THE GENERA SARAMACIA AND SYNCRANAUS ROEWER,
WITH NOTES ON THE STATUS OF THE MANAOSBIIDAE
(OPILIONES, LANIATORES, GONYLEPTOIDEA) (1)

(With 37 figures)

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The subfamily Manaosbiinae was created by ROEWER (1943) in Gonyleptidae for
one species from Amazonia — Manaosbia scopulata Roewer, 1943. The diagnostic
characters for the subfamily were expressed in a table (ROEWER, 1943: 14) as
follows: 1) common eye mound present; 2) posterior tarsal claws unpectinate; 3)
scopula present in tarsi III-IV; 4) coxa IV clearly visible beyond scute in dorsal
view; 5) femur IV spiny and not strongly elongate; 6) pedipalpal femur normally
long and thicker than femur I.

On basis on a nested set of derived character states, including some features
overlooked or neglected by ROEWER (1923, 1943), a monophyletic group
containing Manaosbia scopulata and many other species hitherto placed in
Cranainae and Prostygninae is for the first time recognized and herein proposed as
a new family of Gonyleptoidea. Although the Manaosbiidae in the present sense
differs widely from the Roewerian diagnosis and brings together for the first time
various genera formerly scattered among Gonyleptoidea, the Roewerian name is
available and should be used.

Likewise, the Stygnoleptinae Soares, 1972 appear as a spurious concept for an
unnatural group and should be dismantled, as will be shown below. The manaosbiid genera Saramacia Roewer and Syncranaus Roewer are rediagnosed and
some species have original descriptions complemented.

The Brazilian States of Amazonas (AM), Mato Grosso (MT), Mato Grosso do Sul (MS)
and Pará (PA) are herein abbreviated and acronyms of repositories are American
Museum of Natural History, New York (AMNH), Helia Soares Private Collection,
Botucatu (HS), Instituto Butantan, São Paulo (IB), Museum of Comparative
Zoology, Cambridge, (MCZ), Muséum National d'Histoire Naturelle, Paris (MNHN),
Museu Nacional-Rio de Janeiro, Brazil (MNRJ), Museu Paraense Emílio Goeldi (MPEG),

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2 Fellow of Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).
Senckenberg Museum, Frankfurt am Main (SMF), Zoological Museum, University of Copenhagen (ZMUC). All measurements are in mm. The new name “cheliceral bulla” (from Latin bulla = ball) is here proposed for the distal part of the basicichelicite which is often swollen and dorsally projected in Gonyleptoidea. To avoid redundancy in the descriptions, the dorsal scute - which is remarkably uniform - has not been illustrated for all species.

The complex story of the Stygnoleptinae

The concept of Stygnoleptinae Soares, 1972, created for including four Neotropical genera of Gonyleptoidea, corresponds to the diagnosis of Hernandariinae sensu MELLO-LEITÃO (1930) - that is, “Gonyleptidae with coxae IV hidden under scute and with mesotergal grooves effaced”. RINGUELET (1959) showed that the Hernandariinae present instead the coxae IV largely surpassing the scute, but the concept (neither the taxa nor the name) by Mello-Leitão was resurrected by SOARES (1972) for the Stygnoleptinae. The study of the four genera included in Stygnoleptinae results in two of them to be considered synonyms (Saramacia and Saramaciopsis) and newly referred to the Manaosbiidae, while the type genus (Stygnoleptes) should be included in the Zalmoxidae (KURY, in press), and the last (Glysteroides) belongs to the Gonyleptidae Pachylinae.

The subfamily Hernandariinae was founded by SØRENSEN (1884) as a monotypic taxon for Hernandaria scabricula Sørensen, 1884 from Argentina. ROEWER (1913) added a few genera, described by older authors without regard to subfamily, so as Hernandariinae then included four monotypic Neotropical genera: Hernandaria Sørensen, 1884, Hernandria Banks, 1909, Hernandarioides Pickard-Cambridge, 1905 and Saramacia Roewer, 1913. ROEWER (1931) described one more monotypic genus for the Hernandariinae - Glysterus - and added also Stygnoleptes Banks, 1914, both described from the Costa Rica, remarking that the material of Stygnoleptes analis should be revised, due to the poor diagnosis and its puzzling non-fitness in Gonyleptoidea. The hint by Roewer has been taken by GOODNIGHT & GOODNIGHT (1947), who reexamined the type material of Stygnoleptes analis, placing it in the Phalangodidae Phalangodinae, and later (GOODNIGHT & GOODNIGHT, 1953) synonymized Stygnoleptes under Cynortina Banks, 1909. Stygnoleptes has been finally revalidated (GOODNIGHT & GOODNIGHT, 1983).

MELLO-LEITÃO (1930) described the Aphembolephaeninae for the Argentinean Aphembolephaenus Holmberg, 1909 and Proampycus Roewer, 1916, both included by ROEWER (1923) in Pachylinae. The diagnosis of Aphembolephaeninae was based on the mistaken assumption that in the Hernandariinae the coxae were not apparent under dorsal scute. MELLO-LEITÃO (1939) synonymized Proampycus with Aphembolephaenus, which led CANALS (1943), to judge unnecessary a subfamilial name for only one genus, and to consider Aphembolephaenus as a Pachylinae. At the same time ROEWER (1943) argued there was no sound difference between Aphembolephaeninae and Hernandariinae, recommended their synonymy, and described one more genus for Hernandariinae - Glysteroides - from Costa Rica and Guatemala.

The Hernandariinae of SOARES & SOARES, (1949: 221) included Stygnoleptes, Glysteroides, Hernandaria and Saramacia, while Hernandria and Glysterus were listed in the Gonyleptinae - without explanation - in the same paper. Hernandarioides reappeared only in the last part of the check list of SOARES &
SOARES (1954) as a Pachylinae. These authors followed Canals and ignored the A pembolephaeninae, ranking *A pembolephaenus* in Pachylinae (SOARES & SOARES, 1954). RINGUELET (1959: 152) finally considered *A pembolephaenus jorgei* to be a junior synonym of *Hernandaria scabricula*, and synonymized also Hernandariinae into Pachylinae. SOARES (1972) agreed only partially with Ringuet and considered that exclusively the type genus *Hernandaria* should be removed from the Hernandariinae. She proposed the name Stygnoleptinae for the remaining ex-Hernandariinae, namely *Glysteroides* Roewer, 1943, *Saramacia* and *Stygnoleptes*. She also described *Saramaciopsis*, from Brazilian Amazonia as a Stygnoleptinae. Ultimately, SOARES & SOARES (1984) resurrected the Hernandariinae to include *Hernandaria, A riaeus Sørensen*, 1932 and *Acrogonyleptes* Roewer, 1916 (hitherto in Gonyleptinae).

The reinterpretation of *Saramacia* (this paper) and *Glysteroides* Roewer (KURY, in prep.) resulted in a reappraisal of the status of the Stygnoleptinae. The case of *Saramacia* Roewer, 1913 is astonishing, because the four species here deemed to form this genus have restrict geographic distribution and are morphologically easily recognizable as a group. They were, nevertheless, along 80 years, put by five authors in eight genera, referred to four subfamilies. The genus *Glysterus* Roewer, 1931 offers another example of geometric multiplication of genera: Based on different individuals of a few closely related species – endemic to a small area – six genera have been described in 3 subfamilies (KURY, in prep.).

**Manaosbiidae Roewer, 1943 new rank**

Mitobatinae (part): SIMON, 1879:226

Prostygninae (part): ROEWER, 1913:140; 1923:449; MELLO-LEITÃO, 1932:103


Heterocranainae (part): ROEWER, 1913:417; 1923:567

Hernandariinae (part): ROEWER, 1913:460; 1923:582; MELLO-LEITÃO, 1932:129; SOARES & SOARES, 1949:221

Manaosbiinae: ROEWER, 1943:56

Stygnoleptinae (part): SOARES, 1972:68

Diagnosis: Gonyleptoidea with opisthosomatic dorsal scute only a little wider than prosomatic carapace, eye mound small, without depression, armed with two small spines; scutal area I armed with a pair of small spines; scutal area III armed with a pair of stouter spines; pedipalpus smooth, without strong armature in any of the segments; pedipalpal femur cylindrical; coxa IV barely visible under scute, dorsally covered with pointed tubercles and armed with spiniform apical apophysis; trochanters I-III may bear ectal spines; only proximal segments of basitarsus I spindle-like swollen in male; tarsi III-IV with a pair of smooth claws 'rarely pectinate) and occasionally sparse scopulae. Ventral plate of penis rectangular elongate, with distal border concave or entire, basal setae stout, slightly bent, median two pairs of setae of ventral plate dorsally located, distal setae strongly curved but not helycoidal; stylus straight, usually bent in apex; glans exposed, without dorsal or ventral processes. See also table 1.
Distribution: Brazil, Colombia, Ecuador, Guyana, Panama, Peru, Surinam, Trinidad & Tobago, Venezuela, Windward Is.


Saramacia Roewer, 1913

Saramacia Roewer, 1913:465 (Type species S. aurilimbata, by monotypy); 1923:584; 1931:159; MELLO-LEITÃO, 1926:370; 1932:131; SOARES & SOARES, 1949:222
Rhopalocranoides Mello-Leitão, 1931:118 (Type species R. annulatus, by original designation); 1935:96 - NEW SYNONYMY
Anticranaus Mello-Leitão, 1940:1; SOARES & SOARES, 1948:588 (Type species A. annulipes, by original designation) - NEW SYNONYMY
Oranellius Mello-Leitão, 1941:440 (Type species O. brasiliensis, by original designation) - NEW SYNONYMY
Cranaus (part): SOARES & SOARES, 1948:593
Meridia (part): SOARES & SOARES, 1948:608
Saramaciopsis Soares, 1972:68 (Type species S. harpachyloides, by original designation) - NEW SYNONYMY
Sylvialeptes Jim & Soares, 1991:799 (Type species S. lucasae, by original designation) - NEW SYNONYMY

Diagnosis: Manaosbiidae with poorly defined scutal grooves, more or less evident only in the median third; color background uniform dark brown to black occasionally with light yellow to white markings; pedipalpal femur with ventro basal setiferous tubercle, mesoapical spine reduced or wanting; pedipalpal patella unarmed; pedipalpal tibia with five mesal (IiiIi) and four ectal (IiIi) spines; pedipalpal tarsus with four mesal (IiiIi) and four ectal (IiIi) spines; coxa IV of male armed with dorso-apical spiniform apophysis and small dorsal spines; tarsus I with 5-7 joints, tarsus II with 10-13 joints, III and IV with 6-7 joints; posterior tarsal claws unpectinate; ventral plate of penis rectangular elongate with concave distal margin; basitarsus I with all segments but the last spindle-like swollen; ratio leg I-IV length/scutal length respectively less than 2.6, less than 3.3, less than 2.3, less than 3.1. See also schematic outline in figure 1.


Distribution. Lower Amazonas basin (Brazil and Surinam), Central Brazil.
Reasons for synonymies in *Saramacia*

In table 5, a summary of the four meaningful characters from literature is given—these were enough in the Roewerian system for the distinction of the eight presumable genera to which specimens of *Saramacia* were assigned. The first character, number of scutal areas, was reported diversely, because the authors could guess the number of the semi-effaced scutal grooves in the specimens, but their interpretations diverged. Character (2), number of tarsal joints in tarsus I, is "genus-worthy" in Roewerian system, so its use misled the authors. The reduced femoral spine in pedipalpus of species of *Saramacia* led authors to regard it either as "armed" or "unarmed", another key concept in this context. The unequally sized tubercles of free tergites were reported randomly as granules (="unarmed") or spines (="armed").

The fusion of scutal grooves is an apomorph character state, which is more parsimoniously explained as a synapomorphy for the species of *Saramacia*, convergent with *Glysterus* and some species of the Hernandariinae. One cannot discard the possibility that the segment fusion also occurs in other Manaosbiidae, without being noticed and/or reported by some authors.

*Saramacia aurilimbata* is known only by a female, and the diagnosis of *Saramaciopsis* (Soares, 1972) is identical to that of *Saramacia* (Roewer, 1923), unless by the sexual dimorphic characters. *Anticranaus* was placed in Cranainae (4 scutal areas), while *Saramacia* and *Saramaciopsis* were placed in Hernandariinae/Stygnoleptinae (2 scutal areas), although in all cases the grooves are obsolete. The problems of using number of areas as a major character have been widely discussed (e.g. KURY, 1990). Descriptions, figures and localities coincide well for the supposed species which occur in Brazil.

Different authors chose varied subfamilies for the genera here synonymized under *Saramacia*: MELLO-LEITÃO (1931, 1940, 1941) put his genera in Cranainae; ROEWER (1913) put his in Hernandariinae, while SOARES (1972) chose Stygnoleptinae and JIM & SOARES, (1991) Prostygninae. The only serious candidates would be Cranainae and Prostygninae, and the Roewerian approach could not be used to decide, since the faint scutal grooves may be viewed equally as 4 or 5. *Saramacia* shares many synapomorphies with the Manaosbiidae, which have the scutal grooves complete, so the effacement of the grooves is considered autapomorphic for the genus.

Key to the species of *Saramacia* (see also tables 3-4)

1. Abdominal scute with sinuous lateral yellow markings; tarsus I 7-jointed ................................................................. *S. aurilimbata* .......................... 2
   Abdominal scute without sinuous lateral yellow markings; tarsus I mostly 5- or 6-jointed (rarely 7-jointed) ................................................................. 2

2. Posterior margin of scute with white transverse band; tarsal spindle of leg I forming a single piece due to effacing of the suture; abdominal scute more than 4.8mm wide; femur II more than 7.0mm long ........................................... *S. lucasae* .......................... 3
   Posterior margin of scute without white transverse band, body color uniform; tarsal spindle of leg I made of two clearly distinct joints; abdominal scute less than 4.5mm wide; femur II less than 6.0mm long ........................................... *R. annulatus* .......................... 3

3. Trochanter III in both sexes armed with curved spiniform apophyses .............................................................................. *R. annulatus* .......................... new species
Saramacia alvarengai new species
(Figs.2-13)

Type material (Fig.37): BRAZIL - MT, Chapada dos Guimarães (15°20' S 55°44'W), ♀ holotype, 5 ♀ paratypes (MNRJ 05.328), 11.XI.1984, leg. W.Roth; 1 ♀ paratype (MNRJ 6.241), 03.II.1977, leg. W.Roth in Comitermes nest; MS, Nioaque (21°05'S 55°50'W), 2 ♀ paratypes (MNRJ 05.327); IX.1983, leg. L.Alvarenga & W.Zwink.

Etymology: Species name comes after Dr. Luiz Carlos Alvarenga (Malacology, MNRJ) who collected part of the type series and many other interesting laniatorids.

Description. Body and appendages uniform dark brown without white or yellow markings. Cheliceral bulla with 2 + 2 ectal denticles, 2 posterior ones and a small subdistal inner tooth. Frontal margin of carapace with 5 teeth (from inside IIIIi) (Fig.2). Trochanter I-III unarmed in both sexes (Fig.3). Tarsal spindle of male leg I formed by two well defined articles (Fig.4). Tarsal joints ♀ 6,6-6-6-6, ♀ 6-11/12-6-7 (Figs.4-11). Distal border of ventral plate of penis with parabolic cleft, marginal spines II basal and IIIII distal + II inner. Stylus straight, with folded apex (Figs.12-13).

Saramacia annulata (Mello-Leitão, 1931) new combination
(Figs.14-24)


Anticranaus annulipes Mello-Leitão, 1940:1, fig.1; SOARES, 1948:588 (Type MNRJ 58.583 ♀ holotype, lost) - NEW SYNONYM

Oranellius brasiliensis Mello-Leitão, 1941:441; SOARES, 1945:350 (Types MNRJ 00.473 and 05.079, 13 syntypes) - NEW SYNONYM

Meridia brasiliensis: SOARES, 1948:609

Saramaciosis harpachyloides Soares, 1972:69, figs.10-14 (Types HS 368 ♀ holotype 6 ♀ 1 juv. paratypes, not examined) - NEW SYNONYM

Type locality: BRAZIL, PA - Rhopalocranoides annulatus; Belém, Saramaciosis harpachyloides; “Pirituba” [Piratuba], Anticranaus annulipes; Aurá, Oranellius brasiliensis.

Distribution (Fig.37): BRAZIL, PA (Lower Amazonas basin): Belém (01°27'S 48°29'W); Igarapé Aurá, Belém (01°27'S - 48°25'W); Igarapé Piratuba, tributary of Rio Moju (02°20'0 49°03'W).

Type material examined: BRAZIL, PA - Aurá, 2 syntypes of Oranellius brasiliensis (MNRJ 00.473), leg. A. Leitão de Carvalho; 11 syntypes of Oranellius brasiliensis (MNRJ 05.079) without collecting labels, but presumably the same as the other syntypes; locality not specified, ♀ holotype of Rhopalocranoides annulatus (MNRJ 11.388) leg. E.May.


Description: Body and appendages uniform dark brown to black, without white or yellow markings. Tibiae ringed. Cheliceral bulla with 1 + 1 ectal denticles, 3 posterior ones and a small subdistal inner tooth. Frontal margin of carapace with
3-4 teeth (from inside ili or illi). Trochanter I-III armed with posterior proximal apophyses in both sexes, specially stout in leg III (Fig.14). Tarsal spindle of male leg I formed by two well defined articles (Fig.15). Tarsal joints $\delta$ 6-13-7-7, $\varphi$ 6-13-7-7 (Figs.15-22). Distal border of ventral plate of penis with parabolic cleft, marginal spines li basal and illi distal + II inner. Stylus straight, with folded apex (Figs.23-24).

*Saramacia lucasae* (Jim & Soares, 1991) new combination
(Figs 25-30)


Type locality: BRAZIL, PA, Tucuruí, Usina Hidrelétrica.

Distribution (Fig.37): Brazil - AM, Puruzinho, Rio Madeira (05°52'S 64°24'W); PA: Canindé, Rio Gurupi (02°33'S 46°30'W); Santarém (02°26'S 54°41'W); Tucuruí, Rio Tocantins (03°42'S 49°44'W).

Material examined. BRAZIL - AM, Puruzinho, Rio Madeira (MZUSP 11.876) 1 $\varphi$, 6.XII.1975, leg. Expedição Permanente da Amazônia (EPA); PA, Santarém, Faz. Taperinha (MZUSP 11.874) 1 $\delta$, 1 $\varphi$, 1-11.II.1968, leg. EPA; Canindé (AMNH), 1 $\varphi$, 7-15.IV.1963, leg. Boris Malkin.

Description: Body and appendages uniform dark brown to black, with yellowish white transverse band on posterior margin of scute. Cheliceral bulla with 7 (IllIII) ectal denticles, 3 posterior ones and no subdistal inner tooth. Frontal margin of carapace with 4 teeth (from inside illi). Trochanter I-III armed with small posterior proximal apophyses in both sexes (Fig.25). Tarsal spindle of male leg I formed by a single piece, but former subdivision evidenced by faint suture (Fig.26). Tarsal joints $\delta$ 5-12-7-7, $\varphi$ 6-12-7-7 (Figs.26-30). Distal border of ventral plate of penis with parabolic cleft, marginal spines li basal and illi distal + II inner. Stylus straight, with folded apex.

*Saramacia aurilimbata* Roewer, 1913

*Saramacia aurilimbata* Roewer, 1913: 466, fig 181; 1923: 584, fig 731; SOARES & SOARES, 1949: 222 (Type SMF RI $\varphi$ holotype, not examined).

Diagnosis: Abdominal scute black with sinuous bright golden yellow markings in corners of lateral margins; no white stripe on posterior margin; appendages pale yellow richly reticulated in black; femur IV ventro basal with a stout tubercle; tarsal counts 7-12-7-7. Males unknown.

Type locality: SURINAM, Saramacca.

Distribution (Fig 37): Known only from the type locality.

*Syncranaus* Roewer, 1913

*Syncranaus* Roewer, 1913:420; 1923:569; MELLO-LEITÃO, 1923:177; 1926:41; 1932:126; SOARES & SOARES, 1949:224 (Type species *S. cribrum* Roewer, 1913, by monotypy)

Belemicola Roewer, 1932:327 (Type species *B. circulata* Roewer, 1932, by monotypy); MELLO-LEITÃO, 1935:96 - NEW SYNONYMY

Neocranaus Roewer, 1913 (part): SOARES & SOARES, 1948:609
Diagnosis: Manaosbiidae with scutal grooves apparent; coxa to patella IV of male armed with pointed tubercles, trochanter IV of male with distal inner spine, tarsal joints of legs I-IV 6-14-7-7; tarsal claws III-IV weakly pectinate; color background light brown with white rings around granules; Ventral plate of penis rectangular elongate with distal margin entire; stylus with tapering apex, bearing ventro-lateral spines.

Included species: Only Syncranaus cribrum.

*Syncranaus cribrum* Roewer, 1913

(Figs.31-36)

*Syncranaus cribrum* Roewer, 1913:421, fig.7; 1923:569, fig.713; MELLO-LEITÃO, 1923:177, 1932:126, fig.66; SOARES & SOARES, 1949:224 (Types MNHN and SMF R1♂ and ♀ syntypes)

*Belemicola circulata* Roewer, 1932:328, fig.44; MELLO-LEITÃO, 1935:97 (Types SMF 1445/56 1♂ 2♀ syntypes) - NEW SYNONYMY

*Neocranaus circulata*: SOARES & SOARES, 1948:610

Type locality. BRAZIL, PA - Cametá, Rio Tocantins, *Syncranaus cribrum*; Belém, *Belemicola circulata*.

Distribution (new records with asterisk). BRAZIL, PA (Lower Amazon basin) - Aldeia Araçu (*) (02°33'S 46°24'W); Belém (01°27'S 48°29'W); Cametá (02°12'S 49°30'W); Canindé (*), Rio Gurupi (02°33'S 46°30'W); Canoal (*), 35km S Tucuruí (03°59'S 49°42'W); Tucuruí (*), Rio Tocantins (03°42'S 49°44'W). See map in figure 37.


Description of male genitalia (Figs.35-36): Truncus long and slender; ventral plate defined as a much elongate rectangle, with distal border entire, slightly concave, lateral borders armed with 4 (two inner smaller; two outer larger) straight + 3 recurved setae. Glans without dorsal or ventral processes. Stylus straight, elongate, with apex papillate and narrowed; armed with about 15 ventro-distal setae.

Remarks: In the specimens of *Syncranaus cribrum* examined the tarsal claws are only weakly pectinate (Figs.33-34). It would be, nevertheless, a meaningful difference to distinguish this species from *Belemicola circulata*, but even so, I
propose here their identity because the impressing coincidence of all details of the descriptions. The possible explanations are: 1) Roewer overlooked the faintly pectinate claws of \textit{B. circulata} as he did other times; 2) there is indeed some individual variation, not present in my relatively small sample.

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**RESUMO**

OS GÊNEROS \textit{SARAMACIA} E \textit{SYNCRANAUS} ROEWER, COM NOTAS SOBRE O STATUS DOS MANÁOSBIIDAE (OPILIONES, LANIATORES, GONYLEPTOIDEA)

Roewer, 1932 is considered a junior subjective synonym of Syncranaus cribrum Roewer, 1913, consequently, Belemicola Roewer, 1932 is considered a junior synonym of Syncranaus.

Palavras-chave: Gonyleptidae, Cranaidae, Stygnoleptinae, Amazônia, aracnofauna neotropical.

ABSTRACT


Key words: Gonyleptidae, Cranaidae, Stygnoleptinae, Amazonia, Neotropical arachnofauna.

LITERATURE CITED


<table>
<thead>
<tr>
<th>Char(s)</th>
<th>Manaosbiidae</th>
<th>Cranaidae</th>
<th>Gonyleptidae</th>
</tr>
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<tbody>
<tr>
<td>Eye mound</td>
<td>Narrow, low, with a pair of weak tubercles.</td>
<td>Often very large and high, unarmed or armed with powerful spines.</td>
<td>Narrow, low, with a pair of tubercles, spines or median spine or hook or entirely unarmed.</td>
</tr>
<tr>
<td>Mesotergal armature</td>
<td>Area I with pair of small spines, area III with pair of larger spines.</td>
<td>Mesotergum unarmed, or like in Manaosbiidae. In a few species with geminate spines in area III.</td>
<td>Unarmed, or with main armature in area III or IV.</td>
</tr>
<tr>
<td>Scutal outline</td>
<td>Abdominal scute with sides convex, little wider than cephalothorax. Posterior border substraight.</td>
<td>Abdominal scute with sides convex, little wider than cephalothorax. Posterior border substraight.</td>
<td>Usually abdominal scute much wider than cephalothorax, with posterior border concave.</td>
</tr>
<tr>
<td>Free tergites</td>
<td>II-III often with a pair of small spines.</td>
<td>Generally unarmed, but paired spines appear occasionally.</td>
<td>With highly variable armature, not like Manaosbiidae. Sometimes immensely stout cones.</td>
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<tr>
<td>Chelicerae</td>
<td>Weakly developed in both sexes, with <em>bulla</em> variably armed.</td>
<td>Often immensely swollen in male, and with <em>bulla</em> armed with tubercles and teeth.</td>
<td>Weakly developed in both sexes, with <em>bulla</em> variably armed.</td>
</tr>
<tr>
<td>Pedipalpus</td>
<td>Cylindrical, with weak armature in femur.</td>
<td>Usually powerful, sexually dimorphic. Femur may be keeled and bear rows of spines, including a stout dorso apical one.</td>
<td>Cylindrical, with weak armature in femur.</td>
</tr>
<tr>
<td>Basitarsus I</td>
<td>With basal two joints spindle-like swollen, sometimes fused in a single piece.</td>
<td>All joints uniformly more or less conspicuously thicker and/or longer than those of distitarsus.</td>
<td>All joints uniformly more or less conspicuously thicker and/or longer than those of distitarsus.</td>
</tr>
<tr>
<td>Femur IV</td>
<td>Unarmed, straight or a little crooked.</td>
<td>Mostly sinuous and weakly armed. May bear more or less large spines, usually not forming rows.</td>
<td>Highly derived, strongly curved or straight, highly elongate, may bear many strong rows of spines.</td>
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<tr>
<td>Ventral plate of penis</td>
<td>Very long, straight continuing truncus, rectangular, sometimes with border concave.</td>
<td>Short, more or less quadrate, oblique in relation to truncus, may be concave.</td>
<td>Mostly pyriform, continuing truncus axis, border straight, but may be concave in some.</td>
</tr>
<tr>
<td>Glans penis</td>
<td>Long, with apex bent, without dorsal or ventral processes. Stylus may be spined.</td>
<td>Short with apex swollen and dorsal process in Prostyrinae, long, with winglets in apex in the others. Ventral process always absent.</td>
<td>May be short, with swollen apex or moderately long. Ventral and dorsal processes may be present. Stylus may be spined.</td>
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<tr>
<td>Genus</td>
<td>Distribution</td>
<td>Former subfamilial assignment</td>
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<tr>
<td>Azulamus Roewer, 1957</td>
<td>Peru</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Barrona Goodnight &amp; Goodnight, 1942</td>
<td>Panama</td>
<td>Prostygninae</td>
<td></td>
</tr>
<tr>
<td>Belemnodes Strand, 1942</td>
<td>Brazil, Lower Amazonas</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Belemulus Roewer, 1932</td>
<td>Brazil, Lower Amazonas</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Bugabitia Roewer, 1915</td>
<td>Colombia</td>
<td>Mitobatinae</td>
<td></td>
</tr>
<tr>
<td>Camelianus Roewer, 1912</td>
<td>Colombia</td>
<td>Prostygninae</td>
<td></td>
</tr>
<tr>
<td>Clavicranaus Roewer, 1915</td>
<td>Surinam</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Cranellus Roewer, 1932</td>
<td>Windward Is., Trinidad</td>
<td>Cranainae</td>
<td></td>
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<tr>
<td>Cucutacola Mello-Leitão, 1940</td>
<td>Colombia</td>
<td>Cranainae</td>
<td></td>
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<tr>
<td>Gonogotus Roewer, 1943</td>
<td>Colombia</td>
<td>Prostygninae</td>
<td></td>
</tr>
<tr>
<td>Manaosbia Roewer, 1943</td>
<td>Brazil, Middle Amazonas</td>
<td>Manaosbiinae</td>
<td></td>
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<tr>
<td>Mazarunius Roewer, 1943</td>
<td>Guyana</td>
<td>Cranainae</td>
<td></td>
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<tr>
<td>Meridia Roewer, 1913</td>
<td>Venezuela</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Paramicrocranaus Soares, 1970</td>
<td>Brazil, Upper Amazonas</td>
<td>Cranainae</td>
<td></td>
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<tr>
<td>Pentacranaus Roewer, 1963</td>
<td>Peru</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Poecilocranaus Roewer, 1943</td>
<td>Venezuela</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Rhopalocranaus Roewer, 1913</td>
<td>Brazil, Colombia, Trinidad, Venezuela</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Rhopalocranellus Roewer, 1925</td>
<td>Ecuador</td>
<td>Cranainae</td>
<td></td>
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<tr>
<td>Sanvicentia Roewer, 1943</td>
<td>Windward Is.</td>
<td>Prostygninae</td>
<td></td>
</tr>
<tr>
<td>Saramacia Roewer, 1913</td>
<td>Surinam, Brazil</td>
<td>Stygnoleptinae</td>
<td></td>
</tr>
<tr>
<td>Semostrus Roewer, 1943</td>
<td>Colombia</td>
<td>Cranainae</td>
<td></td>
</tr>
<tr>
<td>Syncranaus Roewer, 1913</td>
<td>Brazil, Lower Amazonas</td>
<td>Heterocranainae</td>
<td></td>
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</tbody>
</table>
TABLE 3
MEASUREMENTS (mm) OF DORSAL SCUTE AS AN AID TO IDENTIFY SPECIES OF SARAMACIA.

<table>
<thead>
<tr>
<th>Species</th>
<th>Carapace width</th>
<th>Carapace length</th>
<th>Abdominal scute width</th>
<th>Abdominal scute length</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. alvarengai (n=10)</td>
<td>2.6-3.0 (2.8±0.1)</td>
<td>1.8-2.1 (1.9±0.1)</td>
<td>3.6-4.0 (3.8±0.2)</td>
<td>2.1-2.5 (2.4±0.1)</td>
</tr>
<tr>
<td>S. annulata (n=14)</td>
<td>2.9-3.4 (3.0±0.2)</td>
<td>1.8-2.4 (2.1±0.2)</td>
<td>3.8-4.4 (3.1±0.2)</td>
<td>2.2-3.0 (2.6±0.2)</td>
</tr>
<tr>
<td>S. lucasae (n=5)</td>
<td>3.5-4.1 (3.9±0.3)</td>
<td>2.1-2.6 (2.3±0.2)</td>
<td>4.9-5.4 (5.0±0.3)</td>
<td>3.1-3.8 (3.4±0.3)</td>
</tr>
</tbody>
</table>

Min-max (mean ± standard deviation)

TABLE 4
MEASUREMENTS (mm) OF FEMORA I-IV AS AN AID TO IDENTIFY SPECIES OF SARAMACIA.

<table>
<thead>
<tr>
<th>Species</th>
<th>Fe I ♂</th>
<th>Fe II ♂</th>
<th>Fe III ♂</th>
<th>Fe IV ♂</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. alvarengai (n=20)</td>
<td>1.6-2.2 (1.9±0.2)</td>
<td>2.3-4.0 (3.6±0.5)</td>
<td>2.4-3.3 (2.9±0.2)</td>
<td>3.3-4.1 (3.7±0.3)</td>
</tr>
<tr>
<td>S. annulata (n=28)</td>
<td>2.2-2.8 (2.5±0.1)</td>
<td>4.6-5.9 (5.1±0.3)</td>
<td>3.4-4.6 (3.9±0.3)</td>
<td>4.3-6.2 (5.3±0.5)</td>
</tr>
<tr>
<td>S. lucasae (n=9)</td>
<td>2.8-4.1 (3.4±0.5)</td>
<td>7.2-14.4 (10.5±3.5)</td>
<td>4.5-12.4 (6.8±3.2)</td>
<td>6.0-14.0 (8.2±3.3)</td>
</tr>
</tbody>
</table>

Min-max (mean ± standard deviation)

TABLE 5
CHARACTERS USED IN THE ROEWERIAN SYSTEM TO DISTINGUISH THE 8 CANONICAL GENERA TO WHICH THE SPECIES OF SARAMACIA HAVE BEEN REFERRED

<table>
<thead>
<tr>
<th>GENUS/CHARACTER</th>
<th>(1) Number of scutal areas</th>
<th>(2) Joints of tarsus I</th>
<th>(3) Pedipalpal Femur</th>
<th>(4) Free tergite III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saramacia</td>
<td>2</td>
<td>7</td>
<td>-</td>
<td>vv</td>
</tr>
<tr>
<td>Saramaciopsis</td>
<td>2</td>
<td>6</td>
<td>-</td>
<td>vv</td>
</tr>
<tr>
<td>Anticranaus</td>
<td>4</td>
<td>6</td>
<td>vv</td>
<td>vv</td>
</tr>
<tr>
<td>Rhopalocranoides</td>
<td>4</td>
<td>6</td>
<td>-</td>
<td>vv</td>
</tr>
<tr>
<td>Oranellius</td>
<td>4</td>
<td>6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Meridia</td>
<td>4</td>
<td>6/7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cranaus</td>
<td>4</td>
<td>5/6</td>
<td>-</td>
<td>oo/vv</td>
</tr>
<tr>
<td>Sylvialeptes</td>
<td>5</td>
<td>5</td>
<td>vv</td>
<td>vv</td>
</tr>
</tbody>
</table>

vv=pair of spines, oo=pair of tubercles.
Saramacia annulata (Mello-Leitão): fig. 1- body outline showing diagnostic features of the external morphology of Manaosbiidae. a = spindle-like swollen basitarsomeress 1-2; b = pedipalps short, weak; c = chelicerae weak; d = eye mound domed, with pair of pointed tubercles; e = scutal areas I and III armed with pair of tubercles; f = outline of scute plus free tergites ovoid; g = free tergites armed with transverse rows of pointed tubercles and distinct paramedian pair; h = coxa IV barely visible under scute, dorsally with sharp spines, and spiniform apical apophysis.
Saramacia alvarengai new species (holotype, MNRJ 5.328): fig. 2- habitus lateral view. Scale bar: 1mm.
Saramacia alvarengai new species (holotype, MNRJ 5.328): fig.3- ♂ trochanter III, dorsal view; fig.4- ♂ tarsus I; fig.5- ♂ tarsus II; fig.6- ♂ tarsus III; fig.7- ♂ tarsus IV; fig.8- ♀ tarsus I; fig.9 ♀ tarsus II; fig.10 ♀ tarsus III; fig.11 ♀ tarsus IV; distal part of penis; fig.12 dorsal view; fig.13- lateral view. Scale bars: 1mm, figs.3-11; 0.1mm, figs.12-13.
Saramacia annulata (Mello-Leitão) (MNRJ 6.084)

- Fig. 14 - ♂ trochanter III, dorsal view
- Fig. 15 - ♂ tarsus I
- Fig. 16 - ♂ tarsus II
- Fig. 17 - ♂ tarsus III
- Fig. 18 - ♂ tarsus IV
- Fig. 19 - ♀ tarsus I
- Fig. 20 - ♀ tarsus II
- Fig. 21 - ♀ tarsus III
- Fig. 22 - ♀ tarsus IV
- Distal part of penis
- Fig. 23 - Dorsal view
- Fig. 24 - Lateral view

Scale bars: 1 mm, figs. 14-22; 0.1 mm, figs. 23-24.
Saramacia lucasae (Jim & Soares) (MZUSP 11.874): fig.25- ♂ trochanter III, dorsal view; fig.26- ♂ tarsus I; fig.27- ♂ tarsus III; fig.28- ♂ tarsus IV; fig.29- ♀ tarsus I; fig.30- ♀ tarsus IV. Scale bars: 1mm.
Syrsganaus cribrum Roewer (AMNH): fig.31-♂ tarsus I; fig.32♀ tarsus I; fig.33-♂ tarsus IV; fig.34-♀ tarsus IV. ♂ (MNRJ) distal part of penis: fig.35- dorsal view; fig.36- Same, detail of apex of stylus, dorsal view. Scale bars: 1mm, figs.31-34; 0.1mm, fig.35; 0.01mm, fig.36.
Fig. 37 - Central and northern Brazil showing distribution of Syncranus cribrum Roewer (☉), Saramacia aurilimbata Roewer (★), Saramacia annulata Mello-Leitão (☉), Saramacia lucasae Jim & Soares (■) and Saramacia alvarengai sp.n. (☉).