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RESEARCH ARTICLE

Six new species of *Poeciloderrhis* from Brazil (Blattaria: Blaberidae) with a new record and a new combination

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ABSTRACT. In this contribution six new species of *Poeciloderrhis* Stål, 1874 are described: *P. aureolatus* **sp. nov.** (Holotype male in MNRJ: Brazil, Rio de Janeiro State), *P. mediansclerostylatus* **sp. nov.** (Holotype male in MNRJ: Brazil, Rio de Janeiro State), *P. diamantinensis* **sp. nov.** (Holotype male in MNRJ: Brazil, Mato Grosso State), *P. itatiaiensis* **sp. nov.** (Holotype male in MNRJ: Brazil, Rio de Janeiro State), *P. vanzolinii* **sp. nov.** (Holotype male in MNRJ: Brazil, Rio de Janeiro State), and *P. penduloides* **sp. nov.** (Holotype male in MNRJ: Brazil, Rio de Janeiro State). The genus is recorded for the first time from the state of Rondônia, Brazil based on *P. diamantinensis* **sp. nov.** A new combination is proposed for *Poeciloderrhis bicolorata* Rocha e Silva & Lopes, 1977 that is transferred to *Epilampra* Burmeister, 1838. For specific delimation, the tergal modification in the abdomen, the genital plates and their respective structures were analyzed. A key for males including all species of *Poeciloderrhis* is also given.

KEY WORDS. Atlantic Forest, Epilamprinae, nomenclature, Serra da Mantiquera.

INTRODUCTION

The species of *Poeciloderrhis* Stål, 1874 differ from *Epilampra* Burmeister, 1838 by the tergal modifications in the first and second abdominal segments, L2d pointed and fused solidly to L2vm; prepuce membranous, not clearly defined by dense setae; R2 short and stout, without apical incision; L1 without a setal brush and the sclerotized cleft fused together (Roth 1970).

Until now 15 species of *Poeciloderrhis* are known, all endemic to Brazil, except *P. verticalis* (Burmeister, 1838), which also occurs in northeastern Argentina (Roth 1970, Rocha e Silva-Albuquerque and Lopes 1976, 1977, Rocha e Silva-Albuquerque and Jurberg 1978, Lopes and Oliveira 2006, Silva and Lopes 2015).

Recently, Silva and Lopes (2015) presented a synopsis of the genus and Anisyutkin (2016) redescribed the type of the species, *P. verticalis* (Burmeister, 1838), in detail, increasing our knowledge on this group of roaches.

The goals of this paper are to describe six new species of *Poeciloderrhis* and provide a new record of the genus from state of Rondônia, northern Brazil.

MATERIAL AND METHODS

The genital plates were removed after dissection of the posterior part of the abdomen, using standard techniques (e.g., Lopes and Oliveira 2000). After analysis, the genital plates and genital pieces were stored in microvials containing glycerin and were attached to the respective exemplar (Gurney et al. 1964). The male tergal modifications of the abdomen were observed from the base of the wings after preparation with diluted detergent over the wing insertions, using a brush. The terminology for the genitalia and the taxonomic classification follow Roth (2003). Digital images of the habitus, pronotum, head, tergal modification and genitalia were taken with a camera mounted on a Leica M205C stereoscopic microscope, with software LAS version 4.8. The holotypes are deposited in the collection of the Department of Entomology, Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil (MNRJ). The images of *P. verticalis* (Figs 1–3), sent from the Zoologisches Institut der Martin-Luther Universität and the Naturhistorisches Museum Wien, have no scales.

Figures 1–3. *Poeciloderrhis verticalis*: (1) habitus, dorsal view, female deposited in Halle Museum, length 40.5 mm; (2) habitus, dorsal view, female from deposited in Halle Museum, lenght 40.5 mm; (3) habitus, dorsal view, male deposited in Senkenbergisches Institut, lenght 40.5 mm.

TAXONOMY

Poeciloderrhis aureolatus sp. nov.

http://zoobank.org/6273B368-4985-4F4A-9CF5-8B3E74C3F150
Figs 4–19

Diagnosis. General coloration. Shiny yellowish-brown (Fig. 4). Head with brown vertex (Fig. 5), with four light brown circular spots; interocular space, interantennal and central portion of clypeus brown. Maxillary palps with brown apical segment, with golden cilia. Eyes black. Pronotum semi-transparent, with central brown mark extending from posterior end nearly to the anterior end (Fig. 6). Tegmen semi-transparent, light brown, with brown spots. Legs brown with dark brown spines, arolia and claws. Abdomen light brown with dark brown punctuations.

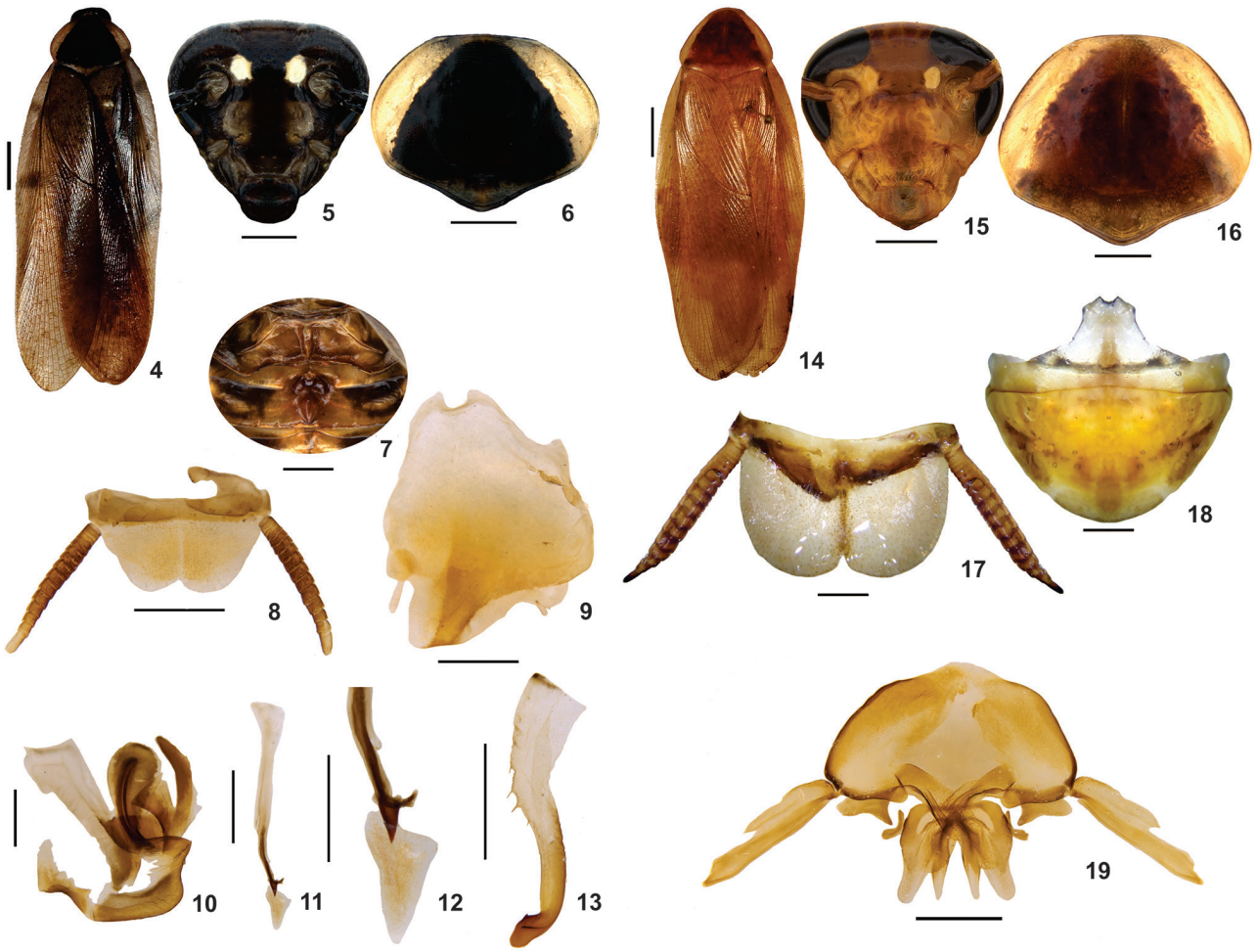
Dimensions (mm). Holotype male. Total length: 42.8; total length of pronotum: 8.1; width of pronotum: 9.1; length of tegmen: 37.3; width of tegmen: 9.7. Paratype males. Total length: 41.6–45.7; total length of pronotum: 7.3–9.6; width of pronotum: 9.3–11.1; length of tegmen: 36.5–41.3; width of tegmen: 10.0–11.8. Paratype females. Total length: 45,4–45,7; total length of pronotum: 9.4–9.6; width of pronotum: 10.5–11.1; length of tegmen: 40.2–41.3; width of tegmen: 10.7–11.8.

Description of the holotype male. Head triangular with rounded borders, vertex barely visible in dorsal view; interocular space about 1.20 mm wide; antennae long, threadlike and tomentose, surpassing apex of cerci. Maxillary palps with first and second segments reduced, third segment 25% larger than fourth and 25% smaller than fifth segment, fifth segment slightly more swollen and densely tomentose.

Thorax. Pronotum ample, convex, with curved edges, base with small median projection. Legs with half of femur I with anteroventral surface bearing five robust spines followed by series of small spines up to apex, apex with two strong spines; posteroventral surface with three robust spines, one apical; femora II and III bearing few strong spines on ventral surface. Pulvilli on four tarsal segments, claws symmetrical, with two rows of small spines on ventral surface, similar to two spines on legs. Tegmen surpassing apex of abdomen. Marginal field elongated, slightly concave, scapular field elongated with oblique venules, discoidal field curved and convex apically, anal field convex and well defined.

Abdomen. Tergal modifications differentiated, with longitudinal humps on first segment; two lateral humps followed by two at middle of plate (Fig. 7). Supranal plate with small median reentrance; cerci surpassing length of plate (Fig. 8). Subgenital plate asymmetric (Fig. 9) with two thread-like styles, one long and one short. Left phallomere sclerotized (Fig. 10). Median sclerite spiniform apically, strongly sclerotized, with thin membranous structure subapically (Figs 11 and 12). Right phallomere with small short apex, bearing small spines near apex, membrane of phallomere with nine spines (Fig. 13).

Female larger than male (Fig. 14); front light brown (Fig. 15); pronotum brown with light brown lateral flaps (Fig. 16); supranal plate with median reentrance between cerci (Fig. 17);



Figures 4–19. (4–13) *Poeciloderrhis aureolatus* sp. nov. holotype male: (4) habitus, dorsal view, (5) head, ventral view, (6) pronotum, dorsal view, (7) tergal modification of first and second abdominal segments, dorsal view, (8) supranal plate, dorsal view, (9) subgenital plate, ventral view, (10) left phallomere, dorsal view, (11 and 12) median sclerite, dorsal view, (13) right phallomere, dorsal view. (14–19) *Poeciloderrhis aureolatus* sp. nov. paratype female: (14) habitus, dorsal view, (15) head, ventral view, (16) pronotum, dorsal view, (17) supranal plate, dorsal view, (18) subgenital plate, ventral view, (19) valves, ventral view. Scale bars: 4 = 5.6 mm; 5, 9, 13, 15 = 2.0 mm; 6–8, 16 = 3.0 mm; 10 = 0.7 mm, 11, 19 = 1.0 mm, 12 = 0.7 mm; 14 = 6.0 mm, 17 = 1.2 mm, 18 = 1.9 mm.

subgenital plate triangular (Fig. 18); first pair the most developed, second smaller and tapered, third wider than second (Fig. 19).

Material examined. Holotype male, BRAZIL, Rio de Janeiro State, Itatiaia, PNI, Setor Lago Azul, Rio Campo Belo, 22°26′49″S, 44°36′45″W, 854 m a.s.l., 03/VIII–1/IX/2015, Biota Faperj, coleta 02. Paratypes: 5 males and 1 female, same data as holotype; 9 males and 1 female, same data as holotype but Complexo do Maromba, Cachoeira Véu da Noiva, PNI – M2A, 22°25′36″S, 44°37′05″W, 1153 m a.s.l., 2/X–2/XI/2015, Biota/Faperj, coleta 04; 1 male, Parada da Ribeira, R. Mangi, 9-II to 2-X-1959, Coelho & Castro cols; 1 male, Grajaú, collected in a water tank, 27-XII-1952, Santos & Machado cols; 8 females, Cachoeiras de Macacu (Rio São João), 5-I-1981, Santos & Neto cols; 1 male, 2/X/1959; 1 male, Minas Gerais, Oiticica col. All in MNRJ.

Etymology. The species name *aureolatus* is derived from the yellowish-brown coloration of the specimens.

Remarks. *Poeciloderrhis aureolatus* sp. nov. is similar to *Poeciloderrhis proxima* (Brunner von Wattenwyl, 1865) in coloration (both shiny brown). The new species might be distinguished from *P. proxima* by its tergal modification (the second abdominal segment bears two lateral humps followed by two at middle of plate in *P. aureolatus* sp. nov. while *P. proxima* have two lateral humps followed by two at middle of plate, being that second elevation of the middle of the plate ends in a hook-like

structure) and shape of the genital parts (right phallomere with small short apex in *P. aureolatus* sp. nov., while *P. proxima* have right phallomere with rounded apex). Besides that, pre-apical region in *P. aureolatus* sp. nov. have an expansion, which is absent in *P. proxima*.

Poeciloderrhis mediansclerostylatus sp. nov.

http://zoobank.org/4172A303-F9EA-4950-977A-F2B8340B52E4
Figs 20–29

Diagnosis. General coloration. Shiny brown (Fig. 20). Head with dark brown vertex; interocular and interantennal spaces dark brown, other head structures brown; maxillary palps with brown apical segment, with golden cilia. Eyes dark brown (Fig. 21). Pronotum light brown laterally, semi-transparent with dark brown trapezoidal spot (Fig. 22). Tegmen ranging from light brown to brown, semi-transparent with dark brown spots. Legs light brown, spines, pulvilli, arolia and claws brown. Abdomen light brown.

Dimensions (mm). Holotype male. Total length: 30.0; length of pronotum: 6.0; width of pronotum: 7.7; length of tegmen: 23.5; width of tegmen: 7.3.

Description of the holotype male. Head triangular with rounded corners, vertex barely exposed in dorsal view; interocular space about 1.24 mm. Antennae long, threadlike and tomentose, surpassing apex of cerci. Maxillary palps with first and second segments reduced, third segment longer than fourth, fifth segment slightly more dilated and densely tomentose.

Thorax. Pronotum wide, convex, angles curved, base with small median projection. Legs with femur I with anteroventral surface with six strong spines up to middle, followed by series of small spines toward apex, apex bearing two strong spines; posteroventral surface with three to four strong spines, one apical; femora II and III bearing few strong spines on their ventral surfaces. Pulvilli present on four tarsal segments, claws symmetrical and specialized, with two rows of small teeth, similar to spines on legs. Tegmen surpassing apex of abdomen. Marginal field elongated, slightly concave, scapular field elongated with oblique venules, discoidal field convex, curved apically, anal field convex and conspicuous.

Abdomen. Tergal modification consisting of longitudinal hump on first segment and complex of four humps on second segment (Fig. 23). Supranal plate with cerci surpassing size of plate, with conspicuous cilia in ventral view (Fig. 24). Subgenital plate asymmetric, left style, in ventral view, larger than right style (Fig. 25). Left phallomere sclerotized (Fig. 26). Median sclerite with apex spiniform (Figs 27 and 28). Right phallomere apically resembling hockey stick, with small spines near apex. Membrane of right phallomere with eight spines (Fig. 29).

Material examined. Holotype male, BRAZIL, Rio de Janeiro State, Conceição do Jacareí, 18-XI-1975, Prazeres col. (MNRJ).

Etymology. The species name, *mediansclerostylatus* is derived the styliform median sclerite, which is similar to *P. imperialis*.

Remarks. *Poeciloderrhis mediansclerostylatus* sp. nov. is similar to *Poeciloderrhis imperialis* Rocha e Silva & Jurberg, 1978 in coloration of the pronotum (semi-transparent with dark brown trapezoidal spot) and habitus (shiny brown). The new species might be distinguished from *P. imperialis* by its smaller size 30.0–31.1 mm (31.6–33.0 mm in *P. imperialis*), shape of the tergal modification consisting of longitudinal hump on first segment and a complex of four humps on second segment, while in *P. imperialis* is composed by a slight elevation, trianguliform near the apex and two elevations next from the base which follows from the center of the structure towards the sides in the first segment and another slight elevation in the base of the second segment. In addition, *P. mediansclerostylatus* sp. nov. can be distinguished too by its shiny-brown general coloration, while it is shiny light brown in *P. imperialis*, and genital morphology that presents the median sclerite with an apical spine and right phallomere with an irregular margin in the apex while the median sclerite presents a rounded structure and right phallomere with rounded apex in *P. imperialis*.

Poeciloderrhis diamantinensis sp. nov.

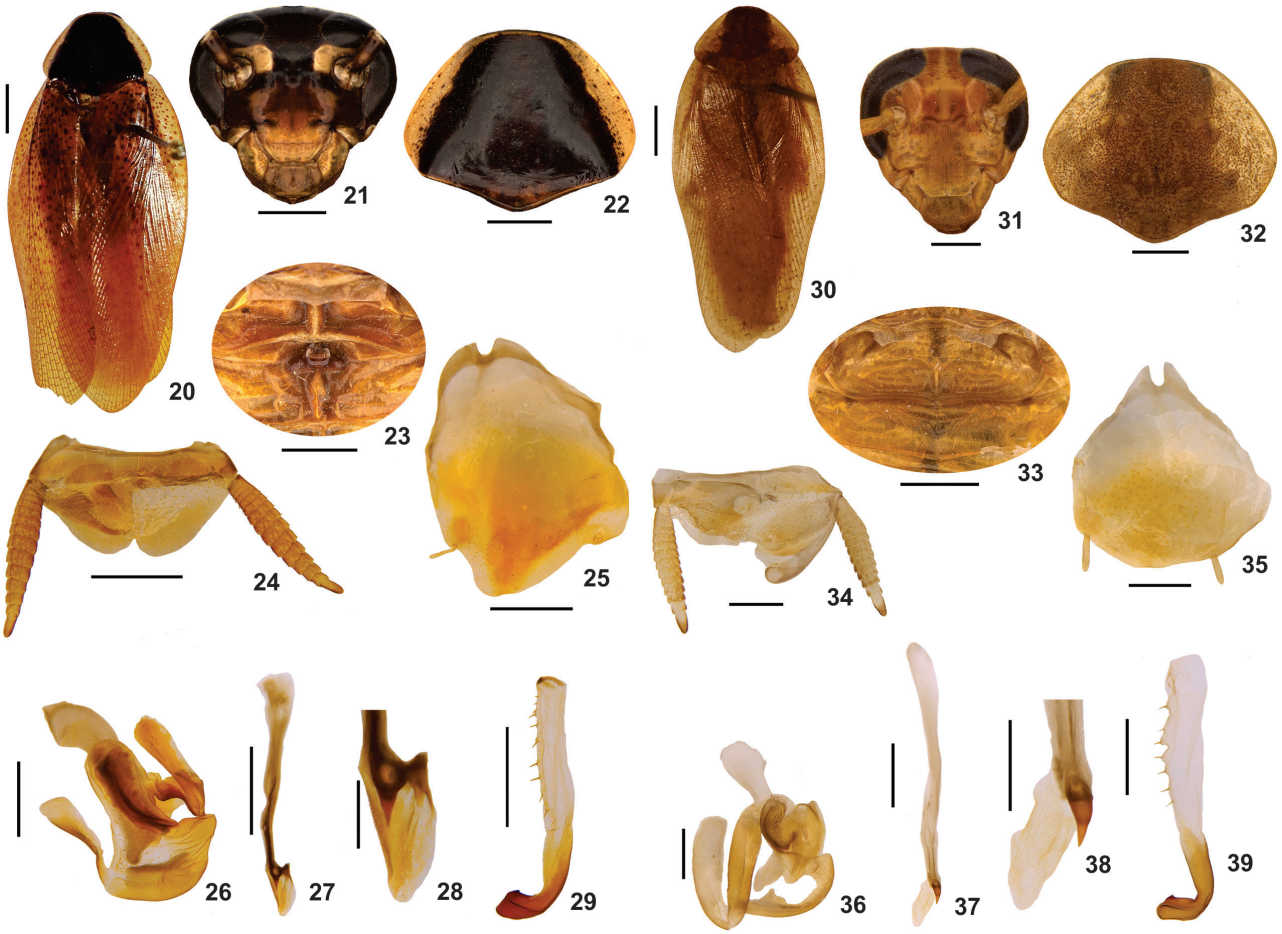
http://zoobank.org/57641D75-52BC-4BD5-A1E0-C2181020C60D
Figs 30–39

Diagnosis. General coloration. Shiny, light brown (Fig. 30). Head with front ranging from brown to light brown; interocular and interantennal spaces brown, other head structures light brown; ocelli brown; eyes dark brown (Fig. 31). Pronotum light brown, semi-transparent with brown punctuations (Fig. 32); tegmen light brown, semi-transparent, with dark brown spots. Legs light brown, spines, pulvilli, arolia and claws light brown. Abdomen brown.

Dimensions (mm). Holotype male Total length: 22.3; length of pronotum: 5.1; width of pronotum: 6.3; length of tegmen: 20.2; width of tegmen: 5.8. Paratype males. Total length: 22.1–24.5; length of pronotum: 4.9–6.0; width of pronotum: 6.3–7.0; length of tegmen: 20.2–22.0; width of tegmen: 5.5–6.5.

Description of the holotype male. Head triangular with rounded corners, vertex barely exposed in dorsal view; interocular space about 0.62 mm. Antennae long, threadlike and tomentose, surpassing apex of cerci. Eyes anterolateral; maxillary palps with first and second segments reduced, third segment longer than fourth, fifth segment slightly more dilated and densely tomentose.

Thorax. Pronotum ample, convex, curved laterally, punctuations lying in small depressions, base with small median projection. Legs with femur I with anteroventral surface bearing 4–6 strong spines followed by series of small spines toward apex, apex with two strong apical spines; posteroventral surface with four strong spines, one apical; femora II and III bearing few strong spines on ventral surface. Pulvilli present on four tarsal segments, claws symmetrical and specialized, with two rows of



Figures 20–39. (20–29) *Poeciloderrhis mediansclerostylatus* sp. nov. holotype male, dorsal view: (20) habitus, dorsal view, (21) head, ventral view, (22) pronotum, dorsal view, (23) tergal modification on first and second abdominal segments, dorsal view, (24) supranal plate, dorsal view, (25) subgenital plate, ventral view, (26) left phallomere, dorsal view, (27 and 28) median sclerite, dorsal view, (29) right phallomere, dorsal view. (30–39) *Poeciloderrhis diamantinensis* sp. nov. holotype male, dorsal view: (30) habitus; (31) Head, ventral view, (32) pronotum, dorsal view, (33) tergal modification of first and second abdominal segments, dorsal view, (34) supranal plate, dorsal view, (35) subgenital plate, ventral view, (36) left phallomere, dorsal view, (37-38) median sclerite, dorsal view, (39) right phallomere, dorsal view. Scale bars: 20 = 5.6 mm; 21 = 1.3 mm; 22 = 2.7 mm; 23-25, 32, 33 = 2.0 mm; 26 = 0.7 mm; 27, 29, 31, 34, 35 = 1.0 mm; 28, 38 = 0.3 mm; 30 = 3.4 mm; 36, 37, 39 = 0.7 mm.

small teeth, similar to spines on legs. Tegmen surpassing apex of abdômen. Marginal field elongate, slightly concave, scapular field elongated with oblique venules, discoidal field convex, curved apically, anal field convex and conspicuous.

Abdomen. Tergal modification consisting of two large transverse humped structures (Fig. 33) with apical cilia on first segment, and another transverse, arched and ciliated structure apically, on second segment. Supranal plate with cerci surpassing size of plate in length (Fig. 34); cerci with ventral cilia. Subgenital plate slightly asymmetric, left style, in ventral view, slightly larger than right (Fig. 35). Left phallomere sclerotized (Fig. 36). Median sclerite with apex aculeate, with small, strongly sclerotized curved (Figs 37 and 38). Right phallomere with curved, club-shaped apex, and small spines near apex (Fig. 39).

Material examined. Holotype male, BRAZIL, Mato Grosso State: Diamantino, Fazenda São João, Km 200, BR 163, without collector. Paratypes: Mato Grosso State: 1 male, Barra do Bugres, 19–21/XI/1983, J. Becker, O. Roppa, Belmiro, S. cols.; 7 males, Sinop, 12°31'S, 55° 37'W, BR 163, Km 500–600, 350 m, X-1974, Alvarenga & Roppa cols; Rondônia State: 1 male, Nova União, Ouro Preto, XI-1983, without collector; 1 male, Vilhena, XI-1973, Alvarenga col.; Goiás State: 1 male, Jataí, XII-1972, Oliveira col. All in MNRJ.

Etymology. The species name, *diamantinensis*, is derived from the name of the locality where this species was collected.

Remarks. *Poeciloderrhis diamantinensis* sp. nov. is similar to *Poeciloderrhis ferruginea* (Brunner von Wattenwyl, 1865) in coloration (shiny light brown in both). The new species might be distinguished from its smaller size 22.1–24.5 mm (25.0–32.0 mm in *P. ferruginea*), tergal modification (two large transverse humped structures with apical cilia on first segment, and another transverse, arched and ciliated structure apically, on second segment, while *P. ferruginea* presents a piramidal, long, with cilia, located in the first tergite and a cavity followed by a curved rod in the second tergite) and shape of genital parts with apex of right phallomere golf club-like and an pre-apical region of median sclerite without expansion in *P. diamantinensis* sp. nov., while in *P. ferruginea* the right phallomere bears an ax-shaped apex and median sclerite with a pre-apical expansion. *Poeciloderrhis diamantinensis* sp. nov. was determined by Roth (1970) as *Poeciloderrhis* A (pg. 108, figs 28–33).

Poeciloderrhis itatiaiensis sp. nov.

http://zoobank.org/45E3900F-74B1-40B7-AD54-01C63F3DAEEA
Figs 40–49

Diagnosis. General coloration. Light brown, shiny (Fig. 40). Head with brown front; interocular, interocellar and interantennal spaces brown. Eyes black (Fig. 41). Pronotum light brown, semi-transparent, with dark brown punctuations (Fig. 42). Tegmen light brown, semi-transparent with dark brown spots. Legs light brown, with spines, pulvilli, arolia and claws brown. Abdomen brown.

Dimensions of holotype male (mm). Total length: 48.9; length of pronotum: 7.6; width of pronotum: 9.7; length of tegmen: 42.6; width of tegmen: 10.0.

Description of the male holotype. Head triangular with rounded corners, vertex slightly exposed in dorsal view; interocular space about 1.22 mm. Maxillary palps with first and second segments reduced and fifth segment slightly densely tomentose.

Thorax. Pronotum ample, convex, curved angles, base with small median projection. Legs with femur I with anteroventral surface bearing 4–6 strong spines followed by series of small spines toward apex, apex with two strong apical spines; posteroventral surface with two or three strong spines, one apical; femora II and III bearing few strong spines on their ventral surfaces. Pulvilli present on all four tarsal segments, claws symmetrical and specialized, with two rows of small teeth, similar to spines on legs. Tegmen surpassing apex of abdomen. Marginal field wide, slightly concave, scapular field elongated with oblique venules, discoidal field convex, curved apically, anal field convex and conspicuous.

Abdomen. Tergal modification consisting of three transverse humps with cilia on hump closest to base, base of first segment with circular recess, base of second segment with arcuate hump (Fig. 43). Supranal plate with cerci surpassing size of plate; cerci with ventral cilia (Fig. 44). Subgenital plate asymmetric, left style, in dorsal view, larger than right (Fig. 45). Left phallomere sclerotized (Fig. 46). Median sclerite triangular, apex markedly sclerotized (Figs 47 and 48). Right phallomere with curved, club-shaped apex, bearing spines near apex (Fig. 49).

Material examined. Holotype male, BRAZIL, Rio de Janeiro State, Itatiaia, Parque Nacional de Itatiaia, 750 m, 04-IV-1960, Gouvêa col. (MNRJ).

Etymology. The species name *itatiaiensis* is derived from the locality where the species was collected Itatiaia.

Remarks. *Poeciloderrhis itatiaiensis* sp. nov. might be distinguished from *Poeciloderrhis verticalis* (Burmeister, 1838) by its larger size 48.9 mm (36.8–38.8 mm in *P. verticalis*), tergal modification consisting of three transverse humps with cilia on hump closest to base, base of first segment with circular recess, base of second segment with arcuate hump in *P. itatiaiensis* sp. nov., while in *P. verticalis* the tergal modification have an elevation at the middle of first segment followed by two lateral elevations at the lateral of the second segment and two elevation at the middle of the segment; the first of those two elevations is an hook-like shaped. The new species might be distinguished too by the shape of the genital pieces that have the median sclerite with triangular sclerotized apex and right phallomere with a fishhook-like at apex, while in *P. verticalis* bears a median sclerite with a spiked apex and right phallomere with irregular margin at the apex.

Poeciloderrhis vanzolinii sp. nov.

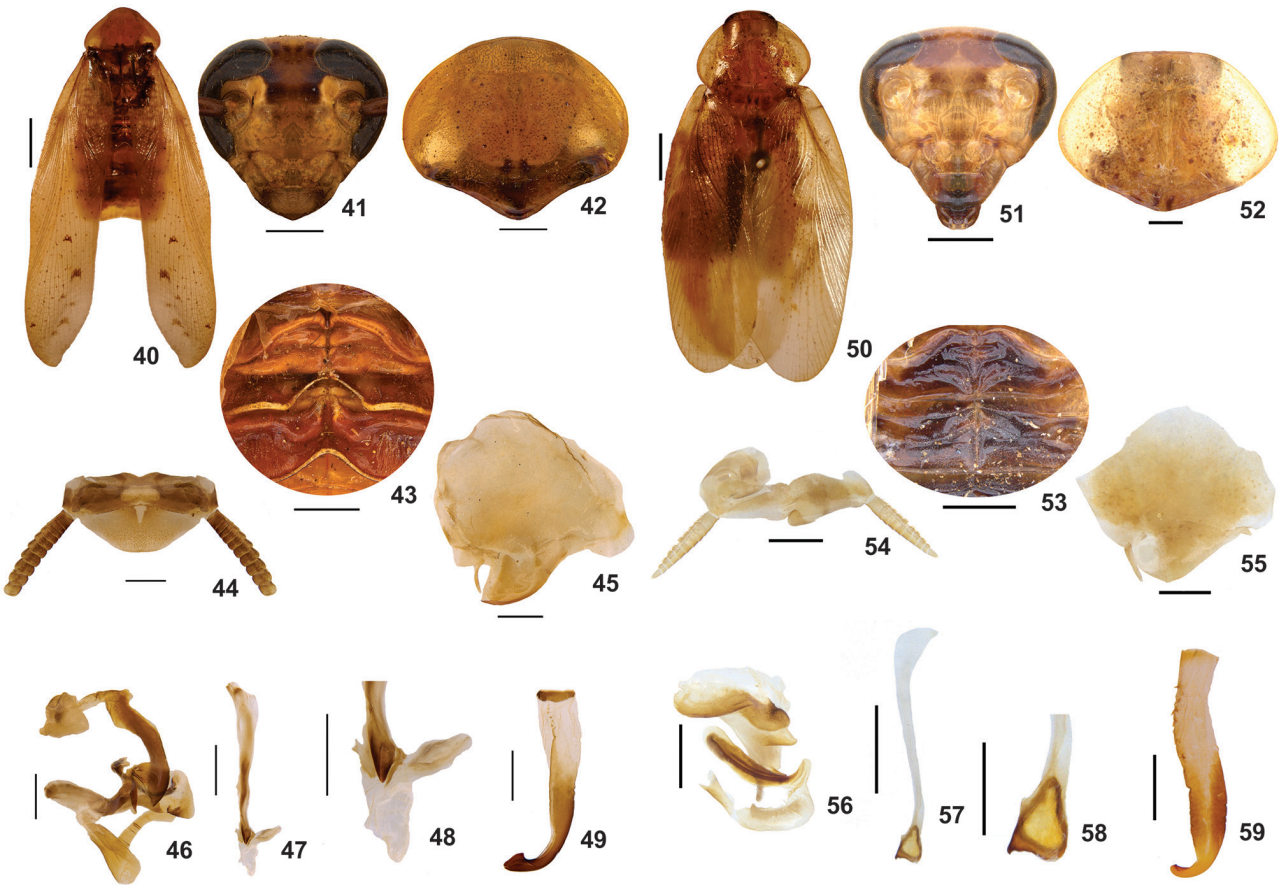
http://zoobank.org/55D199EA-A98C-470F-94A8-DF9AA06068B4
Figs 50–59

Diagnosis. General coloration. Shiny, light brown (Fig. 50). Head with light brown vertex (Fig. 51); interocular and interantennal spaces brown; ocelli brown; maxillary palps with light brown apical segment, with golden cilia. Eyes dark brown. Pronotum light brown (Fig. 52), semi-transparent, with brown punctuations. Tegmen light brown, semi-transparent, with brown spots. Legs light brown, with spines, pulvilli, arolia and claws brown. Abdomen brown, with middle portion of sclerite region dark brown.

Dimensions of holotype male (mm). Total length: 27.5; length of pronotum: 6.2; width of pronotum: 8.5; length of tegmen: 22.7; width of tegmen: 8.1

Description of the male holotype. Head triangular with rounded corners, vertex slightly exposed in dorsal view; interocular space about 1.34 mm long. Antennae threadlike and tomentose, surpassing apex of cerci. Maxillary palps with first and second segments reduced, third segment larger than fourth and fifth segments, slightly more dilated and densely tomentose.

Thorax. Pronotum ample, convex, with curved angles, base bearing small median projection. Legs with femur I with anteroventral surface with four strong spines up to median region, followed by series of small spines up to apex, apex with



Figures 40–59. (40–49) *Poeciloderrhis itatiaiensis* sp. nov. holotype male, dorsal view: (40) habitus, dorsal view, (41) head, ventral view, (42) pronotum, dorsal view, (43) tergal modification on first and second abdominal segments, dorsal view, (44) supranal plate, dorsal view, (45) subgenital plate, ventral view, (46) left phallomere, dorsal view, (47-48) median sclerite, dorsal view, (49) right phallomere, dorsal view. (50–59) *Poeciloderrhis vanzolinii* sp. nov. holotype male: (50) habitus, dorsal view: (51) head, ventral view, (52) pronotum, dorsal view, (53) tergal modification of first and second abdominal segments, dorsal view, (54) supranal plate, dorsal view, (55) subgenital plate, ventral view, (56) left phallomere, dorsal view, (57-58) median sclerite, dorsal view; (59) right phallomere, dorsal view. Scale bars: 40 = 6.7 mm; 41, 43-45, 51-54, 57 = 2.0 mm; 42 = 3.0 mm; 46 = 0.8 mm; 47, 55 = 1.0 mm; 48, 49, 56, 58, 59 = 0.7 mm; 50 = 3.5 mm.

two strong apical spines; posteroventral surface with three strong spines, one apical; femora II and III with few strong ventral spines. Pulvilli present on all four tarsal segments, claws symmetrical and specialized, ventrally with two rows of small teeth, similar to those on legs. Tegmen surpassing apex of the abdomen. Marginal field wide, slightly concave, scapular field elongated with oblique venules, discoid field convex, curved apically, anal field convex and well-marked.

Abdomen. Tergal modification comprising three humped structures on first segment and one on second (Fig. 53). Supranal plate with cerci surpassing plate in length, with ventral cilia (Fig. 54). Subgenital plate asymmetric, with left style, in ventral view, larger than right (Fig. 55). Left phallomere with strongly sclerotized middle region (Fig. 56). Median sclerite with club-shaped apex, bearing small spine (Figs 57 and 58). Right phallomere with apex curved and small spine near apex (Fig. 59).

Material examined. Holotype male, BRAZIL, São Paulo State, Salesópolis, 22-V1-1947, Travassos & Vanzolini cols, MNRJ.

Etymology. The species name, *vanzolinii*, is named is of eminent researcher Dr. Paulo Emilio Vanzolini, who collected of the specimen.

Remarks. *Poeciloderrhis vanzolinii* sp. nov. is similar to *Poeciloderrhis ferruginea* (Brunner von Wattenwyl, 1865) in the coloration of the pronotum (light brown, semi-transparent with brown punctuations in both), and size 27.5 mm (25.0–32.0 mm in *P. ferruginea*). The new species might be distinguished from *P. ferruginea* by its tergal modification (three humped structures on first segment and one on second in *P. vanzolinii* sp. nov.,

while in *P. ferruginea* bears presents a piramidal, long, with cilia, located in the first tergite and a cavity followed by a curved rod in the second tergite, general coloration shiny light brown in *P. vanzolinii* sp. nov., while in *P. ferruginea* its presents shiny brown. The new species also might be distinguished by its shape of the genitalia (median sclerite with club-shaped apex and right phallomere with a small curved apex in *P. vanzolinii* sp. nov., while *P. ferruginea* bears a medianssclerite with spiked apex and a right phallomere with an ax-shaped apex.

Poeciloderrhis penduloides sp. nov.

http://zoobank.org/44D4D398-AEDB-4B72-B788-055267D71E82
Figs 60–69

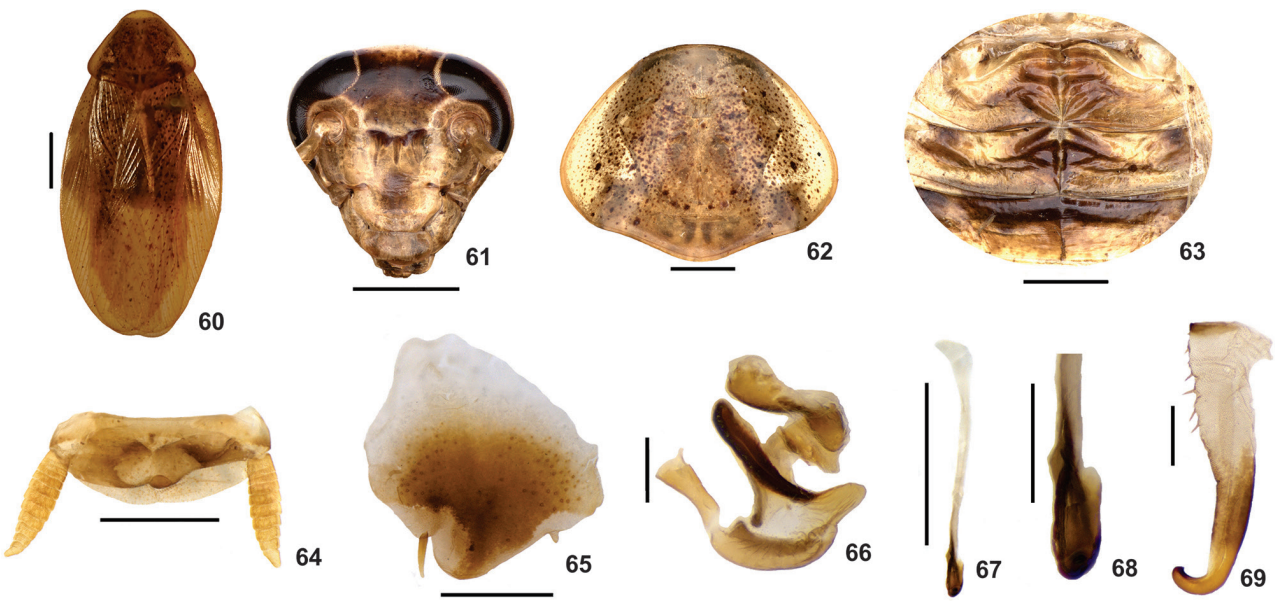
Diagnosis. General coloration. Shiny, light brown (Fig. 60). Head with light brown vertex (Fig. 61); interocular and interocellar spaces, and center of clypeus brown; ocelli brown; maxillary palps with light brown apical segment, with golden cilia. Eyes brown. Pronotum semi-transparent, with dark brown punctuations (Fig. 62). Tegmen semi-transparent, with dark brown marks. Legs light brown, with spines, pulvilli, arolia and claws light brown. Abdomen brown with brown punctuations.

Dimensions of holotype male (mm). Total length: 26.9; length of pronotum: 6.9; width of pronotum: 8.7; length of tegmen: 22.1; width of tegmen: 9.0.

Description of the holotype male. Head triangular with rounded angles, vertex slightly exposed in dorsal view; interocular space about 1.45 mm long. Antennae threadlike and tomentose, surpassing apex of cerci. Maxillary palps with first and second segments reduced, third segment larger than fourth, and fifth segment slightly more dilated and densely tomentose.

Thorax. Pronotum ample, convex, with angles curved, base bearing small median projection. Legs with femur I with anteroventral surface bearing 3–4 strong spines up to median region, followed by series of small spines toward apex; apex with two strong apical spines; posteroventral surface with three strong spines, one apical; femora II and III bearing few strong spines on ventral surface. Claws symmetrical and specialized, ventrally with two rows of small teeth, similar to those on legs. Tegmen surpassing apex of abdomen. Marginal field ample, slightly concave; scapular field elongated with oblique venules; discoidal field convex, curved apically; anal field convex and well marked.

Abdomen. Tergal modification comprising three humped structures on first segment and one on second (Fig. 63). Supranal plate round (Fig. 64) with cerci surpassing length of plate; cerci with ventral surface bearing many cilia. Subgenital plate asymmetric (Fig. 65); left style, in ventral view, long, threadlike and well sclerotized; right style, in ventral view, tiny, slightly sclerotized. Left phallomere with sclerotized median structure (Fig. 66). Median sclerite with club-shaped apex, strongly sclerotized, with tiny spine (Figs 67 and 68). Right phallomere with curved apex and small spine near apex (Fig. 69).



Figures 60–69. *Poeciloderrhis penduloides* sp. nov. holotype male: (60) habitus, dorsal view: (61) head, ventral view, (62) pronotum, dorsal view, (63) tergal modification of first and second abdominal segments, dorsal view, (64) supranal plate, dorsal view, (65) subgenital plate, ventral view, (66) left phallomere, dorsal view, (67–68) median sclerite, dorsal view; (69) right phallomere, dorsal view. Scale bars: 60 = 4.7 mm; 61–65, 67, 68 = 2.6 mm; 66, 69 = 0.5 mm.

Material examined. Holotype male, BRAZIL, Rio de Janeiro State, Itamanjuba, 09-IX-1981, Reys & Santos cols, MNRJ.

Etymology. The species *penduloides*, derived from to the pendulum-shaped apex of the median sclerite of the male.

Remarks. *Poeciloderrhis penduloides* sp. nov. is similar to *Poeciloderrhis tijucana* Silva & Lopes, 2015 in the coloration (light brown and semi-transparent in both). The new species might be distinguished from *P. tijucana* by its smaller size 26.9 mm (33.0 mm in *P. tijucana*) and pigmentation of the tegmen (*P. penduloides* sp. nov. bears small light brown spots, while *P. tijucana* have bigger spots), tergal modification (*P. tijucana* bears two latero-apical elevations converging toward thorax on first segment, while *P. penduloides* sp. nov. bears tree humped structures). Besides that, the new species might be also distinguished by the shape of genital parts that presents a clubbed-like median sclerite (in *P. tijucana* the structure have a rounded finger-shaped apex).

New combination

We analyzed the type material of *Poeciloderrhis bicolorata* Rocha e Silva Albuquerque & Lopes, 1977, and determined that it must be transferred to *Epilampra*. The specimens do not have the tergal modification and configuration of the genital pieces typical of *Poeciloderrhis*, with the right phallomere having a complete hook and the median sclerite with an accessory sclerite, termed the dorsal sclerite (Rocha e Silva Albuquerque and Lopes 1977: 509–510 figs 31–37). Thus the valid name is *Epilampra bicolorata* (Rocha e Silva Albuquerque & Lopes, 1977).

Key to males of *Poeciloderrhis*

1 Total length less than or equal to 19 mm..... *P. minoris* Silva & Lopes, 2015
1′ Total length more than 19 mm 2
2 Pronotum with a central dark brown to black mark 3
2′ Pronotum with pigmentation scattered on surface..... 8
3 Basal portion of discoidal and anal fields of tegmen covered more than 40% with black pigmentation..... *P. imperialis* Rocha e Silva & Jurberg, 1978
3′ Basal portion of discoidal and anal fields of tegmen covered less than 30% with dark brown pigmentation 4
4 The base of abdominal tergite II with dark brown hook-shaped projection..... *P. verticalis* (Burmeister, 1838)
4′ The base of abdominal tergite II bearing humps, cavity or pendulum 5
5 Head with region underneath ocelli black; second abdominal tergite with middle part presenting two humps 6
5′ Head with region underneath ocelli light brown to brown; second abdominal tergite with middle part presenting only one hump, or a cavity, a pendulum or a transversal elevation or a longitudinal elevation..... 7
6 Head with median region of clypeus brown; length of tegmen bigger than 35 mm ..... *P. aureolatus* sp. nov.
6′ Head with median region of clypeus light brown; length of tegmen smaller than 28 mm ..... *P. mediansclerostylatus* sp. nov.
7 Male genitalia with rounded pre-apical extension of median sclerite ..... *P. atriventris* (Saussure, 1895)
7′ Male genitalia without pre-apical extension of median sclerite..... *P. paulistensis* Lopes & Oliveira, 2006
8 Head with vertex with four brown marks..... 9
8′ Head with vertex with fewer than four brown marks ... 12
9 Head with sub-ocular region without dark brown to black pigmentation; tegmen not reaching the apical third of abdomen ..... *P. catharina* (Shelford, 1910)
9′ Head with sub-ocular region with dark brown to black pigmentation, tegmen surpassing the apical third of abdomen 10
10 Abdomen with tergite III bearing basal hump ..... *P. tijucana* Silva & Lopes, 2015
10′ Abdomen with tergite III without basal hump..... 11
11 Male genitalia with shaft of median sclerite straight ..... *P. vanzolinii* sp. nov.
11′ Male genitalia with shaft of median sclerite sinous ..... *P. caracensis* Silva & Lopes, 2015
12 Male genitalia with right style, in ventral view, subequal to half of left style ..... *P. diamantinensis* sp. nov.
12′ Male genitalia with right style, in ventral view, mesuring less than half of the left style..... 13
13 Tegmen not reaching the apex of abdomen..... *P. boraceiana* Lopes & Oliveira, 2006
13′ Tegmen reaching the apex of abdomen 14
14 Cerci not reaching the apex of supra-anal plate..... *P. santosi* (Rocha e Silva & Lopes, 1976
14′ Cerci reaching the apex of supra-anal plate 15
15 The base of abdominal of tergite II with a cavity followed by pendulum shape..... *P. ferruginea* (Brunner von Wattenwyl, 1865)
15′ The base of abdominal of tergite II without cavities or pendulum 16
16 Genitalia with apex of median sclerite clavate..... *P. penduloides* sp. nov.
16′ Genitalia with apex of median sclerite tapering ..... *P. itatiaiensis* sp. nov.

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