

## A review of *Phalangodus* Gervais (Opiliones, Cranainidae)

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### Summary

The monotypic genus *Phalangodus* Gervais is transferred from the Gonyleptidae (Pachylinae) to the Cranainidae (Cranainae). *Iquitosa* Roewer (also a monotypic genus) is newly considered a junior subjective synonym of *Phalangodus*. *Allocrananus giganteus* Mello-Leitão is considered a new junior subjective synonym of *Phalangodus anacosmetus* Gervais; this species is redescribed and illustrated. The new combination *Phalangodus poecilis* is proposed for *Iquitosa poecilis* Roewer. The two recognised species of *Phalangodus* are from Colombia and Peru.

### Introduction

The state of development of coxa IV was used in the Roewerian system to separate two basic groups in the Gonyleptidae — coxa IV is stout and extends beyond the outline of the abdominal scute in dorsal view (advanced condition) in the subfamilies related to Gonyleptinae, but it is poorly developed and hidden under the scute (primitive condition) in the subfamilies related to Cranainae. Mello-Leitão (1937) even used this character to define two groups (which he called “tribes”, although he placed them between the family and subfamily levels) to which he gave the names Pachyloinea and Cranaoinea. Kury (1992) used the apomorphic state as a synapomorphy uniting the Cosmetidae and Gonyleptidae (in a narrow sense), excluding Cranainae and allies. These latter taxa were later united in the family Cranainidae (Kury, 1994).

Although the form of coxa IV is a useful character, it presents some problems: (1) in some true Gonyleptidae, e.g. some genera of Caelopyginae and Progonyleptoidellinae, it reverts to the ancestral condition either in females only or in both sexes; (2) it is paralleled in some Tricommatidae that have strong legs IV, e.g. *Camarana* Mello-Leitão; (3) in some large-bodied cranainids the coxa IV also grows until it extends beyond the scute, in another convergent acquisition.

The genus *Phalangodus*, after being erected by Gervais (1842) for a Colombian species, was included by Roewer (1913) in the Pachylinae, where it has remained without contest until today. Soares & Soares (1954) even synonymised under it the genus *Chauveaua* Canals, which is a true gonyleptid from Argentina. *Chauveaua* was later revalidated by Ringuelet (1957), who placed it in the Pachylinae.

Roewer (1915), based on Colombian material, created a new genus of Cranainae, *Allocrananus*, for which Mello-Leitão (1940) described a second species, also from Colombia.

Based on newly recorded material from Colombia, and on the examination of the type series of *Allocrananus giganteus*, some changes are introduced in the taxonomy

of *Phalangodus*, which is newly referred to the Cranainidae (Cranainae).

Acronyms of repositories are California Academy of Sciences, San Francisco (CAS), Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ), Senckenberg Museum, Frankfurt am Main (SMF). All measurements are in mm.

### Subfamily Cranainae Roewer, 1913

#### Genus *Phalangodus* Gervais, 1842

*Phalangodus* Gervais, 1842: 3 (type species *P. anacosmetus* Gervais); 1844: 114; Simon, 1879: 241; Roewer, 1913: 137; 1923: 446; Mello-Leitão, 1926: 21; Roewer, 1929: 188; Mello-Leitão, 1932: 194; 1935: 99; Soares & Soares, 1954: 289.

*Allocrananus* (part): Mello-Leitão, 1940: 307.

*Iquitosa* Roewer, 1943: 34 (type species *I. poecilis* Roewer). NEW SYNONYMY.

**Diagnosis:** Large Cranainae with scutal areas and free tergites unarmed, except for area III with a pair of small rounded tubercles. Scute constricted twice — at eye mound and at area IV. Eye mound with a pair of granules. Area II projecting into area I, separating it into two halves. Pedipalpal trochanter with dorsal hump armed with two spurs, pedipalpal femur with stout ventro-basal spine and dorsal row of pointed tubercles in both sexes. Leg segments smooth and unarmed; femora I–II straight, III–IV subsigmoid, femur IV of male with inner subdistal spine. Can be distinguished from *Allocrananus* mainly by the pedipalpal femur being unarmed dorso-apically.

**Included species:** *Phalangodus anacosmetus* Gervais and *Phalangodus poecilis* (Roewer).

**Recorded distribution:** Colombia, Department of Boyacá, Cundinamarca and Norte de Santander; Peru, Department of Loreto.

#### *Phalangodus anacosmetus* Gervais, 1842 (Figs. 1–4)

*Phalangodus anacosmetus* Gervais, 1842: 3; 1844: 114, pl. 46 fig. 3; Thorell, 1877: 115; Simon, 1879: 241; Roewer, 1913: 138, fig. 63; 1923: 446, fig. 562; Soares & Soares, 1954: 289.

*Allocrananus giganteus* Mello-Leitão, 1940: 307, fig. 8; Soares, 1945: 349; Soares & Soares, 1948: 587. NEW SYNONYMY.

**Type localities and records:** Type locality of *Phalangodus anacosmetus* is “Colombia”, with a more specific subsequent record by Roewer — Boca del Monte [Boyacá] (6°09'N 71°59'W). There has been some confusion, as the name New Granada (=Colombia) was confused by Gervais with New Zealand, and the species was even cited by Thorell (1877) in the list of species from southern Asia and Australia. Simon re-established the correct provenance by examining the type series at MNHN. Type locality of *Allocrananus giganteus* is Colombia, Depto. Norte de Santander, Cúcuta (7°54'N 72°31'W), but in the original description it is erroneously given as “neighborhoods of Bogotá”.

**Material examined:** Female lectotype, juvenile male paralectotype, herewith designated of *A. giganteus*

(MNRJ 126), Colombia, Cúcuta, leg. Nicéforo Maria. 1♂ (CAS 19), Colombia, Depto. Cundinamarca, Finca Bella Vista, near Sasaima (04°20'N 74°52'W), 13 May 1965, leg. P. R. & D. L. Craig; collected at night on low foliage; 1♀ (CAS 20), same data, 6 May 1965, collected along creek bank under litter at night.

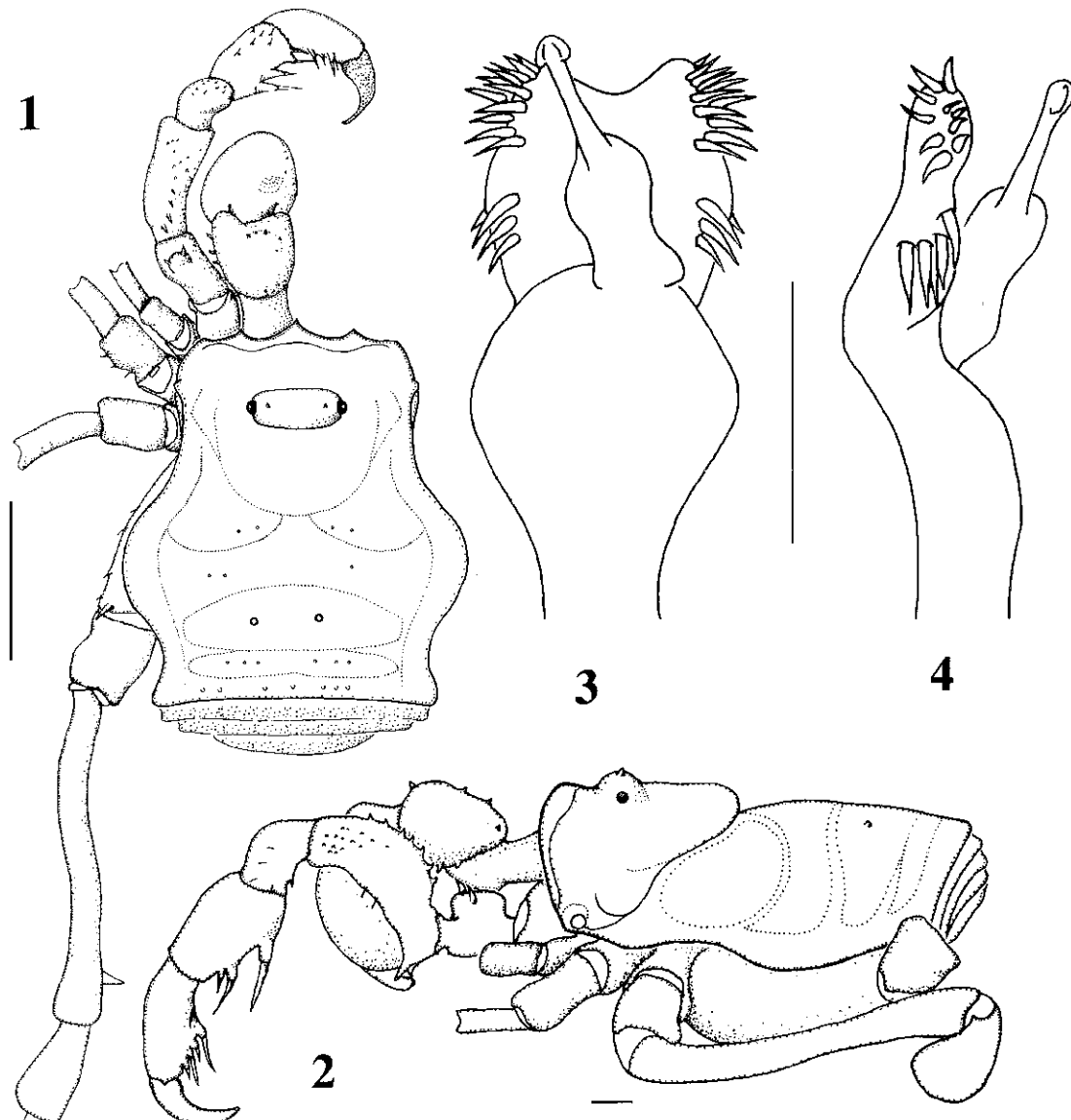
*Distribution:* Colombia, Depts Boyacá, Cundinamarca and Norte de Santander.

*Description:* Male CAS 19: Cephalothorax 7.57 wide, 6.12 long. Abdominal scute 10.87 wide, 5.83 long. Interocular distance 3.11. Stigmatic area 6.50 wide, 5.79 long (without genital operculum). Stigmatic distance 3.05. *Body* (Fig. 1): Stout animal, mesotergum divided into four well-marked areas. Dorsal scute without frontal spines or projections, lateral margins sinuous, constricted at middle of cephalothorax and at area IV, widest at area II. Eye mound small, low, with a pair of small granules. Area II projecting into area I, isolating left and right halves. Tegument smooth and unarmed, except for a few granules forming a row on each area I-IV, well defined only in areas IV-V. Lateral margins

	Femur	Tibia	Metatarsus
Leg I	5.5 (4.3)	4.7 (3.6)	7.0 (6.1)
Leg II	10 (8.2)	8.7 (6.2)	10.7 (7.0)
Leg III	9.0 (7.6)	5.7 (4.9)	8.3 (7.1)
Leg IV	13 (8.8)	8.3 (7.0)	11.0 (8.8)

Table 1: Leg measurements of *P. anacosmetus* male CAS 19 (female MNRJ 126).

and free tergites smooth and unarmed. Area III with two rounded paramedian tubercles. *Pedipalps* (Figs. 1, 2): Trochanter with high mound armed with a pair of large spines. Femur with stout ventro-basal spine, with convex dorsum and a row of dorsal pointed tubercles. Patella with small mesal spine. Tibia with 4 mesal (IiIi) and 3 ectal (IIi) spines, tarsus with 3 mesal (IIIi) and 4 ectal (IiIi) spines. *Legs* (Table 1): All segments unarmed except coxa IV with outer apical spine and femur IV with inner subdistal spine (Fig. 1). Tarsal counts: 8-8 (DiTa fused)/14(3)-15(3)?-7/8-8. Ratio calcaneus/astragalus of metatarsi I-IV: 0.95/0.24/0.26/0.10. *Genitalia* (Figs. 3-4): Ventral plate of penis subrectangular



Figs. 1-4: *Phalangodus anacosmetus* Gervais, male (CAS 19). 1 Habitus, dorsal view; 2 Ditto, lateral view; 3 Distal part of penis, dorsal view; 4 Ditto, lateral view. Scale lines=5 mm (Fig. 1), 1.0 mm (Fig. 2), 0.5 mm (Figs. 3-4).

with sides strongly convex, distal border concave. Setae arranged in two groups, 11 distal and 4 basal. Glans without ventral or dorsal processes. Stylus long, straight, unarmed, bearing a pair of apical flaps.

*Female MNRJ 126*: Granule rows on free tergites and posterior margin of scute well defined. Coxa IV with obsolete spine, femur IV entirely unarmed. Tarsal counts: 7-7/7-7/? (Mello-Leitão gave 6/11/7/8). Ratio calcaneus/astragalus of metatarsi I–IV: 0.83/0.25/0.25/0.18. (CAS 20: Tarsal counts 8-8/13(3)-13(3)/7-7/8-8; ratio calcaneus/astragalus of metatarsi I–IV: 0.86/0.22/0.25/0.12).

***Phalangodus poecilis* (Roewer, 1943), new comb.**

*Iquitosa poecilis* Roewer, 1943: 34, figs. 32a–c.

*Type locality*: [Peru, Loreto] Iquitos, Upper Amazonas River.

*Type material*: Female holotype (SMF RI) Iquitos, Amazonas (not examined).

**Key to the species of *Phalangodus***

1. Body brown, with 4 pairs of rounded mesotergal white spots; pedipalpal femur dorsally unarmed, tarsi III–IV respectively with 10 and 12 joints  
..... *P. poecilis*
- Body brown, without white spots; pedipalpal femur with dorsal row of pointed tubercles, tarsi III–IV respectively with 7 and 8 joints .... *P. anacosmetus*

**Discussion**

There is no evidence to support the assignment of *Phalangodus* to the Gonyleptidae, and more specifically to the Pachylinae. On the other hand, the structure of the pedipalpus, body outline and male genitalia are all typical of Cranaidae as defined by Kury (1994).

*Iquitosa poecilis* seems to be closely related to *P. anacosmetus*, owing to scute outline, shapes of mesotergal areas, large body size, and the horned hump on the pedipalpal trochanter which may be synapomorphic for both species. There is no need to retain two generic names for two monotypic sister groups, therefore *Iquitosa* should be synonymised under *Phalangodus*.

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**References**

- GERVAIS, P. 1842: Description et figures de quatre espèces nouvelles de Phalangiens. *Magasin Zool. Paris* (Arachn.) (Série 2) **4**: 1–5.
- GERVAIS, P. 1844: Acères Phrynéides, Scorpionides, Solpugides, Phalangides et Acarides; Diceres Épizoïques, Aphaniptères et Thyranoures. In C. A. Walckenaer, *Histoire naturelle des Insectes Aptères* **3**. Paris.
- KURY, A. B. 1992: The genus *Spinopilar* Mello-Leitão, 1940, with notes on the status of the family Tricommatidae (Arachnida, Opiliones). *Steenstrupia* **18**(5): 93–99.
- KURY, A. B. 1994: The false Tricommatidae from South American highlands (Opiliones, Cranida, Prostygnae). *Revue arachnol.* **10**(7): 137–145.
- MELLO-LEITÃO, C. F. de 1926: Notas sobre Opiliones Laniatores sul-americanos. *Revta Mus. paul.* **14**: 1–59.
- MELLO-LEITÃO, C. F. de 1932: Opilões do Brasil. *Revta Mus. paul.* **17**(2): 1–505, 56 pls.
- MELLO-LEITÃO, C. F. de 1935: Algumas notas sobre os Laniatores. *Archos Mus. nac. Rio de J.* **36**(4): 87–116.
- MELLO-LEITÃO, C. F. de 1937: Distribution et phylogénie des faucheurs sud-américaines. *Int. Congr. Zool.* **12** (Lisbon 1935): 1217–1228.
- MELLO-LEITÃO, C. F. de 1940: Mais alguns novos opiliões sul-americanos. *Anais Acad. bras. Cienc.* **12**(2): 93–107.
- RINGUELET, R. A. 1957: Anotaciones críticas sobre Opiliones de la subfamilia Pachylinae. *Revta Soc. ent. argent.* **19**(1–2): 17–20.
- ROEWER, C. F. 1913: Die Familie der Gonyleptiden der Opiliones-Laniatores. *Arch. Naturgesch.* **79A**(4): 257–472.
- ROEWER, C. F. 1915: 106 neue Opilioniiden. *Arch. Naturgesch.* **81A**(3): 1–152.
- ROEWER, C. F. 1923: *Die Weberknechte der Erde. Systematische Bearbeitung der bisher bekannten Opiliones*. 1116 pp., Gustav Fischer, Jena.
- ROEWER, C. F. 1929: Weitere Weberknechte III. (3. Ergänzung der Weberknechte der Erde, 1923). *Abh. naturw. Ver. Bremen* **27**(2): 179–284.
- ROEWER, C. F. 1943: Weitere Weberknechte XI. Über Gonyleptiden. *Senckenbergiana* **26**(1–3): 12–68.
- SIMON, E. 1879: Essai d'une classification des Opiliones Mecostethi. Remarques synonymiques et descriptions d'espèces nouvelles. *Annls Soc. ent. Belg.* **22**: 183–241.
- SOARES, B. A. M. 1945: Opiliões da coleção do Museu Nacional do Rio de Janeiro. *Archos Zool. Est. S. Paulo* **4**(9): 341–394.
- SOARES, B. A. M. & SOARES, H. E. M. 1948: Monografia dos gêneros de opiliões neotrópicos I. *Archos Zool. Est. S. Paulo* **5**(9): 553–636.
- SOARES, B. A. M. & SOARES, H. E. M. 1954: Monografia dos gêneros de opiliões neotrópicos III. *Archos Zool. Est. S. Paulo* **8**(9): 225–302.
- THORELL, T. 1877: Descrizione di alcune specie di Opilioni dell'Archipelago Malese, appartenenti al Museo Civico di Genova. *Annali Mus. civ. Stor. nat. Giacoma Doria* **9**: 111–138.