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***Vitalius* a new genus of the Subfamily Theraphosinae Thorell, 1870 from Brazil**

(Araneae, Theraphosidae)

By Sylvia Lucas, Pedro Ismael da Silva Junior and Rogério Bertani

Lucas, S., P. I. da Silva Junior, and R. Bertani (1993): *Vitalius* a new Genus of the Subfamily Theraphosinae Thorell, 1870 (Araneae, Theraphosidae) from Brazil. – Spixiana 16/3: 241–245

After examination of the material and description of the genus *Pamphobeteus* we conclude that there are two distinct groups of species. The first group includes species whose ♂♂ have a bulb with an embolus bordered with sharp crests converging to the apex and giving it a concave/convex aspect; and a metatarsus I closing between the tibial spurs. Geographical distribution: Ecuador, Colombia and Bolivia. All species still belong to the genus *Pamphobeteus* with the following species: *P. nigricolor* (type species), *P. antinous*, *P. ferox*, *P. insignis*, *P. fortis*, *P. ornatus*, *P. augusti* and *P. vespertinum*.

The second group includes species whose ♂♂ have the embolus with small apical crests that, however, do not give it a concave/convex aspect; one of these crests forms a more or less sharp spine; and the metatarsus I closes at the outer side of the lower spur. Geographical distribution: Brazil. For this group of species we propose a new genus, *Vitalius* with the following species: *V. sorocabae* (type species), *V. roseus*, *V. platyomma*, *V. rondoniensis*, *V. cesteri* and *V. tetracanthus*.

After the examination of the types we establish also the following synonymies: *Pamphobeteus anomalus* Mello Leitão, 1923 = *Eupalaestrus anomalus* (Mello Leitão), 1923; *Pamphobeteus litoralis* Toledo Piza, 1976 = *Vitalius platyomma* (Mello Leitão), 1923.

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Introduction

Pocock (1901) established the genus *Pamphobeteus* choosing as type species *Lasiadora nigricolor* Ausserer, 1875. His diagnosis was based on the absence of a stridulating organ between the basal segments of the palps and the first legs; the absence of a scopula on the inner side of the femur I; metatarsus I in ♂ closing between the tibial spurs, thus coming into contact with the inner side of the lower spur and the outer side of the upper spur; femur III not thickened; patella and tibia IV only slightly longer than patella and tibia I, which, at least in the ♀, falls short of the fourth by only about the length of the tarsus of the latter. Pocock mentioned the geographical distribution of the genus as Colombia, Ecuador and Bolivia.

Pocock (1903) described three new species of the genus: *P. antinous*, *P. insignis* and *P. ornatus*, and included also *Lasiadora ferox* Ausserer, 1875, *Lasiadora fortis* Ausserer, 1875, *Lasiadora augusti* Simon, 1888 and *Lasiadora vespertinum* Simon, 1888, with the same geographical distribution.

Mello Leitão (1923) described twelve new species of *Pamphobeteus*, all based on specimens collected in Brazil: *P. platyomma*, *P. melanocephalus*, *P. cesteri*, *P. rondonensis*, *P. roseus*, *P. sorocabae*, *P. cucullatus*, *P. tetracanthus*, *P. exsul*, *P. holophaeus*, *P. insularis*, and *P. anomalus*, and transferred *Crypsidromus isabellinus* Ausserer, 1875 and *Lasiadora benedenii* Bertkau, 1880 to the genus *Pamphobeteus*.

Toledo Piza described *P. piracicabensis* (1933), *P. masculus* and *P. communis* (1939), and *P. cephalophaeus* and *P. mus* (1944). Soares (1941) described two additional species: *P. urbanicolous* and *P. ypiranguensis*, all from Brazil.

Bücherl (1947 and 1948), after a revision of all the species described by Mello Leitão, Toledo Piza and Soares, reduced this number to the following valid species: *P. roseus*, *P. cesteri*, *P. sorocabae*, *P. platyomma*, *P. rondoniensis*, *P. anomalus*, and *P. tetracanthus*. Bücherl suggested that *P. cesteri* is a junior synonym of *P. isabellinus* and mentioned that the species *P. benedenii* (Bertkau, 1880), seems to be a *Lasiodora* as originally described, but because he did not see the types, he maintained both species under *Pamphobeteus*, following to Mello Leitão (1923).

Bonnet (1956) preferred to maintain the species *isabellinus* in the genus *Crypsidromus*, since this species is the type species of the genus.

Bücherl (1958) emphasized the importance of the ♂ palpal bulb and the tibial spurs as generic characteristics for Mygalomorphae and presented illustrations of these characters for: *P. sorocabae*, *P. cesteri*, *P. isabellinus*, *P. platyomma*, *P. roseus* and *P. tetracanthus*, because these species were previously known only by the ♀ ♀.

Toledo Piza (1976) described one additional species of the genus, *P. litoralis*, also from Brazil.

Schiapelli & Gerschman de Pikelin (1979) revised the genera of the subfamily Theraphosinae, examined the type of *P. nigricolor* and confirmed the definition of Pocock, that the metatarsus I closes between the tibial spurs, they also gave illustrations of the palpal bulb.

We compare the species of *Pamphobeteus* described from Brazil with the species described from Colombia, Ecuador and Bolivia, and establish a new genus *Vitalius* for the Brazilian species.

Material

We examined material of the following collections: types of the Escola Superior de Agricultura Luiz de Queiroz da Universidade de São Paulo, Brazil (MZLQSP) and Museu de Zoologia da Universidade de São Paulo, Brazil (MZSP); specimens of the Coleção Araneológica (Mygalomorphae) do Instituto Butantan, São Paulo, Brazil (IBSP) and private collection of Dietmar Pinz (Münster, Germany).

Type material: *Pamphobeteus sorocabae* Mello Leitão, 1923, ♀ holotype No. 123 (MZSP), col. E. F. Camargo, Sorocaba, São Paulo, Brazil; ♂ allotype No. 4942 (IBSP), ibidem; *Pamphobeteus communis* Toledo Piza, 1939, ♂ holotype No. 0051 (MZLQSP), Piracicaba, São Paulo, Brazil; *Pamphobeteus melanocephalus* Mello Leitão, 1923, ♀ holotype No. 153 (MZSP), São Paulo, Brazil; *Pamphobeteus roseus* Mello Leitão, 1923, ♀ holotype No. 143 (MZSP), col. Garbe, Itaquy, Rio Grande do Sul, Brazil; *Pamphobeteus platyomma* Mello Leitão, 1923, ♀ holotype No. 155 (MZSP), col. Fr. Gunther, Ilha de São Sebastião, São Paulo, Brazil; *Pamphobeteus litoralis* Toledo Piza, 1976, ♂ holotype No. A 0104 (MZLQSP), col. E. S. Lopes, Registro, São Paulo, Brazil; *Pamphobeteus masculus* Toledo Piza, 1939, ♂ holotype No. 0041 (MZLQSP), col. Lepage, Ilha dos Alcatrazes, São Paulo, Brazil; *Pamphobeteus anomalus* Mello Leitão, 1923, 4 ♂ ♂ No. 555 (MZSP), col. E. Garbe, Monte Cristo, Tapajós River, Pará, Brazil.

Non typical material examined: *Pamphobeteus antinous* Pocock, 1903, 2 ♂ ♂ and 2 ♀ ♀ from Colombia, private collection of Dietmar Pinz (Münster, Germany); 1 ♂ No. 4943 (IBSP) and 2 ♀ ♀ (alive) (IBSP), D. Pinz leg., Colombia; *Pamphobeteus insignis* Pocock, 1903, 1 ♂ and 1 juvenile No. 4944 (IBSP), col. P. Ashmole, Los Tayos, Ecuador; *Pamphobeteus* sp. from Brazil, Bahia: 1 ♂ No. 4614 (IBSP), Teixeira de Freitas; Maranhão: 1 ♀ ref. 61.673 (IBSP), São Luiz; Mato Grosso: 2 ♂ ♂ No. 4241 (IBSP), Barra do Garças; 1 ♀ ref. 64.341 (IBSP), Chapada dos Guimarães; 1 ♂ No. 2517 (IBSP), Xingú; Mato Grosso do Sul: 1 ♀ No. 4266 (IBSP), Agachi; 1 ♀ No. 1434 (IBSP), Aquidauana; Minas Gerais: 1 ♂ ref. 48.666 (IBSP), Boa Esperança; 1 ♀ ref. 49.862 and 1 ♂ ref. 62.388 (IBSP), Extrema; 1 ♀ ref. 64.566 (IBSP), Itapeva; 1 ♂ ref. 49.199 and 1 ♂ ref. 51.808 (IBSP), Poços de Caldas; 1 ♀ ref. 56.583 (IBSP), Santana do Riacho; 1 ♀ ref. 52.127, 1 ♀ ref. 52.951 and 1 ♂ and 1 ♀ ref. 54.176 (IBSP), Toledo; Pará: 1 ♀ No. 4249 (IBSP), Belém; 1 ♀ ref. 45.681 and 1 ♂ ref. 45.685 (IBSP), Carajás; 4 ♂ ♂ No. 4239 (IBSP), Marabá; 1 ♀ ref. IBA 203 and 1 ♂ ref. IBA 618 (IBSP), Tucuruí; Paraná: 1 ♂ ref. 49.516 (IBSP), Castro; 1 ♂ ref. 54.196, 1 ♂ ref. 54.449 and 1 ♀ ref. 54.766 (IBSP), Curitiba; 1 ♀ ref. 52.145 (IBSP), Engenheiro Bertrão; 1 ♀ ref. 57.232 (IBSP), Foz de Iguaçu; 1 ♀ ref. 60.063 (IBSP), Ibioporá; 10 ♂ ♂, 17 ♀ ♀ and 2 juveniles ref. 42.552 (IBSP), H. P. S. Itaipú; 1 ♀ ref. 60.000 (IBSP), Maringá; 1 ♀ ref. 60.327 (IBSP), Paranavaí; 1 ♀ ref. 55.030 (IBSP), Santa Inácio; Piauí: 1 ♂ No. 4406 (IBSP), Avelino Lopes; 1 ♂ No. 4406 (IBSP), Santa Cruz; 1 ♂ No. 3408 (IBSP), Teresina; Rio de Janeiro: 1 ♀ ref. 58.000 (IBSP), Angra dos Reis; 1 ♂ and 1 ♀ ref. 65.089 and 1 ♀ ref. 65.588 (IBSP), Parati; Rio Grande do Sul: 1 ♀ No. 1520, 1 ♂ No. 1540 and 1 ♀ No. 1685 (IBSP), Santa Cruz do Sul; 1 ♂ ref. 65.360, 10 ♂ ♂ and 10 ♀ ♀ ref. 65.805, 1 ♂ and 5 ♀ ♀ ref. 65.851 and 10 ♂ ♂ and 8 ♀ ♀ ref. 65.883 (IBSP), Tuparendi; Santa Catarina: 1 ♂ ref. 51.247 (IBSP), Joinville; 1 ♂ ref. 62.814 (IBSP), Lajes; 1 ♂ ref. 48.721 (IBSP), São Joaquim; São Paulo: 1 ♀ ref. 63.376 (IBSP), Aguaí; 1 ♀ ref. 65.108 (IBSP), Águas de Santa Barbara; 1 ♂ ref. 64.956 (IBSP), Alumínio; 1 ♂ ref. 64.730 (IBSP), Americana; 1 ♀ ref. 53.409 (IBSP), Angatuba; 1 ♀ ref. 63.661 (IBSP), Araçatuba; 1 ♂ ref. 65.495 (IBSP), Araçoiaba da Serra; 1 ♀ ref. 63.148 (IBSP), Araras; 1 ♀ ref. 50.969, 1 ♀ ref. 51.508 and 1 ♀ ref. 62.997 (IBSP), Assis; 1 ♀ ref. 63.214 and 1 ♂ ref. 64.925 (IBSP), Avaré; 1 ♀ ref. 53.712 (IBSP), Baurú; 1 ♂ ref. 61.888 (IBSP), Bertioga; 1 ♂ ref. 64.354 (IBSP), Boa Esperança do Sul; 1 ♂ ref. 64.912 (IBSP), Bofete; 1 ♀ ref. 64.256 (IBSP), Boituva; 1 ♀ ref. 50.552 (IBSP), Caieiras; 1 ♀ ref. 51.251 (IBSP), Campinas; 1 ♀ ref. 51.376 and 1 ♂ ref. 64.762

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Genus *Vitalius* Lucas, Silva Junior and Bertani (Figs 1-3)

Pamphobeteus (in part) Pocock, 1901. Ann. Mag. Hist. ser. 7, 8: 540-555.

Without stridulating bristles between the basal segments of palps and first legs; ♂ palpal bulb with an embolus with small apical crests, not giving a concave/convex aspect, one of these crests building a more or less sharp spine; tibial apophysis with two spurs, more or less developed, and metatarsus I closing on the outer side of the lower spur; seminal receptacle double, with a common basis.

Type species: *Vitalius sorocabae* (Mello Leitão) 1923, ♀ holotype No. 123 (MZSP), col. L. P. Camargo, Sorocaba, São Paulo, Brazil; ♂ allotype No. 4942 (IBSP), Sorocaba, São Paulo, Brazil.

Distribution: Brazil (Bahia, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Paraná, Piauí, Rio de Janeiro, Rio Grande do Sul, Santa Catarina, São Paulo and Tocantins).

The Instituto Butantan receives yearly between 800 and 1000 Mygalomorphae, and the species of the proposed new genus are represented with 40 %, mainly from the state São Paulo.

Etymology: Name of the genus in honour of Dr. Vital Brazil, founder of the Instituto Butantan.

***Vitalius sorocabae* (Mello Leitão), 1923**

Description of the ♂

Measurements of the allotype: length with chelicerae: 44,7 mm; length without chelicerae: 39,1 mm; cephalothorax: 18,3 mm/17,9 mm; length of the legs: I: 68,2 mm; II: 62,9 mm; III: 59,0 mm; IV: 76,0 mm; (IV, I, II, III).

The ♂ palpal bulb is globose and the embolus as long as the bulb, it is narrow and bears crests beginning near the apex. One of these crests begins on the apex toward the basis and has a lateral curvation forming an acute and evident spine. Between the implantation of that crest and the spine there are some very small spines.

The tibial spur has two branches with a common basis, the upper branch with two strong and short spines, one on the apex, the other in the median region; the lower branch is very strong, with only one short spine at the apex. Metatarsus I closes on the outer side of the lower branch.

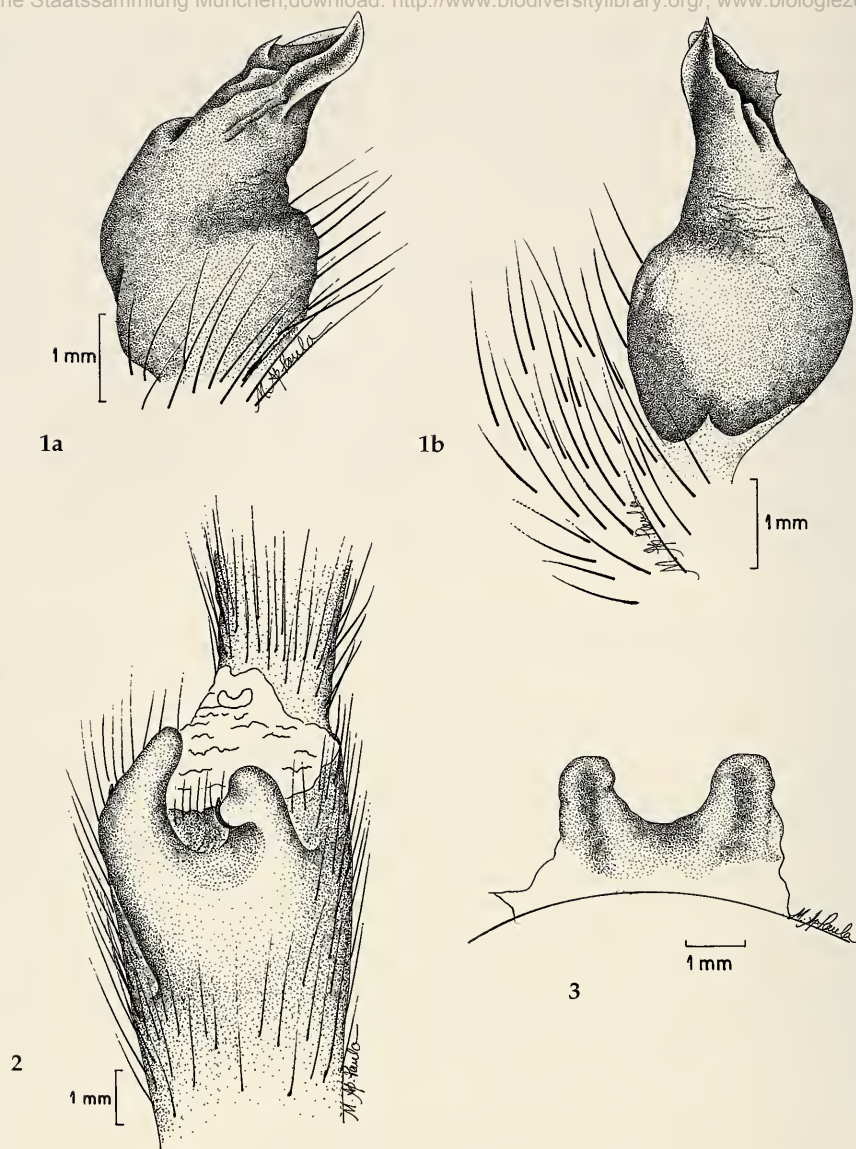


Fig. 1. ♂ palpal bulb of *Vitalius sorocabae*: 1a - internal view of right bulb, 1b - external view of right bulb.

Fig. 2. ♂ tibial apophysis of *Vitalius sorocabae*.

Fig. 3. ♀ seminal receptacle of *Vitalius sorocabae*.

Differential diagnosis

The genus *Vitalius* differs from *Pamphobeteus* mainly by the aspect of the ♂ palpal bulb and by the flection of the metatarsus I; in ♀♀ by the aspect of the seminal receptacle.

The new genus is very near to *Lasiadora*, *Nhandu* and *Eupalaestrus* by the aspect of the ♂ palpal bulb and seminal receptacle of the ♀. It differs from *Lasiadora* mainly by the absence of stridulating bristles between the palpal segments and first legs, present in *Lasiadora*, also by the flection of the metatarsus I that closes on the apex of the lower spur in *Lasiadora*; it differs from *Nhandu* by the presence of tibial spurs, absent in *Nhandu*, and from *Eupalaestrus* by normal legs IV that are incrassated in *Eupalaestrus*.

Discussion and Conclusion

Pocock (1901 and 1903) transferred some species described from Ecuador, Colombia and Bolivia under the genus *Lasiodora* the type species of which is *L. klugi* from Brazil to his new genus *Pamphobeteus*. He emphasized that the ♂ of the species possess a bulb with the embolus showing a concave/convex aspect, more or less large and that the metatarsus I closes between the tibial spurs.

Bücherl (1958) presented illustrations and described the bulb and how the flecion of the metatarsus I in the Brazilian species of *Pamphobeteus* occurs, since all species of Mello Leitão (1923) had been based only on ♀ ♀, with exception of *P. anomalus*. Bücherl cited that in these species the flecion occurs on the outer side of the lower spur and approximates the species of this genus to those of the genus *Lasiodora*. However, he followed Mello Leitão without questioning whether these Brazilian species really belong to the genus *Pamphobeteus*.

After the examination of the material and the descriptions of the species belonging to the genus *Pamphobeteus* we conclude that there are definitely two distinct species groups. The first group comprises species whose ♂ ♂ have a bulb with the embolus bordered by sharp crests converging to the apex giving it a concave/convex aspect, and the metatarsus I closing between the tibial spurs. Their geographical distribution is: Colombia, Ecuador and Bolivia, and all species still belong to the genus *Pamphobeteus*: *P. nigricolor* (type species), *P. antinous*, *P. ferox*, *P. insignis*, *P. fortis*, *P. ornatus*, *P. augusti* and *P. vespertinum*.

The second group has the embolus with small apical crests that, however, do not give it a concave/convex aspect; one of these crests forms a more or less sharp spine, and the metatarsus I closes at the outer side of the lower spur. They occur only in Brazil. For these species we propose the new genus *Vitalius* and include the following species: *V. sorocabae* (type species), *V. platyomma*, *V. roseus*, *V. rondoniensis*, *V. cesteri* and *V. tetracanthus*.

We agree with Bonnet's opinion about the species *isabellinus* and so we maintained it under genus *Crypsidromus*. Concerning *Pamphobeteus benedenii* we agree with Bücherl's opinion that this species has characteristics of the genus *Lasiodora*, but for a final conclusion it is in both cases necessary to examine more material.

We did not find the type of *P. anomalus* in the collection of the Museu de Zoologia da Universidade de São Paulo, where it was deposited according to the author. Under No. 555 (MZSP) we found four ♂ ♂, one labelled by Mello Leitão that agrees with the measurements and description of *P. anomalus*. They were also collected at the same locality of the type species, namely Monte Cristo, Tapajós River, Pará, Brazil, in the same year and by the same collector. So we supposed it to be the type, and after examination we are sure that this species has the characteristics of the genus *Eupalaestrus* (shape of the ♂ palpal bulb, legs IV incrassated, and others) and so *Pamphobeteus anomalus* is transferred to *Eupalaestrus*.

After examination of the type of *P. litoralis* Toledo Piza, 1976 we establish the synonymy: *P. litoralis* = *V. platyomma* (Mello Leitão, 1923).

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