

**A new species of freshwater crab of the genus *Phallangothelphusa*
Pretzmann, 1965 from Colombia (Crustacea: Decapoda:
Pseudothelphusidae)**

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Abstract.—A new species of the genus *Phallangothelphusa* Pretzmann, 1965 is described. With the addition of the new species, this genus now includes two species endemic to Colombia: *P. dispar* (Zimmer, 1912) and *P. magdalenensis*, new species. Their distribution comprises the upper and middle Magdalena valley region including the adjacent slopes of the Eastern and Central Andes. The two species are distinguished by features of the first male gonopod.

The monotypic genus *Phallangothelphusa* Pretzmann, 1965, was defined to include *P. dispar* (Zimmer, 1912). With the discovery of *P. magdalenensis*, new species, described herein, the genus now comprises two species of freshwater crabs that inhabit lower mountain springs and streams on the upper and middle Magdalena valley region on the adjacent slopes of the Andes, at altitudes ranging from 300 to 1500 m above sea level. The new species is found in the middle Magdalena valley at altitudes ranging from 300 to 900 m above sea level, where a humid climate exists.

As defined by (Rodríguez 1982), species of the genus *Phallangothelphusa* are characterized by an exognath approximately four-fifths the length of the ischium of the third maxilliped; the orifice of the efferent branchial channel is partially closed by the extension of the lateral lobe of the epistome. Also, the first male gonopod is straight; the marginal lobe is simple and straight; the apical portion is formed by two projections and the mesial side, which surround the spermatoc channel.

The shape of the orifice of the efferent branchial channel and the length of the exognath are considered primitive features. Thus, it is probable that this genus derives

from an ancient stock of the genus *Strengeriana* Pretzmann, 1971. The structure of the first male gonopod in members of *Phallangothelphusa* resembles slightly that found in members of the tribe Kingleyini; however, the apical portion is completely different (Rodríguez 1982)

The systematics of *Phallangothelphusa* were reviewed by Rodríguez (1982). The morphology of the first male gonopod is a critical diagnostic character in species of freshwater crabs. In the present description of *P. magdalenensis*, the terminology established by Smalley (1964) and Rodríguez (1982) is used for the male first gonopods. The material is deposited at Museo de Historia Natural, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá (ICN-MHN), and Instituto Venezolano de Investigaciones Científicas (IVIC). The abbreviations cb and cl stand for carapace breadth and carapace length, respectively.

Family Pseudothelphusidae Rathbun, 1893
Tribe Strengerianini Rodríguez, 1982
Genus *Phallangothelphusa*
Pretzmann, 1965

Phallangothelphusa magdalenensis,
new species
Figs. 1, 2

Holotype.—Quebrada La Cristalina, Vereda La Cristalina, Inspección Puerto Rom-

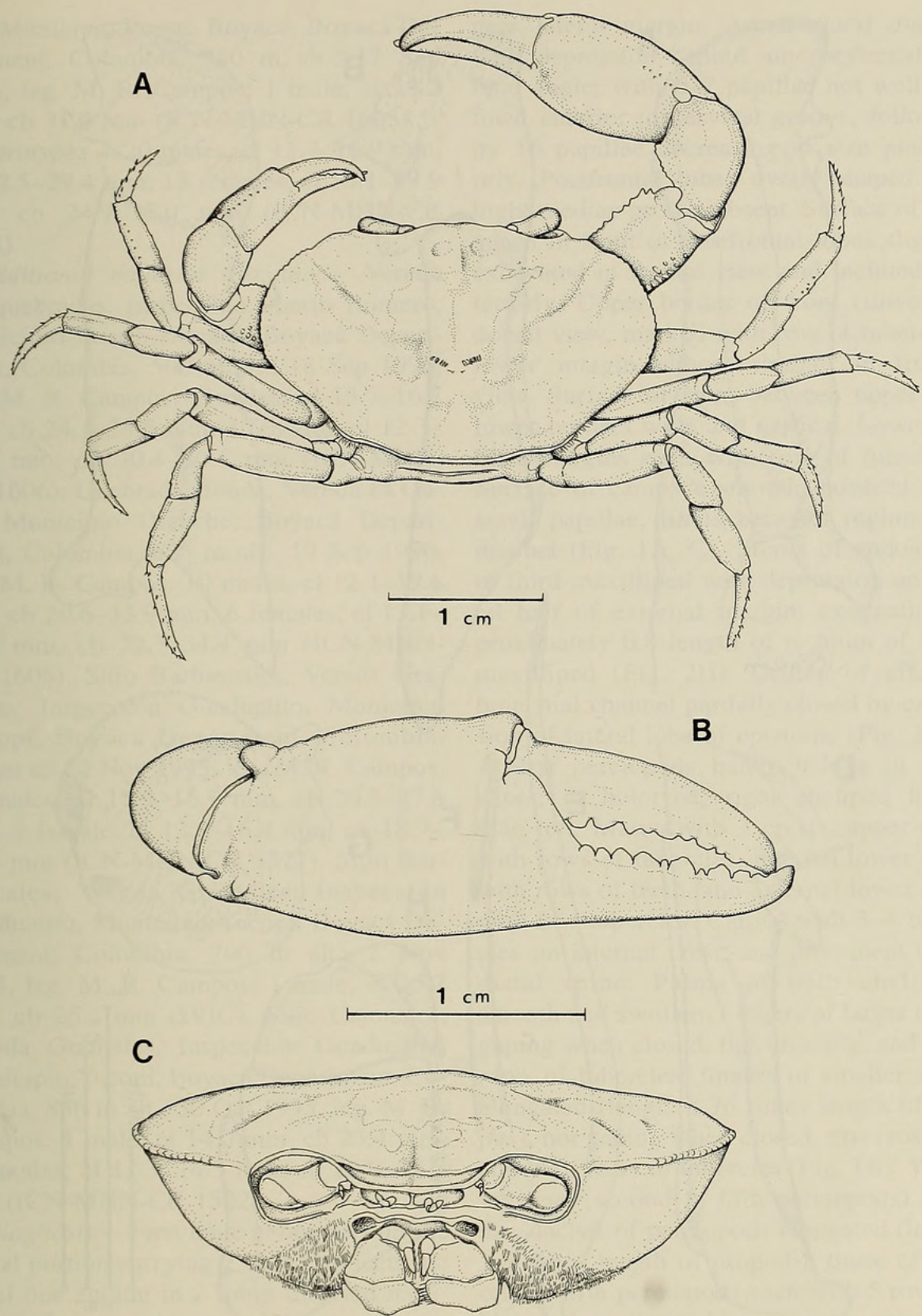


Fig. 1. *Phallangothelphusa magdalenae*, new species, holotype (ICN-MHN-CR 1603): A, dorsal view of carapace and pereopods; B, chela of largest cheliped, external view; C, frontal view of carapace.

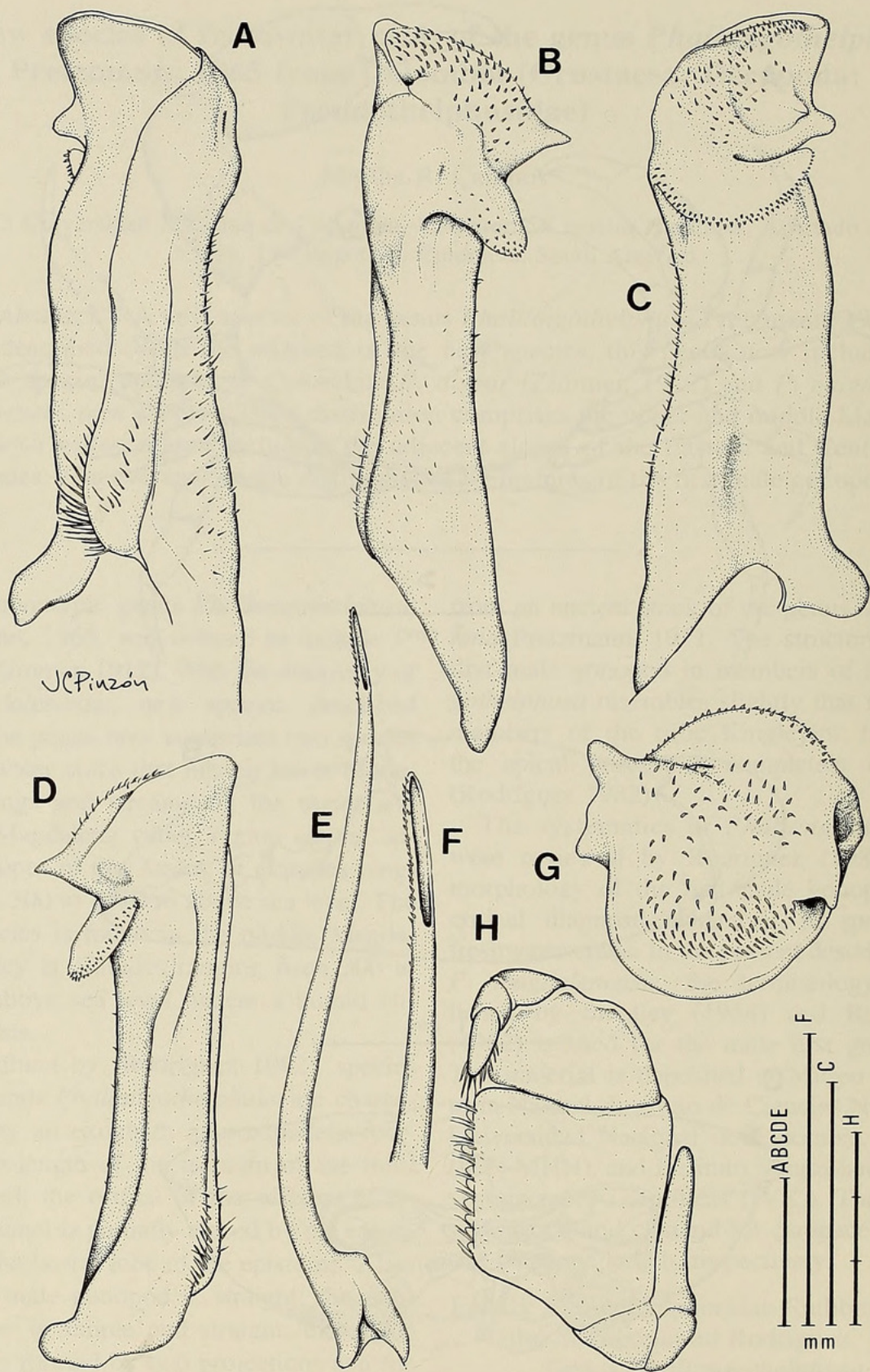


Fig. 2. *Phallangothelphusa magdalenensis*, new species, holotype (ICN-MHN-CR 1603), left first gonopod: A, whole gonopod, caudal view; B, whole gonopod, lateral view; C, whole gonopod, cephalic view; D, whole gonopod, mesial view; G, apex, distal view. Left second gonopod: E, whole gonopod, caudal view; F, detail of apex, caudal view; H, left third maxilliped external view.

ero, Municipio Puerto Boyacá, Boyacá Department, Colombia, 350 m alt., 17 Sep 1996, leg. M. R. Campos: 1 male, cl 18.2 mm, cb 31.0 mm (ICN-MHN-CR 1603).

Paratypes.—20 males, cl 13.7–16.9 mm, cb 22.5–29.4 mm, 13 females, cl 15.1–19.9 mm, cb 24.9–35.0 mm (ICN-MHN-CR 1604).

Additional material examined.—Vereda Dosquebradas, Inspección Puerto Romero, Municipio Puerto Boyacá, Boyacá Department, Colombia, 500 m alt., 18 Sep 1996, leg. M. R. Campos: 5 males, cl 13.7–16.7 mm, cb 24.1–28.5 mm, 3 females, cl 12.3–17.0 mm, cb 20.4–30.1 mm (ICN-MHN-CR 1606). Quebrada Honda, Vereda El Oasis, Municipio Otanche, Boyacá Department, Colombia, 625 m alt., 19 Sep 1996, leg. M. R. Campos: 10 males, cl 12.1–19.6 mm, cb 20.6–33.9 mm, 6 females, cl 13.1–19.5 mm, cb 22.7–34.4 mm (ICN-MHN-CR 1608). Sitio Barbascales, Vereda Gramales, Inspección Guadualito, Municipio Yacopí, Boyacá Department, Colombia, 700 m alt., 2 Nov 1995, leg. M. R. Campos: 17 males, cl 12.9–16.7 mm, cb 20.5–27.8 mm, 9 female, cl 12.6–16.4 mm, cb 18.9–28.5 mm (ICN-MHN-CR 1527). Sitio Barbascales, Vereda Gramales, Inspección Guadualito, Municipio Yacopí, Boyacá Department, Colombia, 700 m alt., 2 Nov 1995, leg. M. R. Campos: 1 male, cl 15.7 mm, cb 26.2 mm (IVIC). Sitio Cajonales, Vereda Gramales, Inspección Guadualito, Municipio Yacopí, Boyacá Department, Colombia, 850 m alt., 30 Oct 1995, leg. M. R. Campos: 1 male, cl 14.0 mm, cb 23.4 mm, 2 females, cl 12.3, 14.3 mm, cb 20.0, 23.8 mm (ICN-MHN-CR 1522).

Diagnosis.—First male gonopod with the apical portion carrying 2 broad projections: distal one ending in 2 lobes directed mesially, and proximal one prominent and projected caudally, with basal part covered with rows of spinules. Apex of mesial side rounded, swollen, and bearing numerous brown spinules.

Description of holotype.—Cervical groove almost straight and narrow, ending

near lateral margin. Anterolateral margin with depression behind anteroexternal orbital angle; with 6–7 papillae not well defined anterior to cervical groove, followed by 16 papillae decreasing in size posteriorly. Postfrontal lobes ovally shaped and high; median groove absent. Surface of carapace in front of postfrontal lobes slightly excavated in frontal view and inclined anteriorly. Upper border of front convex in dorsal view, marked with row of tubercles; lower margin almost straight in frontal view. Surface of front between upper and lower borders wide and vertical. Lower orbital margins each with row of tubercles. Surface of carapace smooth, covered with small papillae; limits between regions indistinct (Fig. 1A, C). Merus of endognath of third maxilliped with depression on distal half of external margin; exognath approximately 0.8 length of ischium of third maxilliped (Fig. 2H). Orifice of efferent branchial channel partially closed by extension of lateral lobe of epistome (Fig. 1C).

First pereopods heterochelous in both sexes; in holotype, right cheliped larger than left. Merus with 3 crests, upper crest with rows of tubercles, internal lower crest with rows of teeth, and external lower crest with few tubercles. Carpus with 3–4 tubercles on internal crest, and prominent blunt distal spine. Palms of both chelipeds smooth and swollen. Fingers of larger chela gaping when closed, tips crossing, and with rows of tubercles; fingers of smaller chela elongated (length 1.76 times length of carpus), not gaping when closed, tips crossing, and with rows of tubercles (Fig. 1B). Walking legs (second to fifth pereopods) slender, dactyli of pereopods elongated (length 1.5 times length of propodi), those of second to fifth pereopods each with 5 rows of large spines diminishing in size proximally; arrangement of spines on dactylus of right third pereopod as follows: anterolateral and anteroventral rows with 6 spines, external row with 7 spines, posteroventral row with 3 spines, and posterolateral row with 4 spines.

First male gonopod straight, wide in caudal view; marginal lobe simple, straight (Fig. 2A). Apical portion carrying 2 broad projections: distal one ending in 2 lobes directed mesially, proximal one prominent, projected caudally, and with basal part covered by rows of spinules (Fig. 2C, D). Apex of mesial side rounded, swollen, bearing numerous brown spinules (Fig. 2B, G). Second male gonopod with spinules on distal portion, tip cup-shape (Fig. 2E, F).

Color nomenclature follows Smithe 1975. The holotype preserved in alcohol is light brown (near 121C, mikado brown) with 28, olive-brown specks on the dorsal side of carapace. The walking legs are 28, olive-brown. The chelae are 240, kingfisher rufous on the dorsal side, and 132C, orange-rufous on ventral side. The ventral surface of the carapace is 24, buff with 28, olive-brown specks.

Ecology.—The specimens were collected in shady, moist banks of springs and small streams. They were found in soft mud, under rocks, or in burrows. The largest populations were found at the following localities: Quebrada Honda, Vereda El Oasis, Municipio Otanche, and Sitio Barbascales, at Vereda Gramales, Inspección Guadualito, Municipio Yacopí, Boyacá Department.

Etymology.—The specific name refers to the Magdalena valley region, where the specimens were collected.

Remarks.—This species is very similar to *Phallangothelphusa dispar*. The two can be distinguished by the following features of the first male gonopod. The apical portion of *P. dispar* is formed by two narrow and single projections directed mesially, while

in *P. magdalenensis* they are broad. In the later species, the distal projection ends in two lobes and the proximal one is prominent and projected caudally. The apex of the mesial side is rounded and swollen in the new species, whereas the apex is funnel-shaped in *P. dispar*.

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Literature Cited

- Pretzmann, G. 1965. Vorläufiger Bericht über die Familie Pseudothelphusidae.—Anzeiger der Österreichischen Akademie der Wissenschaften Mathematische Naturwissenschaftliche Klasse (1)1:1–10.
- . 1971. Fortschritte in der Klassifizierung der Pseudothelphusidae.—Anzeiger der Österreichischen Akademie der Wissenschaften Mathematische Naturwissenschaftliche Klasse 179(1/4):14–24.
- Rathbun, M. 1893. Descriptions of new species of American freshwater crabs.—Proceedings of the United States National Museum 16(959): 649–661, pl. 73–77.
- Rodríguez, G. 1982. Les crabes d'eau douce d'Amérique. Famille des Pseudothelphusidae.—Faune Tropicale 22:1–223.
- Smalley, A. 1964. A terminology for the gonopods of the American river crabs.—Systematic Zoology 13:28–31.
- Smithe, F. B. 1975. Naturalist's color guide. The American Museum of Natural History.
- Zimmer, C. 1912. Beitrag zur kenntniss der Süßwasser dekapoden Kolumbiens. Pp 1–8 in O. Fuhrmann et E. Mayor, Voyage d'exploration scientifique en Colombie.—Mémoires de la Société neuchateloise des Sciences naturelles 5.



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