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REVISION OF *Pherhimius* FLEUTIAUX, 1942 WITH ESTABLISHMENT OF THE *SALTAMARTINUS*, NEW GENUS (COLEOPTERA, ELATERIDAE, PYROPHORINAE, HEMIRHIPINI)

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ABSTRACT

The revision of Pherhimius Fleutiaux, 1942, originally with six species, revealed that only P. dejeani (Candèze, 1857) and P. fascicularis (Fabricius, 1787) belong to this genus; P. decorus (Candèze, 1857), P. perroudi (Candèze, 1874), P. scriptus (Candèze, 1900) and P. viduus (Chevrolat, 1867) were transferred to Saltamartinus, new genus (type-species Hemirhipus decorus Candèze, 1857). The illustrations and characters discussion of all species except P. viduus (not seen), is presented.

Keywords: Coleoptera, Elateridae, Hemirhipini, *Pherhimius*, Pyrophorinae, revision, *Saltamartinus*.

INTRODUCTION

Fleutiaux (1942) segregated six species of *Hemirhipus* Latreille, 1829 and established *Pherhimius*, based mainly on the scutellum shape and coloration. According to him, "Les espèces actuellement incorporées dans le genre *Hemirhipus* présentent certaines différences justifiant des coupes". After his, no specific revision was presented. Golbach (1976) keyed the six species and Casari-Chen (1985, 1994) reviewed the Hemirhipini genera and proposed

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Catelanus Fleutiaux, 1942 as the sister-group of *Pherhimius* based on the study of type-species.

Now, six species originally included in *Pherhimius* Fleutiaux, 1942 were studied and it was concluded that only *P. dejeani* (Candèze, 1857) and *P. fascicularis* (Fabricius, 1787) belong to this genus. Based mainly on the coloration and the presence of tibial spurs, *P. decorus* (Candèze, 1857), *P. perroudi* (Candèze, 1874), *P. scriptus* (Candèze, 1900) and *P. viduus* (Chevrolat, 1867) were transferred to *Saltamartinus*, new genus.

The material of *Saltamartinus* is very rare in collections; the majority of species are known only by holotype. I could not examine the material of *S. viduus* (Chevrolat, 1867), *n. comb.* According to Fleutiaux (1942), the holotype of this species belongs to Gundlach collection, deposited at the Havana Museum. I wrote to some Institutions at Havana asking about this material and was told that *S. viduus* is deposited at "Instituto de Ecologia y Sistemática" but this institution does not send type material by mail.

The list of material examined includes the number of males and females studied, the locality and date (when present in the label) that each specimen was collected; the collector name was suppressed.

The material studied belong to the following institutions (curator parenthesized): CMNH- The Carnegie Museum of Natural History (R. L. Davidson); IBSP- "Instituto Biológico de São Paulo, São Paulo, Brasil" (E. C. Bergmann); ISNB- "Institut Royal des Sciences Naturelles de Belgique", Bruxelles, Belgium (P. Grootaert/J. Cools); MNHN- "Muséum National d'Histoire Naturelle", Paris, France (C. Girard); MNRJ- "Museu Nacional, Rio de Janeiro, Brasil" (M. A. Monné); MZSP- "Museu de Zoologia, São Paulo"; ZSMC- "Zoologische Staatssammlung", München, Germany (M. Baehr).

***Pherhimius* Fleutiaux, 1942**

Hemirhipus (pars) Latreille, 1829:402.

Pherhimius Fleutiaux, 1942: 112, 114-116; Golbach, 1976: 26, 27; Casari-Chen, 1985: 393, 405; Golbach, 1994: 26.

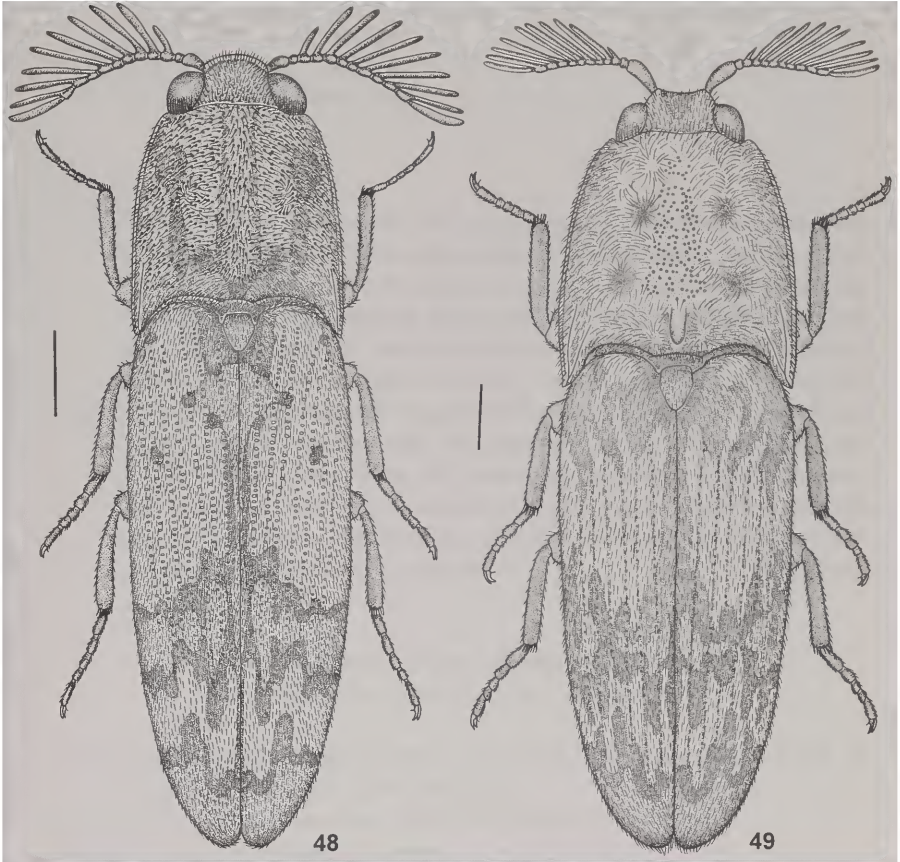
Type-species: *Elater fascicularis* Fabricius, 1787, designated by Fleutiaux, 1942.

Diagnosis

Pronotum reddish-brown or brown with two or four rounded impressions; elytra yellow with transverse irregular sinuous brown and reddish-brown

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Nota: Por problemas de impressão as figuras 48-49 não apresentam resolução suficiente, por esta razão estão sendo substituídas pelas figuras abaixo.



Figs. 48-49. Habitus. *Pherhimius*: 48, *P. dejeani*; 49, *P. fascicularis* (scale = 2 mm).

bands giving a marbled appearance; tibial spurs absent; parameres enlarged and rounded laterally near base.

Checklist of *Pherhimius* species:

1. *P. dejeani* (Candèze, 1857)
2. *P. fascicularis* (Fabricius, 1787)

Key to *Pherhimius* species:

1. Pronotum reddish-brown with three longitudinal dark-brown bands, two rounded basal impressions and carina of hind angles simple; 3rd antennal segment with spiniform appendix only in male; frons prominent anteriorly; metasternal median suture not grooved; last visible urosternite not marginate laterally; anterior bursa copulatrix with two sclerotized pieces; spermathecae fusiform (Brazil)*P. dejeani*
- Pronotum without longitudinal bands, with four rounded impressions and hind angles with bifurcate carina; 3rd antennal segment with spiniform appendix in both sexes; frons not prominent anteriorly; metasternal median suture grooved with an anterior elliptical pit; last visible urosternite marginate laterally; anterior bursa copulatrix without sclerotizations; spermathecae elongate (U.S.A to Argentina)*P. fascicularis*

***Pherhimius dejeani* (Candèze, 1857)**

(Figs. 2, 3, 6, 7, 8-11, 16, 17, 20, 21, 24-28, 48)

Hemirhipus dejeani Candèze, 1857: 253; 1874: 154; Schenkling, 1925: 52 (Cat.); Blackwelder, 1944: 282 (Cat.).

Pherhimius dejeani; Fleutiaux, 1942: 115; Golbach, 1976: 26.

Biology: Casari & Bellusci, in press.

Length: 12-22 mm. Frons reddish-brown with anterior margin and median basal spot black; pronotum reddish-brown with three longitudinal dark-brown bands (only median band reaching margins). Elytra yellow; dark-brown in scutellar area (including scutellum), narrow longitudinal sutural band on median third, three transverse sinuous bands on distal half and four small rounded spots each anterior third; reddish-brown in small anterior transverse band, behind scutellar area, between two first sinuous dark-brown band, and apex (Fig. 48). Ventral region reddish- or dark-brown; femora brighter. Pubescence simple, thin, yellowish-white, moderately dense, shorter and denser ventrally.

Frons (Fig. 2) very declivous, anterior half almost perpendicular prothorax; anterior margin rounded and prominent making nasal plate (Fig. 3) very concave; punctation moderately coarse and heterogeneous. Third antennal segment of female elongate and triangular.

Pronotum with two round concavities near base; hind angles backwardly directed with a median carina; punctation umbilicate and heterogeneous coarser laterally. Prosternum convex, densely punctate; punctation denser near sutures. Prosternal lobe rounded, prominent at middle, emarginate laterally; punctation smaller than prosternum, sparser basally. Prosternal sutures curve near apex. Hypomera punctate only anteriorly and near prosternal sutures (Fig. 6). Mesosternal cavity with horizontal borders. Metasternum with coarse and heterogeneous punctation, smaller distad. Hind wing (Fig. 7) with bright veins, without microsetae; distal upilon broken in two parts; median arm absent. Elytra punctate-striate with apices round; striae marked by coarse punctures; interstices sparsely punctate, slightly convex near apex. Last visible urosternite with round apex in both sexes.

Male genitalia. Urotergite VIII (Fig. 8) covered by short setae with anterior margin round. Urosternite VIII (Fig. 11) transverse, partially membranous, narrowed apicad; anterior margin forming two very developed setous lobes; three darker areas: one transverse basal and two laterodistal. Urotergite IX (Fig. 9) transverse, narrowed apicad, setous laterodistally, anterior margin slightly sinuous; urotergite X reduced, joined to IX. Urosternite IX (Fig. 10) elongate, partially membranous, setous medially and distally. Aedeagus (Figs. 16, 17) widened near base. Parameres with lateral margins sinuous, rounded at basal half; fused in 0.25 times its length. Median lobe widened near base, 0.80 times the parameres length; ventral sclerite wide and located at middle.

Female genitalia. Urotergite VIII (Fig. 20) slightly longer than wide, membranous near base, densely setous; marginal setae longer. Urosternite VIII (Fig. 21) partially membranous; anterior margin very prominent forming a well developed lobe; basal sclerotized prolongation gradually divergent, beginning on distal third finishing very wide at base. Ovipositor (Figs. 24, 25) with moderately long setae. Anterior bursa copulatrix (Fig. 26) with two sclerotized pieces (Fig. 27, 28); posterior bursa copulatrix spiny; spermatheca fusiform.

Material examined (6 males, 1 female). Brazil. *Rio de Janeiro*: Corcovado, XII.1957, 08.XII.1975; Parque Nacional de Itatiaia, 800 m, 5-25.XI.1974. *São Paulo*: Guapiara, Faz. Intervalles (Monte Rosa) 12-13.XI.1992; Peruibe, Barra do Una, 17.XII.1980. Specimens from MZSP.

Remarks

It is similar to *P. fascicularis* in color, differing especially by presence of: three longitudinal brown bands and two rounded impressions on pronotum; frons prominent and nasal concave; hypomera partially punctate; metasternal median suture not grooved; anterior bursa copulatrix with two sclerotized pieces.

***Pherhimius fascicularis* (Fabricius, 1787)**

(Figs. 1, 4, 5, 12-15, 18, 19, 22, 23, 29-31, 49)

Elater fascicularis Fabricius, 1787: 171; 1792: 216; 1801: 222; Olivier, 1790: 8; Herbst, 1806: 104.

Hemirhipus fascicularis; Latreille, 1829: 402; Germar, 1840: 272; LeConte, 1853: 485; Candèze, 1857: 252; Blatchley, 1910: 718; Schenkling, 1925: 52 (Cat.); Blackwelder, 1944: 282 (Cat.).

Hemirhipus venosus Castelnau, 1836: 13.

Pherhimius fascicularis; Fleutiaux, 1942: 11; Golbach, 1976: 26; Casari-Chen, 1985: 407.

Redescription

Length: 14-25mm. Brown except elytra; pronotum darker medially, sometimes reddish-brown laterally; elytra yellow with brown and reddish-brown transverse irregular sinuous bands giving marbled appearance. Pubescence simple, thick, yellowish-white, dense and bristly, longer and thinner ventrally; pubescence of pronotum arranged in small circles (Fig. 49).

Frons (Fig. 5) narrow, declivous, trapezoidal opposite eyes; circular concavity at middle; punctation moderately coarse, dense and heterogeneous. Nasal (Fig. 4) small-punctate. Third antennal segment transverse with spiniform appendix in both sexes.

Pronotum: hind angles backwardly directed with bifurcate carina, external arm longer; four rounded concavities near middle; median basal tubercle elongate, carina-like; punctation heterogeneous, denser laterally. Prosternum convex, punctation sparse, coarser near sutures, smaller near prosternal lobe. Prosternal lobe rounded, marginate laterally; punctation sparse, smaller than prosternum. Prosternal sutures slightly curved near apex. Hypomera marginate anteriorly, with punctation moderately coarse, sparse, coarser and denser anteriorly. Mesosternal cavity with horizontal borders. Metasternum with punctation coarse and heterogeneous, smaller distad. Metasternal median suture (Fig. 1) grooved with anterior elliptical pit. Hind wing with bright veins, without microsetae; distal epsilon broken in two parts;

median arm absent. Elytra punctate-striate with apices round; striae marked by coarse punctures; interstices slightly convex and small punctate; 3rd interstice raised near base and joined to 5th; 3rd, 5th and 7th interstices wider. Last visible urosternite marginate laterally with apex slightly round in both sexes.

Male genitalia. Urotergite VIII (Fig. 12) transverse, covered by short setae, narrowed distad with lateral and anterior margins round; small median basal area membranous. Urosternite VIII (Fig. 15) transverse, partially setous; U-like darker area entire; median anterior region narrow, prominent and slightly bilobate. Urosternite IX (Fig. 13) elongate, partially membranous, short setae on laterodistal half and apex. Urotergite IX (Fig. 14) transverse; distal margin forming two well developed lobes; setous laterally; small membranous area median distal; urotergite X small, joined to apex of urotergite IX. Aedeagus (Figs. 18, 19): parameres narrowed distad fused in 0.26 times its length. Median lobe narrowed near base, 0.76 times the parameres length; ventral sclerite narrow and short, located near apex.

Female genitalia. Urotergite VIII (Fig. 23) almost as wide as long, with basal area membranous; anterior margin prominent at middle forming a lobe; marginate by setae of several sizes, punctate medially. Urosternite VIII (Fig. 22) with distal margin prominent at middle, forming a lobe; setae disposed near anterior and lateral margins; basal sclerotized prolongation slightly divergent and forwardly directed near base. Apex of ovipositor (Figs. 29-31) densely setous; anterior bursa copulatrix without sclerotized pieces; posterior bursa copulatrix spiny internally; spermatheca elongate (Fig. 31).

Material examined (68 males, 47 females). U. S. A. *Pennsylvania*. *Missouri*: Wayne Co., Williamsville, 07.VII.1955. *Tennessee*: 2 mi NW Bolivar, VI.1969; Loretto, 29.VI.1955. *Texas*: Blanco Co., Pedernales Fall State Park, 09.V.1985, 15.V.1985, 24.V.1985; Gonzales Co., Palmetto State Park, 14.V.1985. *Mexico*. *Yucatán*: X-Can, IV.1964, VII.1972. *Dominican Republic*. Azua, East side of Crest, Sierra Martin Garcia, 7 Km WNW Barrero, 860 m, 25-26.VII.1992; Independencia, 4 Km S Los Pinos, Loma de Vientos, 445 m, 23.VII.1992; La Altagracia, 2 Km N Bayahibe, 10 m, 03.VII.1992. *Belize*. *Cayo*: Camp Sibun, 03.V.1963. *Panama*. *Canal Zone*: Barro Colorado Isl., 05.III.1964. *French Guiana*. *Cayenne*: Montagne de Kaw [piègeage lumineux], 20.XI.1982; Route de l'Est, 27.IX.1987. *Brazil*. *Amazonas*: Manaus, 02.IX.1959. *Pará*: Mamanguape, VII.1967; Óbidos, XI.1954; Oriximiná, IX.1960, X.1960; Salobre, Inst. Oswaldo Cruz, zona da N. O. B.; Santarém. *Rio Grande do Norte*: Parnamirim, 30.VII.1949; Natal, III.1954. *Ceará*: Carquejo, III.1963, IV.1963, IV.1966; Maranguape, 29.VII.1962. *Paraíba*:

Corema, VI.1957; João Pessoa, 14.V.1953. *Bahia*: Serra Grande. *Mato Grosso*: Rio Taquara, XI.1949; Utiariti, Rio Papagaio, 22-31.X.1966. *Minas Gerais*: Águas Vermelhas, XI.1977; Pedra Azul, XII.1977. *Rio de Janeiro*: Rio de Janeiro, Corcovado, 23.III.1956, III.1957, I.1977; Floresta da Tijuca, I.1958; Itaguaí, Km 47, III.1963; Serra dos Órgãos, XI.1940. *Sergipe*: Aracaju. *Espírito Santo*: Araguaia, T. Ruina, X.1951; Linhares, XII.1969, I.1972, XI.1972; Cupido, Parque Sooretama II-III.1948. *São Paulo*: Botucatu, 02.II.1972, 18.XI.1973, I.1974; Franca; Ibitinga (Seringueira); Presidente Epitácio, Rio Paraná, Porto Albano. *Santa Catarina*: Blumenau, III.1957; Corupá, XII.1950; Joinville, Bruckner; Seara (Nova Teutônia), XII.1969; Rodeio (Rio Benedito), III.1956. *Paraguay*. *Caaguazu*. *Uruguay*. *Artigas*: Tres Cruces Grande (Timbauba), 10-16.II.1967. *Paysandu*: Arroyo Guaviyú, Paso Ribas, 19.I.1955. *Argentina*. *Entre Rios*: 18.II.1950. Specimens from IBSP, ISNB, MNRJ, MZSP, ZSMC.

Remarks

Based on the large series of material examined it was possible to observe some intraspecific variations. The majority of the specimens present the frons and pronotum brown but, in some, the frons and the lateral margins of pronotum are reddish-brown; in one specimen from Paraíba the frons and pronotum are totally reddish-brown. The internal arm of carina of hind angles of pronotum varies in length, sometimes is very short or even absent.

Compared with *P. dejeani*, *P. fascicularis* presents pronotum unicolor with four rounded impressions, longer and denser pubescence, wider body (especially the pronotum), coarser general pubescence, 3rd antennal segment transverse with spiniform appendix in both sexes, being that of male shorter than the female. The frons is declivous in *P. fascicularis* and more strongly declivous, almost vertical and prominent anteriorly in *P. dejeani*, and consequently, the nasal is concave in the latter which does not present median basal tubercle and the carina of hind angles of pronotum is simple (bifurcate in the former); metasternal median suture grooved totally, forming an anterior pit in *P. fascicularis*. Comparing the genital segments and genitalia of both species, the urosternite VIII of male presents a continuous darker U-like spot in *P. fascicularis* and divided in three parts in *P. dejeani*, the anterior margin forming two more developed lobes in the latter; the anterior margin of urotergite IX of male forms two more developed lobes in *P. fascicularis*; *P. dejeani* presents the anterior margin of urosternite VIII of female more prominent at middle, spermatheca fusiform and anterior bursa copulatrix with sclerotized pieces; in *P. fascicularis* the last visible urosternite is marginate laterally and the apex of ovipositor densely setous.

Geographical distribution

P. dejeani is restrict to Brazil (SP, RJ); *P. fascicularis* presents a wider distribution with records (including the literature) from southeast of United States (KS, MO, TN, OK, AR, TX, PA, MD, GA, FL), Mexico, Dominican Republic, Cuba, Belize, Panama, Guyana, French Guiana, Brazil (AM, PA, RN, CE, PB, BA, MT, MG, SE, ES, SP, SC), Uruguay, Paraguay and Argentina.

Saltamartinus, gen. n.

Type-species: *Hemirhipus decorus* Candèze, 1857, present designation.

Diagnosis

General integument dark-brown; pronotum with two rounded impressions; elytra with yellow spots; tibial spurs present.

Etymology. The genus name is derived from "saltamartim", the Brazilian popular name for click beetles.

Checklist of *Saltamartinus* species:

1. *S. decorus* (Candèze, 1857)
2. *S. perroudi* (Candèze, 1874)
3. *S. scriptus* (Candèze, 1900)
4. *S. viduus* (Chevrolat, 1867)

Key to *Saltamartinus* species:

1. Dorsal pubescence white; pronotum with three black spots (Golbach, 1976).
(Cuba) *S. viduus*
- Dorsal pubescence yellowish or greyish; pronotum without black spots.....2
- 2(1). Two anterior fifths of each elytron yellow (except pars of 1st, 2nd and 4th interstices); frons without basal ridge, fore angles very prominent; metasternal median suture grooved at anterior half (Brazil).....
..... *S. perroudi*
- Each elytron with an anterior elliptical yellow spot; frons with one small elongate basal ridge, fore angles not prominent; metasternal median suture different from above 3
- 3(2). Metasternal median suture grooved totally with anterior elliptical pit; yellow posterior spot of elytron formed by two rectangles; frons not promi-

nent with basal ridge punctate (Mexico, Nicaragua) *S. decorus*
 Metasternal median suture grooved at basal half; yellow posterior spot of elytron
 in zig-zag; basal ridge of frons smooth; frons prominent anteriorly at
 middle forming a small median tubercle-like prominence (Surinam).....
 *S. scriptus*

***Saltamartinus decorus* (Candèze, 1857), comb. n.**

(Figs. 37, 38, 41, 50)

Hemirhipus decorus Candèze, 1857: 254; 1874: 155; Champion, 1894: 272;
 Schenkling, 1925: 52 (Cat.); Blackwelder, 1944: 282 (Cat.).
Pherhimius decorus; Fleutiaux, 1942: 115; Golbach, 1976: 27.

The original description is based on one female from Mexico. Champion (1894) illustrated a male from Nicaragua.

Length: 28 mm. Integument dark-brown; pronotum with a longitudinal reddish-brown band starting innerly on hind angles, running parallel each lateral margin reaching anterior margin; each elytron with two yellow spots: one larger elliptical running longitudinally on anterior basal half of 3rd and 5th interstices, small yellow spot on 2nd and 6th interstices fused laterally near middle of ellipse length; distal spot in zig-zag from 3rd to 9th interstices (Fig. 50). Pubescence simple, long and dense, yellowish dorsally and whitish-yellow ventrally, sparse on prosternum and hypomera.

Frons (Fig. 37) wide, trapezoidal opposite eyes, slightly concave anteriorly; small elongate median basal punctate tubercle; punctation moderately coarse, dense and heterogeneous. Nasal (Fig. 38) small-punctate.

Pronotum with two rounded impressions near base; anterior margin almost straight; hind angles raised forming a true carina; median basal tubercle small and elongate; punctation heterogeneous, thin and sparse at middle and coarse and dense near lateral and basal margins. Prosternum with punctation sparse, coarser laterally. Prosternal lobe rounded, marginate laterally. Prosternal sutures almost straight. Hypomera marginate anteriorly, weakly punctate. Borders of mesosternal cavity almost horizontal, excavate at middle. Metasternum densely punctate; punctation coarser mediad giving a rugous appearance. Metasternal median suture (Fig. 41) grooved, forming an anterior pit. Legs broken, except prothoracic legs. Elytra with apices rounded; punctate-striate; striae punctate; interstices flat and small-punctate; 3rd and 5th interstices raised and fused at base; 5th and 6th fused near apex; median ante-

rior region with rugous appearance. Last visible urosternite marginate laterally with apex rounded and densely punctate.

Female genitalia. Not dissected.

Material examined (holotype, female). Mexico. No other data, belonging to ISNB.

Remarks

S. decorus is very similar to *S. scriptus* in color. Considering that I examined one female of the former and two males of the latter, they might be considered as different sexes of the same species. However, they present some differences, especially related with punctation. *S. decorus* presents dorsal pubescence darker than *S. scriptus*, the metasternal median suture grooved totally with an anterior pit, small basal tubercle of frons punctate (smooth in the latter) and 5th-6th interstices fused near apex. *S. scriptus* presents ventral pubescence denser than *S. decorus*, frons narrower and more concave anteriorly, punctation of pronotum denser and that of prosternum and hypomera coarser than the latter and proximal border of mesosternal cavity prominent.

I could not examine more material to verify if these variations are interspecific or related with the sex, because these species are very rare in the collections. For this reason, I prefer to keep both as valid species until more specimens are available.

***Saltamartinus scriptus* (Candèze, 1900), comb. n.**

(Figs. 32, 34, 36, 42-47, 52)

Hemirhipus scriptus Candèze, 1900: 81; Schenkling, 1925: 53 (Cat.); Blackwelder, 1944: 282 (Cat.).

Pherhimius scriptus; Fleutiaux, 1942: 115; Golbach, 1976: 27.

Length: 22-26 mm. Integument reddish-brown; frons, legs and elytra brighter; frons marginate by narrow black band; each elytron with two yellow spots: one larger elliptical running longitudinally on anterior half of 3rd and 5th interstices, sometimes interrupted by small darker area, near base it comprehends 3rd-6th interstices; small yellow spot on 2nd and 6th interstices fused near middle of ellipse length; distal spot in zig-zag, from 3rd to 9th or 10th interstices; scutellum reddish-brown marginate by black band (Fig. 52). Pubescence simple, yellowish-white, dense, long and bristly, longer on pronotum; some areas of elytra with black pubescence. Ventral pubescence brighter than

dorsal, sparser on prosternum and hypomera; pubescence of metasternum, metacoxal plate and visible sternites, longer, denser and decumbent. Legs densely setous; pubescence yellowish-white longer on femura.

Frons (Fig. 32) narrow and trapezoidal anteriorly, very concave on anterior median region; longitudinal median smooth tubercle at base; anterior margin prominent at middle; punctation moderately coarse, dense and heterogeneous. Nasal plate (Fig. 34) concave.

Pronotum with two slightly rounded impressions near base; anterior margin almost straight; hind angles raised with true carina, parallel lateral margins; median basal tubercle small and elongate; punctation small and sparse at middle, coarser and denser near lateral and basal margins. Prosternum moderately convex with coarse and sparse punctation; prosternal spine slightly widened between procoxal cavities. Prosternal lobe round; punctation sparse and smaller than that of prosternum. Prosternal sutures almost straight. Hypomera with lateral margins upwardly directed and densely punctate; impunctate band continuing by anterior margin of hypomera; punctation sparser or absent near sutures. Mesosternal cavity prominent innerly at proximal margin making small tubercle. Borders of mesosternal cavity almost horizontal. Metasternum densely punctate; punctation coarser mediad, giving a rugous appearance. Metasternal median suture (Fig. 36) grooved at basal half. Elytra slightly narrowed at apex; apices rounded; punctate-striate; striae marked by coarser punctures, weakly marked near base; interstices small punctate, convex apicad; 3rd interstice raised near base and joined to 5th; 4th interstice concave near base; basal third of elytra with small transverse irregular darker carinae, giving a rugous appearance. Last visible urosternite of male marginate laterally.

Male genitalia. Urotergite VIII (Fig. 42) slightly narrowed apicad, covered by setae, some marginal longer; median basal region membranous. Urosternite VIII (Fig. 43) transverse, setous, distal margin slightly bilobate; three darker areas. Urosternite IX (Fig. 47) narrow apicad, setous on distal fourth. Urotergite IX (Fig. 44) narrowed apicad; distal margin strongly bilobate; setous lateral and distally. Aedeagus (Figs. 45, 46) narrow and long; parameres translucent dorsally, falciform and setous distally, fused in 0.09 times its length. Median lobe thin widened near base with a ventral weak sclerite at basal half.

Material examined (2 males). Surinam. Ex-coll. Fleutiaux (MNHN); ex-coll. Candéze, ex-coll. Fruhstorfer. Both labeled as "Type". Specimens from MNHN and ISBN.

Remarks. Similar to *P. decorus* in color.

***Saltamartinus perroudi* (Candèze, 1874), comb. n.**

(Figs. 33, 35, 39, 40, 51)

Hemirhipus perroudi Candèze, 1874: 155; Schenkling, 1925: 53 (Cat.);
Blackwelder, 1944: 282 (Cat.).

Pherhimius perroudi; Fleutiaux, 1942: 115, 116; Golbach, 1976: 26.

Length: 28 mm. Integument dark-brown with three first antennal segments brighter; legs brownish; elytra with two reddish-yellow spots: one larger on proximal third and one small starting at distal half, comprehending 5th-8th interstices (Fig. 51). Ventral integument black. Pubescence simple, greyish and bristly, longer and denser on pronotum. Ventral pubescence thinner, very sparse on prosternum and hypomera and longer and denser on metasternum and metacoxal plate. Legs with pubescence dense and short, longer on femur.

Frons (Fig. 33) wide, narrowed distally; fore angles stout, slightly raised and prominent; very concave anteriorly at middle; punctuation coarse, dense and heterogeneous, smaller than pronotum. Nasal plate (Fig. 35) concave lateroanteriorly. Third antennal segment of female subtriangular.

Pronotum: anterior margin slightly prominent and sinuous at middle; hind angles backwardly directed with very developed carina; median basal tubercle very small, elongate; two strong round impressions near middle; punctuation very coarse and dense, coarser near disc, giving rugous appearance. Prosternum very convex slightly grooved and dense- and coarsely punctate, parallel prosternal sutures; general punctuation sparse, smaller than that of prosternum medially; prosternal spine slightly widened between procoxal cavities. Prosternal lobe round; punctuation sparse, smaller than that of prosternum; a basal elliptical impression each side. Prosternal sutures curve, closed frontally. Hypomera: lateral margins forming an edge upwardly directed; punctuation coarse, dense and heterogeneous, sparser than that of pronotum. Borders of mesosternal cavity almost horizontal, slightly excavate at median region. Metasternum with small punctuation, coarser and denser near median suture. Metasternal median suture (Fig. 40) grooved on anterior half. Scutellum concave on basal three thirds. Elytra slightly narrowed on distal fourth; apices round; punctate-striate; striae slightly grooved, marked by coarse punctures; interstices convex and punctate, coarser forward; 1st and 2nd interstices flat from behind scutellum to middle of elytron length; 3rd and 5th interstices more raised on proximal third; 4th interstice concave near base forming a tuberculiform area at base of 5th interstice; scutellar area concave. Last visible urosternite marginate laterally (Fig. 39).

Genitalia damaged. Dr. von Hayek labeled: "contents of abdomen destroyed- *Anthrenus*".

Material examined (holotype, female). Brasilia. No other data. From MNHN.

Remarks

S. perroudi differs from *S. decorus* and *S. scriptus* especially by presence of general punctation coarser (including that of interstices) and the shapes of anterior margin of frons and elytral spots.

Saltamartinus viduus (Chevrolat, 1867), comb. n.

Hemirhipus viduus Chevrolat, 1867: 598; Gundlach, 1891: 180; Schenkling, 1925: 53 (Cat.); Blackwelder, 1944: 282 (Cat.).

Pherhimius viduus; Fleutiaux, 1942: 115; Golbach, 1976: 27.

Diagnosis (according to original description)

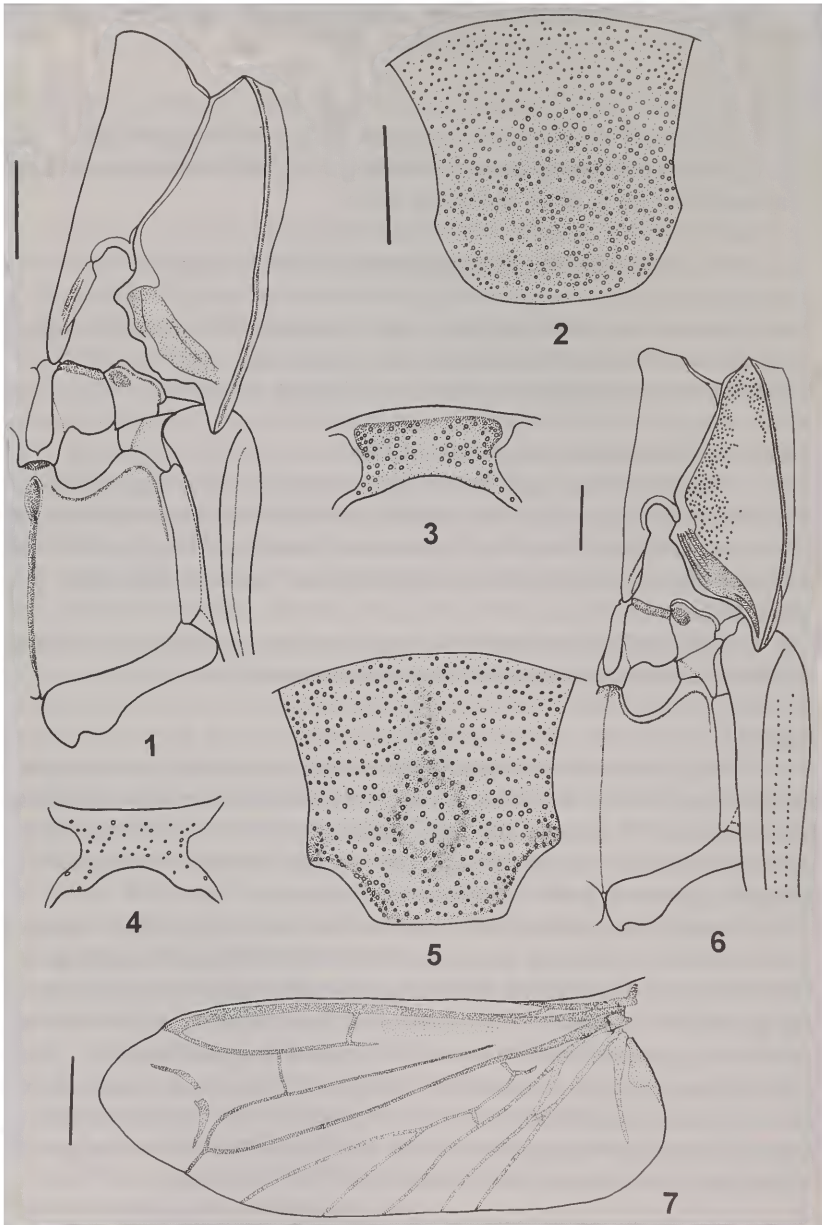
Integument black; pubescence dense and white; frons depressed anteriorly; pronotum longer than wide, parallel laterally, three black rounded spots, two anteromedian and one larger near base; scutellum elongate, suboblong and declivous anteriorly; elytron with three spots and one wide distal band black. Cuba.

Gundlach (1891) stated that the type specimen was collected in "Ciénaga de Zapata en Mayo en la flor del Piralejo (*Byrsonima*)".

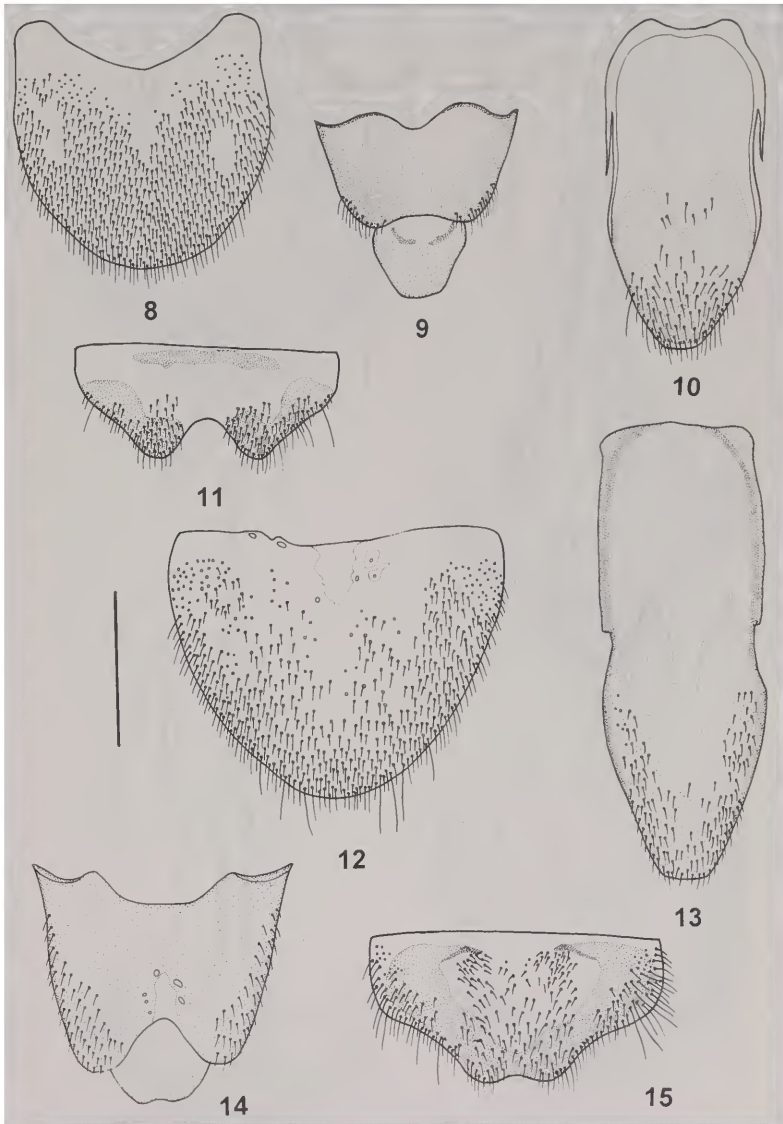
Remarks

The *Saltamartinus* species are very rare in collections. I examined only the holotype (female) of *S. decorus* and *S. perroudi* and two males (including the holotype) of *S. scriptus* and none specimen of *S. viduus*. The scarcity of material allowed me to compare only the external characters and to study the genitalia of just one male of *Saltamartinus scriptus*.

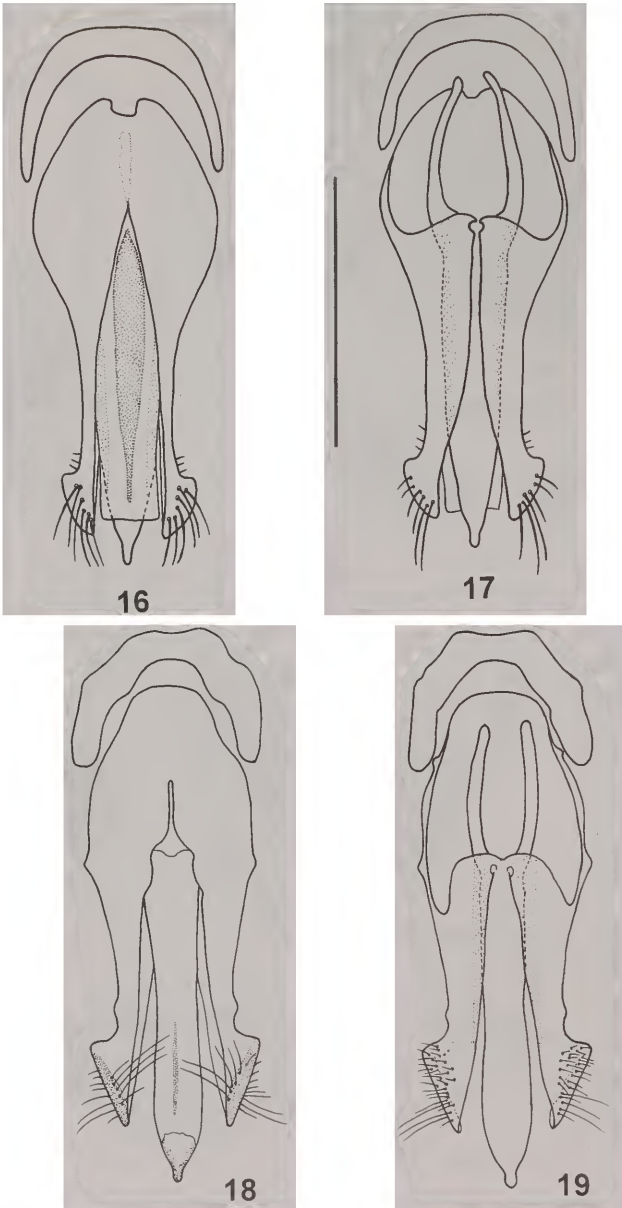
Considering the data obtained from the material available I observed the interspecific variations especially related to the frons and metasternum. Frons: besides the punctation, the shape of anterior margin is variable, including the anterior concavity. In *S. scriptus* the frons is prominent in the whole anterior margin while in *S. perroudi* it is prominent only laterally. Consequently, the nasal plate is concave in these species. *S. scriptus* and *S. decorus* present a small longitudinal median basal ridge. The metasternal median suture is grooved in all length, forming a pit near the cavity in *S. decorus*, grooved at basal half in *S. scriptus* and at anterior half in *S. perroudi*.



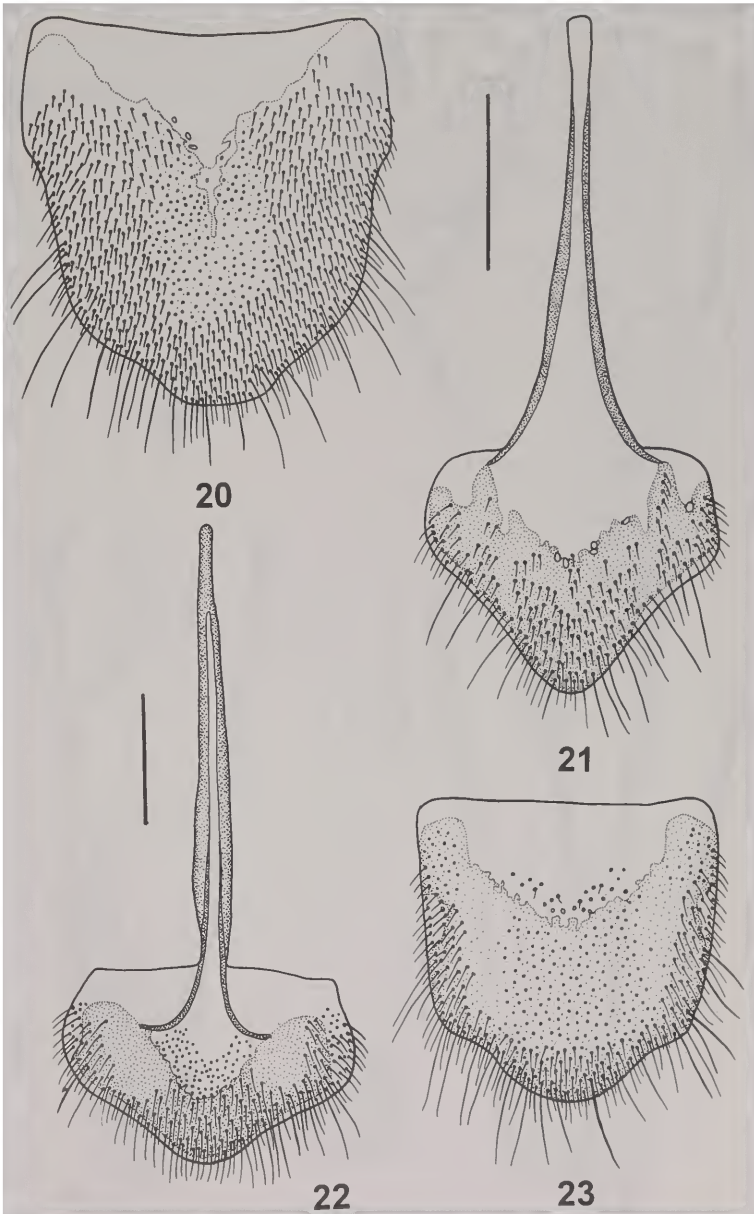
Figs. 1-7. *Pherhimius fascicularis*: 1, pro-, meso- and metathorax (ventrolateral); 4, nasal; 5 frons. *Pherhimius dejeani*: 2, frons; 3, nasal; 6, pro-, meso- and metathorax (ventrolateral); 7, hind wing. Figs. 2-5 to the same scale (scale = 1 mm).



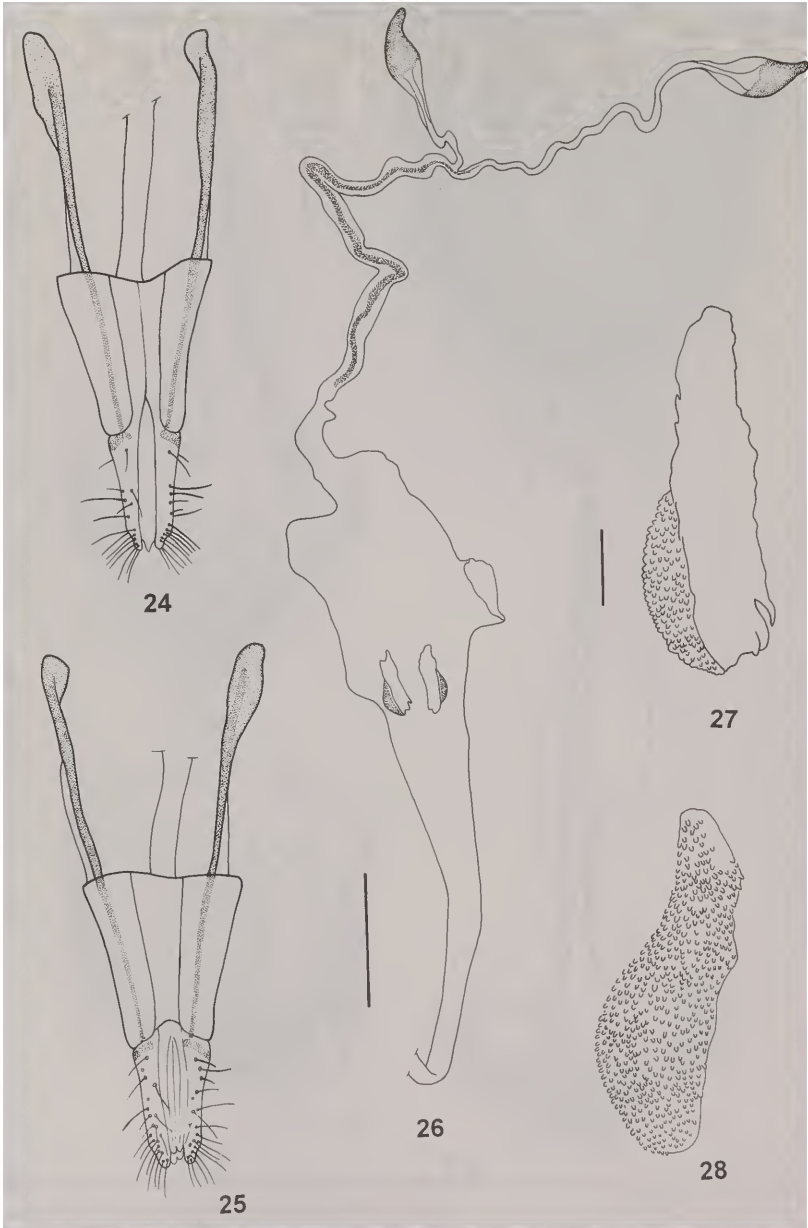
Figs. 8-15. Genital segments of male. *Pherhimius dejeani*: 8, urotergite VIII; 9, urotergites IX-X; 10, urosternite IX; 11, urosternite VIII. *Pherhimius fascicularis*: 12, urotergite VIII; 13, urosternite IX; 14, urotergites IX-X; 15, urosternite VIII. All figs. to the same scale (scale = 1 mm).



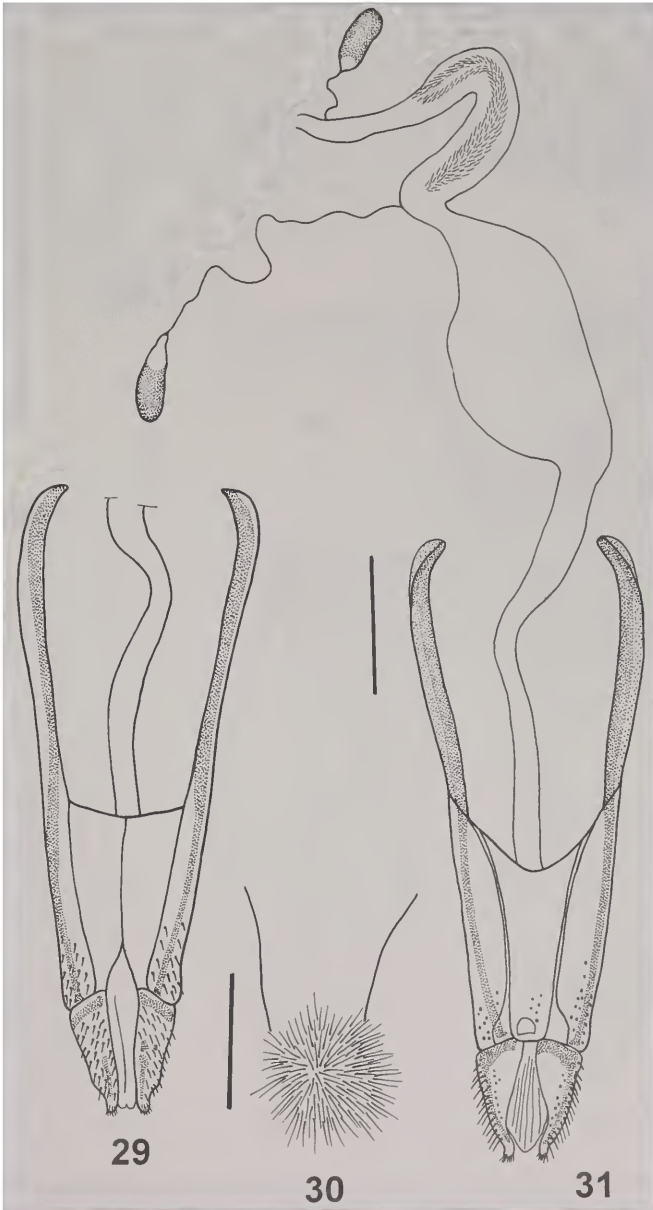
Figs. 16-19. Aedeagus. *Pherhimius dejeani*: 16, ventral; 17 dorsal. *Pherhimius fascicularis*: 18, ventral; 19, dorsal. All figs. to same scale (scale = 1 mm).



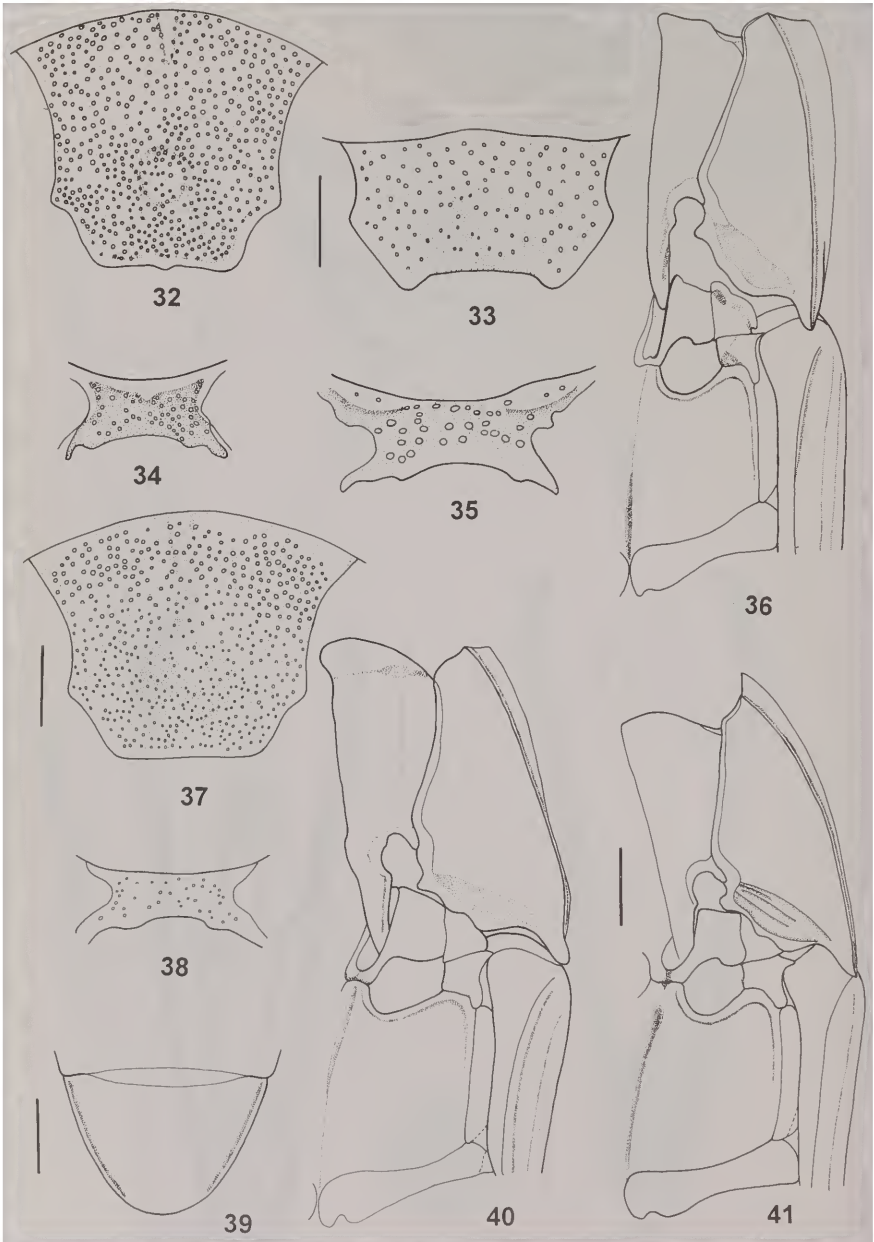
Figs. 20-23. Genital segments of female. *Pherhimius dejeani*: 20, urotergite VIII; 21, urosternite VIII. *Pherhimius fascicularis*. 22, urosternite VIII; 23, urotergite VIII. Figs. 20, 21; 22, 23, respectively to the same scale (scale = 1 mm).



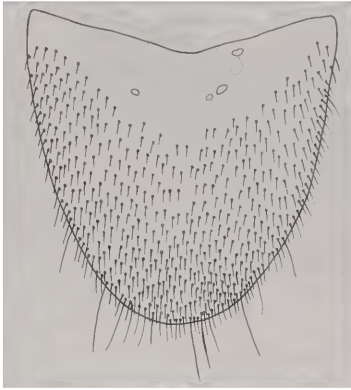
Figs. 24-28. *Pherhimius dejeani*. Female genitalia: 24, 25, ovipositor (dorsal, ventral); 26, bursa copulatrix and spermatheca; 27, 28, sclerotized pieces of anterior bursa copulatrix (ventral, dorsal). Figs. 24-26; 27, 28, respectively to the same scale (scale figs. 24-26 = 1mm; figs. 27, 28 = 0.2 mm).



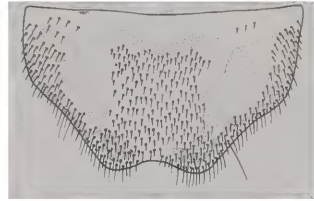
Figs. 29-31. *Pherhimius fascicularis*. Female genitalia: 29, ovipositor (dorsal); 30, apex of ovipositor; 31, ovipositor, bursa and spermathecae (ventral). Figs 29, 31 to the same scale (scale figs. 29, 31 = 1 mm; fig. 30 = 0.1 mm).



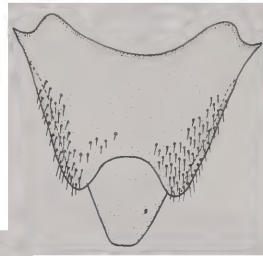
Figs.32-41. *Saltamartinus scriptus*: 32, frons; 34, nasal; 36, pro-, meso- and metathorax (ventrolateral). *S. perroudi*: 33, frons; 35, nasal; 39, last abdominal segment; 40, pro-, meso- and metathorax (ventrolateral). *S. decorus*: 37, frons; 38, nasal; 41, pro-, meso- and metathorax (ventrolateral). Figs. 32-35; 36, 40, 41; 37, 38, respectively, to the same same scale (scale = 1 mm).



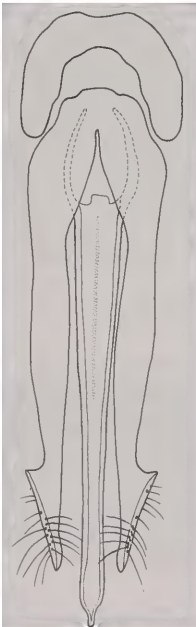
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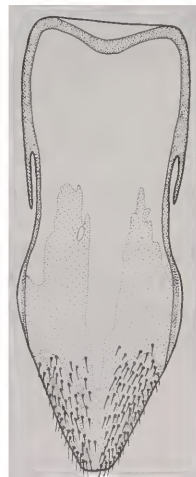
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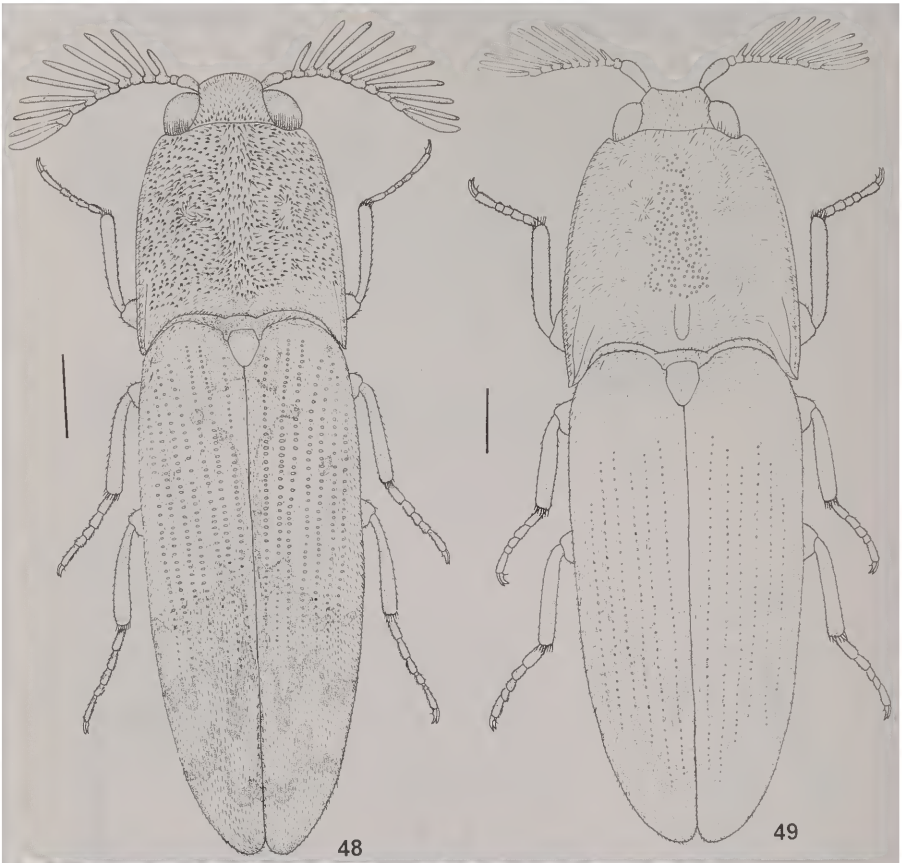


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Figs. 42-47. *Saltamartinus scriptus*. Male: 42, urotergite VIII; 43, urosternite VIII; 44, urotergites IX-X; 45, 46, aedeagus (ventral, dorsal); 47, urosternite IX. Figs. 42-44, 47; 45, 46, respectively, to the same scale (scale = 1 mm).



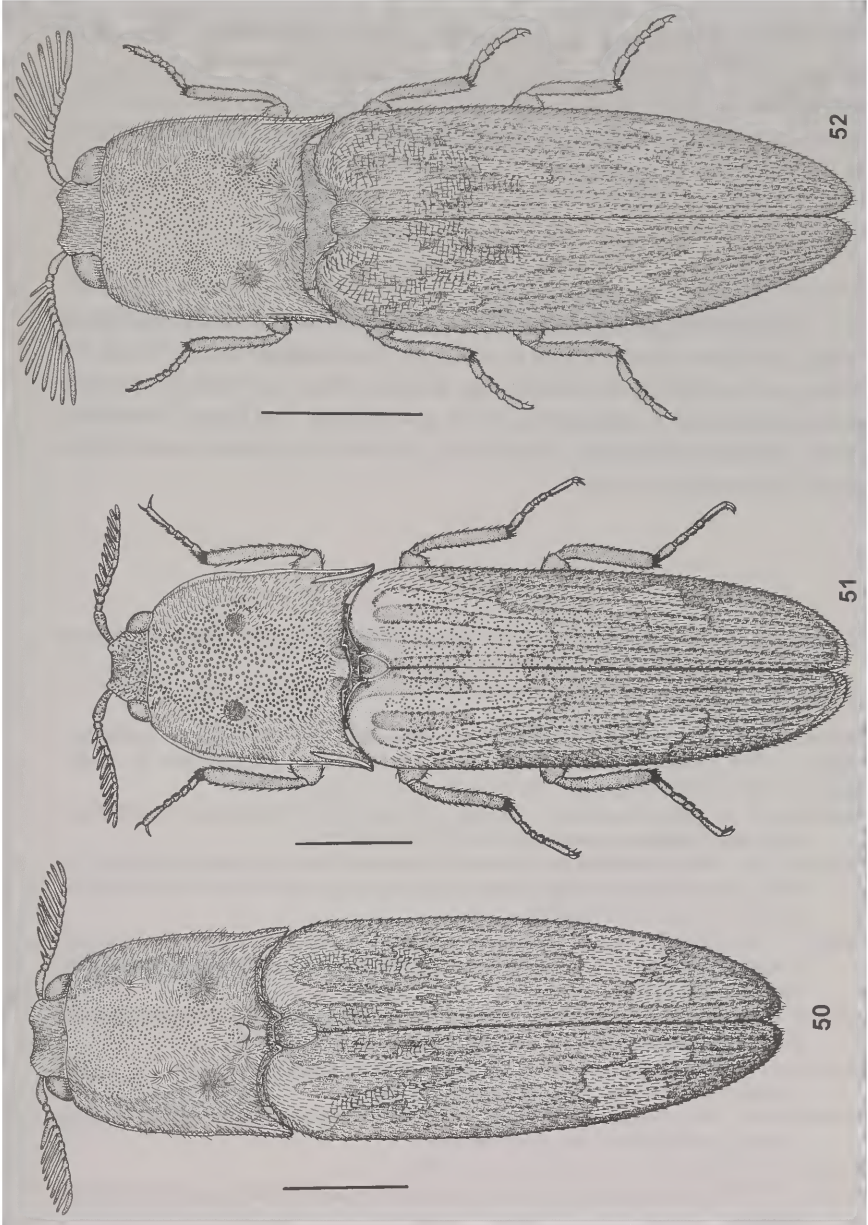
Figs. 48-49. Habitus. *Pherhimius*: 48, *P. dejeani*; 49, *P. fascicularis* (scale = 2 mm).

Geographical distribution

The *Saltamartinus* species present a few records, without specific data about the localities. *S. decorus* is recorded from Mexico and Nicaragua, *S. scriptus* from Surinam, *S. perroudi* from Brazil and *S. viduus* from Cuba.

DISCUSSION

Casari-Chen (1994) based on the type-species of each genus, presented a cladogram for Hemirhipini genera, in which *Pherhimius* is the sister-group of *Catelanus*. Here, after studying other species of *Pherhimius*, I concluded that this genus, as defined by Fleutiaux (1942), is not monophyletic and four species were transferred to *Saltamartinus*, new genus. Both genera (*Pherhimius*



Figs 50-52. Habitus. *Saltamartinus*: 50, *S. decorus*; 51, *S. perroudi*; 52, *S. scriptus*. (scale = 5mm).

and *Saltamartinus*) belong to Hemirhipina and are included in the group *Catelanus* + *Hemirhipus* + *Fusimorphus* but the absence of females did not allow to find the exact position of *Saltamartinus*. *Pherhimius* as defined here, can be characterized by the autapomorphic condition of loss of tibial spurs and has *Catelanus* as sister-group.

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