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NATURAL HISTORY MUSEUM, LONDON, WITH REDESCRIPTIONS,
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TAXA (ARANEAE: ACTINOPODIDAE)**

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On the specimens of *Actinopus* Perty, 1833 deposited in the Natural History Museum, London, with redescriptions, first description of missing sexes, and notes on other taxa (Araneae: Actinopodidae)

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ABSTRACT

The specimens of *Actinopus* Perty, 1833 deposited at the Natural History Museum, London are catalogued. Redescriptions of *Actinopus crassipes* (Keyserling, 1891), *A. harti* Pocock, 1895, *A. liodon* (Ausserer, 1875), *A. robustus* (O. Pickard-Cambridge, 1892), and *A. wallacei* F. O. Pickard-Cambridge, 1896 are presented. A lectotype and paralectotypes are designated for *A. robustus*. Miglio *et al.* (2020) erroneously considered the type specimens of *A. harti* and *A. liodon* to be lost, and further wrongly stated *A. liodon* would have been deposited in the Naturhistorisches Museum Wien when this was never the case. The type series of *A. harti* comprises of a holotype female and numerous paratypes. The male of *A. harti* is described for the first time. *Actinopus liodon* is represented in the collection by the holotype male and a non-type male, and this species, along with *A. pindapoy* Miglio, Pérez-Miles & Bonaldo, 2020, is synonymised with *A. longipalpis* C. L. Koch, 1842 **syns nov.** The first record of *A. longipalpis* from Paraguay is reported. The holotype of *Actinopus luteipes* (Keyserling, 1891) is illustrated, confirmed as an immature female, and is tentatively maintained as a junior synonym of *A. crassipes*. The male of *A. trinotatus* Mello-Leitão, 1938 is described for the first time. Conversely, the female of *A. tetymapyta* Sherwood & Pett, 2022 is described for the first time (on the basis of specimens from the Dr Bohls collection which also contains two adult males). *Actinopus vilhena* Miglio, Pérez-Miles & Bonaldo, 2020 is recorded from the state of Mato Grosso, Brazil for the first time. An additional female of *A. princeps* Chamberlin, 1917 from the previously-reported locality Parque Nacional do Itatiaia is illustrated. A new species is proposed on the basis of Bolivian material misidentified as *A. wallacei* by Miglio *et al.* (2020), and described in full accordance with Article 13.1.2 of the International Code of Zoological Nomenclature (ICZN, 1999).

KEY WORDS

taxonomy, catalogue, morphology, Brazil, Panama, Paraguay.

INTRODUCTION

The genus *Actinopus* Perty, 1833 comprises a group of mouse spiders found widely across Central and South America, with its known diversity highest in Argentina and Brazil currently (World Spider Catalog, 2023). However, we suspect this is a sampling bias and that the species diversity in countries like Bolivia and Peru is massively underestimated, given recent studies exponentially greatly expanding the known taxa of other mygalomorph groups (e.g. Drolshagen & Bäckstam, 2021). Two large revisions of *Actinopus* were published in recent years (Ríos-Tamayo & Goloboff, 2018; Miglio *et al.*, 2020) which described two-thirds of the current species diversity. The first possible synapomorphies of the genus were identified by Goloboff & Platnick (1987) while other morphological characters with phylogenetic implications were proposed by Ríos-Tamayo & Goloboff (2018). Furthermore, palpal bulb morphology was standardised by Sherwood & Pett (2022). Although the genus presents significant morphological homogeneity, which makes it hard to determine interspecific limits, it is currently relatively well known in comparison to many other mygalomorph taxa in South America.

Nonetheless, despite the great progress that has been made, some errors have persisted. Miglio *et al.* (2020: 14) stated that the type material of the Trinidadian *Actinopus harti* Pocock, 1895 and Uruguayan *A. liodon* (Ausserer, 1875) were lost. They further stated the type of *A. liodon* should have been deposited in the Naturhistorisches Museum Wien. However, the type material of both species is deposited in the Natural History Museum, London.

In this work, we redescribe the aforementioned species, in addition to designating a lectotype and paralectotypes for *A. robustus*. We also catalogue the other specimens of the genus contained within several collections, providing new distribution records and the first description of the male of *A. trinotatus* Chamberlin, 1917. A new species from Santa Cruz, Bolivia, is also described based on material described and illustrated by Miglio *et al* 2020, incorrectly, as *Actinopus wallacei* F. O. Pickard-Cambridge, 1896.

MATERIAL AND METHODS

Specimens were examined under a binocular microscope. Photographs of specimens were made by the senior author using a Canon EOS 6D Mark II attached to a Leica MZ12.5 with images stacked using Helicon Focus software. Description style follows Sherwood & Pett (2022) with modifications for females. Abbreviations, Institutions: BMNH = Natural History Museum, London, United Kingdom; CIPLT = Colección Científica Para La Tierra, Pilar, Paraguay; OUMNH = Oxford University Museum of Natural History, Oxford, United Kingdom; ZMB = Museum für Naturkunde, Berlin, Germany. Structures: ALE = anterior lateral eyes, AME = anterior median eyes, PLE = posterior lateral eyes, PME = posterior median eyes. Other: coll. = collector, leg. = legit. Abbreviations for museum collections follow Evenhuis (2007). Leg spine terminology follows Petrunkevitch (1925) with the modifications proposed by Bertani (2001): d = dorsal, v = ventral, r = retrolateral, p = prolateral. Palpal bulb terminology follows Bertani (2000) and Sherwood & Pett (2022): PA = paraembolic apophysis; PAc = prolateral accessory keel; PI = prolateral inferior keel, PS = prolateral superior keel, R = retrolateral keel; TA = tegular apophysis. Leg formulae start with the longest leg to the shortest in order of decreasing size, e.g. 4,1,2,3. All measurements are in mm. Only ‘true’ spines, with well-defined bases and incrassate basal shafts, were counted, spine-like setae not sharing both of these characters are not factored into spination counts.

Genitalia: It is important to note that it appears females previously dissected by Schiapelli and Gerschman have been excised so that the cleared face is ventral, this means their illustrations of the spermathecae depict it ventrally and not dorsally, this is important as it also suggests this is the case for other taxa they illustrated such as theraphosids (Sherwood *et al.* in prep). Therefore, we present the ventral images before the dorsal images. In *Actinopus*, it appears there are no drastic differences between the dorsal and ventral structures of the spermathecae, so this should not have implication for diagnoses where their illustrations may have been taken to be dorsal. Examination of the males herein also demonstrate the PS is sometimes visible in retrolateral view in some taxa, which was not mentioned by Sherwood & Pett (2022).

TAXONOMY

***Actinopus crassipes* (Keyserling, 1891)** (Figs. 1–11)

Pachyloscelis crassipes Keyserling, 1891: 3, pl. 1, fig. 1.

Pachyloscelis luteipes Keyserling, 1891: 5.

Actinopus luteipes: F. O. Pickard-Cambridge (1896): 730.

Actinopus crassipes: F. O. Pickard-Cambridge (1896): 732.

Actinopus crassipes: Strand (1916): 81.

Actinopus crassipes: Mello-Leitão (1923): 18, fig. 128.

Actinopus luteipes: Mello-Leitão (1923): 22.

Actinopus ceciliae Mello-Leitão, 1931: 11, fig. 1.

Actinopus tarsalis: Mello-Leitão (1943): 149.

Actinopus crassipes: Bücherl (1957): 384, fig. 5.

Actinopus crassipes: Schiapelli & Gerschman (1962): 72, pl. II, fig. 3.

Actinopus crassipes: Lucas & Bücherl (1965): 89, figs. 1–18.

Actinopus niger Bücherl, Timotheo & Lucas, 1971: 121, fig. 2. (ms name, based on holotype of *A. ceciliae*)

Actinopus crassipes: Silva-Moreira *et al.* (2010): 7.

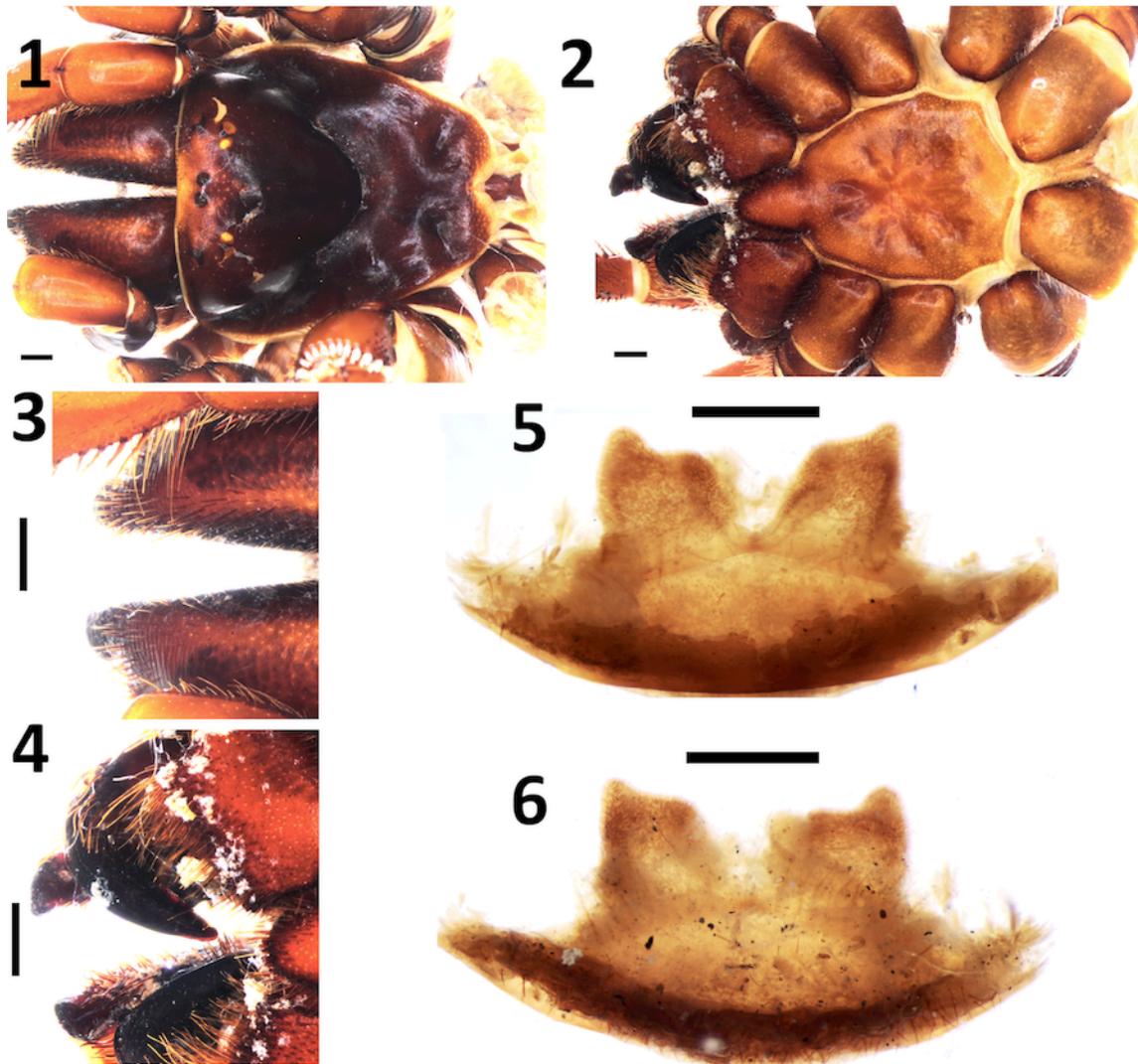
Actinopus crassipes: Miglio *et al.* (2020): 116, figs. 104A–F, 105A–D, 106, 107A–C.

Type material: Holotype ♀ *Pachyloscelis crassipes* (BMNH 1890.7.1.317), Taquara, [Rio Grande do Sul], Keyserling colln., examined; holotype imm. *Pachyloscelis luteipes* (BMNH 1890.7.1.318), Rio [de] Janeiro, [Ihering], Keyserling colln., examined.

Diagnosis: Females of *A. crassipes* are difficult to diagnose from the other species of the Crassipes Group (*sensu* Miglio *et al.*, 2020) given their almost homogenous spermathecae and rastellum, and the intraspecific variation known in some species such as *A. dubiomaculatus* Mello-Leitão, 1923. Therefore, the strongest diagnoses can be made only from males, as diagnosed in Miglio *et al.* (2020). However, females can be tentatively differentiated from *A. dubiomaculatus* and *A. gerschiapelliarum* by their larger size and wider fovea (total length >180mm vs. <150mm, fovea narrower in *A. dubiomaculatus* and *A. gerschiapelliarum*), and from *A. laventana* by spermathecal morphology with the external lobes pointed upward (external lobes pointed diagonally in *A. laventana*).

Redescription of holotype female (BMNH 1890.7.1.317): Total length including chelicerae: 18.8. Carapace: length 7.1, width 6.3. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved (Fig. 1). Chelicera: length 3.9, width 2.0, rastellum pointed, well developed, with numerous cuspules (Figs. 3–4). Abdomen: length 7.8, width 6.6. Maxilla: with 70–80 maxillary cuspules. Labium: length 1.9, width 1.2, with 15 labial cuspule. Sternum: length 4.4, width 4.1, with three pairs of sigillae. Lengths of legs and

palpal segments: see table 1. Spination: patella r 0–0–10, d 0–0–29 (apical, ‘crown of thorns’), IV p 20–15–10, tibia I p 0–0–3, r 3–3–2, II r 17–12–16, III r 1–0–6, d 0–0–23 (apical, ‘crown of thorns’), palp p 1–5–7, r 5–5–8, metatarsus I p 4–8–6, r 5–7–10, II p 4–2–2, r 5–8–3, III p 6–5–4, r 6–4–7, IV p 0–2–3, tarsus I p 5–4–2, r 4–5–3, II p 3–3–8, r 4–2–2, III p 0–3–5, r 3–4–5, IV p 2–6–7, palp p 3–4–5, r 7–6–8. Spermathecae: with two receptacles, each with two lobes, retrolateral lobes well-developed, triangular, prolateral lobes weakly developed, rounded (Figs. 5–6). Colour: carapace, chelicerae and legs dark brown, opisthosoma, sternum and labium light brown (Figs. 1–2).



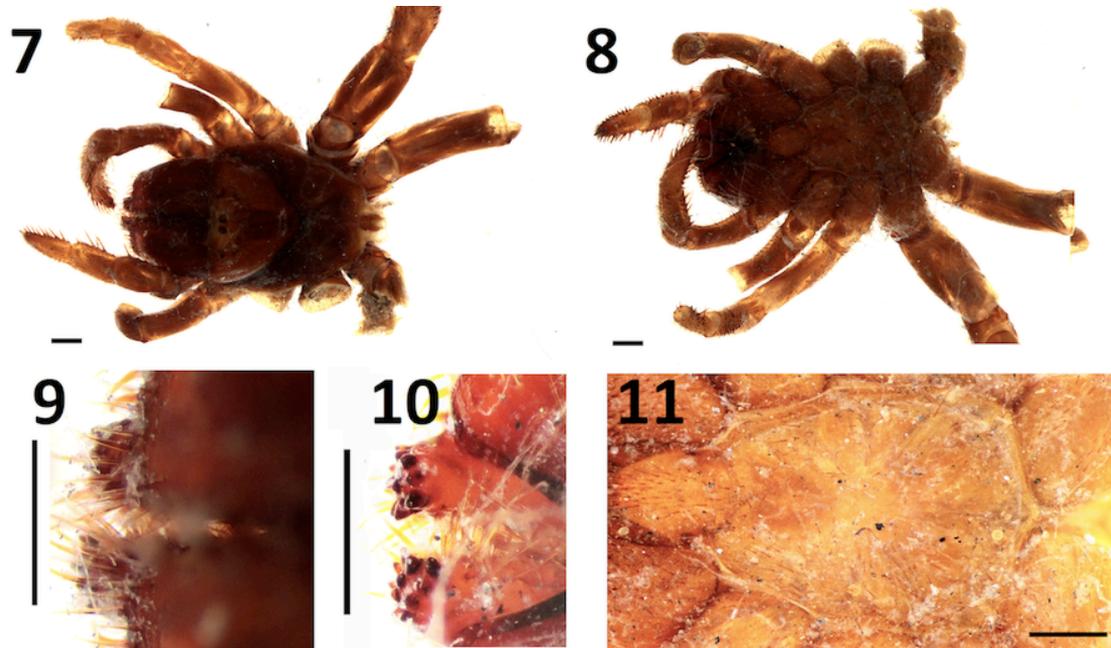
Figures 1–6. *Actinopus crassipes* (Keyserling, 1891) holotype female (BMNH 1890.7.1.317), 1 carapace, dorsal view, 2 labium and sternum, ventral view, 3 rastellum, dorsal view, 4 rastellum, ventral view, 5 spermathecae, ventral view, 6 spermathecae, dorsal view. Scale bars = 1mm.

Other material examined: 1 ♀ (BMNH), Sud Brasil [*sic*], col[I]. van Ihering, *A. crassipes* det. D. Sherwood 06/11/22; 1 ♀ (BMNH), 20.641, *A. crassipes* det. D. Sherwood 06/11/22.

Distribution: Rio Grande do Sul, Brazil (Fig. 111).

Remarks: Schiapelli & Gerschman (1962) were the first authors to illustrate the spermathecae of *A. crassipes*, based on examination of material in the Natural History Museum, London. Examination of the holotype of *A. luteipes* revealed it is a juvenile female

(Figs. 7–11) and is missing the opisthosoma, but sex determination is possible based on the robust and spinose presentation of the legs. The different form of the rastellum in the holotype could be a result of ontogeny, and without genital organ morphology, it is difficult to confirm or refute the synonymy with *A. crassipes*. We therefore tentatively maintain the synonymy of *A. luteipes* with *A. crassipes* for now.



Figures 7–11. *Actinopus luteipes* (Keyserling, 1891) holotype immature (BMNH 1890.7.1.318), **7** habitus, dorsal view, **8** habitus, ventral view, **9** rastellum, dorsal view, **10** rastellum, ventral view, **11** sternum and labium, ventral view. Scale bars = 1mm.

Table 1: *Actinopus crassipes* (Keyserling, 1891) holotype female (BMNH 1890.7.1.317), podomere lengths.

	I	II	III	IV	Palp
Femur	3.9	4.0	3.5	5.3	3.9
Patella	2.7	2.6	2.7	3.0	2.3
Tibia	1.9	2.0	1.3	3.1	2.8
Metatarsus	2.4	2.6	3.1	3.1	–
Tarsus	1.1	1.2	1.5	1.5	2.7
Total	12.0	12.4	12.1	16.0	11.7

***Actinopus harti* Pocock, 1895** (Figs. 12–32)

Actinopus harti Pocock, 1895: 195.

Actinopus hartii: F. O. Pickard-Cambridge (1899): 893, pl. 54, fig. 1.

Actinopus harti: Miglio *et al.* (2020): 14. (*species inquirenda*)

Type material: Holotype ♀, paratypes 3 imm. (BMNH 1893.3.25.2–6), Trinidad, [coll.] J. H. Hart, examined; paratype 1 ♀ (BMNH 1893.3.25.26), Trinidad, [coll.] J. H. Hart.

Diagnosis: Males of *A. harti* resemble *A. mairinquensis* Miglio, Pérez-Miles & Bonaldo, 2020, *A. utinga* Miglio, Pérez-Miles & Bonaldo, 2020 and *A. tutu* Miglio, Pérez-Miles & Bonaldo, 2020 by the general palpal bulb and rastellum morphology. It is distinguished from *A. mairinquensis* by the absence of denticles on the area below the PI (denticles present in *A. mairinquensis*), from *A. utinga* by the absence of an R (R present in *A. utinga*), and from *A.*

tutu by the developed PAc (PAc weakly developed in *A. tutu*). Males of *A. harti* can be recognized from all their geographically relative species [i.e. the Cucutaensis Group *sensu* Miglio *et al.* (2020)] by the absence of the typical apical tegular process on the palpal bulb (present in other known congeners of the Cucutaensis Group). Females somewhat resemble *A. cucutaensis* (Mello-Leitão, 1941) in spermathecal morphology but can be distinguished by the comparatively wider spacing of the receptacles at their base (spacing comparatively narrower in *A. cucutaensis*), and further by the wider fovea (fovea narrower in *A. cucutaensis*). Females further differ from *A. lomalinda* Miglio, Pérez-Miles & Bonaldo, 2020 and *A. robustus* by the spermathecal base wider and less baso-medially fused (spermathecal base narrower and more baso-medially fused in *A. lomalinda* and *A. robustus*).

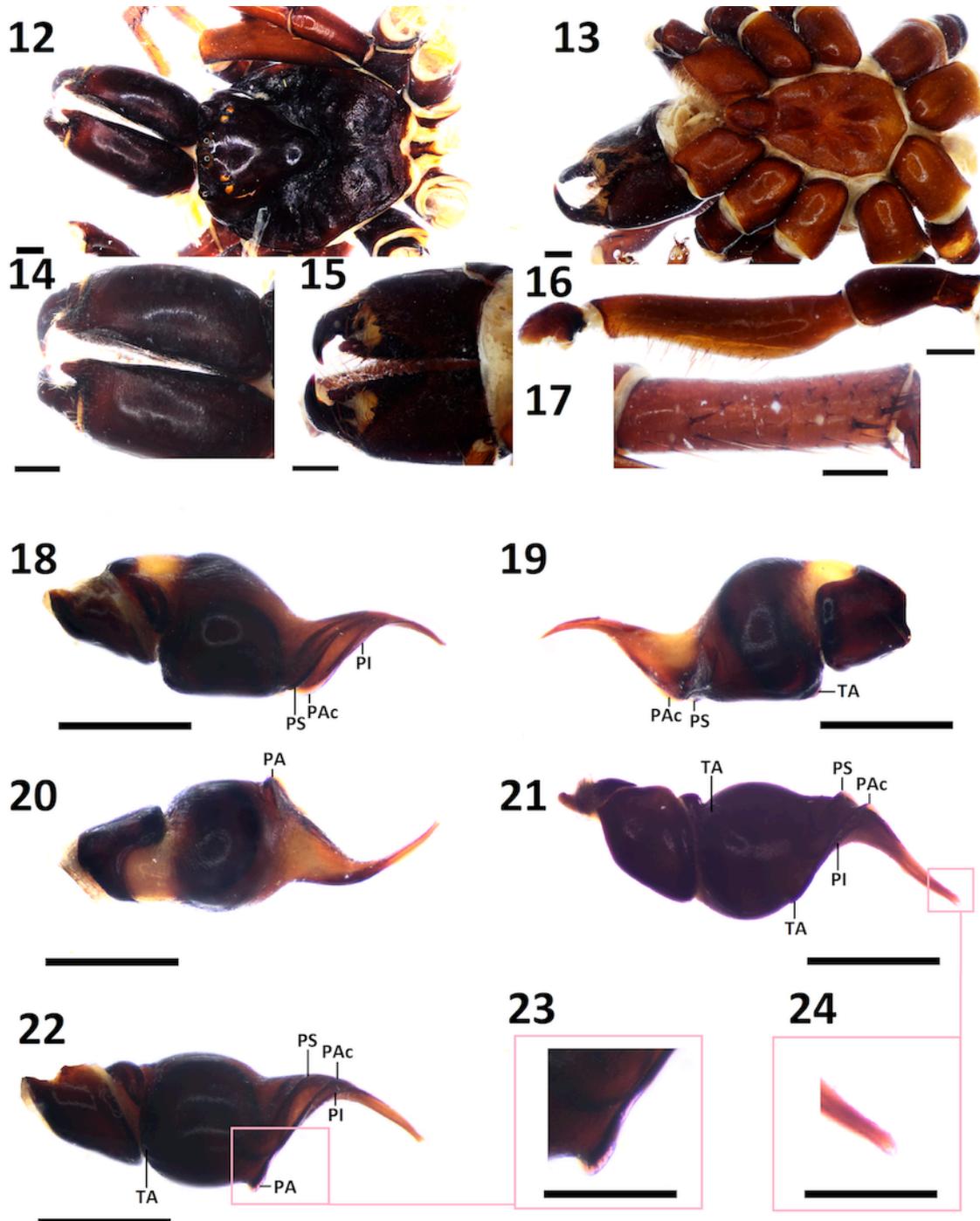
Description of non-type male (BMNH 1848.4.2.67): Total length including chelicerae: 14.6. Carapace: length 5.3, width 5.3. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved. Chelicera: length 3.1, width 1.5, rastellum pointed, well developed, without cuspules (Figs. 14–15). Abdomen: length 6.2, width 4.3. Maxilla: maxillary cuspules absent. Labium: length 1.2, width 0.6, labial cuspules absent. Sternum: length 3.3, width 2.7, with three pairs of sigillae. Lengths of legs and palpal segments: see table 2. Tarsi I–IV with pseudoscopula present, sparsely distributed on tarsi I and II, denser on tarsi III and IV. Metatarsi without pseudoscopula. Spination: patellae III d 4–6–24 (20 apical, ‘crown of thorns’), IV r 0–0–2, tibia I p 1–3–1, r 0–2–3, II p 2–5–11, r 1–2–3 (Fig. 17), III p 1–2–0, r 1–1–3, d 0–0–19 (apical, ‘crown of thorns’), IV p 1–2–8, r 0–0–2, metatarsus I p 3–6–6, r 4–5–9, II p 6–6–10, r 3–5–9, III p 4–5–8, r 7–8–10, IV p 2–4–11, r 4–2–1, tarsus I p 1–3–3, r 1–4–8, II p 2–6–9, r 2–3–7, III p 3–5–6, r 1–4–6, IV p 1–5–8, r 3–0–3. Femur III: slightly incrassate. Palpal tibia: slightly incrassate, elongate (Fig. 16). Palpal bulb with weakly developed TA; embolus comparatively elongate and gently curved retrolaterally; PS and PI weakly developed, PAc developed, PA constricted, short and weakly developed (Figs. 18–24). Colour: carapace and chelicerae black, legs dark brown (Fig. 12) opisthosoma, sternum and labium light brown (Fig. 13).

Table 2: *Actinopus harti* Pocock, 1895 non-type male (BMNH 1848.4.2.67), podomere lengths.

	I	II	III	IV	Palp
Femur	4.4	5.3	3.3	6.3	5.5
Patella	2.3	2.2	2.4	2.4	2.6
Tibia	3.5	3.5	2.4	4.8	4.5
Metatarsus	4.1	4.5	4.1	4.6	–
Tarsus	2.5	2.8	2.6	3.2	1.1
Total	16.8	18.3	14.8	21.3	13.7

Redescription of holotype female (BMNH 1893.3.25.2–6): Total length including chelicerae: 30.7. Carapace: length 10.1, width 9.1. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved. Chelicera: length 8.1, width 3.4, rastellum rounded, well developed, with numerous cuspules (Figs. 27–30). Abdomen: length 12.5, width 7.4. Maxilla: with 55–60 maxillary cuspules. Labium: length 2.7, width 2.2, with 25–30 labial cuspules. Sternum: length 7.2, width 5.5, with three pairs of sigillae. Lengths of legs and palpal segments: see table 3. Spination: patella III r 0–0–5, d 0–0–2 (apical, ‘crown of thorns’), IV p 21–10–15, d 0–0–25 (apical, ‘crown of thorns’), palp p 1–2–3, tibia I p 2–4–3, r 4–2–5, II p 0–0–1, r 15–28–13, III r 1–0–5, d 0–0–25 (apical, ‘crown of thorns’), palp p 2–9–11, r 4–3–4, metatarsus I p 8–8–5, r 6–7–3, II p 6–4–10, r 6–7–6, III p 2–3–4, r 4–5–6, IV p 0–5–9, r 0–0–1, tarsus I p 4–5–4, r 3–2–4, II p 1–3–12, r 2–2–3, III p 0–4–4, r 1–4–4, IV p

0–8–9, palp p 6–8–6, r 5–6–10. Spermathecae: with two receptacles, each with a single, semi-quadrangle lobe, base much wider than lobe, receptacles fused at base and directed retrolaterally (Figs. 31–32). Colour: carapace and chelicerae dark brown, although anterior rim of carapace of slightly lighter tone, opisthosoma, legs, sternum and labium light brown (Figs. 25–26).



Figures 12–24. *Actinopus harti* Pocock, 1895 non-type male (BMNH 1848.4.2.67), **12** carapace and chelicerae, dorsal view, **13** chelicerae, labium and sternum, ventral view, **14** chelicerae and rastellum, dorsal view, **15** chelicerae and rastellum, ventral view, **16** palpal tibia, prolateral view, **17** tibia II retrolateral view, **18–24** palpal bulb (left hand side), **18** prolateral view, **19** retrolateral view, **20** dorsal view, **21** ventral view, **22** prolatero-ventral view, **23** close-up of area below PI keel, **24** close-up of tip of embolus, ventral view. Scale bars = 1mm.

Table 3: *Actinopus harti* Pocock, 1895 holotype female (BMNH 1893.3.25.2–6), podomere lengths.

	I	II	III	IV	Palp
Femur	6.0	6.2	5.9	7.6	5.7
Patella	3.5	3.7	4.2	4.7	4.0
Tibia	2.9	3.5	2.2	4.6	4.4
Metatarsus	3.7	4.0	4.3	4.9	–
Tarsus	1.8	1.8	2.1	2.0	4.0
Total	17.9	19.2	18.7	23.8	18.1

Other material examined: 1 ♂ (BMNH 1848.4.2.67), Trinidad, [coll.] Dr. W. Ince; 1 imm. (BMNH 1898.4.2.65–67), Trinidad, Dr. W. Ince, 1898; 1 imm. (BMNH), Trinidad, *A. harti* det. D. Sherwood 06/11/22; 1 ♀, 2 imm. (BMNH 1893.3.26.1), Trinidad, [coll.] Bevan Rake Esq., *A. harti* det. D. Sherwood 06/11/22; 1 ♀ (BMNH), B.W.I., Trinidad, Mt. Aripo, 20/3/1937, rotten log, 48AR, Tube 542, see collector's notes, [coll.] I. T. Sanderson, *A. harti* det. D. Sherwood 09/17.

Distribution: Trinidad (Fig. 111).

***Actinopus longipalpis* C. L. Koch, 1842** (Figs. 33–62)

Actinopus longipalpis C. L. Koch, 1842: vol. 9: 102, pl. 324, fig. 754.

Pachyloscelis liodon Ausserer, 1875: 142, pl. 5, fig. 7. **syn. nov.**

Actinopus liodon: F. O. Pickard-Cambridge (1896): 730.

Actinopus longipalpis: Ríos-Tamayo & Goloboff (2018): 49, figs. 23A–I, 24A–D.

Actinopus longipalpis: Ríos-Tamayo (2019): 529, figs. 1B, 4A–I, 5A–D.

Actinopus liodon: Ríos-Tamayo (2019): 537. (*species inquirenda*)

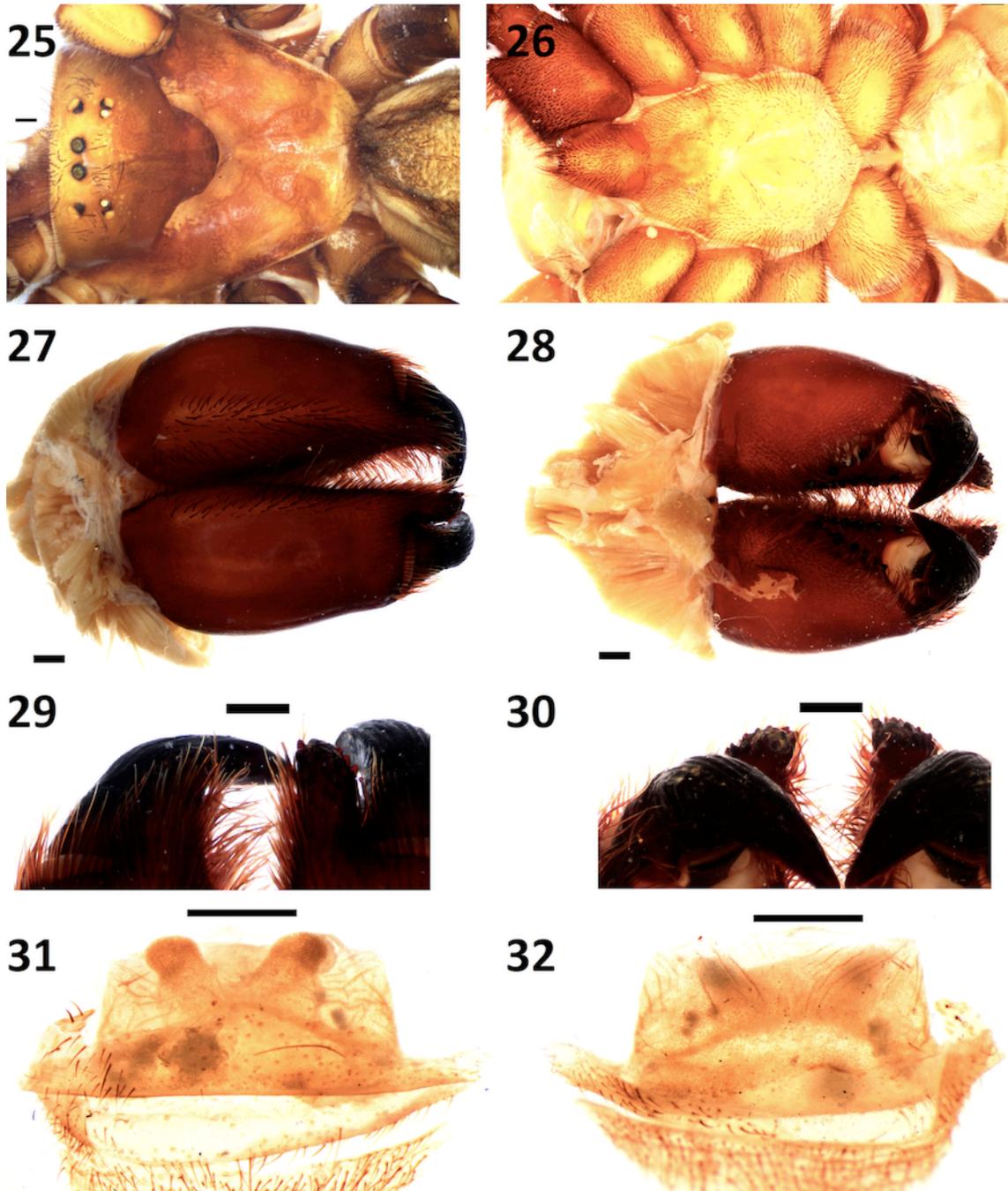
Actinopus longipalpis: Miglio, Pérez-Miles & Bonaldo (2020): 172, figs. 154A–C, 155A–D, 156A–E.

Actinopus pindapoy Miglio, Pérez-Miles & Bonaldo, 2020: 174, figs. 157A–F, 158A–D, 159A–C. **syn. nov.**

Type material: Holotype ♂ *Actinopus longipalpis* (ZMB 2107), Montevideo, Uruguay, examined; holotype ♂ *Pachyloscelis liodon* (BMNH 1890.7.1.316), Uruguay, Keyserling colln., 1890.257, examined holotype ♂, paratype ♂ *Actinopus pindapoy* (MACN-Ar 19824), Pindapoy, Misiones, 16.I.1942, [coll.] P. Williner, not examined.

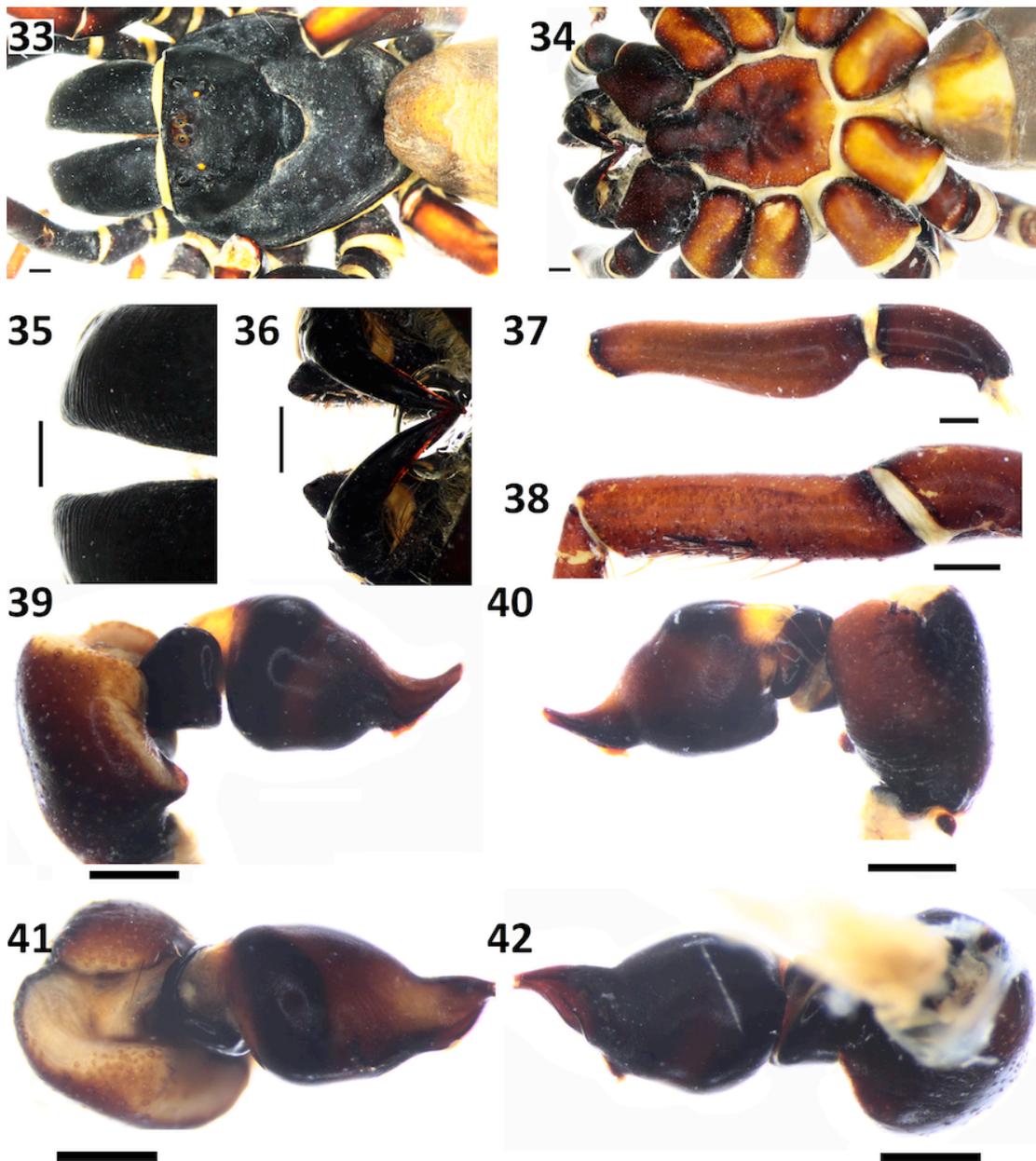
Diagnosis: See Ríos-Tamayo (2019).

Rationale for new synonymies: *Actinopus longipalpis* and *A. liodon* are the oldest species described in the genus from Uruguay. Neither species has an exact collection locality; *A. liodon* is described from “Uruguay” whereas *A. longipalpis* is described from “Montevideo, Uruguay”. For the latter, Ríos-Tamayo & Goloboff (2018: 52) suggested that the type locality just indicated the port of exportation and not necessarily the true locality. Thus, the collection of new topotypic material was rendered more difficult. The observations of external and genital characters made during this study between both holotypes allow us to find several similarities to the holotype (examined) of *A. longipalpis*.



Figures 25–32. *Actinopus harti* Pocock, 1895 holotype female (BMNH 1893.3.25.2–6), **25** carapace, dorsal view, **26** labium and sternum, ventral view, **27** chelicerae, dorsal view, **28** chelicerae, ventral view, **29** rastellum, dorsal view, **30** rastellum, ventral view, **31** spermathecae, ventral view, **32** spermathecae, dorsal view.

Miglio *et al.* (2020: 174) described *A. pindapoy* Miglio, Pérez-Miles & Bonaldo, 2020 from Buenos Aires, Argentina. Those authors observed its similarity with *A. longipalpis* and differentiated it by the “very inconspicuous and delicate PAC”, which is a very subtle character. Analysis of the description and illustrations of the holotype presented by Miglio *et al.* (2020) allow us to observe the almost null differences in morphology between the types of *A. liodon*, *A. longipalpis*, and *A. pindapoy*.



Figures 33–42. *Actinopus liodon* (Ausserer, 1875) holotype male (BMNH 1890.7.1.316) (= *Actinopus longipalpis* C. L. Koch, 1842 **syn. nov.**), **33** carapace and chelicerae, dorsal view, **34** chelicerae, labium and sternum, ventral view, **35** rastellum, dorsal view, **36** rastellum, ventral view, **37** palpal tibia, prolateral view, **38** tibia II retrolateral view, **39–42** cymbium with palpal bulb attached (left hand side, view indicates that of cymbium, view of palpal bulb does not necessarily match that of cymbium), **39** prolateral view, **40** retrolateral view, **41** dorsal view, **42** ventral view. Scale bars = 1mm.

Furthermore, the locality given by Miglio *et al.* (2020) presents a lot of inconsistencies. The type material section of their work states: “Holotype male from Provincia Bonaerensis, Chacabuco, Zárate, Buenos Aires, Argentina (MACN-Ar 19824)” without indication of a collector or date. Firstly, “Provincia Bonaerensis” does not exist in Argentina; Second, Chacabuco and Zárate are two different localities separated by more than 150 km; and thirdly, the accession number (MACN-Ar 19824), was repeated in the examined material with another locality “ARGENTINA: Misiones: Pindapoy, [27° 35’ 22.22” S 55° 50’ 00.04” W], 2♂, 16.i.1942, P. Williner leg. (MACN-Ar 19824)”.

Examination of the type material of two species (*A. longipalpis* and *A. liodon*), and consultation of the original description of the third (*A. pindapoy*), allowed us to conclude that, based on palpal bulb morphology, sternum, rastellum and foveal shape, general colouration, and the spination pattern of retrolateral tibia II these specimens represent the same taxon. Therefore, we propose *A. liodon* and *A. pindapoy* as junior synonyms of *A. longipalpis* **syns. nov.** We provide herein a redescription of the holotype of *A. liodon*, the palpal bulb morphology of a non-type male previously identified as *A. liodon*, and a description of a large non-type male from Paraguay to provide complementary morphological and morphometric data.

Redescription of holotype male of *Actinopus liodon* (BMNH 1890.7.1.316): Total length including chelicerae: 21.5. Carapace: length 6.9, width 8.3. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved. Chelicera: length 5.8, width 2.2, rastellum rounded, developed, without cuspules (Figs. 35–36). Abdomen: length 8.6, width 6.3. Maxilla: maxillary cuspules absent. Labium: length 2.0, width 1.3, labial cuspules absent. Sternum: length 5.5, width 3.9, with three pairs of sigillae. Lengths of legs and palpal segments: see table 4. Tarsi I–IV with pseudoscopula present, sparsely distributed on tarsi I and II, denser on tarsi III and IV. Metatarsi without pseudoscopula. Spination: (not fully interpreted due to fragility of the specimen, but for retrolateral tibia II, see Fig. 38). Femur III: slightly incrassate. Palpal tibia: slightly incrassate, elongate (Fig. 37). Palpal bulb with weakly developed TA; embolus wide at base, snapped off medially; PS, PAC and PI weakly developed, PA ending in abrupt point apically, weakly developed (Figs. 39–42). Colour: carapace brown, and chelicerae black, legs dark brown (Figs. 33), opisthosoma, sternum and labium light brown (Figs. 33–34).

Table 4: *Actinopus liodon* (Ausserer, 1875) holotype male (BMNH 1890.7.1.316), podomere lengths.

	I	II	III	IV	Palp
Femur	7.6	6.8	5.6	8.0	5.1
Patella	3.6	3.4	3.4	4.3	3.4
Tibia	4.6	4.2	3.5	3.5	6.2
Metatarsus	5.4	5.8	6.5	6.8	–
Tarsus	2.8	3.0	4.1	3.6	2.1
Total	24.0	23.2	23.1	26.2	16.8

Palpal bulb morphology of non-type male of *Actinopus liodon* (BMNH 1878.23): Palpal bulb with weakly developed TA; embolus wide at base, comparatively elongate, gently curved retrolaterally; PS, PAC and PI weakly developed, PA ending in abrupt point apically, weakly developed (Figs. 43–49).

Description of non-type male from Paraguay (BMNH): Total length including chelicerae: 22.1. Carapace: length 9.1, width 7.8. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved. Chelicera: length 4.7, width 2.4, rastellum rounded, weakly developed, without cuspules (Figs. 52–53). Abdomen: length 8.3, width 6.2. Maxilla: maxillary cuspules absent. Labium: length 2.4, width 1.9, labial cuspules absent. Sternum: length 5.5, width 4.6, with three pairs of sigillae. Lengths of legs and palpal segments: see table 5. Tarsi I–IV with pseudoscopula present, sparsely distributed on tarsi I and II, denser on tarsi III and IV. Metatarsi without pseudoscopula. Spination: patella III p 0–1–2, d 0–0–16 (apical, ‘crown of thorns’), IV p 0–0–2, tibia I p 1–4–7, r 1–4–4, II p 4–7–8, r 1–3–4 (Fig. 55), III p 0–4–8, r 10–11–20, IV p 0–0–5, r 1–6–11, metatarsus I p 1–2–6, r 1–1–4, II r 2–2–4, III p 11–20–24, r 5–9–16, IV p 5–4–13, r 9–8–16, tarsus I p 0–1–3, r 0–0–6, II p 0–3–4, r

2–2–3, III p 1–5–5, r 0–2–2, IV p 4–7–6, r 7–7–6. Femur III: slightly incrassate. Palpal tibia: slightly incrassate, elongate (Fig. 54). Palpal bulb with weakly developed TA; embolus comparatively elongate and gently curved retrolaterally; PS well-developed, PAC developed, PI weakly developed, PA constricted and weakly developed (Figs. 56–62). Colour: carapace and chelicerae black (Fig. 50), opisthosoma light brown, legs, sternum and labium dark brown (Fig. 50–51).

Table 5: *Actinopus longipalpus* C.L. Koch, 1842 non-type male (BMNH), podomere lengths.

	I	II	III	IV	Palp
Femur	7.4	6.5	5.5	7.9	7.4
Patella	3.4	3.6	3.5	3.8	3.4
Tibia	4.1	4.5	3.2	6.4	6.1
Metatarsus	5.2	5.5	6.1	7.1	–
Tarsus	2.5	2.9	3.3	4.3	1.6
Total	22.6	23.0	21.6	29.5	18.5

Other material examined: 1 ♂ (BMNH 1878.23), *Actinopus liodon*, Uruguay; 1 ♂ (BMNH), Paraguay, Dr. Gibbons Spilsbury.

Distribution: Argentina, Paraguay, and Uruguay (Fig. 111).

Remarks: The inclusion of a separate type accession number with the holotype of *A. liodon* was typical for the period (Sherwood *et al.*, 2022) but has now been phased out and is not to be confused with the primary accession number. The Paraguayan specimen is from the collection of Dr Bohls and their precise locality is unknown. It is likely it may have been collected around the capital city Asunción, or in the Humid Chaco ecoregion of southern Paraguay where Bohls resided and was known to collect. This specimen from Paraguay represents a new country record.

***Actinopus princeps* Chamberlin, 1917** (Figs. 63–67)

Actinopus princeps Chamberlin, 1917: 31.

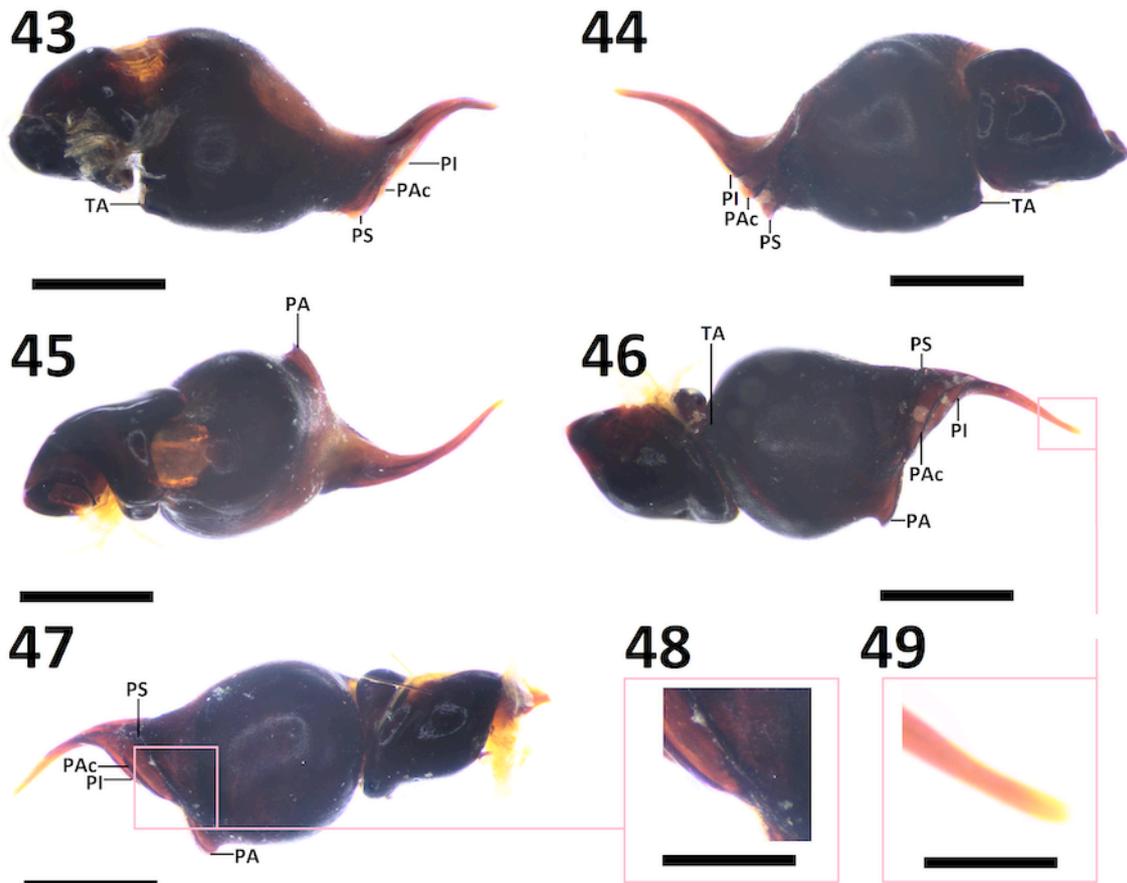
Actinopus princeps: Miglio, Pérez-Miles & Bonaldo (2020): 238, figs. 215A–F, 216A–D, 217A–D.

Type material: Holotype ♀ (MCZ 5), Rio de Janeiro, Brazil, not examined.

Material examined: 1 ♀ (BMNH(E) 2009-108), near Hotel Ypé, Parque Nacional do Itatiaia, RJ, Brasil [*sic*], 24.I.2002, ‘*Actinopus robustus*’ female Itatiaia RJ in burrow in sandy bank, [coll. and colln.] P. A. Selden, *A. princeps* det. D. Sherwood 06/11/2022.

Distribution: Rio de Janeiro state, Brazil (Fig. 111).

Remarks: For comprehensive textual description, see Miglio *et al.* (2020). Complementary description of the rastellum and spermathecae morphology of a non-type female (BMNH(E) 2009-108) is given here. Rastellum: pointed, developed, with numerous cuspules (Figs. 65–66). Spermathecae: with two receptacles, each with two lobes, retrolateral lobes well-developed, rounded, prolateral lobes weakly developed, rounded (Fig. 67).



Figures 43–49. *Actinopus longipalpis* C. L. Koch, 1842 non-type male (BMNH 1878.23), previously labelled as *Actinopus liodon*, palpal bulb (left hand side), **43** prolateral view, **44** retrolateral view, **45** dorsal view, **46** ventral view, **47** prolatero-ventral view, **48** close-up of area below PI keel, **49** close-up of tip of embolus, ventral view. Scale bars = 1mm.

***Actinopus robustus* (O. Pickard-Cambridge, 1892) (Figs. 68–73)**

Pachyloscelis robustus O. Pickard-Cambridge, 1892: 93, pl. 12, fig. 5.

Actinopus robustus: F. O. Pickard-Cambridge (1897): 6.

Actinopus robustus: Quintero-Arias (2005): 378, figs. 4–8, 14–15.

Actinopus robustus: Jocqué & Dippenaar-Schoeman (2006): 58, figs. 6a–d.

Actinopus robustus: Miglio *et al.* (2020): 197, figs. 177A–F, 178A–D, 179A–F, 180A–D, 181A–D.

Type material: Lectotype (designated herein) ♀ (BMNH 1898.12.24.1), Veraguas, Panama, Boncard coll., F. D. Godman (p.) [=presented], examined; paralectotypes (designated herein) 2 imm. ♀♀, 10 imm (BMNH 1898.12.24.2–10), Panama, Veraguas, (Boncard), examined; 3 imm. (BMNH 1898.12.24.2–10), (part), examined; 2 ♀♀ (OUMNH), Jar 12, Veraguas, O. Pickard-Cambridge colln., examined; 2 ♀♀ (OUMNH), Jar 5, Veraguas, O. Pickard-Cambridge colln., examined; 2 ♀♀ (OUMNH), Jar 3, Veraguas, O. Pickard-Cambridge colln., not examined (on loan to another researcher).

Diagnosis: See Miglio *et al.* (2020).

Redescription of lectotype female (BMNH 1898.12.24.1): Total length including chelicerae: 26.6. Carapace: length 8.8, width 7.7. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved. Chelicera: length 5.2, width 2.9, rastellum

pointed, developed, with numerous cuspules (Figs. 70–71). Abdomen: length 11.1, width 10.2. Maxilla: with 40–45 maxillary cuspules. Labium: length 2.1, width 1.9, with 10 labial cuspules. Sternum: length 4.7, width 4.4, with three pairs of sigillae. Lengths of legs and palpal segments: see table 6. Spination: patella III p 0–3–5, r 0–4–4, d 0–0–16 (apical, ‘crown of thorns’), IV p 17–12–15, palp p 1–2–2, r 9–10–8, tibia I p 0–1–3, r 2–4–5, II r 17–18–18, III d 0–0–19 (apical, ‘crown of thorns’), IV p 0–0–2, palp p 3–4–5, r 9–10–8, metatarsus I p 9–6–8, r 8–9–4, II p 5–5–6, r 10–13–11, III p 3–5–5, r 7–9–20, IV p 0–1–8, r 0–0–4, tarsus I p 2–4–3, r 2–3–5, II p 6–5–4, r 1–2–6, IV p 4–5–6, r 6–7–8. Spermathecae: with two receptacles, each with a single indistinct lobe, base approximately equidistant to lobe, receptacles fused at base and directed retrolaterally (Figs. 72–73). Colour: carapace, legs, opisthosoma, sternum and labium light brown (Figs. 68–69), chelicerae reddish brown (Fig. 68).

Male: See Quintero-Arias (2005) and Miglio *et al.* (2020).

Distribution: Panamá and Veraguas districts, Panama (Fig. 111).

Remarks: There is overlap between the accession numbers and the splitting of specimens into separate tubes by earlier workers; this is not unusual for large syntypic series in BMNH (DS pers. obs.), the senior author has recurated and clearly labelled the lectotype and paralectotypes to ensure ease-of-reference by future workers.

Table 6: *Actinopus robustus* (O. Pickard-Cambridge, 1892) lectotype female (BMNH 1898.12.24.1), podomere lengths.

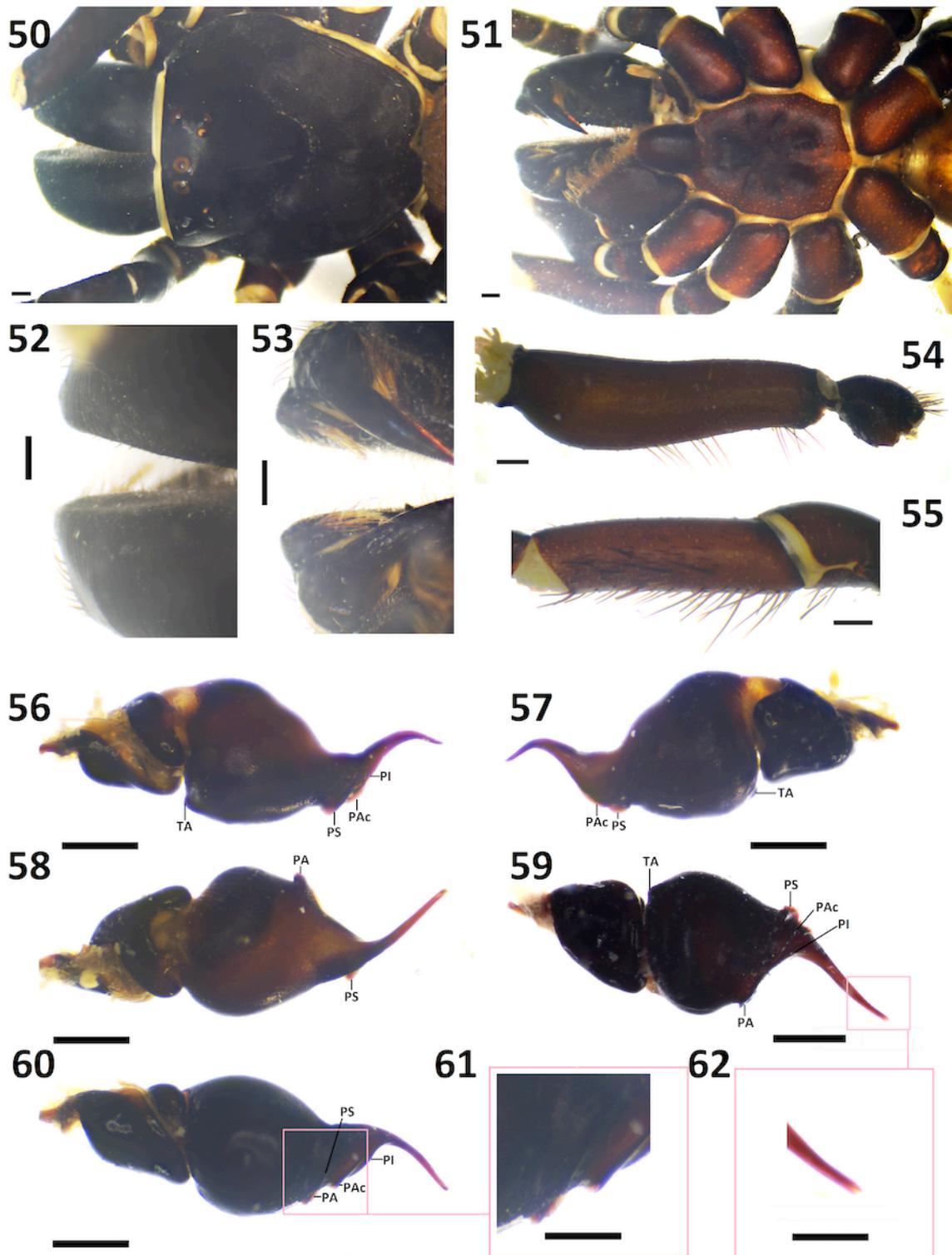
	I	II	III	IV	Palp
Femur	4.5	4.8	4.9	5.1	4.3
Patella	3.0	2.5	3.4	3.5	2.8
Tibia	2.4	2.1	1.8	3.9	3.4
Metatarsus	2.9	2.7	3.3	4.1	–
Tarsus	1.4	1.4	1.8	1.0	2.8
Total	14.2	13.5	15.2	17.6	13.3

Actiniums tetymapyta Sherwood & Pett, 2022 (Figs. 74–78)

Actinopus tetymapyta Sherwood & Pett, 2022: 78, figs. 15–28.

Type material: Holotype ♂ (CIPLT-Ar 727), Paraguay: Pilar Military Base, Ñeembucú department, Forest/ Grassland edge pitfall trap, -26.8437, -58.3066, 28/01/2020–16/02/2020, leg. Brogan L. Pett and Rufus Wyer, examined; paratype ♂ (CIPLT-Ar 725), Paraguay: Pilar Military Base, Ñeembucú department, Forest interior pitfall trap, -26.8443, -58.3116, 16/02/2020, leg. Brogan L. Pett and Rufus Wyer, examined; paratype ♂ (CIPLT-Ar 726), Paraguay: Pilar Military Base, Ñeembucú department, Forest/ Grassland edge pitfall trap, -26.8432, -58.3101, 16/02/2020, leg. Brogan L. Pett & Rufus Wyer, examined.

Diagnosis: Females of *A. tetymapyta* closely resemble *A. wallacei*, which share the base of the receptacles with striations, but differs by the comparatively shorter receptacles, indistinct basal striations and absence of medial swelling (receptacles comparatively longer, basal striations distinct and with medial swelling in *A. wallacei*). Females resemble others which share Type III morphology (*sensu* Ríos-Tamayo & Goloboff, 2018) by the deep central depression of the sternum and spermathecal morphology. Females can be differentiated from *A. goloboffi* Ríos-Tamayo 2014 and *A. excavatus* Ríos-Tamayo & Goloboff, 2018 by the



Figures 50–62. *Actinopus longipalpis* C. L. Koch, 1842 non-type male (BMNH), new record from Paraguay, **50** carapace and chelicerae, dorsal view, **51** chelicerae, labium and sternum, ventral view, **52** rastellum, dorsal view, **53** rastellum, ventral view, **54** palpal tibia, prolateral view, **55** tibia II retrolateral view, **56–62** palpal bulb (left hand side), **56** prolateral view, **57** retrolateral view, **58** dorsal view, **59** ventral view, **60** prolatero-ventral view, **61** close-up of area below PI keel, **62** close-up of tip of embolus, ventral view. Scale bars = 1mm.

thinner spermathecal base and weakly developed internal receptacles (spermathecal base wider and internal receptacles developed in *A. goloboffi* and *A. excavates*). *Actinopus tetymapyta* can also be distinguished from females of other species in proximity (i.e. *A. taragui* Ríos-Tamayo & Goloboff, 2018; *A. ramirezi* Ríos-Tamayo & Goloboff, 2018 and *A.*

longipalpis) by the basal striations of the spermathecal receptacles and deep central depression of the sternum (spermathecae without basal striations and sternum not deeply centrally depressed in *A. taragui*, *A. ramirezi* and *A. longipalpis*). For diagnosis of males, see Sherwood & Pett (2022)

Description of non-type female (BMNH 1906.3.24): Total length including chelicerae: 25.0. Carapace: length 7.8, width 7.3. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved. Chelicera: length 5.7, width 2.8, rastellum pointed, well developed, with numerous cuspules (Figs. 76–77). Abdomen: length 11.5, width 9.1. Maxilla: with 60–70 maxillary cuspules. Labium: length 2.4, width 1.5, with 20–25 labial cuspule. Sternum: length 5.0, width 5.0, with three pairs of sigillae. Lengths of legs and palpal segments: see table 7. Spinination: patella III p 3–4–6, r 3–5–15, d 0–0–30 (apical, ‘crown of thorns’), IV p 22–18–16, palp p 0–1–2, r 0–0–1, tibia I p 0–1–6, r 5–9–10, II r 0–22–17, III p 1–1–2, r 10–12–14, d 0–0–23 (apical, ‘crown of thorns’), r 6–6–8, palp p 0–4–7, r 10–12–13, metatarsus I p 8–4–9, r 7–11–7, II p 5–6–6, r 10–6–6, III p 5–2–2, r 5–4–6, IV r 4–4–5, tarsus I 4–4–3, r 4–3–5, II p 1–2–4, r 2–2–4, III p 0–0–3, r 1–3–2, IV p 0–1–3, r 1–2–2. Spermathecae: with two receptacles, each with a single lobe, receptacles elongate, lobes indistinct, base wider than lobe, receptacles divergent in parallel and with distinct basal striations (Fig. 78). Colour: carapace, opisthosoma, legs, sternum and labium dark brown (Fig. 74–75), chelicerae dark reddish brown (Fig. 74).

Male: See Sherwood & Pett (2022)

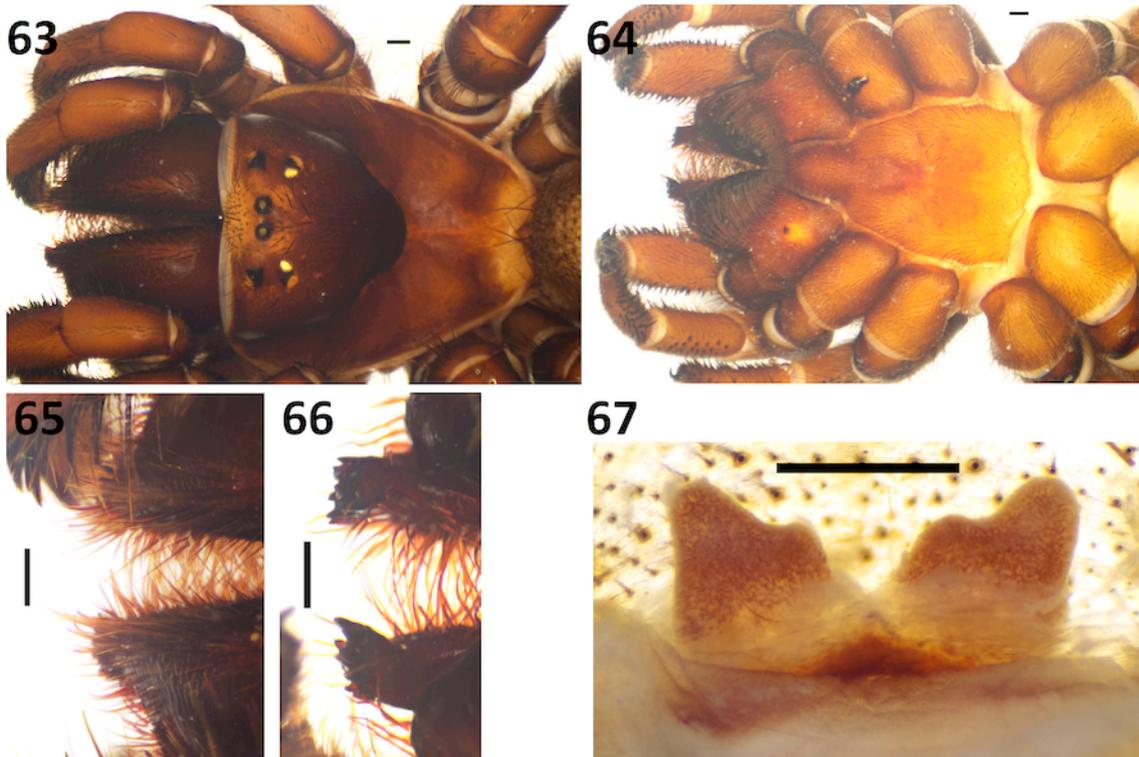
Other material examined: 4 ♀♀. 1 imm ♀, 4 imm (BMNH 1906.3.24), Paraguay, Dr. Bohls colln., *A. tetymapyta* det. D. Sherwood 06/11/22; 2 ♂♂ (BMNH), Paraguay, Dr. Bohls colln., *A. tetymapyta* det. D. Sherwood 06/11/22; 1 ♂ (BMNH), Sapucuaý [= Sapucaí], Paraguay, W. Foster, *A. tetymapyta* det. D. Sherwood 13/04/23.

Distribution: Pilar and Sapucaí, Paraguay (Fig. 111)

Remarks: Whilst the precise localities of the specimens from the collection of Dr Bohls are unknown, he predominately collected around the capital city Asunción and in the Humid Chaco ecoregion of southern Paraguay (Boulenger, 1894; Lankester, 1896) and thus the distribution of this species may extend further than the two aforementioned localities. This hypothesis will have to be confirmed or denied by future fieldwork efforts. Nonetheless, the new records of a male from Sapucaí identified by the senior author provides a new, precise, locality record (Fig. 112).

Table 7: *Actinopus tetymapyta* Sherwood & Pett, 2022 non-type female (BMNH), podomere lengths.

	I	II	III	IV	Palp
Femur	4.1	3.9	4.6	5.3	4.7
Patella	3.0	3.1	2.9	3.6	3.1
Tibia	2.5	2.4	1.5	3.9	3.3
Metatarsus	2.5	2.2	3.3	3.4	–
Tarsus	1.6	1.6	1.5	2.0	2.9
Total	13.7	13.2	13.8	18.2	14.0



Figures 63–67. *Actinopus princeps* Chamberlin, 1917 non-type female (BMNH(E) 2009-108), **63** carapace, dorsal view, **64** labium and sternum, ventral view, **65** rastellum, dorsal view, **66** rastellum, ventral view, **67** spermathecae, dorsal view. Scale bars = 1mm.

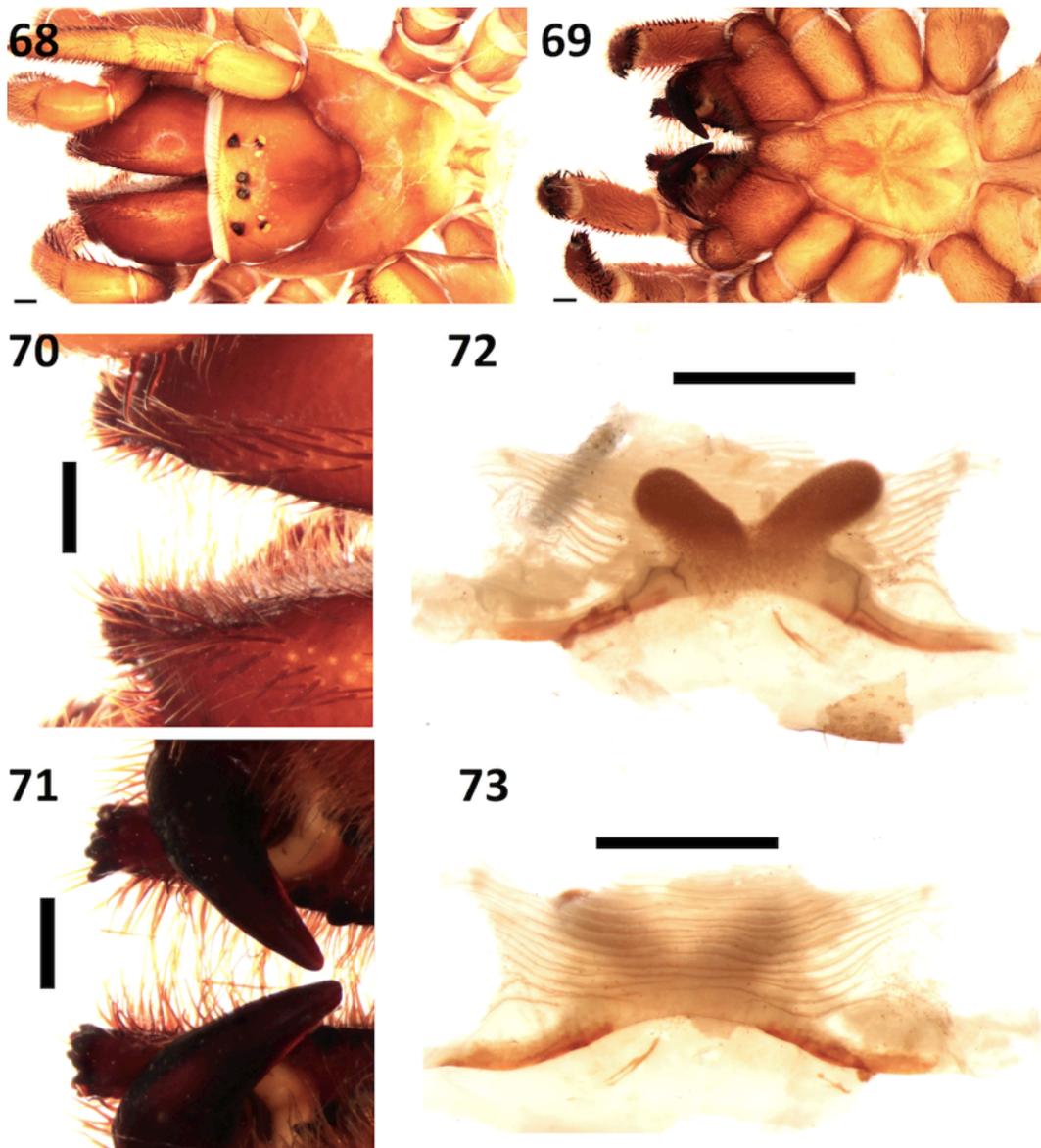
***Actinopus trinotatus* Mello-Leitão, 1938** (Figs. 79–91)

Actinopus trinotatus Mello-Leitão, 1938: 311.

Actinopus trinotatus: Miglio *et al.* (2020): 244, figs. 218A–F, 219A–D, 220.

Type material: Holotype ♀ (IBSP 103431), Lagoa do Norte, Lagoa da Conceição, Florianópolis, Santa Catarina, Brazil, not examined.

Diagnosis: Males of *A. trinotatus* resemble *A. ariasi* Ríos-Tamayo & Goloboff, 2018 and *A. dioi* Miglio, Pérez-Miles & Bonaldo, 2020 in palpal bulb morphology, but can be distinguished by the presence of cuspules on the rastellum and the absence of denticles on the embolus (rastellum lacking cuspules and embolus with denticles in *A. ariasi* and *A. dioi*). Further distinguished from all other species in nearby proximity, for which males are known as follows: from *A. paranensis* Mello-Leitão, 1920 by the less denticulate area below the PI (area below PI more denticulate in *A. paranensis*); from *A. confusus* Miglio, Pérez-Miles & Bonaldo, 2020 by the thinner base of the embolus (base of embolus wider in *A. confusus*); from *A. mairinquensis* Miglio, Pérez-Miles & Bonaldo, 2020 and *A. fractus* Mello-Leitão, 1920 by the palpal bulb with three keels present (only two keels in *A. mairinquensis* and *A. fractus*); from *A. hirsutus* Miglio, Pérez-Miles & Bonaldo, 2020 by the non-hirsute legs (legs hirsute in *A. hirsutus*); and from *A. itapitocai* Miglio, Pérez-Miles & Bonaldo, 2020 by the presence of cuspules on the rastellum (cuspules absent on rastellum in *A. itapitocai*). For diagnosis of females, see Miglio *et al.* (2020).



Figures 68–73. *Actinopus robustus* (O. Pickard, Cambridge, 1892) lectotype female (BMNH 1898.12.24.1), **68** carapace, dorsal view, **69** labium and sternum, ventral view, **70** rastellum, dorsal view, **71** rastellum, ventral view, **72** spermathecae, ventral view, **73** spermathecae, dorsal view. Scale bars = 1mm.

Description of non-type male (BMNH 1885.45): Total length including chelicerae: 12.2. Carapace: length 4.6, width 4.7. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved. Chelicera: length 2.5, width 1.4, rastellum pointed, developed, with numerous cuspules (Figs. 81–82). Abdomen: length 4.6, width 3.1. Maxilla: maxillary cuspules absent. Labium: length 1.2, width 0.8, labial cuspules absent. Sternum: length 3.3, width 2.7, with three pairs of sigillae. Lengths of legs and palpal segments: see table 8. Tarsi I–IV with pseudoscopula present, sparsely distributed on tarsi I and II, denser on tarsi III and IV. Metatarsi without pseudoscopula. Spination: patella d 0–0–19 (apical, ‘crown of thorns’), IV p 17–15–17, palp p 1–1–2, tibia I p 0–2–4, r 7–7–9, II p 0–0–2, r 6–8–11, III p d 0–0–12 (apical, ‘crown of thorns’), palp p 5–4–3, r 9–10–11, metatarsus I p 9–5–7, r 8–6–3, II p 12–8–9, r 7–4–4 (Fig. 84), III p 6–3–2, r 7–4–5, IV p 0–2–6, tarsus I p 4–3–4, r 2–3–5, II p 5–2–4, r 2–2–6, III p 15–10–11, r 2–1–0, IV p 7–8–5. Femur III: slightly incrassate. Palpal tibia: slightly incrassate, elongate (Fig. 83). Palpal bulb with developed TA; embolus elongate, wide until apex, gently curved retrolaterally; PS, PAc and PI weakly developed, PA

triangular and weakly developed (Figs. 85–91). Colour: carapace reddish brown, caput black, darker than rest of carapace (Fig. 79), opisthosoma, sternum and labium brown, coxae, trochanters, and patellae dark brown, tibiae, metatarsi, and tarsi light brown (Figs. 79–80).

Other material examined: 1 ♂ (BMNH 1885.45), Lages, Brasil [*sic*], Michaelis coll.

Distribution: Santa Catarina state, Brazil (Fig. 111).

Remarks: One point on the map in Miglio *et al.* (2020: 243, map 18) does not match the position of the localities stated in their material examined but is close to that of the male described here (Fig. 113). We are unsure whether the point on their map is of another specimen not mentioned or was caused by error. Nonetheless, given Miglio *et al.* (2020) record this species close to Lages we prefer to conservatively consider it the male of *A. trinotatus* and not describe it as a new species.

Table 8: *Actinopus trinotatus* Mello-Leitão, 1938 non-type male (BMNH 1885.45), podomere lengths.

	I	II	III	IV	Palp
Femur	4.0	3.3	2.7	3.8	4.2
Patella	1.4	1.6	1.5	1.5	1.6
Tibia	2.0	2.1	1.3	2.7	3.4
Metatarsus	2.5	2.6	2.8	3.0	–
Tarsus	1.7	1.9	1.7	1.9	1.0
Total	11.6	11.5	10.0	12.9	10.2

***Actinopus vilhena* Miglio, Pérez-Miles & Bonaldo, 2020** (Figs. 92–104)

Actinopus vilhena Miglio, Pérez-Miles & Bonaldo, 2020: 84, figs. 73A–F, 74A–D, 75A–C.

Type material: Holotype ♂ (IBSP 114440), Vilhena, Rondônia, Brazil, coll. M. Carvalho, 09/1999, not examined; paratype ♂ (IBSP 110559) Corumbá, Mato Grosso do Sul, not examined.

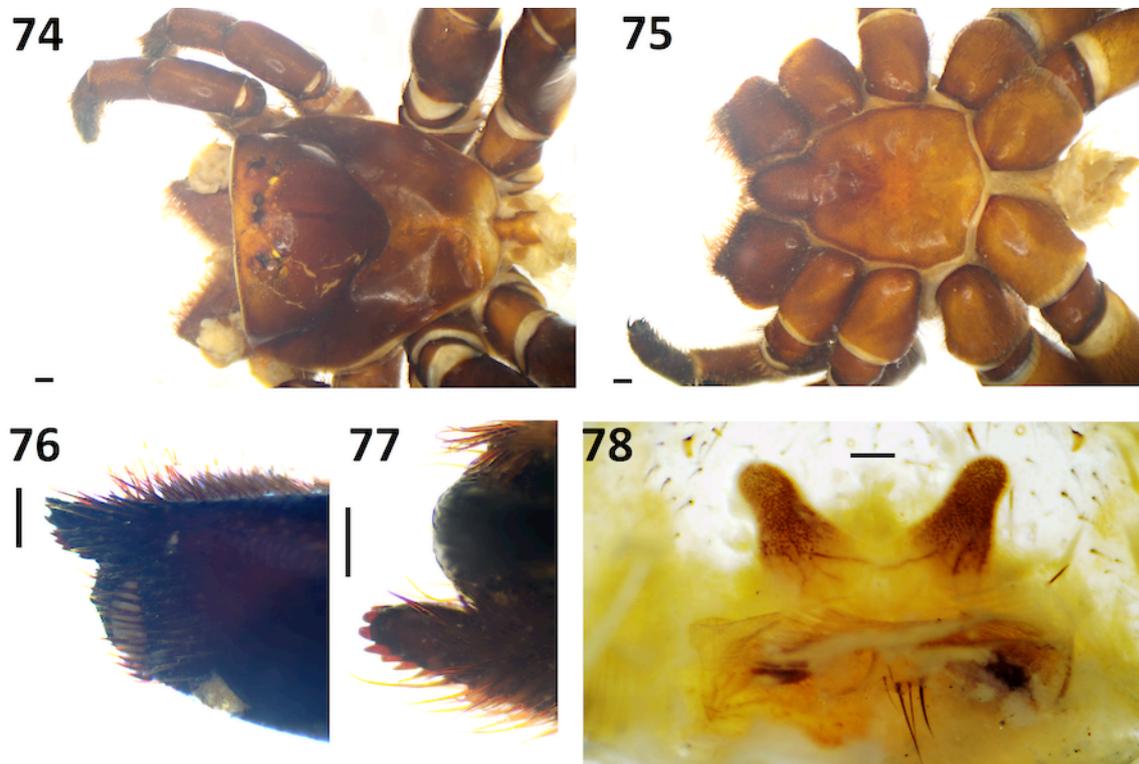
Material examined: 1 ♂ (BMNH), Mato Grosso (Chapada), Percy Slayden [*sic*] (= Percy Sladen Memorial Expedition).

Diagnosis: See Miglio *et al.* (2020).

Description of non-type male (BMNH): Total length including chelicerae: 15.8. Carapace: 9.1, width 8.6. Caput: highly raised. ALE > AME, AME > PLE, PLE > PME. Fovea: deep, procurved. Chelicera: length 3.2, width 2.1, rastellum rounded, weakly developed, without cuspules (Figs. 94–95). Abdomen: length 5.9, width 4.1. Maxilla: maxillary cuspules absent. Labium: length 2.4, width 1.9, labial cuspules absent. Sternum: length 4.6, width 4.0, with three pairs of sigillae. Lengths of legs and palpal segments: see table 9. Tarsi I–IV with pseudoscopula present, sparsely distributed on tarsi I and II, denser on tarsi III and IV. Metatarsi without pseudoscopula. Spination: patella III d 0–1–23 (21 apical, ‘crown of thorns’), p 1–1–0, IV d 1–1–19 (apical, ‘crown of thorns’), p 1–1–3, tibia I v 2–3–4, II v 5–5–6, r 2–3–5 (Fig. 97), III p 9–4–8, r 0–1–0, IV p 0–1–6, 4–3–6, metatarsus I v 0–0–2, p 0–0–1, r 2–2–4, II v 0–1–2, p 1–1–3, r 10–5–1, III v p 5–2–5, r 3–3–7, IV p 3–5–6, 7–8–11, tarsus I p 0–0–2, r 0–1–7, II p 1–3–2, r 0–4–5, III p 1–3–2, 0–2–4, IV p 1–7–7, r 0–3–3. Femur III: unmodified. Palpal tibia: slightly incrassate, elongate (Fig. 96). Palpal bulb with developed TA; embolus short and curved retrolaterally; PS and PAc developed, PI weakly developed,

PA constricted and developed (Figs. 98–104). Colour: carapace and chelicerae red-brown (Fig. 92), sternum, labium, coxae and legs light brown (Fig. 92–93), femurs darker than other segments, opisthosoma beige (Fig. 92).

Distribution: Mato Grosso (new record), Mato Grosso do Sul, and Rondônia, Brazil (Fig. 111).



Figures 74–78. *Actinopus tetymapyta* Sherwood & Pett, 2022 non-type female (BMNH 1906.3.24), 74 carapace, dorsal view, 75 labium and sternum, ventral view, 76 rastellum, dorsal view, 77 rastellum, ventral view, 78 spermathecae, dorsal view. Scale bars = 1mm.

Remarks: The Percy Sladen Memorial Expedition to Mato Grosso between 1891–1892 was short-lived, the botanist of the expedition collected at many localities including (but not limited to) Corumbá, Cuiabá, ‘Chapada Plateau’, Santa Anna da Chapada, Barra do Bugres, Serra do Tapirapuã, Puerto Pacheco (Bahia Negra), and San Luis de Caceres (Moore, 1893). The label data indicates “Chapada” which either means the outskirts of Santa Ana Chapada, or the nearby Chapada Plateau (now mostly incorporated by the Parque Nacional da Chapada dos Guimarães) within the same modern ecoregion (Fig 114). It appears the main force of the expedition mostly collected around Barra dos Bugres, Serra do Tapirapuã, Corumbá, suffering from greater logistical issues than the expedition botanist. Some additional localities, mostly heading southernly back towards Asunción, Paraguay (where the expedition ended totally) were sampled by Moore for botanical specimens. He makes no mention of collecting invertebrates at any locality, but equally, he makes numerous mentions of collecting botanical specimens in the two aforementioned “Chapada” localities, so may have been the collector. No other Chapada localities are mentioned in Moore (1893), and considering the logistical challenges of the expedition, it is unlikely they visited any other areas with a similar name, nor Moore collecting at any such locality, that were not subsequently documented in his meticulous itinerary (Moore, 1893). As Moore indicated, the ‘Chapada Plateau’ was close to Santa Ana da Chapada, we can therefore restrict the potential

area of collection to a small and ecoregionally homogenous area close to (or even in) the Parque Nacional da Chapada dos Guimarães.

Table 9: *Actinopus vilhena* Miglio, Pérez-Miles & Bonaldo, 2020 non-type male (BMNH), podomere lengths.

	I	II	III	IV	Palp
Femur	7.0	6.4	5.7	7.8	6.5
Patella	3.3	3.2	2.9	3.4	3.3
Tibia	4.5	4.2	3.2	6.6	5.8
Metatarsus	5.0	5.5	5.8	6.8	–
Tarsus	2.4	2.5	3.2	3.1	1.5
Total	22.2	21.8	20.8	27.7	17.1

***Actinopus wallacei* F. O. Pickard-Cambridge, 1896** (Figs. 105–110)

Actinopus wallacei F. O. Pickard-Cambridge, 1896: 728, pl. 35, fig. 18.

Actinopus wallacei: Miglio *et al.* (2020): 245–246, fig. 224. (in part)

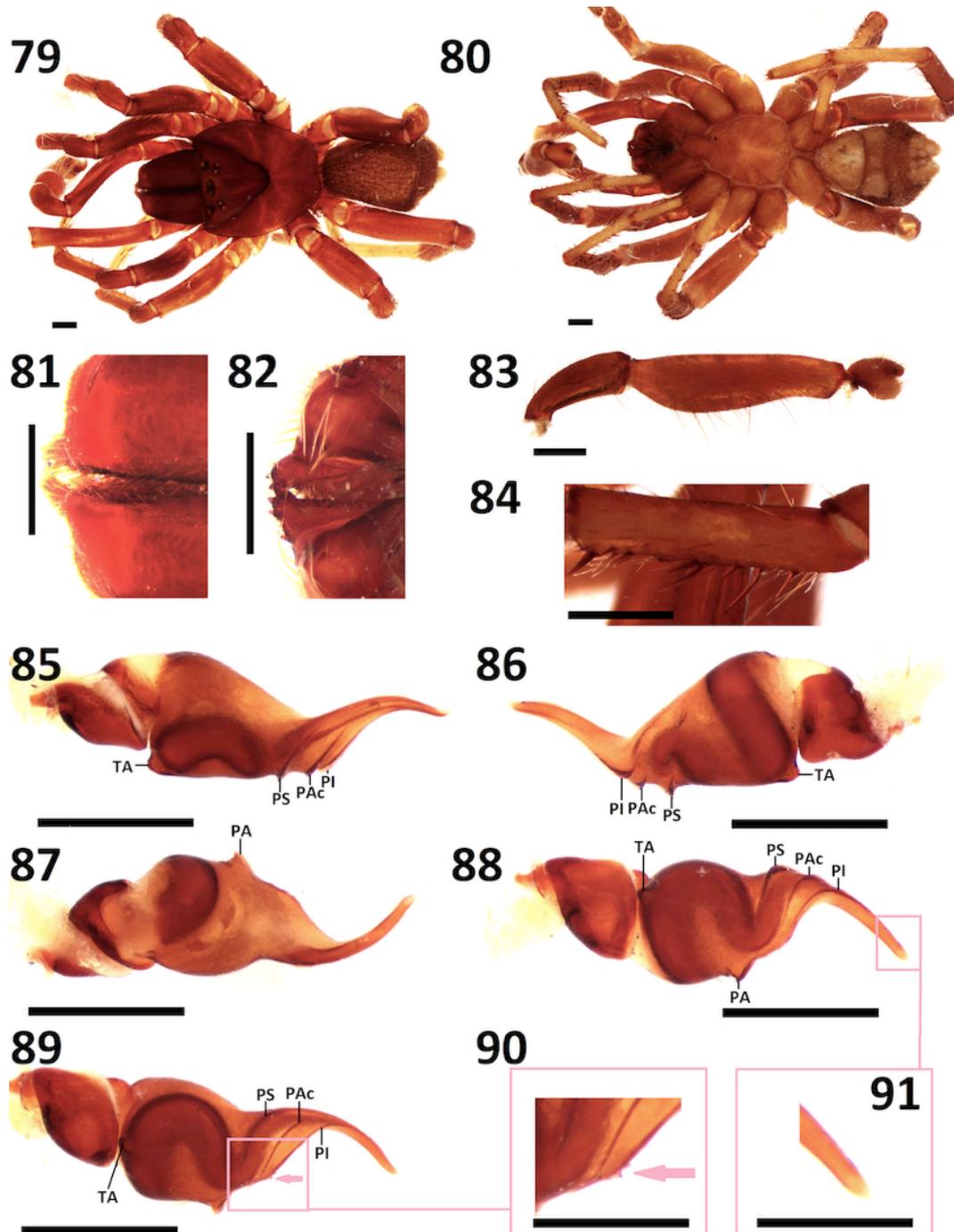
Type material: Holotype ♀ (BMNH 1896.12.13.67–70), Campo Santarem, Brazil, February 1896, coll. F. O. Pickard-Cambridge and E. E. Austen; paratypes 1 imm. ♀, 6 imm. (BMNH 1896.12.13.67–70), Campo, Santarem, Brazil, February 1896, ♀ from one colony, C.TP. [collected and presented] by F.O.P. Cambridge and E. E. Austen; 1 imm. ♀ (BMNH 1896.12.13.68), Campo, Santarem, Brazil, Feb. 1896, coll. + pres. Pick-Camb, F.O.; 1 imm. ♀ (BMNH 1896.12.13.67), Campo, Santarem, Brazil, Feb. 1896, coll. + det. Pick-Cambridge [marked as 'holotype'].

Diagnosis: *Actinopus wallacei* most closely resembles *A. tetymapyta* by the shared presence of elongate receptacles with basal striations, but differs based on the presence of medial swelling of the receptacles (medial swelling absent in *A. tetymapyta*), comparatively longer receptacles (comparatively shorter in *A. tetymapyta*) and indistinct basal striations (distinct in *A. tetymapyta*).

Redescription of holotype female (BMNH): Total length including chelicerae: 30.7. Carapace: length 10.1, width 8.7. Caput: highly raised. ALE > AME, PLE > AME, AME > PME. Fovea: deep, procurved. Chelicera: length 6.4, width 3.2, rastellum pointed, well developed, with numerous cuspules (Figs. 107–108). Abdomen: length 11.9, width 9.1. Maxilla: with 30 maxillary cuspules. Labium: length 2.5, width 1.9, with 14 labial cuspules. Sternum: length 5.5, width 5.4, with three pairs of sigillae. Lengths of legs and palpal segments: see table 10. Spination: patella d 0–0–19 (apical, ‘crown of thorns’), IV p 17–15–17, palp p 1–1–2, tibia I p 0–2–4, r 7–7–9, II p 0–0–2, r 6–8–11, III p d 0–0–12 (apical, ‘crown of thorns’), palp p 5–4–3, r 9–10–11, metatarsus I p 9–5–7, r 8–6–3, II p 12–8–9, r 7–4–4, III p 6–3–2, r 7–4–5, IV p 0–2–6, tarsus I p 4–3–4, r 2–3–5, II p 5–2–4, r 2–2–6, III p 15–10–11, r 2–1–0, IV p 7–8–5. Spermathecae: with two receptacles, each with a single lobe, receptacles elongate, lobes indistinct, base wider than lobe and with medial swelling, receptacles divergent in parallel and with indistinct basal striations (Figs. 109–110). Colour: overall light brown (Fig. 105–106), chelicerae slightly darker, reddish brown (Fig. 105).

Male: Unknown.

Distribution: Known only from the type locality, Campo, Santarem, Brazil.



Figures 79–91. *Actinopus trinotatus* Mello-Leitão, 1938 non-type male (BMNH 1885.45), **79** habitus, dorsal view, **80** habitus, ventral view, **81** rastellum, dorsal view, **82** rastellum, ventral view, **83** palpal tibia, prolateral view, **84** tibia II retrolateral view, **85–91** palpal bulb (left hand side), **85** prolateral view, **86** retrolateral view, **87** dorsal view, **88** ventral view, **89** prolatero-ventral view, **90** close-up of area below PI keel, **91** close-up of tip of embolus, ventral view. Scale bars = 1mm. Pink arrow indicates serration.

Remarks: As with *A. robustus*, there is overlap and inconsistent historical splitting of specimens in tubes which share a unified accession number range, all tubes have been recurated and clearly labelled by the senior author. Miglio *et al.* (2020: 246) state "The types were not available for study and for this reason the male is not redescribed here." However, the male of *A. wallacei* s.s. is unknown (see below) and could thus not have been "redescribed".

The so-called ‘redescription’ of this species by Miglio *et al.* (2020) is a misidentification, as the spermathecal morphology of their [non-type] specimen is totally incongruent with the holotype of *A. wallacei*. Indeed, the characters given in the description and illustrations of Miglio *et al.* (2020) do not match any known species. In the work done by Ríos-Tamayo (2016), the male described by Schiapelli & Gerschman (1945) as [a non-type of] *A. wallacei* was not found in the corresponding vial. Instead, two females from Cochabamba, Bolivia were found (Ríos-Tamayo, 2016). Comparison of these females with the description and photographs presented in the unpublished thesis of Miglio (2014) showed that both females were different. The females found in the aforementioned vial were thus described and illustrated as *A. cochabamba* Ríos-Tamayo, 2016. The spermathecal morphology of *A. cochabamba*, the type specimen of *A. wallacei* (presented here), and the specimen from Santa Cruz, Bolivia described by Miglio *et al.* (2020) are very different. Furthermore, the specimens from Bolivia occur in different biogeographical regions. Cochabamba is situated in the Andina-Tropical region at more than 2500 m a.s.l, whereas Santa Cruz is situated in the Brasileño-Paranense region about 400 m a.s.l. with a significantly different habitat. Given all of the above, we therefore describe the AMNH material from Bolivia identified as *A. wallacei* by Miglio *et al.* (2020) here, fully complying with Article 13.1.2 of the Code (ICZN, 1999), as *Actinopus lucasae* **sp. nov.**

***Actinopus lucasae* Sherwood & Ríos-Tamayo sp. nov.**

Actinopus wallacei: Miglio *et al.* (2020): 245–247, 249–250, figs. 221A–F, 222A–D, 223, 225. (misidentification)

LSID: urn:lsid:zoobank.org:act:371BA2B7-B44F-4EC4-B294-5CF47634636A

Type material: Syntypes 3 ♀♀ (AMNH), misidentified as *A. wallacei*, for full data see Miglio *et al.* (2020: 245–247, 249–250, figs. 221A–F, 222A–D, 223, 225).

Diagnosis: *Actinopus lucasae* **sp. nov.** can be differentiated from its geographically closest congener *A. cochabamba* Ríos-Tamayo, 2016 by the presence of both prolateral and retrolateral lobes on the receptacles, the higher number of retrolateral spines on tibia II, and the triangular shape of the post-labial sigillae (prolateral lobes absent, lesser number of retrolateral spines on tibia II and post-labial sigillae non-triangular in *A. cochabamba*), and from *A. wallacei* by the receptacles pointed laterally (receptacles pointed upwards in *A. wallacei*) and the wide spermathecal bases (spermathecal bases narrower in *A. wallacei*). *Actinopus lucasae* **sp. nov.** resembles the females of *A. longipalpis*, *A. indiamuerta* Ríos-Tamayo & Goloboff, 2018, *A. gerschiapelliarum* Ríos-Tamayo & Goloboff, 2018, *A. casuhati* Ríos-Tamayo & Goloboff, 2018 and *A. argenteus* Ríos-Tamayo & Goloboff, 2018, which share type II morphology (*sensu* Ríos-Tamayo & Goloboff, 2018), by general profile of the spermathecae. However, it differs from *A. argenteus* by the booklungs with lighter markings and less labial cuspules (31 vs. 12 and with darker booklungs in *A. argenteus*), from *A. indiamuerta* and *A. longipalpis* by the wide spermathecal bases (spermathecal bases narrower in *A. indiamuerta* and *A. longipalpis*), from *A. gerschiapelliarum* by the higher number of retrolateral spines on tibia II (103 vs. 48 in *A. gerschiapelliarum*), and from *A. casuhati* by the spermathecae with receptacles with a slight constriction (spermathecal receptacles with strong constriction in *A. casuhati*). The spermathecal shape also resembles *A. pampulha* but *A. lucasae* **sp. nov.** can be distinguished by the longer lobes of the receptacles (lobes shorter in *A. pampulha*).

Etymology: The specific epithet is a matronym honouring Sylvia Marlene Lucas (Instituto Butantan, São Paulo), one of the early mentors of the senior author, now a long-time close colleague and friend. Sylvia also contributed to the taxonomy of *Actinopus* in several prior publications (e.g. Lucas & Bücherl, 1965).

Description: See Miglio *et al.* (2020).

Distribution: Santa Cruz, Bolivia.

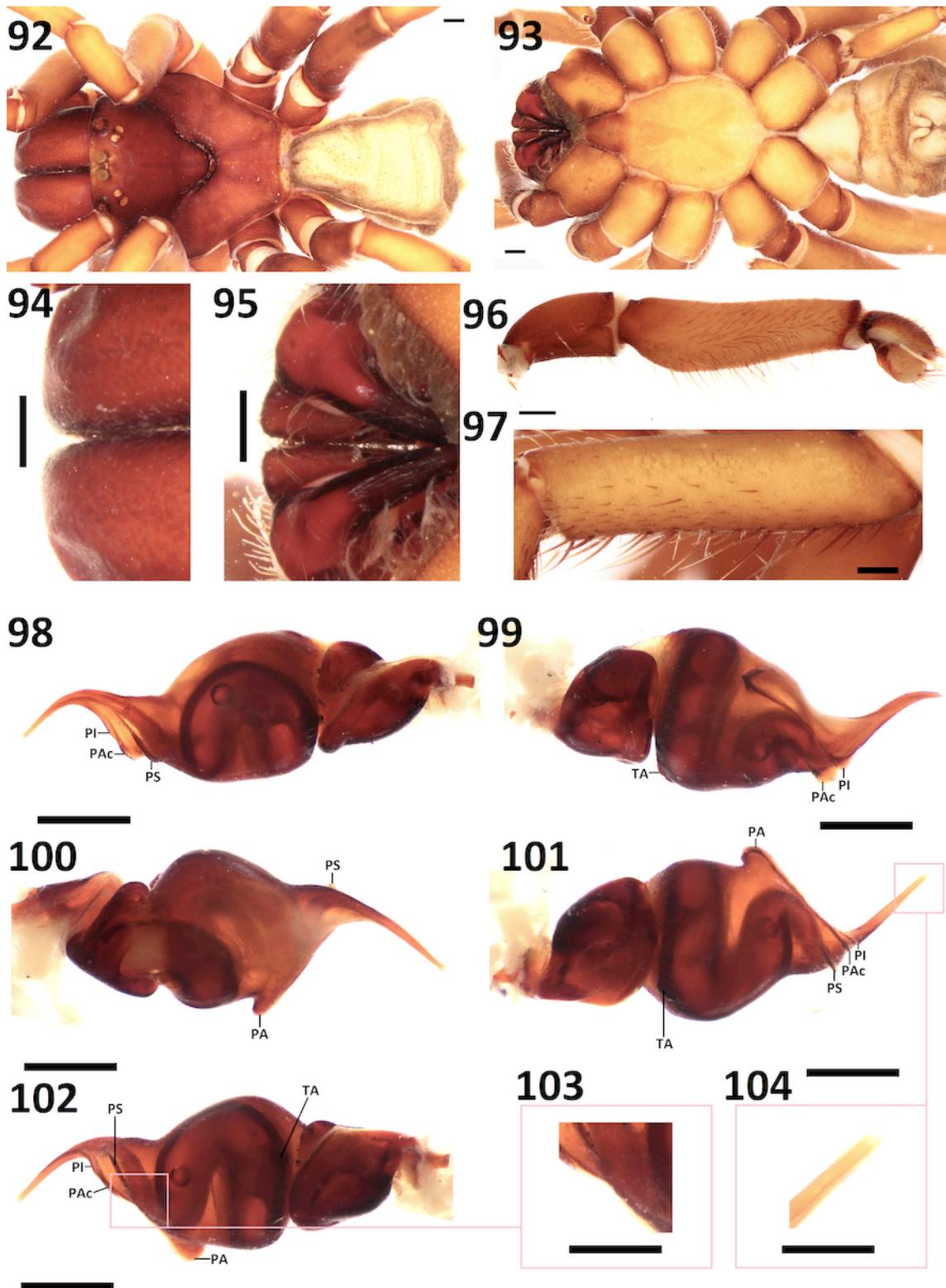
DISCUSSION

This work catalogues the entire *Actinopus* collection of the Natural History Museum, London, and clarifies the true number and status of type specimens of species held at the museum. Furthermore, we are able to redescribe *A. harti* and *A. liodon* for the first time since their original descriptions, clarifying that the latter was a junior synonym of *A. longipalpis*. Re-examination of the holotype of *A. wallacei* helps demonstrate recent material assigned to this species by Miglio *et al.* (2020) was wrongly identified and represented records of a new species from Bolivia.

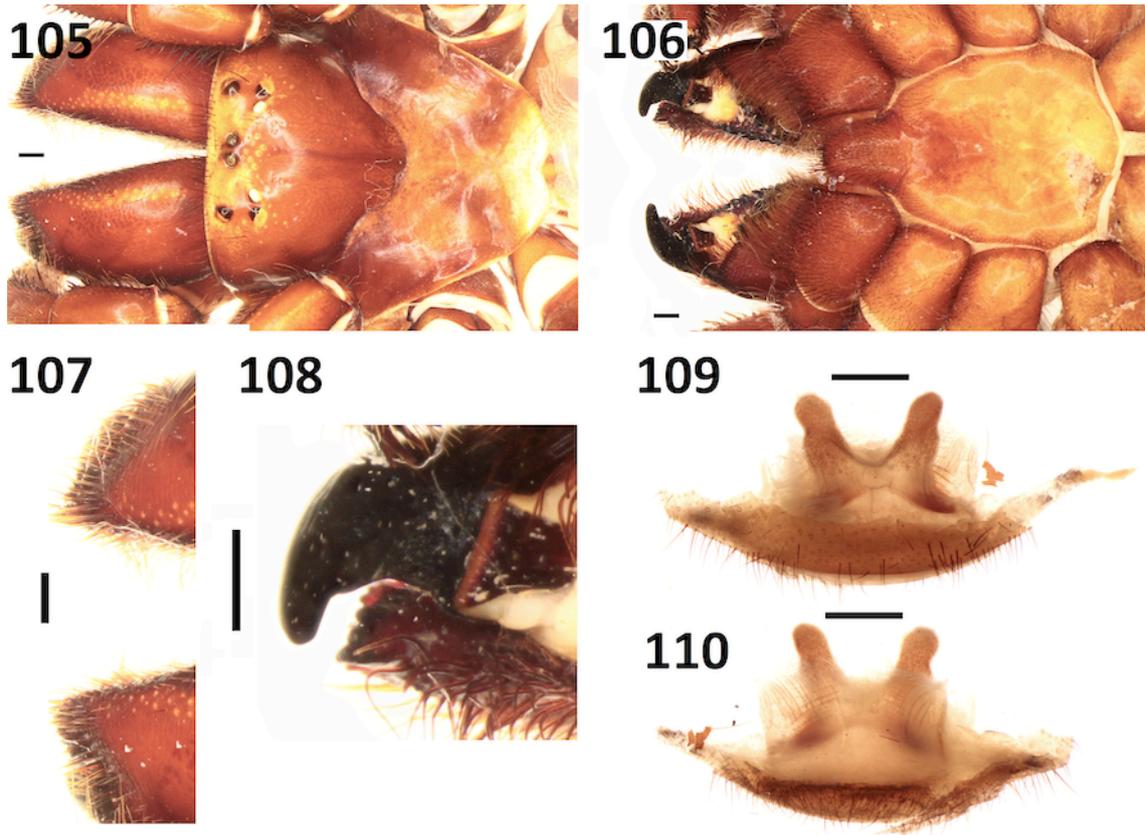
Despite recent advances, the taxonomy of *Actinopus* is still not fully elucidated and a comprehensive phylogenetic analysis is required (Ríos-Tamayo *et al.* in prep). The present contribution lays foundations in so far as clarifying the identity of select historical taxa previously stated to be “lost” or which were misdiagnosed. Furthermore, it demonstrates the importance to examine type series directly when possible, and that historical museum material can still provide interesting and novel distribution records.

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Figures 92–104. *Actinopus vilhena* Miglio, Pérez-Miles & Bonaldo, 2020 non-type male (BMNH), **92** habitus, dorsal view, **93** habitus, ventral view, **94** rastellum, dorsal view, **95** rastellum, ventral view, **96** palpal tibia, prolateral view, **97** tibia II retrolateral view, **98–104** palpal bulb (right hand side), **98** prolateral view, **99** retrolateral view, **100** dorsal view, **101** ventral view, **102** prolatero-ventral view, **103** close-up of area below PI keel, **104** close-up of tip of embolus, ventral view. Scale bars = 1mm.



Figures 105–110. *Actinopus wallacei* (F. O. Pickard-Cambridge, 1896) holotype female (BMNH 1896.12.13.67–70), **105** carapace, dorsal view, **106** labium and sternum, ventral view, **107** rastellum, dorsal view, **108** rastellum of single chelicera, ventral view, **109** spermathecae, ventral view, **110** spermathecae, dorsal view. Scale bars = 1mm.

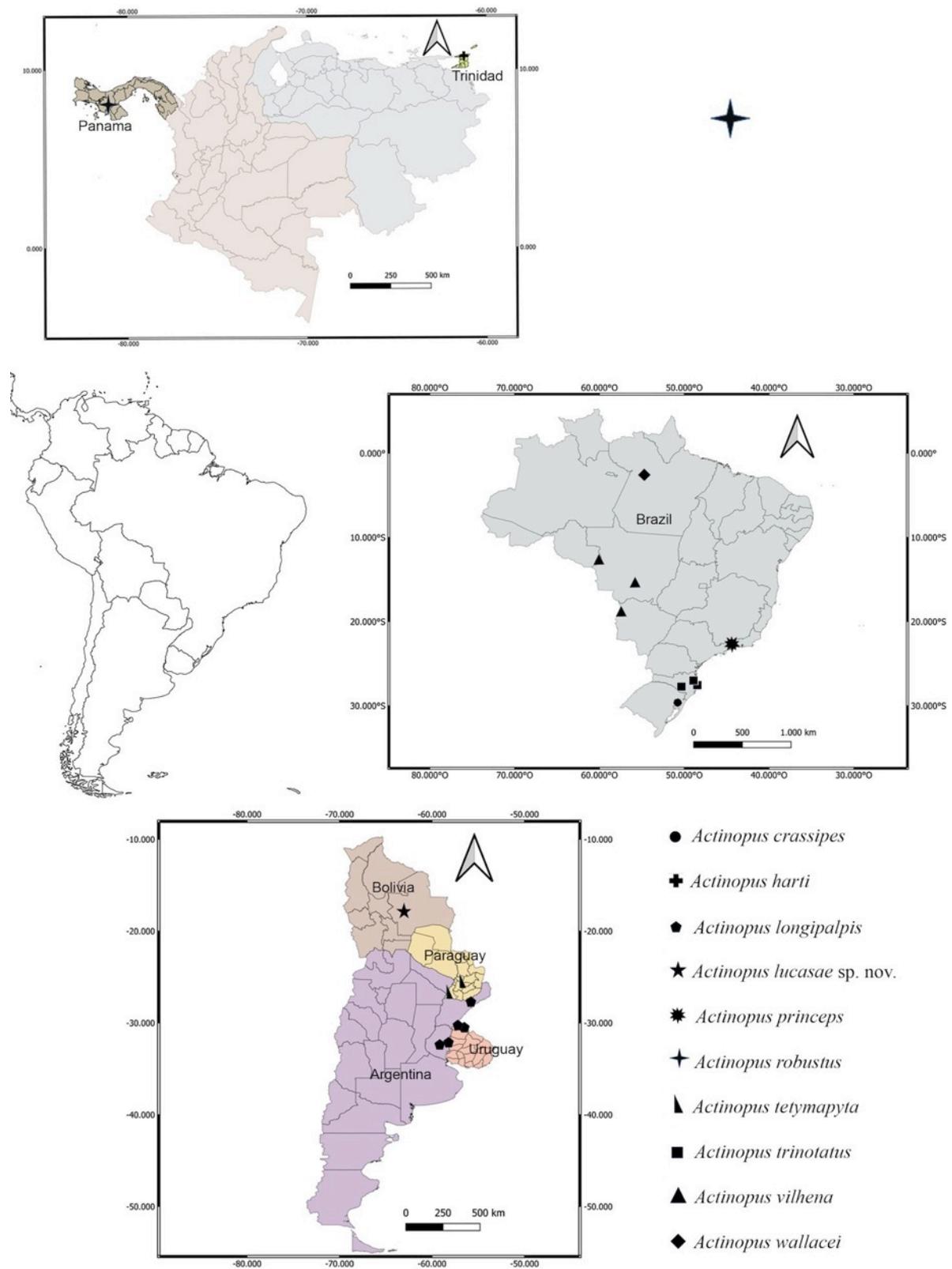


Figure 111. Distribution map of all *Actinopus* species discussed in this work.

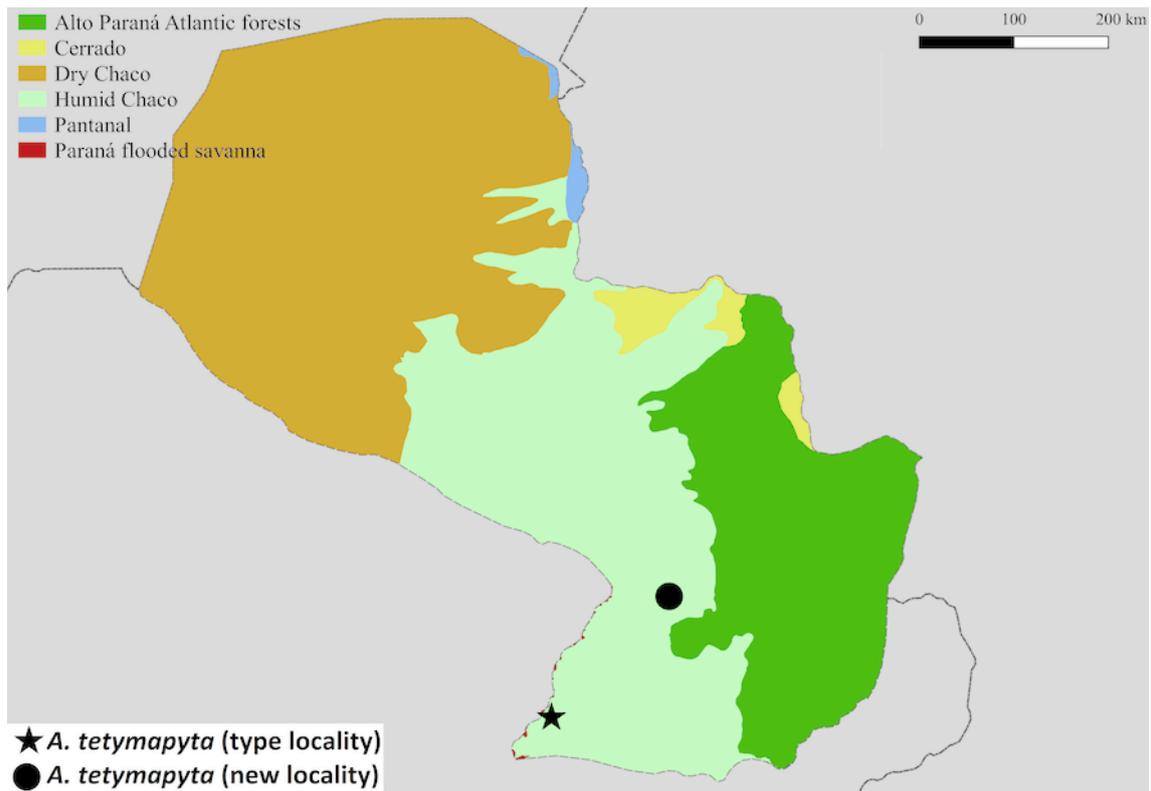


Figure 112. Distribution map for *Actinopus tetymapyta* Sherwood & Pett, 2022.

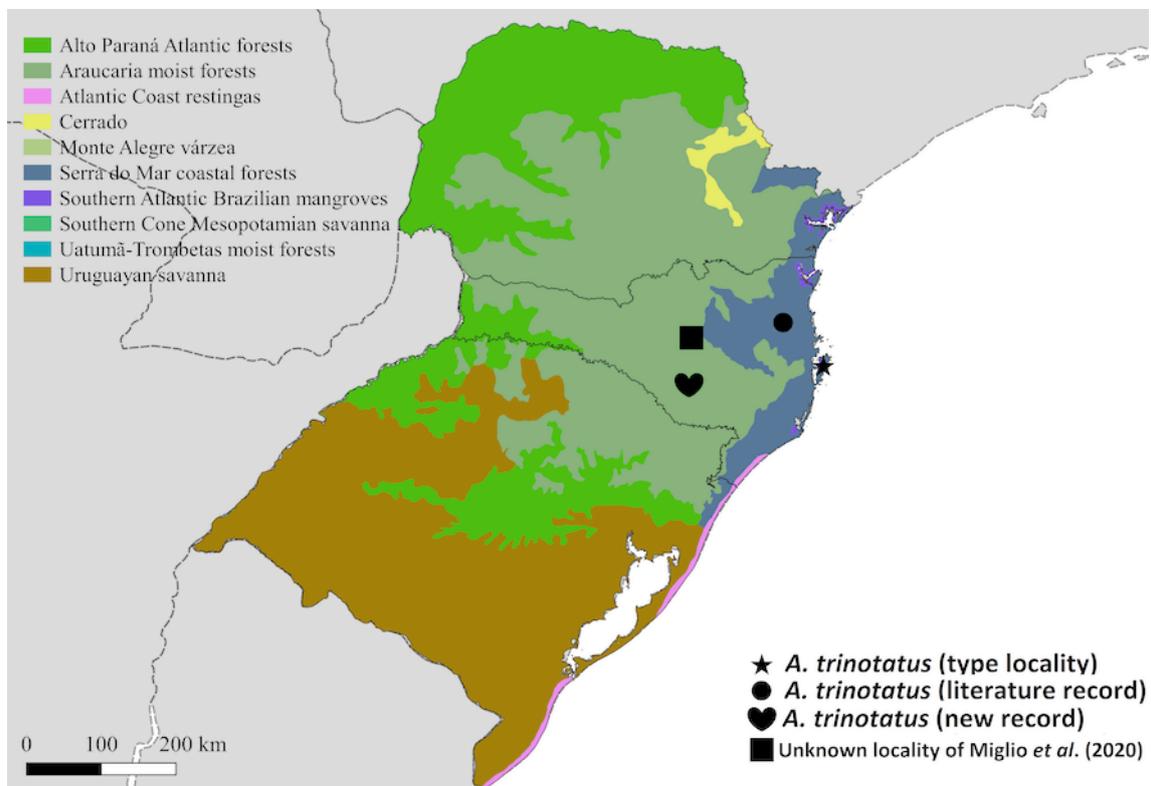


Figure 113. Distribution map for *Actinopus trinotatus* Mello-Leitão, 1938

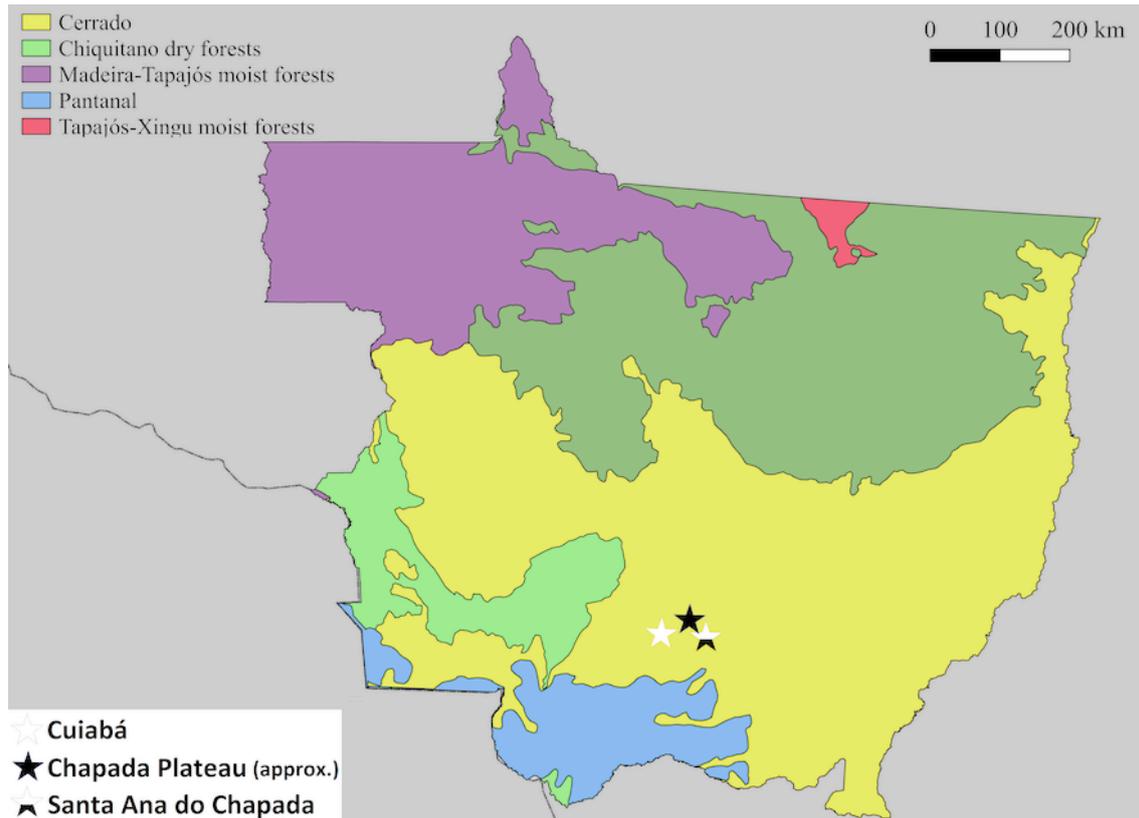


Figure 114. Map showing ecoregions (*sensu* Dinerstein *et al.*, 2017) of Mato Grosso and the possible localities for the BMNH male of *Actinopus vilhena* Miglio, Pérez-Miles & Bonaldo, 2020.

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