulian et al. 1973; Anonymus 2025). As the holotype label indicates, the specimen was collected at the leeward southwest slopes of Trafonaomby Mt. (1770–1950 m a.s.l.), i.e., just under the mountain top. This suggests its finding in the forest zone, though the exact type of forest would be just a speculation. Collecting fresh specimens is necessary to elucidate the bionomy and habitat requirements of the new species. The available habitat information concerning the species in continental Africa concerns relatively drier habitats (e.g., Lis and Domagała 2024).

Distribution. Known only from the type locality, Trafonaomby Mt. in south-east Madagascar.

Remark. When examining species of *Dismegistus*, Leston (1956) noted that his study was based on material from various regions of South Africa (*D.* cf. *fimbriatus*, *D.* cf. *binotatus*) and Madagascar (*D. pauliani*). Although a Latin name was assigned to the species from Madagascar, Leston classified it as a *nomen nudum*. Concurrently, he suggested that the species would be described once sufficient material became available to undertake a comprehensive revision of the entire genus *Dismegistus*. Unfortunately, this species from Madagascar was neither described by Leston nor mentioned in his subsequent publications. Consequently, it is currently difficult to determine whether the specimens used as the basis for *D. pauliani* represent the same species described in this paper. Nevertheless, given that these are the only specimens of this genus recorded from Madagascar, the name *D. pauliani* has been tentatively included as a *nomen nudum* under *D. madagascariensis*.

Discussion

Jeannel (1913) distinguished the species of *Dismegistus* based on the size, shape, and coloration of the body, the lengths of the antennomeres, and the structure of the pronotum. Hesse (1925) also used the same characters to distinguish the sixth species he described, *Dismegistus rufomarginatus*. Some general morphological characters were described and illustrated by Leston (1956) and Dolling (1981), including the details of the male (paramere, penis) and female genitalia (terminalia, spermatheca) of *D.* cf. *binotatus* and *D.* cf. *fimbriatus*—the latter (female terminalia) not much different from the condition in *D. madagascariensis* (Fig. 17). These structures must be analyzed and described in detail in the future, as they differ only slightly across all species (J. A. Lis, unpubl. data). This will form the basis for further analyses of all *Dismegistus* species and a comprehensive revision of the genus.

Due to its unique history, Madagascar is considered one of the most significant hotspots of biodiversity (e.g., de Wit 2003; Ganzhorn et al. 2008; Ralimanana et al. 2022; Jimenez et al. 2023), and many new species of insects are described from Madagascar every year, including many true bugs (Heteroptera) (e.g., Guilbert 2020; Kim et al. 2020; Kondorosy et al. 2020; Zettel 2020; Zettel and Laciny 2020; Matocq 2021; Chen et al. 2022; Sites and Bergsten 2022; Taszakowski et al. 2022, 2025a, b; Zámbó et al. 2022; Kóbor 2023; Masłowski et al. 2023; Gierlasiński et al. 2024; Heiss and Eckelt 2024; Chen and Cai 2025; Cook 2025; this paper). These discoveries mostly represent new genera and species belonging to family-group taxa previously known to occur in Madagascar. However, some of the endemic taxa described in the past three decades also represent discoveries of tribes, subfamilies, or even families previously unknown in Madagascar. Brailovsky (2007) described *Madagalesus* Brailovsky, 2007, a new genus including two new species and representing the first record of the tribe Dasynini (Coreidae, Coreinae). Brailovsky (2011) also added Latimbini, another tribe of Coreinae, based on four new Malagasy species of the genus *Latimbus* Stål, 1859. O'Donnell and Schaefer (2011) first recorded the tribe Lilliputocorini (Rhyparochromidae) based on five undescribed species of the genus *Lilliputocoris* Slater & Woodward, 1979 (see also Kment et al. 2016). Heiss and Eckelt (2024) described the first endemic genus and species of the flat bug subfamily Calisiinae (Aradidae), *Microcalisius madagascariensis* Heiss & Eckelt, 2024. Gierlasiński et al. (2024) described *Kojderus* Magnien & Gierlasiński, 2024, a new monotypic species of Tessaratomidae, representing the first record of the subfamily Natalicolinae from Madagascar. Taszakowski et al. (2025b) described *Psallops madagascariensis* Taszakowski, Kim & Gierlasiński, 2025, the first Malagasy representative of the subfamily Psallopinae (Miridae). Finally, we are aware of additional new taxa still awaiting formal description, such as a new species of the genus *Aeptus* Dallas, 1851 from the tribe Aeptini (Pentatomidae, Pentatominae) (Rider et al. 2018) and the existence of undescribed new taxa of Urostylididae (P. Štys, pers. comm. in Zhou and Rédei 2018; P. Kment, pers. observ.). In this context, the discovery of the first representative of the family Parastrachiidae presented in this paper is not a major surprise.

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