

Taxonomic revision of the genus Monastria Saussure, 1864 (Blattodea: Blaberidae, Blaberinae) from the South American Atlantic forest, with the descriptions of five new species

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2 from the South American Atlantic forest, with the descriptions of five new species
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- 10

11 Abstract

12

13 The genus *Monastria* Saussure, 1864 includes medium to large sized (40–55 mm) dark brown or black 14 cockroaches found in the understory of the Neotropical Atlantic Forest from the Northeast of Brazil to 15 Paraguay and Argentina. The genus shows evident sexual dimorphism: males are elongated with fully 16 developed wings extending beyond the apex of cerci and females are oval and brachypterous. This 17 study is a revision of the genus with redescription of the three already known species, Monastria 18 biguttata (Thunberg, 1826), Monastria similis (Serville, 1838) and Monastria angulata Saussure, 19 1864, and description of five new ones, Monastria itubera sp. n. and Monastria itabuna sp. n. from 20 state of Bahia, Monastria cabocla sp. n. from state of Sergipe, Monastria kaingangue sp. n. from state 21 of São Paulo and *Monastria sagittata* **sp. n.** from state of Minas Gerais. The morphology of the genus 22 and all species is described in details, including male genitalia. Based on this revision, we proposed a 23 new combination for *Hiereoblatta papillosa* (Thunberg, 1826) comb. n., excluding it from the genus 24 Monastria. For the first time, the juvenile stages of Monastria are characterized and compared to other 25 genera of Blaberinae of the Atlantic forest. Three determination keys are provided. The two first are 26 aimed at identifying the adults and juvenile stages of the five genera of the Blaberinae radiation 27 endemic to the Atlantic forest, respectively. The third concerns the identification of the species of the 28 genus Monastria. A map indicating the localities where species were sampled is also provided. 29 30 Key Words: Neotropical Atlantic Forest, endemic cockroach, male genitalia, juvenile stages, 31 distribution range, review. 32 33 Resumo 34

35 O gênero *Monastria* Saussure, 1864a inclui baratas de tamanho médio a grande (40 – 55 mm), marrom
36 escura ou negra, encontradas no sub-bosque da floresta Atlântica neotropical do Nordeste do Brazil até

37 o Paraguay e Argentina. O gênero apresenta evidente dimorfismo sexual: os machos são alongados

- 38 com asas longas completamente desenvolvidas se estendendo além do ápice dos cercos e as fêmeas
- 39 são braquípteras e ovais. Este estudo é uma revisão do gênero com re-descrição das três espécies
- 40 conhecidas, *Monastria biguttata* (Thunberg, 1826), *Monastria similis* (Serville, 1838) e *Monastria*
- 41 *angulata* Saussure, 1864a e descrição de cinco novas espécies: *Monastria itubera* **sp. n.** e *Monastria*
- 42 *itabuna* sp. n. do estado da Bahia, *Monastria cabocla* sp. n. do estado de Sergipe, *Monastria*
- 43 kaingangue sp. n. do estado de São Paulo e Monastria sagittata sp. n. do estado de Minas Gerais. A
- 44 morfologia do gênero e de todas as espécies é descrita em detalhes, inclusive a genitália do macho.
- 45 Com base nesta revisão, nós propusemos uma nova combinação para *Hiereoblatta papillosa*
- 46 (Thunberg, 1826) comb. n., excluindo-a do gênero *Monastria*. Pela primeira vez o estágio juvenil
- 47 deste gênero é caracterizado e comparado com os de outros gêneros de Blaberinae da Mata Atlântica.
- 48 Três chaves de determinação são fornecidas. As duas primeiras são destinadas a identificar os adultos
- 49 e juvenis dos cinco gêneros da radiação de Blaberinae endêmica da Mata Atlântica, respectivamente.
- 50 A terceira concerne a identificação das espécies do gênero *Monastria*. Um mapa indicando as
- 51 localidades onde as espécies foram coletadas também é fornecido.
- 52

53 Introduction

- 54
- 55 Cockroaches have evolved with diverse continental radiations. One of the most conspicuous
- 56 corresponds to the subfamilies Zetoborinae (Grandcolas, 1993a; Grandcolas & Pellens, 2002;
- 57 Brugerolle et al. 2003; Pellens et al. 2002; 2007a) and Blaberinae distributed in the Neotropical region
- 58 (Grandcolas 1993b, c, 1998; Pellens & Grandcolas, 2007; Pellens *et al.* 2007b; Grandcolas & Pellens,
- 59 2012; Legendre *et al.*, 2015). Blaberinae, an early-recognized group (McKittrick, 1964; Roth, 1970a,
- 60 2003), has been the subject of several behavioral and ecological studies (Grandcolas, 1998). Despite
- 61 this early recognition, some of its components have been poorly studied, such as the genera endemic
- 62 from the Atlantic forest in Brazil, namely *Monastria* Saussure, 1864a, *Monachoda* Burmeister, 1838,
- 63 Petasodes Saussure, 1864, Hiereoblatta Rehn, 1937, and Minablatta Rehn, 1940 (Grandcolas 1993b,c,
- 64 1998; Pellens et al. 2007b; Grandcolas & Pellens, 2012). The genus Monastria Saussure, 1864a is
- 65 certainly the best known amongst them (Pellens & Grandcolas, 2003, 2007). Nevertheless, its
- 66 taxonomy needs a complete revision.
- 67 The genus Monastria was erected by Saussure (1864a), two previously known species Blatta biguttata
- 68 Thunberg, 1826 and *Blabera similis* Serville, 1838 were transferred to *Monastria* and described two
- 69 new taxa *Monastria angulata* and *Monastria semialata*. Walker (1868) included the known species of
- 70 *Monastria* in his catalogue. He also described a new species and new genus *Tarraga guttiventris* and a
- 71 new species *Blabera nigripennis* of cockroaches that were subsequently brought back into *Monastria*.
- 72 Kirby (1904) recognized that *Monastria semialata* (Saussure, 1864a) was a synonym of *Monastria*
- 73 cassidea (Eschscholtz, 1822), Blabera nigripennis (Walker, 1868) was a synonym of M. biguttata, and
- 74 *Monachoda granosa* Brunner von Wattenwyl, 1865 was a synonym of *Monastria papillosa*. He also

- 75 incorrectly synonymized Tarraga gutiventris with Blaberus giganteus (Linnaeus, 1758). Shelford
- 76 (1907–1908) in his study on the species published by Thunberg incorrectly synonymized *Monastria*
- 77 semialata (Saussure, 1864a), Monachoda granosa Brunner von Wattenwyl, 1865 and Phoraspis
- 78 cassidea (Dalman, 1823) with Monastria papillosa (Thunberg, 1826). In the same study Blabera
- 79 monstrosa Stål, 1855 was considered a synonym of Monastria biguttata (Thunberg, 1826). Kirby
- 80 (1910) published a correction in which *Blatta papillosa* Thunberg, 1826 was synonymized with
- 81 Monastria cassidea (Eschscholtz, 1822). Rehn (1937) described the genus Hiereoblatta and accepted
- 82 Monastria semialata (Saussure, 1864a) as the only synonym of Hiereoblatta cassidea (Eschscholtz,
- 83 1822). Princis (1946) described Monastria flavomarginata, but in 1951 he stated that it was a
- 84 synonym of Monastria similis (Serville, 1838). Princis (1949) maintained Blatta papillosa Thunberg,
- 85 1826 as a synonym of *Monastria papillosa* (Thunberg, 1826). In 1958, Princis synonymized *Tarraga*
- 86 gutiventris Walker, 1868 with M. biguttata (Thunberg, 1826). In the catalogue published in 1963,
- 87 Princis included four valid species to the genus: *Monastria angulata* Saussure, 1864a; *Monastria*
- 88 biguttata (Thunberg, 1826); Monastria papillosa (Thunberg, 1826); Monastria similis (Serville, 1838).
- 89 In the present study, we revised the genus *Monastria*.
- 90

91 Material and Methods

92

93 Specimens were measured with a digital caliper and stereoscopic microscope Leica MZ12 equipped 94 with an eyepiece micrometer scale. Measurements of interocular and interantennal distance and 95 genitalia were taken. After dissection of a re-hydrated specimen, its genitalia was treated in cold 10% 96 KOH to remove remains of soft tissue and rinsed with water. Finally, it was kept in glass vial with 97 glycerin and pinned under the specimen. Nomenclature of male genitalia sclerites follow Grandcolas 98 (1996), modified from Grandcolas (1991, 1993c). Abbreviations: L1, L2d, R2, R3d, N, R3v, Lb 99 (Lateral Branch), Cs (Crown of spines), Notch (Subapical incision) and Clf (Cleft). 100 Digital images of habitus, pronotum, head, supra-anal plate and juvenile stages were taken with a 101 camera Cannon 6D. Genital sclerites were photographed with a stereomicroscope Nikon attached to a 102 camera Cannon 6D. Images of external morphology and genitalia were combined with the Helicon 103 Focus 6.7.1 software and edited in Adobe Photoshop Elements 11. The cuticle of juvenile stages of 104 five specimens were critical point dried, coated with gold-palladium and digitally photographed using 105 a HITACHI SU3500 scanning electron microscope. 106 The material examined are part of the collections of the following institutions: Muséum National 107 d'Histoire Naturelle in Paris (MNHN), Muséum d'Histoire Naturelle de la Ville de Genève (MHNG), 108 Natural History Museum London (NHM), Museu de Zoologia Universidade de São Paulo (MZUSP), 109 Museu Nacional do Rio de Janeiro (MNRJ) and Uppsala University Museum of Evolution, Uppsala in 110 Sweden (UUZM).

112	Results
113	
114	Key to the genera of the subfamily Blaberinae endemic from the Neotropical Atlantic forest
115	
116	Adults
117	1 Pronotum with lateral margin rounded, without notch or spine 2
118	- Pronotum with lateral margin inclined, most often with a notch or a spine 3
119	2 Pronotal cuticle smooth; dark brown with two orange spots; male brachypterous (Fig. 1C)
120	<i>Minablatta</i> Rehn
121	- Pronotum strongly gibbous; yellow darker in the middle; male brachypterous (Fig. 1D)
122	Hiereoblatta Rehn, 1937
123	3 Pronotum unicolored (tawny beige); fore margin very abruptly curved upward. The head ventrally
124	inserted strongly protruded (Fig.1B) Petasodes
125	- Pronotum with a more complex coloration; roughly triangular; lateral margin inclined most often
126	with a notch or a spine 4
127	4 Pronotum smooth, with a very light prominence above the head and a black complex spot in the
128	postero-central area and reaching the posterior margin (Fig. 1E) Monachoda Burmeister
129	- Pronotum gibbose, with a complex dark and brightly-colored pattern in the middle (Fig. 1A)
130	Monastria Saussure
131	
132	Juvenile stages
133	1 Pronotum hind margin nearly straight 2
134	- Pronotum hind margin not straight 3
135	2 Dorsal surface totally covered by very abundant long thorn-like spines (including pronotum) with a
136	row of larger spines at hind margins; supra anal plate bilobed with a deep incision; each lobe forming
137	straight angles; hind region wider (Figs. 2E, 3E) Monachoda Burmeister
138	- Dorsal surface covered by microsculptures formed by triangular spines, except pronotum; supra-anal
139	plate bilobed with a very small median incision, fore region wider (Figs. 2C, 3C) Minablatta Rehn
140	3 Ratio between total body length and width \approx 2:1; pronotum strongly gibbous; yellow, darker in the
141	middle; dorsal microsculptures very short ending with a seta (Figs. 2D, 3D). <i>Hiereoblatta</i> Rehn
142	- Ratio between total body length and width \approx 1,7:1; pronotum hind margin forming 120° angle 4
143	4 Very flat, smooth, specially dorsally, with dark spots very visible in the dorsal surface from the
144	pronotum to the fore region of the supra-anal plate, dorsal microsculptures very slender, making like a
145	row of columns along the hind margins of pronotum and tergites (Figs. 2B, 3B) Petasodes Saussure
146	- Not very flat, dorsal surface of pronotum and tergites very rough covered by thorn-like cuticular
147	microsculptures much more abundant near the hind margins (Figs. 2A, 3A) Monastria Saussure
140	

149 Monastria Saussure, 1864

- Monastria Saussure, 1864a: 255, 1864b: 348; Kirby, 1904: 161; Princis, 1958: 75, Princis, 1963: 141.
 Tarraga Walker, 1868: 16; Princis, 1963: 141 (as syn. of *M. biguttata*).
- 152

Type Species. *Monastria biguttata* (Thunberg, 1826) = *Blatta biguttata* Thunberg, 1826 (Fig. 4).
154

155 **Diagnosis.** Dark brown to black or shiny black cockroaches with pronotum having orange or ochre 156 spots in the middle. Evident sexual dimorphism, males elongated with wings extending beyond the 157 apex of cerci, and females brachypterous. Male pronotum with a characteristic pentagonal transverse 158 shape, lateral margins with sharp angles and a conspicuous small notch. Female pronotum 159 subtriangular with a depression near the margins, and lateral margins with conspicuous small notch or 160 spine. Coxae covered by setae in males, antero-ventral femora margins with spines of equal size. 161 Apical and genicular spines absent. First meta tarsomere of hind leg short and without spines, claws 162 symmetrical and simple, small arolia. L1 present as a single sclerite, its posterior margin almost 163 entirely covered by a crown of small spines, closely packed.

164

165 Generic description. Male (Fig. 5). Medium size (40–55 mm). Head subtriangular; eyes extending 166 antero-laterally beyond the antennal socket (Fig. 5C); interocular space narrow at its closest distance 167 and smaller than the one between the antennal sockets (0.8-1.8 mm). Antennae not surpassing the 168 apex of the tegmina, filiform and setose from the eighth flagellar segment. First flagellar segment 169 larger than the pedicel. Maxillary palps with the fifth segment more dilated and very tomentose. 170 Pronotum pentagonal with fore margin strongly arcuate, hind margin nearly very weakly arcuate, and 171 a specific black coloration pattern in the central region (Fig. 5B). Tegmina developed, extending 172 beyond the apex of cerci; marginal field short and slightly concave; scapular field tapering toward 173 apex; mid-field discoidal, extended apically, slightly angular along veins; subcostal vein with a carina 174 on its ventral surface, anal veins reaching the posterior border (Fig. 5A). Wing marginal field narrow, 175 subcostal vein reaching basal third of scapular field; cubital vein with numerous complete and few 176 incomplete veins; apical triangle absent. Setae in the dorsal region of the three thoracic segments and 177 in the first abdominal segment. Fore-femora ventro-anterior margins with 16 spines of the same size 178 arranged side by side, the last one near the apex directed outward, ventro-posterior margins with 3 179 spines distributed in uniform spaces along the fore-femora and the last one near the apex. Middle legs 180 ventro-anterior margins of with 3 or 4 spines, the last one close to the apex. Tarsomeres 1-4 with 181 pulvilli, the pulvillus of the first metatarsomere very long, covering more than half of the length of 182 metatarsomere; tarsal claws simple and symmetrical; small arolium present. First abdominal tergite 183 unspecialized. Supra-anal plate quadrangular, posterior border bilobated with a strong median incision. 184 Cerci short, cylindrical, with different coloration in the last segments. Subgenital plate slightly 185 asymmetric. Internally, attached to this plate, a membranous pouch with genital sclerites L1 (Figs. 5G,

186 H), L2d (Figs. 5F, I) and R (right phallomere) (Figs. 5D, E). Sclerite L1 long and thin with the apical 187 part distinct, quite sclerotized and the left branch tooth-shaped; central portion with a small posteriror projection and a branch on the right side directed upwards; apical region with a crown of sclerotized 188 189 spines. Sclerite L2d hook-shaped, like in most species of Ectobiidae and Blaberidae. Distal area 190 elongated with subapical notch. Sclerite R (right phallomere) formed by sclerotized regions R2, R3d, 191 R3v and N (Figs. 5D). Sclerite R2 ("cleft") curved, deep and directed upward. Sclerite R3d wide and 192 elongated longitudinally with a dorsal part reduced and a large ventral one in the distal region. Sclerite 193 R3v with a flattened and inverted v shape in ventral view; rounded anterior lateral apex, and short 194 caudal branch (Fig. 5E).

195

196 Female (Figs. 4, 6A–D). Species of medium size (30–45 mm). Head rounded, with wide interocular 197 space measuring 1/2 the distance between the antennal sockets (2.0–3.1 mm). Eyes reniform with 198 straight interocular margin. Antennae reaching the apex of the tegmina, filiform and setose from the 199 eighth flagellar segment. Ocelli developed and deflected. Front broad and frontal suture with a 200 cuticular invagination (Fig. 6D). Pronotum subtriangular with anterior region rounded and slightly 201 concave near the margins, dorsal region rough with striae, lateral angles rounded ending in a corner, 202 posterior margin slightly curved in the median region (Fig. 6B). Brachypterous. Tegmina truncated 203 with a marked curvature towards the interior and not extending further than the second abdominal 204 tergite; wings much shorter and undeveloped (Fig. 6A). Legs short and robust. Fore femora ventro-205 anterior margins with 13 spines of the same size, the last one close to the apex; ventro-posterior 206 margins with 4 spines, the last one close to the apex. Middle legs ventro-anterior margins with 4 207 spines, the last one close to the apex. Supra-anal plate bilobed with a small median incision, each lobe 208 with slightly rounded lateral and straight posterior margin (Fig. 6C). Tergites with slightly rounded 209 lateral angles (Fig. 6A).

210

Juvenile stages. Juveniles of both sexes are oval, almost rectangular with a body length and width
ratio ≈ 1,7:1. Beige to light brown, uniformly colored, the dorsal surface of pronotum and tergites is
very rough (Fig. 7), covered by thorn-like cuticular microsculptures, often more abundant at their hind
margins. (Fig. 3A). Head, eyes, antennae, legs, supra-anal and subgenital plate very similar to those in
adults (Fig. 7E).

216

Habitat and Behavior. Specimens of *Monastria* were observed in a large array of forest ecosystems,
ranging from semi-deciduous forests at the Northeast to the humid montane forests in the central
region and the *Araucaria* forests in the South. All specimens were observed and collected in the forest
understory on the underside of dead trunks of various sizes, as it was described in details for *M*. *biguttata* (Pellens & Grandcolas, 2003). Very often found grasping on the underside of the bark or the

wood of dead trunks, immediately freezing when disturbed. The body of the juveniles are covered by

- fine particles of the substrate where they are found, which are attached to the tegument structures (Fig.
- 224 7). Adult males have never been seen flying, even if they look able to do so with their large and
- 225 mobile wings. As any blaberid species, they are ovoviviparous, the females retract the large oothecae
- in the brood sac. Juvenile stages are often observed in groups that remain near each other until
- adulthood.
- 228
- 229 Key to the species of the genus Monastria
- 230
- 231 1 Female pronotum with acute lateral angles; absence of notch or spines (Fig. 9A, B) ... M. angulata
- 232 Saussure
- Male and Female pronotum with sharp or rounded lateral angles; with notch or spines ... 2
- 234 2 Female tegmina long, reaching the fifth abdominal tergite; hind margins curved and rounded. Male
- with L1 sclerite with lateral branch curved, rounded and with some small spines3
- Female tegmina short, not extending further than the fourth abdominal tergite; hind margin truncated
- or with a curvature. Male with L1 sclerite with lateral branch slightly curved forward, with the aspect
- of a big sharp tooth4
- 239 3 L1 sclerite with lateral branch curved, rounded and smooth with some small spines; R3d sclerite
- 240 with a clear prominence like a tooth in ventral view (Fig. 14)....*M. kaingangue* sp. n.
- L1 sclerite with lateral branch curved and rounded with large spines directed downwards (Fig. 8); R2
- 242 sclerite shorter and forming a right angle*M. similis* (Serville)
- **243** 4 Male L1 sclerite with a big lateral dilatation and an edge in the posterior median region (Fig. 10).
- 244 Female supra-anal plate with straight posterolateral angles...*M. cabocla* sp. n.
- Male L1 sclerite without a big lateral dilatation and an edge in the median region. Female, supra-anal
 plate posterolateral angles rounded...5
- 5 L1 sclerite slightly concave region with irregular distal margins with grooves (Fig. 11). Female froms
 with a prominence*M. itubera* sp. n.
- L1 sclerite without slightly concave region and irregular distal margins with grooves. Female frons
 flat. ..6
- 251 6 L1 sclerite with lateral branch slightly curved with some spines reaching the crown of spines at the
- 252 posterior region (Fig. 13)*M. itabuna* sp. n.
- L1 sclerite without lateral branch with some spines reaching the crown of spines in the posterior
 region ..7
- 255 7 L1 sclerite with a sharp dorsal protuberance and with a projection in the right side turned forward;
- 256 L2d sclerite, hook with internal ventral margin concave (Fig. 5).... *M. biguttata* (Thunberg)
- 257 L1 sclerite with a roughly triangular spear-shaped apical region, hind margin with a large non-
- sclerotized projection. L2d sclerite, hook with internal ventral margin strongly convex (Fig. 16).....M.
- 259 sagittata sp.n

260	
261	Species
262	
263	Monastria biguttata (Thunberg, 1826)
264	Male – Figure 5.
265	Female – Figures 4; 6A–D.
266	
267	Blatta biguttata Thunberg, 1826: 276; Scudder, 1868: 13.
268	Blaberus biguttata Serville, 1831.
269	Monachoda biguttata Burmeister, 1838: 514; Brunner v. W, 1865: 365; Saussure, 1870: 120; Finot,
270	1897: 207
271	Blabera biguttata Serville, 1839: 80.
272	Monastria biguttata Saussure, 1864a: 256; Saussure, 1864b: 348; Walker, 1868: 11; Kirby, 1904: 161;
273	Shelford, 1907–1908: 469; Rehn, 1911: 248, Rehn, 1913: 282, Rehn, 1915: 275, Rehn, 1920: 217;
274	Hebard, 1921: 246; Princis, 1949: 66; Princis, 1958: 75, Princis, 1963: 141.
275	Blabera nigripennis Walker, 1868: 6; Finot, 1897: 210; Princis, 1963: 142 (as syn. of M. biguttata).
276	Tarraga guttiventris Walker, 1868: 16; Finot, 1897: 213; Princis, 1963: 142 (as syn. of M. biguttata).
277	Blabera monstrosa Stâl, 1855: 351; Kirby, 1904: 165; Princis, 1963: 142 (as syn. of M. biguttata).
278	Blabera mostruosa Sjostedt, 1933: 10; Princis, 1963: 142 (as syn. of M. biguttata, lapsus calami).
279	
280	Examined material. Brazil – Rio de Janeiro: 7m# 3f# Niterói. "Parque da Cidade", 225m,
281	22°55'42"S, 43°05'10"W, 500m de la plage du saco de São Francisco, Forêt semp. humide, 21 IX
282	2009, R. Pellens & P. Grandcolas rec. (MNHN). 1m# Angra dos Reis, Ilha Grande, "Sentier
283	Abraão/Enseada das Palmas", 50m, 23°08'34''S, 44°08'91''W, 21km E Angra Dos Reis, Forêt semp.
284	humide, 07 VIII 2007, R. Pellens & P. Grandcolas rec. (MNHN). 1m#, 1f# Visconde de Mauá, "Apa
285	da Serrinha do Alambari", 528m, 22°23'16.4"S, 44°29'58.1"W, 26 XI 2010, R. Pellens & P.
286	Grandcolas rec. (MNHN). 1m# Montagnes des Orgues, Prov. de Rio de Janeiro, Environs de la Tijuca,
287	E. R. Wagner – 1902 (MNHN). 1m# Floresta da Tijuca, V 1966, M. Alvarenga col. (MZUSP). 1f#
288	"Tejuca", I 1857, coll. H. Clark (NHM). Espirito Santo: 2m#, 3f# Res de Linhares, "CVRD",
289	19°09'10.2"S, 40°11'07.8"W, 19 X 1999, 40km NNE Linhares, Forêt semi-décidue, "Mata Alta", R.
290	Pellens & P. Grandcolas rec. (MNHN). 1m# Linhares, Fragment "Sitio São Pedro", 19°09'14.2"S,
291	40°11'34.3"W, 11 VII 2005, 40km NNE Linhares, Forêt semi-décidue, R. Pellens & P. Grandcolas
292	rec. (MNHN). Santa Teresa, Est. Biol. Santa Lucia, 810m, 19°58'18.5"S, 40°32'07.6"W, 6 – 9 IV
293	2001, Malaise, ponto 3 trilha, C. O. Azevedo & equipe col. (MZUSP). Without locality: 3f#
294	(America Meridionale) (MHNG). 2m#, 6f# (NHM).
295	

- 296 **Diagnosis.** This species is characterized by the presence of two additional cuticular depressions in the 297 frons near the clypeus. L1 sclerite with lateral branch slightly curved forward, with the aspect of a big sharp tooth, and with spines in the ventral region near the crown of spines; a pointy medial region with 298 299 a projection in the right side turned forward. R2 sclerite cleft very sclerotized, rounded at the side of N 300 sclerite. N sclerite tiny in the dorsal region, and large and globular in the ventral one. R3d slightly
- 301 curved dorsally and wider and straight in ventral view. R3v sclerite with a wide and rounded latero-
- 302 distal region and a short and slightly narrow caudal branch.
- 303

304 **Redescription.** Male. Head subtriangular, with interocular space measuring approximately 1/5 of the 305 distance between the antennal sockets. Ocelli developed and slightly deflected. Frontal suture with a 306 cuticular invagination. Two additional cuticular depressions in the frons near the clypeus (Fig. 5C). 307 Pronotum transverse, pentagonal, dorsal surface rough with striae, fore margin rounded, lateral 308 margins with sharp angles and round ends, hind margin nearly straight (Fig. 5B). Legs short and 309 robust. Fore-femora ventro-anterior margins with 16 spines of the same size; ventro-posterior margins 310 with 3 spines. Middle-legs ventro-anterior margins with 3 or 4 spines. Supra-anal plate quadrangular 311 with setae on the surface, hind margin straight and slightly rounded laterally, bilobed with a strong 312 invagination in the median portion. Subgenital plate asymmetrical with long styles, funneled in the 313 apical region.

314 L1. With the left side of the apical region with a lateral branch (Lb) slightly curved forward, with the 315 aspect of a big sharp tooth with spines near the crown of spines. The right side of the apical region 316 with a pointy medial protuberance and a projection turned forward (Fig. 5G, H). L2d sclerite hook 317 with a soft subconical and slightly narrow anterior region, a short apical sclerotized region, and a wide 318 space connecting them. Apex internal cavity concave, short lateral-external margin and with a typical 319 sub-apical notch (Fig. 5F, I). R2 sclerite cleft very sclerotized, rounded and curved inward with the 320 apex directed upward (Fig. 5D). Sclerite N tiny in the dorsal region, and large and globular in the 321 ventral one. R3d slightly curved dorsally and wider and straight in ventral view. Sclerite R3v with a 322 flattened and inverted v shape in ventral view; rounded anterior lateral apex, and short caudal branch. 323

324

(Fig. 5D, E).

325 Female. Head rounded, with wide interocular space measuring 1/2 the distance between the antennal 326 sockets. Eyes with slightly inclined interocular margins. Ocelli developed and deflected. Front broad 327 and frontal suture with a cuticular invagination (Fig. 6D). Pronotum subtriangular with anterior region 328 rounded and slightly concave near the margins, dorsal region rough with striae, lateral angles rounded 329 ending in a corner, hind margin slightly curved in the median region (Fig. 6B). Tegmina with anterior 330 margin slightly triangular; hind margin truncated with a marked curvature inside; very short and not 331 extending further than the second abdominal tergite (Fig. 6A). Legs short and robust. Fore femora

332 ventro-anterior margins with 13 spines of the same size, ventro-posterior margin with 4 spines. Middle

333	legs ventro-anterior margins with 4 spines. Supra-anal plate bilobed with a small median incision, each
334	lobe with a slightly rounded lateral margin and a straight posterior margin (Fig. 6C). Tergites with
335	straight lateral angles (Fig. 6A).
336	
337	Measurements (mm). m#: Body length 51.70; pronotum length 12.36 × 17.35 maximum width;
338	tegmen length 42.55×15.90 width; interocular width 1.0; interantennal width between sockets 5.5
339	f#: Body length 38.50 ; pronotum length 11.20×17.55 maximum width ; tegmen length 10.00×11.25
340	width; interocular width 2.3; interantennal width between sockets 5.0.
341	
342	Coloration. m#: General coloration brown (Fig. 5A). Pronotum dark brown with anterior margin buff
343	brown; central disk pale brown with scattered black marks (Fig. 5B). Head dark brown-black; clypeus
344	and labrum amber. Antennae with basal segments brown pigmented and apical segments pale brown.
345	Ocelli pale brown (Fig. 5C). Legs and spines dark brown; tarsal claws, pulvilli and arolia amber.
346	Tegmina and abdomen following general coloration of body (Fig. 5A) but with dark brown tergites
347	and sternites hind margins.
348	
349	Distribution. Brazil (Rio de Janeiro, Espirito Santo). See Fig. 17 for details.
350	
351	Monastria similis (Serville, 1838)
352	Male – Figure 8.
353	Female – Figure 6E–H.
354	
355	Blabera similis Serville, 1839: 81.
356	Monastria similis Saussure, 1864a: 256; Walker, 1868: 11; Scudder, 1868: 54; Kirby, 1904: 161;
357	Princis, 1958: 75, Princis, 1963: 142.
358	Monachoda similis Brunner v. W, 1865: 367; Saussure, 1870: 120; Finot, 1897: 207.
359	Monastria flavomarginata Princis, 1946: 162, Princis, 1963: 142 (as syn. of M. similis).
360	
361	Examined material. Brazil – Paraná: 1f# Aurora do Iguaçu, "Fazenda Dona Iolanda", 260m,
362	25°23'047"S, 54°07'048"W, 20km NE São Miguel do Iguaçu, Fragment=60ha, Forêt semp. Humide,
363	18 XI 2008, Jour, coll. R. Pellens & P. Grandcolas (MNHN). 2m#, 1f# Foz do Iguaçu, "Fazenda John
364	Keller", 220 m, 25°34'9.14"S, 54°26'7.41"W, 1km Parc National do Iguaçu, Forêt semp. humide, 20
365	XI 2008, R. Pellens & P. Grandcolas rec. (MNHN). Santa Catarina: 1m# Blumenau, VI 1919, coll.
366	Luderm? (MZUSP). 3m#, 2f# Campo Alegre, "Ilha, Fazenda Sr. Egon", 830m, 26°10'29''S,
367	49°16'22''W, 1km Campo Alegre, 14 VIII 2007, Forêt d'Araucaria, R. Pellens & P. Grandcolas rec.
368	(MNHN). 1f# Campo Alegre, "Fazenda Sr. Gilson", 853m, 26°12'6.61"S, 49°18'4.58"W, 5km W
369	Campo Alegre, Forêt d'Araucaria, 15 VIII 2007, R. Pellens & P. Grandcolas rec. (MNHN). 1f#

- 370 Florianopolis, "Chemin Mirante. route Lagoa da Conceiçao", 295m, 27°35'5.05"S, 48°28'6.08"W,
- 371 Forêt semp. humide, 01 XII 2008, R. Pellens & P. Grandcolas rec. (MNHN). 2f# Joinville, "Alto da
- 372 Serra Dona Franscisca", 755m, 26°11'882" S, 49°03'144" W, 35km NW Joinville, Forêt semp.
- humide, III 2007, R. Pellens & P. Grandcolas rec. (MNHN). 1m# 4f# Lages, Brunner d. w. (MHNG).
- 374 1m# 1f# Rio Capivary, 1888, H. Fruhstorfer (MHNG). <u>Rio Grande do Sul</u>: 2m# Lhering, (MNHG).
- 375 <u>São Paulo</u>: 1m# Poa, 13 IV 1963, Rabello col. (MZUSP). 1m# Salesópolis, "Estação biológica de
- 376 Boracéia, Trilha do poço verde", 23°38'56.9"S, 45°52'50"W, Malaise, pt1, 17 28 IV 2003, coll. A.P.
- 377 Aguiar & F.M. Rodrigues (MZUSP). 1m# Salesópolis, "Est. biológica de Boracéia", 850m, (MZUSP).
- **378 Paraguay:** 1f# Asunción, sept.1922–apl.1923, E.G.Kent, B.M. 1925 262 (NHM). 1m#, Carlos
- **379** Pfanni (MHNG) **Without locality:** 1m# Brésilien, H. Fruhstorfer, 1903 321(NHM). 2f# (NHM).
- 380 1m# (America Meridionale/Colombie?), D. Ruhl (MHNG). 1m# coll. Pantel, co-type (MNHN).
- 381

382 **Diagnosis.** Male - The apical left side of L1 with a short rounded lateral branch turned downwards 383 with strong spines near the crown of spines and a wide region slightly concave with a slight curvature 384 ending in a small projection towards the front on the right side. L2d sclerite hook with internal cavity 385 strongly concave, external lateral margin very near the very narrow sub-apical notch. R2 sclerite 386 shorter and forming a right angle. Sclerite N reduced in the dorsal region and a wide and globular 387 ventral surface. R3d slightly curved dorsally and wider and straight in ventral view. R3v small, 388 triangular, with a short and slightly quadrangular latero-distal region; caudal branch short with a finger 389 shaped apex.

390

391 **Redescription.** Male. Head subtriangular, with interocular space measuring nearly 1/3 of the distance 392 between the antennal sockets. Ocelli developed and slightly deflected. Frontal suture with a slight 393 cuticular invagination (Fig. 8C). Pronotum transverse, pentagonal, dorsal surface rough with deep 394 striae, anterior margin rounded, lateral margins with sharp angles and round ends, hind margin nearly 395 straight (Fig. 8B). Tegmina with orange lateral margins in the first half of its length (Fig. 8A). Legs 396 short and robust. Fore-femora ventro-anterior margins with 21 or 22 spines decreasing in size from 397 basal to apical; ventro-posterior margins with 3 long and 2 slightly smaller spines. Middle legs ventro-398 anterior margins with 10 spines. Supra-anal plate quadrangular with setae on the surface, hind margin 399 straight and slightly rounded laterally, bilobed with an invagination in the median portion. Subgenital 400 plate asymmetrical with long styles, funneled in the apical region. L1 sclerite with apical region with 401 two distinct parts: a short, rounded lateral branch turned downwards, with strong spines near the 402 crown of spines of the posterior region; a wide region slightly concave with a slight curvature ending 403 in a small projection towards the front on the right (Fig. 8H, I). L2d sclerite hook with anterior region 404 subconical and slightly wide and a short apical region; internal cavity strongly concave, external 405 lateral margin very near the very narrow sub-apical notch (Fig. 8F, G). R2 sclerite cleft curved inwards 406 with the apex very sclerotized and directed upwards; shorter and forming a right angle (Fig. 8D).

Sclerite N dorsal region reduced, ventral surface wide and globular. R3d slightly curved dorsally and
wider and straight in ventral view. R3v small, triangular, with a short and slightly quadrangular laterodistal region; caudal branch short with a finger shaped apex (Fig. 8D, E).

410

411 Female. Head rounded, with wide interocular space measuring 1/2 of the distance between the 412 antennal sockets. Eyes with straight interocular margin. Ocelli small and located on the area slightly 413 deflected above the antennal socket. Frons broad and flattened, frontal suture with a small cuticular 414 depression. Clypeus distal half larger and yellow transparent (Fig. 6H). Pronotum subtriangular with 415 anterior region rounded and slightly concave near the margins, dorsal region rough with deep striae, 416 lateral angles rounded ending in a corner, hind margin slightly curved in the median region (Fig. 6F). 417 Tegmina with a rounded anterior margin, orange lateral margin, and rounded and curved hind margin. 418 Long, reaching the fifth abdominal tergite (Fig. 6E). Legs short and robust. Fore-femora ventro-419 anterior margins with 21 or 19 long spines of the same size, ventro-posterior margins with 5 spines. 420 Middle legs ventro-anterior margins with 5 spines. Supra-anal plate bilobed with a small median 421 notch, each lobe with a slightly rounded lateral and a straight hind margin (Fig. 6G). Tergites with

- 422 rounded lateral angles (Fig. 6E).
- 423

424 Measurements (mm). m#: Body length 49.35; pronotum length 10.95 × 16.80 maximum width;

- 425 tegmen length 39.75 ×15.45 width; interocular width 1.6; interantennal width between sockets 4.6.
- 426 f#: Body length 36.65; pronotum length 11.35×16.90 maximum width ; tegmen length 16.50×11.00
- 427 width; interocular width 2.6; interantennal width between sockets 5.6.
- 428

429 Coloration. m#: General coloration brown (Fig. 8A). Pronotum dark brown with anterior margin buff
430 brown; central disk orange with large dark brown mark (Fig. 8B). Head dark burnt umber; clypeus
431 amber and labrum orange. Antennae with basal segments brown pigmented and apical segments pale
432 brown. Ocelli white (Fig. 8C). Legs brown and spines with brown base and dark brown apex; pulvilli
433 yellowish white; tarsal claws and arolia amber. Tegmina with orange lateral margins (Fig. 8A).
434 Abdomen following general coloration of body but with brown tergites and sternites hind margins.
435

436 Distribution. Brazil (São Paulo, Paraná, Santa Catarina, Rio Grande do Sul), Paraguay (Asunción).
437 See Fig. 17 for details.

- 439 Monastria angulata Saussure, 1864a
- 440 Figure 9A–D.
- 441
- 442 *Monastria angulata* Saussure, 1864a: 257; Walker, 1868: 11; Kirby, 1904: 161; Princis, 1963: 142.
- 443 *Monachoda angulata* Saussure, 1870: 120; Finot, 1897: 207.

444

445 **Examined material.** Syntype f#. Brazil, Bahia. (MHNG)

446

447 **Diagnosis.** Pronotum triangular, with rounded anterior region slightly concave near the margins,

448 inconspicuous dorsal roughness and striae. Lateral angles pointy, without corners, hind margin slightly

449 curved in the median region. Tegmina anterior angle nearly square, hind margin truncated with a

- 450 marked curvature towards the medial margin. CuP vein ending at the half of the hind margin. Supra-
- 451 anal plate bilobed, lateral margins of each lobe very rounded.
- 452

453 **Redescription.** Female. Head subtriangular, with wide interocular space measuring 1/2 of the 454 distance between the antennal sockets. Eyes with straight interocular margin. Ocelli developed and 455 deflected. Front broad and frontal suture with a small cuticular invagination (Fig. 9D). Pronotum 456 triangular, with anterior region rounded and slightly concave near the margins; dorsal roughness and 457 striae inconspicuous. Lateral angles pointy, without corners, hind margin slightly curved in the median 458 region (Fig. 9B). Tegmina very short and not extending further than the second abdominal tergite; 459 anterior angle nearly square, hind margin truncated with a marked curvature towards the medial 460 region. CuP vein ending at the half of the hind margin (Fig. 9A). Legs short and robust. Fore-femora 461 ventro-anterior margins with 16 or 17 spines of the same size, ventro-posterior margins with 4 spines. 462 Middle legs ventro-anterior margins with 4 spines. Supra-anal plate bilobed with a small median 463 notch, each lobe with a very rounded lateral margin and a slightly straight hind margin (Fig. 9C). 464 Tergites with quadrangular lateral angles (Fig. 9A). 465

466 Male. Unknown

467

468 Measurements (mm). Syntype #f: Body length 30.70; pronotum length 10.00 × 17.57 maximum
469 width ; tegmen length 9.80 × 12.20 width; interocular width 2.6; interantennal width between sockets
470 5.6.

471

472 Coloration. Syntype #f: General coloration burnt umber (Fig. 9A). Pronotum burnt umber with a
473 anterior margin ochre; central disk yellowish brown with scattered dark brown marks (Fig. 9B). Head
474 burnt umber and clypeus and labrum dark brown (Fig. 9D). Antennae with segments yellowish brown.
475 Ocelli ochre. Legs and spines dark brown; tarsal claws, pulvilli and arolia yellowish brown. Tegmina
476 with anal field burnt umber and marginal field brown; abdomen following general coloration of body
477 but with tergites and sternites hind margins dark brown (Fig. 9A). Supra-anal plate burnt umber (Fig.
478 9C).

479

480 **Distribution.** Brazil (Bahia).

481

482 Monastria cabocla Tarli, Grandcolas & Pellens sp. n.

483 Male – Figure 10.

484 Female – Figure 9E–H.

485

486 Type material. Holotype #m, Brazil, Sergipe, Santo Amaro das Brotas, "Gravata" 13 I 1979 (MZUSP).
487 Allotype #f and Paratypes 1#m, 2#f, same data as holotype (MZUSP). 1#f Sergipe, Santo Amaro das
488 Brotas, "871", 10°46'51.2"S, 37°03'22.8"W (coordinates assigned à posteriori) (MNRJ).

489

490 **Diagnosis.** Frons depressed below the antennal sockets and prominent above the ocelli. Ocelli 491 positioned laterally. Pronotum dorsal surface slightly rough and striated, with two quite evident lobes 492 with plain surface, and a wider central lobe covering the head. Short lateral margins with sharp angle 493 and a conspicuous small spine. Legs longer and less robust. L1 sclerite with a lateral branch little 494 sclerotized slightly curved downwards, smooth and with only a small spine and a region with a big 495 lateral dilatation and an edge in the posterior median region with a lateral projection turned forward. 496 Crown with a smaller number of sclerotized spines in the posterior region. L2d sclerite, hook with 497 subconical and very wide anterior region. Sclerite N triangular on the dorsal region. R3d with a slight 498 depression in the dorsal median region.

499

500 **Description.** Male. Head subtriangular, with interocular space measuring 1/4 of the distance between 501 the antennal sockets. Frons with a depression below the antennal sockets and prominent above the 502 ocelli. Frontal suture localized in a deep cuticular invagination, ocelli developed and positioned 503 laterally (Fig. 10C). Pronotum transverse, pentagonal, dorsal surface slightly rough and striated, with 504 two quite evident lobes with plain surface and a wider central lobe covering the head, anterior margin 505 rounded, short lateral margins with sharp angle and a conspicuous small spine, hind margin nearly 506 straight (Fig. 10B). Legs longer than in other species and less robust. Fore-femora ventro-anterior 507 margins with 24 or 22 spines slightly decreasing in size from basal to apical; ventro-posterior margins 508 with 5 spines. Middle legs ventro-anterior margins with 5 spines. Supra-anal plate quadrangular with 509 setae on the surface, hind margin straight and slightly rounded laterally, bilobed, lobes very narrow 510 and with a strong invagination in the median portion. Subgenital plate asymmetrical with long styles, 511 funneled in the apical region. L1 sclerite apical region with two distinct parts: a lateral branch little 512 sclerotized slightly curved downwards, smooth and with only a small spine, and a region with a big 513 lateral dilatation and an edge in the posterior median region with a lateral projection turned forward. 514 Crown with a smaller number of sclerotized spines. (Fig. 10G, H). L2d sclerite hook with subconical 515 and very wide anterior region, a median apical region, and a narrow space connecting them. Apex 516 internal cavity concave with short lateral external margin and narrow subapical notch (Fig. 10F, I). R2 517 sclerite cleft sclerotized, curved inward with a conic opening at its base and an apex directed upwards. Sclerite N triangular on the dorsal region (Fig. 10D) and with a small surface in the ventral one. R3d
with a slight depression in the dorsal median region and narrow in ventral view (Fig. 10D, E). R3v
sclerite with a long, rectangular and slightly wide latero-distal region, and quadrangular caudal branch
very near R3d (Fig. 10E).

522

523 Female (Allotype). Head rounded, with wide interocular space measuring 1/2 of the distance between 524 the antennal sockets. Eyes with curved interocular margin. Ocelli developed and deflected. Frons 525 broad, frontal suture with a large cuticular invagination (Fig. 9H). Pronotum subtriangular, dorsal 526 surface slightly rough and striated, with two quite evident lobes with plain surface, and a wider central 527 lobe covering the head; anterior margin rounded, lateral margins short with sharp angle and a 528 conspicuous small spine, hind margin nearly straight (Fig. 9F). Tegmina latero-anterior angle nearly 529 straight; lateral margin wider, and hind margin with a strong curvature near the radial vein; extends 530 further than the third abdominal tergite. CuP vein very marked (Fig. 9E). Legs short and robust. Fore-531 femora ventro-anterior margins with 19 small spines of the same size, ventro-posterior margins with 4 532 spines. Middle legs ventro-anterior margins with 9 spines. Supra-anal plate bilobed with a median

- 533 incision, and each lobe with straight posterolateral angles (Fig. 9G).
- 534

535 Measurements (mm). Holotype #m: Body length 42.95; pronotum length 9.85 × 15.70 maximum

- width; tegmen length 35.25× 13.45 width; interocular width 0.9; interantennal width between sockets
- 537 3.6. Paratypes #m: Body length 41.54; pronotum length 09.94 × 15.20 maximum width; tegmen length
- 538 31.36×13.19 width; interocular width 0.5; interantennal width between sockets 1.8.
- Allotype #f: Body length 41.60 ; pronotum length 13.20×20.15 maximum width ; tegmen length
- 540 16.05×14.50 width; interocular width 2.9; interantennal width between sockets 6.0. Paratype #f :
- 541 Body length 40.82 41.96; pronotum length $12.15 12.86 \times 20.12 19.91$ maximum width; tegmen
- **542** length $14.53 15.06 \times 12.48 13.76$ width; interocular width 1.3 1.4; interantennal width between
- 543 sockets 2.4 2.5.
- 544
- 545

546 Coloration. Holotype #m: General coloration sienna brown (Fig. 10A). Pronotum sienna brown with a
547 brown anterior margin; central disk seal brown with scattered dark marks (Fig. 10B). Head reddish
548 brown; clypeus and labrum amber. Antennae with basal segments dark brown pigmented and apical
549 segments brown. Ocelli pale brown (Fig. 10C). Legs and spines dark brown; tarsal claws, pulvilli and
550 arolia whitish brown. Tegmina sienna brown with marginal and scapular field with a buff brown part
551 (Fig. 10A). Abdomen following general coloration of body.

552

553 Etymology. A term from the Tupi meaning taken out of the forest. Here it refers to the habitat and the554 color patterns of this species.

555 556 Distribution. Brazil (Sergipe). See Fig. 17 for details. 557 558 Monastria itubera Tarli, Grandcolas & Pellens sp. n. 559 Male – Figure 11. 560 Female – Figure 12A–D. 561 562 **Type material.** Holotype #m, Brazil, Bahia, Itubera, "Reserva ecológica Michelin", 92 – 383m, 563 13°48'4.62''S, 39°10'23.2''W. 100km N Itabuna, Forêt semi-décidue, 28 VIII 2007, R. Pellens & P. 564 Grandcolas rec. (MZUSP). Allotype #f, and Paratype 1 #m, same data as holotype (MNHN). 565 566 **Diagnosis.** This species is characterized by having triangular head. L1 sclerite lateral branch slightly 567 curved with some spines turned downwards and a slightly concave region with irregular distal margins 568 with grooves ending in a long projection towards the front; L2d sclerite hook with subconical slightly 569 narrow anterior region, short apical region, and a large space connecting them. Apex internal cavity 570

571 cleft curved inward with a conic opening at its base and with a sclerotized apex directed upwards. 572 Sclerite N wider on the dorsal region, narrow and small in ventral surface. R3d narrow in the right and 573 rectangular in the left when in dorsal view. R3v sclerite small, subtriangular, with rounded latero-574 distal end.

concave with small lateral external margin and narrow subapical notch with pointy margin; R2 sclerite

575

576 **Description.** Male. Head triangular, with narrow interocular space measuring approximately 1/6 of 577 the distance between the antennal sockets. Ocelli developed and slightly deflected; frontal suture with 578 a strong cuticular invagination (Fig. 11C). Pronotum transverse, pentagonal, dorsal surface rough with 579 deep striae: anterior margin rounded; lateral margins with sharp angles, round ends and a conspicuous 580 small protuberance; hind margin nearly straight (Fig. 11B). Legs short and robust. Fore-femora ventro-581 anterior margins with 20 or 18 spines of the same size; ventro-posterior margins with 4 small spines. 582 Middle-legs ventro-anterior margins with 5 or 4 large spines. Supra-anal plate quadrangular with setae 583 on the surface, hind margin straight and slightly rounded laterally, bilobed with a slight invagination in 584 the median portion. Subgenital plate asymmetrical with long styli, left funneled in the apical region, 585 right with same caliper all along. L1 sclerite apical region with two distinct parts, a lateral branch 586 slightly curved with some spines turned downwards and the right branch slightly concave region with 587 irregular distal margins with grooves ending in a long projection towards the front. Crown with less 588 robust spines in the posterior region (Fig. 11H, I). L2d sclerite, hook with subconical slightly narrow 589 anterior region and short apical region, with a large space connecting them. Apex internal cavity 590 concave with small lateral external margin and narrow subapical notch with pointy margin (Fig. 11F, 591 G). R2 sclerite cleft curved inward with a conic opening at its base and with a sclerotized apex

directed upwards (Fig. 11D). Sclerite N wider and near of R2 on the dorsal region, and a narrow and
small ventral surface. R3d narrow in the proximity of R2, and wider and rectangular in the distal
region when in ventral view (Fig. 11D, E). R3v sclerite small, subtriangular, with rounded latero-distal
end (Fig. 11E).

596

597 Female (Allotype). Head rounded, with interocular space measuring approximately 1/3 of the distance 598 between the antennal sockets. Eves reniform with rounded interocular margin. Ocelli developed and 599 deflected. Concavity between eyes and ocelli reaching the frontal suture. Frons with a prominence 600 (Fig. 12D). Pronotum subtriangular, anterior region rounded with a depression near the margins; 601 dorsal surface rough with deep striae, presence of small spine at the end of lateral region, hind margin 602 nearly straight (Fig. 12B). Tegmina with rounded lateral anterior angle, hind margin truncated with a 603 slight curvature in the region of radial vein and merging to the CuP vein at the end, not extending 604 further than the second abdominal tergite (Fig. 12A). Legs short and robust. Fore-femora ventro-605 anterior margins with 21 or 20 spines of the same size, ventro-posterior margins with 4 spines. 606 Middle-legs ventro-anterior margin with 8 spines, plus one near the apex. Supra-anal plate bilobed

- 607 with a median incision and each lobe slightly rounded (Fig. 12C).
- 608

Measurements (mm). Holotype #m: Body length 52.98; pronotum length 12.61 × 18.49 maximum
width; tegmen length 42.22 × 15.43 width; interocular width 0.4; interantennal width between sockets
2.6. Paratype #m: Body length 40.98; pronotum length 09.21 × 15.14 maximum width; tegmen length

613

614 Allotype #f: Body length 35.79; pronotum length 9.70×17.05 maximum width; tegmen length 8.90×11.15 width; interocular width 1.5; interantennal width between sockets 4.5.

616

617 Coloration. Holotype #m: General coloration brown (Fig. 11A). Pronotum brown with the anterior
618 margin pale brown; central disk pale brown with scattered black marks (Fig. 11 B). Head dark
619 brown/black; clypeus and labrum brown. Antennae with basal segments dark pigmented and apical
620 segments whitish yellow. Ocelli light brown (Fig. 11C). Legs dark brown. Spines and tarsal claws
621 brown, pulvilli and arolia pale brown. Tegmina and abdomen following general coloration of body,
622 but with tergites and sternites dark hind margins (Fig. 11A).

623

624 Etymology. The specific name refers to the type locality Itubera, state of Bahia, northeast Brazil625

626 Distribution. Brazil (Bahia). See Fig. 17 for details.

- 627
- 628 Monastria itabuna Tarli, Grandcolas & Pellens sp. n.

⁶¹² 31.22×14.31 width; interocular width 0.2; interantennal width between sockets 1.8.

629 Male – Figure 13.

630 Female – Figure 12E–H.

631

Type material. Holotype #m, Brazil, Bahia, Itabuna. CEPLAC, Matinha. 14°46'20''S, 39°13'18''W.
Elevation 46m, 11 V 2007, J. A. Rafael & F. F. Xavier F (INPA). Allotype #f, and 1 Paratype #m,
same data as holotype (INPA).

635

Diagnosis. This species is characterized by having L1 sclerite with apical region having a lateral branch slightly curved with some spines that contact the crown in the posterior region. L2d sclerite, hook with short apical region, internal margin concave, lateral external margin strongly curved, with large sub-apical notch. R2 sclerite cleft curved inward with the apex directed forward. Sclerite N smaller in the dorsal region and with a large rough ventral surface. R3d narrow near R2 in dorsal view and wider, rectangular in the distal region in ventral view. R3v sclerite large, with quadrangular and truncated latero-distal end. Caudal branch long, wide in the center and narrow in the apex.

643

644 Description. Male. Head subtriangular, with narrow interocular space measuring approximately 1/6 of 645 the distance between the antennal sockets. Ocelli developed and slightly deflected; frontal suture with 646 a strong cuticular invagination. Clypeus distal half narrower transversally and orange brown (Fig. 647 13C). Pronotum transverse, pentagonal, dorsal surface rough with striae; anterior margin rounded; 648 lateral margins slightly wider with sharp angles, round ends and a conspicuous small protuberance; 649 hind margin nearly straight (Fig. 13B). Legs short and robust. Fore-femora ventro-anterior margins 650 with 20 or 18 spines of the same size; ventro-posterior margins with 4 small spines. Middle-legs 651 ventro-anterior margins with 5 or 4 large spines. Supra-anal plate quadrangular with setae on the 652 surface, hind margin straight and slightly rounded laterally, bilobed with a slight invagination in the 653 median portion. Subgenital plate asymmetrical with long styles, left funneled in the apical region, right 654 with same caliper all along. L1 sclerite with apical region with two distinct parts, a lateral branch 655 slightly curved with some spines that contact the crown in the posterior region (Fig. 13G, H). L2d 656 sclerite, hook with short apical region, internal margin concave, lateral external margin strongly 657 curved, with large sub-apical notch (Fig. 13F, I). R2 sclerite cleft curved inward with the apex directed 658 forward (Fig. 13D). Sclerite N smaller in the dorsal region and with a large rough ventral surface. R3d 659 narrow near R2 in dorsal view and wider, rectangular in the distal region when in ventral view (Fig. 660 13D, E). R3v sclerite large, with quadrangular and truncated latero-distal end. Caudal branch long, 661 wide in the center and narrow in the apex (Fig. 13E).

662

Female (Allotype). Head rounded, with wide interocular space measuring 1/2 the distance between
the antennal sockets. Eyes with straight interocular margin. Ocelli developed and deflected. Frons
broad, frontal suture with a cuticular invagination (Fig. 12H). Pronotum subtriangular, fore region

- rounded and slightly concave near the margins, dorsal region rough with deep striae, lateral margins
- 667 rounded ending in a small corner, hind margin slightly curved in the median region (Fig. 12F).
- 668 Tegmina with straight lateral anterior angle, hind margin truncated with a slight curvature in the region
- of radial vein; not extending further than the second abdominal tergite and lateral margin orange all
- along its extension (Fig. 12E). Legs short and robust. Fore-femora ventro-anterior margins with 19
- 671 small spines of the same size; ventro-posterior margins with 4 spines. Middle-legs ventro-anterior
- 672 margins with 9 spines. Supra-anal plate bilobed with a median incision and each lobe slightly rounded
- 673 (Fig. 12G). Tergites with nearly straight lateral angles (Fig. 12E).
- 674
- 675 Measurements (mm). Holotype #m: Body length 53.05; pronotum length 12.70 × 19.37 maximum
 676 width; tegmen length 40.40 × 15.55 width; interocular width 0.9; interantennal width between sockets
 677 2.7. Paratype #m: Body length 54.09; pronotum length 12.22 × 21.02 maximum width; tegmen length
 678 43.12 × 19.61 width; interocular width 0.5; interantennal width between sockets 2.8.
- 45.12×19.01 width, interocular width 0.5, interantennar width between sockets 2.8.
- 679 Allotype #f: Body length 40.70; pronotum length 11.25×19.80 maximum width; tegmen length 12.30×13.00 width; interocular width -3.0; interantennal width between sockets 5.7.
- 681
- 682 Coloration. Holotype #m: General coloration dark brown (Fig. 13A). Pronotum dark brown with the683 anterior margin yellowish brown; central disk yellowish brown with scattered black marks (Fig. 13B).
- 684 Head dark brown; clypeus and labrum yellowish brown. Antennae with basal segments dark
- pigmented and apical segments whitish yellow. Ocelli yellowish/pale brown (Fig. 13C). Legs and
- spines brown; tarsal claws, pulvilli and arolia yellowish brown. Tegmina and abdomen following
- 687 general coloration of body but with tergites and sternites with brown posterior margin (Fig. 13A).
- 688
- **Etymology.** The specific name refers to the type locality Itabuna, state of Bahia, northeast Brazil.
- 691 Distribution. Brazil (Bahia). See Fig. 17 for details.
- 692

693 Monastria kaingangue Tarli, Grandcolas & Pellens sp. n.

- 694 Male Figure 14.
- 695 Female Figure 15.
- 696
- **697 Type material.** Holotype #m, Brazil, São Paulo, Campinas. "Pico das Cabras". 22°54'23.9"S
- 698 46°49'34.4"W. 14 october 2014, coll. V. M. Ghirotto (MZUSP). Allotype: 1#f, same data as holotype
 699 (MZUSP).
- 700
- Paratypes <u>Santa Catarina</u>: 1#m, Urubici, "Parque Nacional de São Joaquim, Vacas Gordas", 977m,
 28°08'44.4"S, 49°37'09.3"W, 22 X 2015, coll. R. Pellens (MNHN). 2m#, 1f#, São Bonifácio, Santo

703 Amaro da Imperatriz, -27.830854 -48.964832, 09 X 2014, P. Grandcolas & Vitor D. Tarli rec.

- 704 (MNHN). <u>São Paulo</u>: 1#m Bocaina, IV 1924, Luderm? "27" (MZUSP). 1#m Bocaina, IV 1924, "29"
- 705 (MZUSP). Rio Grande do Sul: 1#m, 2#f, Derrubadas, Parque Estadual do Turvo, 391m, -27.236413 -
- 706 53.979640, 05 X 2014, R. Pellens & Vitor D. Tarli rec. (MNHN).
- 707

708 **Diagnosis.** This species is characterized by having two intercalated rows of spines in the ventro-709 anterior margins of fore-femora; one row with 5 or 6 spines, and another with 32 or 33 spines of the 710 same size. L1 sclerite with lateral branch curved, rounded and smooth with some small spines, and a 711 curved region with grooves in its interior and a projection with a rounded end directed upwards at its 712 right side. L2d sclerite hook with long apical region, and rounded curvature of the margin near the 713 notch. R2 sclerite cleft curved inward with a wide and sclerotized apex directed forward. R3d with a 714 clear prominence like a tooth in ventral view. R3v sclerite with quadrangular and truncated latero-715 distal region, and caudal branch near the tooth from R3d sclerite.

716

717 **Description.** Male. Head subtriangular, interocular space approximately 1/3 distance between 718 antennae. Frons slightly elevated. Ocelli developed and deflected. Frontal suture with a cuticular 719 invagination (Fig. 14C). Pronotum pentagonal, fore margin rounded, with rounded lateral angles, hind 720 margin slightly curved in the medial portion (Fig. 14B). Legs short and robust. Fore-femora ventro-721 anterior margins with two intercalated rows of spines, one with 6 or 5, and another with 33 or 32 722 spines of the same size; ventro-posterior margins with one large and a thin spine out of the row, 6 723 small spines. Middle legs ventro-anterior margins with 11 or 10 spines. Tegmina with orange lateral 724 margins in the first half of its length (Fig. 14A). Supra-anal plate quadrangular with setae on the 725 surface, hind margin straight and slightly rounded laterally, bilobed with a slight invagination in the 726 median portion. Subgenital plate asymmetrical with long styles, left funneled in the apical region, right 727 with same caliper all along. L1 sclerite with apical region with two distinct parts: a lateral branch 728 curved, rounded and smooth with some small spines, and a curved region with grooves in its interior 729 and a projection with a rounded end directed upwards at its right side (Fig. 14G, H). L2d sclerite hook 730 with long apical region and rounded curvature of the margin near the notch (Fig. 14F, I). R2 sclerite 731 cleft curved inward with a wide and very sclerotized apex directed forward (Fig. 14D). Sclerite N tiny 732 in dorsal and large and wide in ventral view. R3d with a clear prominence like a tooth in ventral view 733 (Fig. 14D, E). R3v sclerite with quadrangular and truncated latero-distal region, and caudal branch 734 near the tooth from R3d sclerite (Fig. 14E).

735

Female (Paratype). Head rounded, with wide interocular space measuring approximately 1/2 the
distance between the antennal sockets. Eyes with straight interocular margin. Ocelli developed and
slightly deflected. Frontal suture with a cuticular invagination. Clypeus distal half transparent yellow
and larger (Fig. 15D). Pronotum subtriangular with anterior region rounded and slightly concave near

- the margins; dorsal region rough with deep striae, lateral angles rounded ending in a corner and hind
- 741 margin slightly curved in the median region (Fig. 15B). Tegmina with little rounded lateral anterior
- angles, orange lateral margins, and rounded and curved hind margins. Long, reaching the fifth
- abdominal tergite (Fig. 15A). Legs short and robust. Fore-femora ventro-anterior margins with 31 or
- 32 spines of the same size; ventro-posterior margins with 3 spines. Middle legs ventro-anterior
- 745 margins with 5 spines. Supra-anal plate bilobed with a very small median incision. Lobe lateral
- 746 margins slightly rounded and posterior margin straight (Fig. 15C). Tergites with rounded lateral angles
- 747 (Fig. 15A).
- 748
- 749 Measurements (mm). Holotype m#: Body length 52.80; pronotum length 12.05 × 17.35 maximum
- width; tegmen length 40.75×14.70 width; interocular width 1.7; interantennal width between sockets
- 751 5.5. Paratypes m#: Body length 52.60 64.30; pronotum length $11.15 14.13 \times 15.08 19.07$
- maximum width; tegmen length $36.16 42.34 \times 13.81 20.73$ width; interocular width 0.9 1.2;
- 753 interantennal width between sockets 2.5 3.1.
- Allotype f#: Body length 42.52; pronotum length 11.03×17.86 maximum width; tegmen length 17.05
- 755 \times 12.55 width; interocular width 3.1; interantennal width between sockets 5.6. Paratypes f#: Body
- 756length 39.15 47.18; pronotum length $10.04 12.22 \times 16.12 19.41$ maximum width; tegmen length757 $14.86 18.72 \times 09.92 13.34$ width; interocular width 1.4 1.6; interantennal width between sockets7582.7 3.0.
- 759
- 760
- Coloration. Holotype m#: General coloration dark brown (Fig. 14A). Pronotum dark brown with the
 anterior margin yellowish brown; central disk orange brown with scattered dark brown marks (Fig. 14
 B). Head dark brown; clypeus and labrum yellowish brown. Antennae with basal segments dark
 pigmented and apical segments whitish yellow. Ocelli pale brown (Fig. 14C). Legs dark brown and
 spines brown; pulvilli white, tarsal claws and arolia light brown. Tegmina with orange lateral margins
 and abdomen following general coloration of body (Fig. 14A).
- 767
- Etymology. The word kaingangue derives from the Tupi Guarani. It is the name of an Indian group
 originally distributed from São Paulo to Rio Grande do Sul. The name is an allusion to the similarity
 of their distribution ranges and a tribute to this people that were certainly aware of the existence of this
 cockroach.
- 772
- 773 Distribution. Brazil (São Paulo, Santa Catarina, Rio Grande do Sul). See Fig. 17 for details.
- 774
- 775 Monastria sagittata Tarli, Grandcolas & Pellens sp. n.

776 Figure 16.

777

778 Type material. Holotype m#. Brazil, Minas Gerais, Serra do Cipó. March 1967, coll. D. Vital 779 (MZUSP).

780

781 **Diagnosis.** This species is characterized by having pronotum with shallow, smooth and slightly 782 striated dorsal surface; wide lateral margins with sharp angles. Tegmina anal field wide with the CuP 783 vein perpendicular to the lateral. Subgenital plate asymmetrical with one small style. L1 sclerite with a 784 distinct spear shaped apical region, hind margin with a large non-sclerotized projection, and fore 785 region with a small projection directed upwards. Lateral branch small with strong teeth and spines. 786 L2d sclerite, hook with subconical and narrow anterior region, very short and curved and internal 787 ventral margin strongly convex.

788

789 Description. Male. Head subtriangular, with interocular space measuring approximately 1/3 of the 790 distance between the antennal sockets. Ocelli developed and slightly deflected; frontal suture with a 791 cuticular invagination (Fig. 16C). Pronotum broad, transverse and pentagonal; dorsal surface shallow, 792 smooth and slightly striated; anterior margin rounded; lateral margins wider with sharp angles; hind 793 margin nearly straight (Fig. 16B). Tegmina characterized by a wide anal field with the CuP vein 794 perpendicular to the lateral (Fig. 16A). Legs short and robust. Fore-femora ventro-anterior margins 795 with 21 or 20 spines of the same size; ventro-posterior margins with 4 spines. Middle-legs ventro-796 anterior margins with 5 or 4 large spines. Supra-anal plate quadrangular with setae on the surface, hind 797 margin straight and slightly rounded laterally, bilobed with narrower lobes and strong invagination in 798 the median portion. Subgenital plate asymmetrical with one small style. L1 sclerite with a roughly 799 triangular spear-shaped apical region, hind margin with a large non-sclerotized projection, fore region 800 with a small lateral projection directed upwards, and lateral branch small with strong teeth and spines 801 (Fig. 16G, H). L2d sclerite hook with subconical and narrow anterior region, very short, curved and 802 internal ventral margin strongly convex (Fig. 16F, I). R2 sclerite cleft slightly curved inwards with the 803 apex slightly sclerotized (Fig. 16D, E). The other sclerites were partially destroyed with an unhappy 804 manipulation. 805

- 806

807 Female. Unknown

808

809 **Measurements (mm).** Holotype m#: Body length 51.28; pronotum length 11.94 × 21.54 maximum 810 width; tegmen length 41.97×17.00 width; interocular width 1.8; interantennal width between sockets 811 5.4.

813	Coloration. Holotype m#: General coloration pale brown (Fig. 16A). Pronotum pale brown with a
814	buff anterior margin; central disk brown ochre with scattered dark brown marks (Fig. 16B). Head with
815	dark brown interocular space, orange frons and amber clypeus and labrum. Antennae with segments
816	yellowish brown. Ocelli brown (Fig. 16C). Legs and spines yellowish brown; pulvilli yellow whitish,
817	tarsal claws and arolia yellowish brown. Tegmina and abdomen following general coloration of body
818	(Fig. 16A).
819	
820	Etymology. The name "sagittata" derives from the Latin sagitta, meaning arrow, referring to arrow-
821	shaped apex of the L1 sclerite.
822	
823	Distribution. Brazil (Minas Gerais). See Fig. 17 for details.
824	
825	Hiereoblatta papillosa (Thunberg, 1826) comb. n.
826	Figure 18.
827	
828	Blatta papillosa Thunberg, 1826: 276; Scudder, 1868: 18.
829	Monastria papillosa Shelford, 1907-1908: 467; Kirby, 1910: 565; Princis, 1949: 66; Princis, 1963:
830	142.
831	
832	Among all the material examined to revise the genus Monastria was the type of Blatta papillosa
833	Thunberg, 1826. This species was assigned to Monastria very early and maintained until today after
834	being synonymized several times. As can be seen in the Fig. 18, the coloration, pronotum, head,
835	tegmina and general shape of this specimen does not correspond to those that characterize the genus
836	Monastria. In fact, the general characteristics of this species are in accordance with the genus
837	Hiereoblatta Rehn, 1937 (see Fig. 1D) as described in our identification key. Here, for the sake of
838	delimiting the genus Monastria we propose the new combination Hiereoblatta papillosa. We do not
839	propose here to solve the synonyms of this species because, as was the case for Monastria, the genus
840	Hiereoblatta needs to be revised, and any proposition of solution of the several synonymies would be
841	premature without a careful study.
842	
843	Conclusions
844	
845	With this revision, the genus Monastria is now known as having 8 species, and one of the species
846	previously accepted as belonging to this genus is now assigned to Hiereoblatta. The records of
847	occurrence of the specimens analyzed here indicate that the distribution range of the genus is much
848	broader than previously known, and confirm the initial hypothesis of an endemism to the Neotropical
849	Atlantic forest. The characterization of juveniles and adults of the radiation of Blaberinae of the

....

Atlantic forest and the determination keys provided will significantly contribute to a rapid

851 identification of the species belonging to this group that are often found together in the field.

852

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854

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1000	
1001	Legends
1002	
1003	Figure 1. Five genera of Blaberinae endemic from the Neotropical Atlantic forest. Habitus, dorsal
1004	view: A) Monastria; B) Petasodes; C) Minablatta; D) Hiereoblatta; E) Monachoda. Scales: 1cm.
1005	
1006	Figure 2. Juveniles stages of five genera of Blaberinae endemic to the Neotropical Atlantic forest.
1007	Habitus, dorsal view: A) Monastria, B) Petasodes, C) Minablatta, D) Hiereoblatta, E) Monachoda.
1008	Scales: 1cm.
1009	
1010	Figure 3. Scanning electron photographs showing dorsal cuticular microsculptures of juveniles: A)
1011	Monastria, B) Petasodes, C) Minablatta, D) Hiereoblatta, E) Monachoda. Note that the scale differs
1012	among pictures.
1013	
1014	Figure 4. Monastria biguttata, female holotype. Scales: Habitus=1cm
1015	
1016	Figure 5. Monastria biguttata, d: A) Habitus, dorsal view; B) Pronotum, dorsal view; C) Head,
1017	ventral view; D) Right phallomere, dorsal view; E) Right phallomere, ventral view; F) Left
1018	phallomere (L2d), ventral view; G) Median sclerite (L1), dorsal view; H) Median sclerite (L1), detail;
1019	I) Left phallomere (L2d), dorsal view. Scales: Habitus=1cm, Pronotum=5mm, Head=2 mm, all others
1020	=1 mm.
1021	
1022	Figure 6. Figs. A-D, <i>Monastria biguttata</i> , \mathcal{Q} : A) Habitus, dorsal view; B) Pronotum, dorsal view; C)
1023	Supra-anal plate, dorsal view; D) Head, ventral view. Figs. E-H , <i>Monastria similis</i> , ♀: E) Habitus,
1024	dorsal view; F) Pronotum, dorsal view; G) Supra-anal plate, dorsal view; H) Head, ventral view.
1025	Scales: Habitus=1cm, Pronotum=5mm, Supra-anal plate=5mm, Head=2 mm.
1026	
1027	Figure 7. Male juveniles of Monastria in different stages of development. Scales: Habitus=5mm. Note
1028	the rough surface covered by particles in all stages.
1029	
1030	Figure 8. Monastria similis, d: A) Habitus, dorsal view; B) Pronotum, dorsal view; C) Head, ventral
1031	view; D) Right phallomere, dorsal view; E) Right phallomere, ventral view; F) Left phallomere (L2d),

sclerite (L1), detail (see Fig. 5 for abbreviations). Scales: Habitus=1 cm, Pronotum=5 mm, Head=2 1033 1034 mm, all other figures=1 mm. 1035 1036 Figure 9. Figs. A-D, Monastria angulata, Syntype \mathcal{L} : A) Habitus, dorsal view; B) Pronotum, dorsal 1037 view; C) Supra-anal plate, dorsal view; D) Head, ventral view. Figs. E-H, Monastria cabocla sp. n. 1038 Allotype \mathcal{L} : E) Habitus, dorsal view; F) Pronotum, dorsal view; G) Supra-anal plate, dorsal view; H) 1039 Head, ventral view. Scales: Habitus=1cm, Pronotum=5mm, Supra-anal plate=5mm, Head=2 mm. 1040 1041 Figure 10. *Monastria cabocla* sp. n., Holotype ♂: A) Habitus, dorsal view; B) Pronotum, dorsal view; 1042 C) Head, ventral view; D) Right phallomere, dorsal view; E) Right phallomere, ventral view; F) Left 1043 phallomere (L2d), ventral view; G) Median sclerite (L1), dorsal view; H) Median sclerite (L1), detail; 1044 I) Left phallomere (L2d), dorsal view (see Fig. 5 for abbreviations). Scales: Habitus=1cm, 1045 Pronotum=5mm, Head=2 mm, all others =1 mm. 1046 1047 Figure 11. Monastria itubera sp. n., Holotype ♂: A) Habitus, dorsal view; B) Pronotum, dorsal view; C) Head, ventral view; D) Right phallomere, dorsal view; E) Right phallomere, ventral view; F) Left 1048 1049 phallomere (L2d), ventral view; G) Left phallomere (L2d), dorsal view; H) Median sclerite (L1), 1050 dorsal view; I) Median sclerite (L1), detail (see Fig. 5 for abbreviations). Scales: Habitus=1cm, 1051 Pronotum=5mm, Head=2 mm, all others =1 mm. 1052 1053 Figure 12. Figs. A–D, Monastria itubera sp. n., Allotype \mathcal{Q} : A) Habitus, dorsal view; B) Pronotum, 1054 dorsal view; C) Supra-anal plate, dorsal view; D) Head, ventral view. Figs. E-H, Monastria itabuna 1055 sp. n., Allotype \bigcirc : E) Habitus, dorsal view; F) Pronotum, dorsal view; G) Supra-anal plate, dorsal 1056 view; H) Head, ventral view. Scales: Habitus=1cm, Pronotum=5mm, Supra-anal plate=5mm, Head=2 1057 mm. 1058 1059 Figure 13. Monastria itabuna sp. n., Holotype 3: A) Habitus, dorsal view; B) Pronotum, dorsal view; 1060 C) Head, ventral view; D) Right phallomere, dorsal view; E) Right phallomere, ventral view; F) Left 1061 phallomere (L2d), ventral view; G) Median sclerite (L1), dorsal view; H) Median sclerite (L1), detail; 1062 I) Left phallomere (L2d), dorsal view (see Fig. 5 for abbreviations). Scales: Habitus=1cm, 1063 Pronotum=5mm, Head=2 mm, all others =1 mm. 1064 1065 Figure 14. Monastria kaingangue sp. n., Holotype ♂: A) Habitus, dorsal view; B) Pronotum, dorsal 1066 view; C) Head, ventral view; D) Right phallomere, dorsal view; E) Right phallomere, ventral view; F) 1067 Left phallomere (L2d), ventral view; G) Median sclerite (L1), dorsal view; H) Median sclerite (L1),

ventral view; G) Left phallomere (L2d), dorsal view; H) Median sclerite (L1), dorsal view; I) Median

1068	detail; I) Left phallomere (L2d), dorsal view (see Fig. 5 for abbreviations). Scales: Habitus=1cm,
1069	Pronotum=5mm, Head=2 mm, all others =1 mm.
1070	
1071	Figure 15. Monastria kaingangue sp. n., Allotype Q: A) Habitus, dorsal view; B) Pronotum, dorsal
1072	view; C) Supra-anal plate, dorsal view; D) Head, ventral view. Scales: Habitus=1cm, Pronotum=5mm,
1073	Supra-anal plate=5mm, Head=2 mm.
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1075	Figure 16. Monastria sagittata sp. n., Holotype 3: A) Habitus, dorsal view; B) Pronotum, dorsal view;
1076	C) Head, ventral view; D) Right phallomere, dorsal view; E) Right phallomere, ventral view; F) Left
1077	phallomere (L2d), ventral view; G) Median sclerite (L1), dorsal view; H) Median sclerite (L1), detail;
1078	I) Left phallomere (L2d), dorsal view (see Fig. 5 for abbreviations). Scales: Habitus=1cm,
1079	Pronotum=5mm, Head=2 mm, all other figures=1 mm.
1080	
1081	Figure 17. Geographic location of sites where the different species of Monastria were collected.
1082	Monastria angulata is not in included in the map for it is only known from a specimen from Bahia,
1083	without any mention of locality.
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1085	Figure 18. Hiereoblatta papillosa (Thunberg, 1826) comb. n., female holotype. Not to scale.
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