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A new genus and species of freshwater crab from Colombia (Crustacea: Decapoda: Pseudothelphusidae)

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Abstract.—A new genus, *Achagua,* is established for the new species *A. casanarensis,* and *Eudaniela pestai* (Pretzmann). Consequently, the latter is removed from the genus *Eudaniela* Pretzmann. Species of the new genus are known exclusively from the upper Colombian Orinoco basin and the western region of the Venezuelan coastal cordillera. The new genus is characterized by features of the third maxilliped, the orifice of branchial efferent channel, and the first male gonopod.

During faunistic surveys of the upper Colombian Orinoco basin, specimens belonging to a new species of the family Pseudothelphusidae were collected. The new species resembles *Eudaniela pestai* (Pretzmann, 1965) which according to Rodríguez (1982) and Rodríguez & Pereira (1992), exhibits the least derived first male gonopod morphology and less reduced exognath of the third maxilliped within the tribe Kingsleyini. These two species are sufficiently distinct from others of the tribe in the characteristics of the third maxilliped, orifice of the branchial efferent channel, and first male gonopod, to warrant their assignment to a new genus. *Eudaniela pestai* is distributed in the western region of the Venezuelan coastal cordillera. The new genus and species are described herein. The new genus is considered a basal group from which species of *Eudaniela* Pretzmann, 1971 originated (Rodríguez, pers. comm.).

The terminology used for the morphology of the male first gonopod follows Smalley (1964) and Rodríguez (1982). The abbreviations cl and cb stand for carapace length and carapace breadth, respectively. The color nomenclature used follows Smithe (1975). The material is deposited in Museo de Historia Natural, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá (ICN-MHN).

Systematics

Family Pseudothelphusidae Rathbun, 1893
Tribe Kingsleyini Bott, 1970
Genus *Achagua,* new genus

Diagnosis.—Third maxilliped with merus of endognath regularly curved; exognath approximately 0.5 times length of ischium; orifice of branchial efferent channel partially closed by spine of jugal angle, and by production of lateral lobe of epistome. First male gonopod straight with wide marginal process; subapical mesial process spine-like; mesial plate quadrate or slightly rounded, apex with mesial and cephalic plates distally overlapping or in parallel arrangement.

Type species.—*Achagua casanarensis,* new species.

Other included species.—*Eudaniela pestai* (Pretzmann, 1965)

Etymology.—The genus is named in honor of the Achagua Indians, who lived in the region where the new genus was discovered. Gender: feminine.

Achagua casanarensis, new species
Figs. 1, 2

Holotype.—Municipio Aguazul, 26 km SW from Yopal, Casanare Department, Colombia, 290 m alt., 3 Oct 1995, leg F. Fernández: 1 male, cl 32.7 mm, cb 51.6 mm, ICN-MHN-CR 1626.

Paratype.—Same locality data as holotype: 1 male, cl 29.3 mm, cb 48.7 mm, ICN-MHN-CR 1862.

Type locality.—Municipio Aguazul, 26 km SW from Yopal, Casanare Department, Colombia.

Diagnosis.—Marginal process of first male gonopod wide, spatulated distally; with subapical broad-base, and distally acute spine-like mesial process; mesial plate quadrate; apex with mesial and cephalic plates distally overlapping, and basal triangular projection; field of spines narrow and straight, spinules conspicuous, uniform in size, directed distally.

Description of holotype.—Carapace (Fig. 1A) with deep, straight cervical groove, ending short distance from lateral margin. Anterolateral margin with depression behind external orbital angle, followed by 15 tubercles on anterior half; posterior lateral margin smooth. Postfrontal lobes small, rounded, without anterior depressions; median groove narrow, shallow, with incision on upper margin of front. Surface of carapace in front of postfrontal lobes flat and inclined anteriorly. Upper border of front crest-like, marked with row of tubercles; lower margin slightly sinuous in frontal view. Surface of front between upper and lower borders high and slightly excavated. Upper and lower orbital margins each with row of tubercles. Surface of carapace covered with small papillae; limits between regions demarcated. Third maxilliped (Fig. 2F) with merus of endognath regularly curved; exognath approximately 0.5 times length of ischium of third maxilliped. Orifice of branchial efferent channel partially closed by spine of jugal angle, and by projection of lateral lobe of epistome (Fig. 1C).

First pereiopods heterochelous, right cheliped larger than left. Merus with 3 crests as follows: upper crest with rows of tubercles, internal lower crest with rows of teeth, and external lower crest with few tubercles. Carpus with 3 tubercles on internal crest, and prominent acute spine distally. Palm of larger cheliped swollen, without external tubercle, fingers gaping when closed, with rows of tubercles on dorsal side (Fig. 1B); smaller cheliped slightly swollen, fingers not gaping when closed.

Walking legs (pereiopods 2–5) thick (Fig. 1A). Dactyli elongated, each about 1.6 times as long as propodi, with papillae and 5 longitudinal rows of large, dark spines diminishing in size proximally. Number of spines and papillae on each dactylus arranged as follows: 1 anterolateral row and 1 anteroventral row each with 6 spines; 1 external row with 6 spines and 1 pair of proximal papillae; 1 posterolateral row and 1 posteroventral row with 4 spines.

First male gonopod (Fig. 2A–E) straight, marginal process wide, spatulated distally; mesial border convex with subapical broad-based, and acute spine-like mesial process, followed by deep depression, ending distally in quadrate mesial plate; lateral border slightly sinuous with notch at basis of spermatic channel. Apex laterally, with mesial and cephalic plates distally overlapping, and basal triangular projection; field of spines narrow and straight, spinules conspicuous, uniform in size, and directed distally (Fig. 2B, D, E).

Color.—In alcohol, the dorsal side of the carapace is gray (near 45, Smoke Gray) with Buff (24) specks. The walking legs are Tawny (38). The chelae are Pale Horn Color (92). The ventral surface is gray (near 45, Smoke Gray) with Cinnamon (39) specks.

Etymology.—The specific name refers to Casanare Department, where the specimens were collected.

Remarks.—The new species is most similar to *Achagua pestai.* The two can be distinguished by differences in the first male

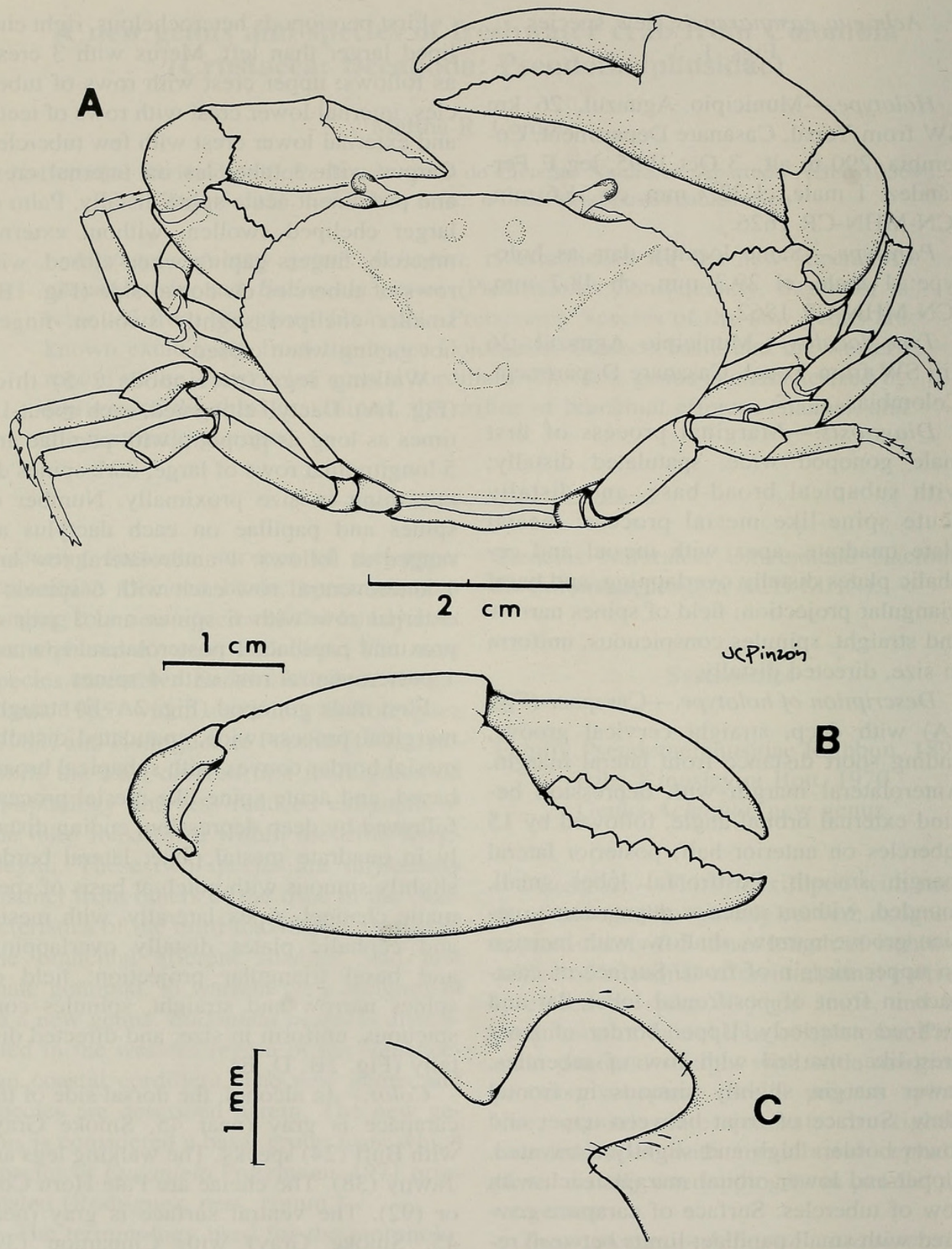

Fig. 1. *Achagua casanarensis,* new species, male holotype, cl 32.7 mm, cb 51.6 mm, ICN-MHN-CR 1626. A, dorsal view; B, chela of large cheliped, external view; C, orifice of branchial efferent channel.

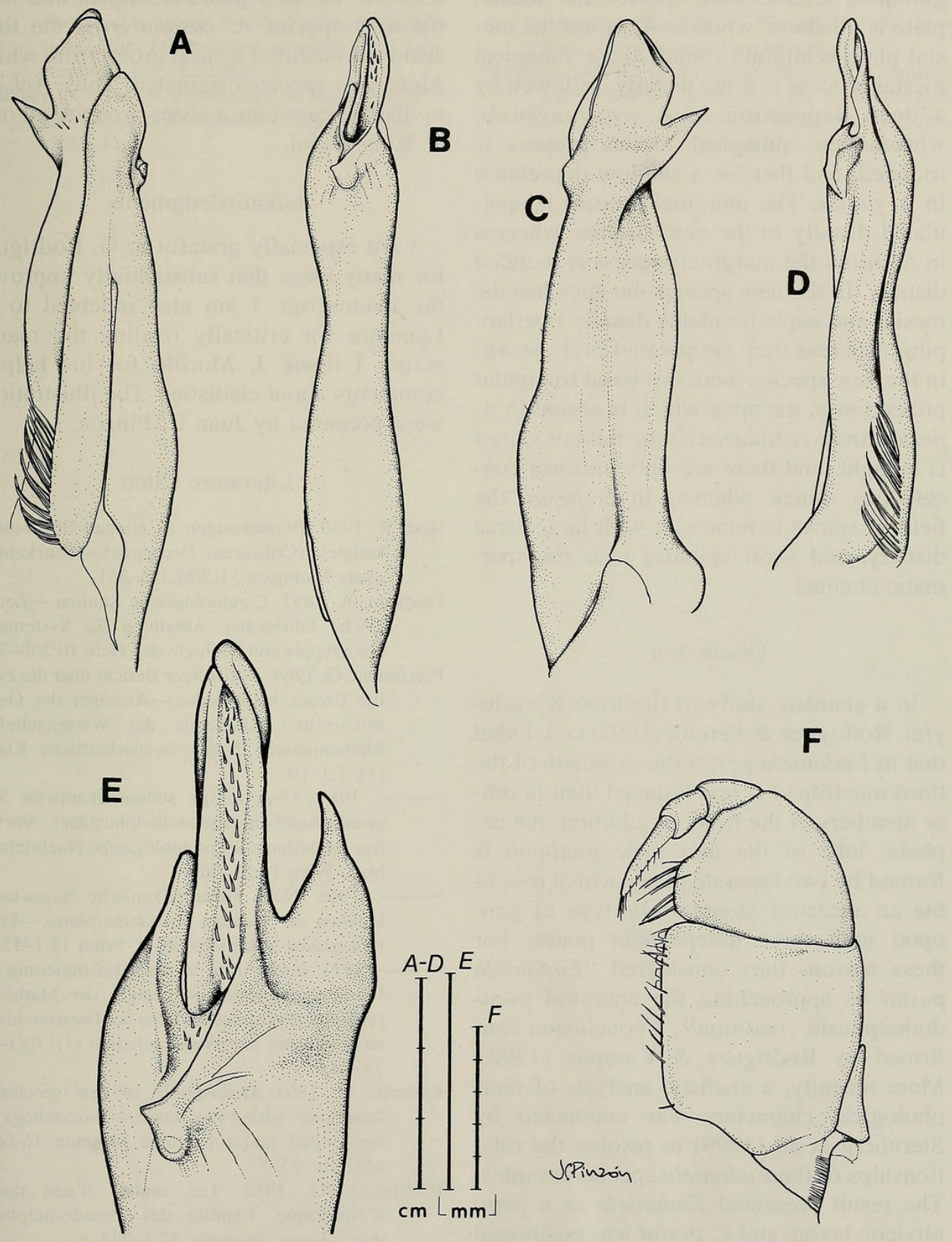

Fig. 2. *Achagua casanarensis,* new species, male holotype, cl 32.7 mm, cb 51.6 mm, ICN-MHN-CR 1626. A, left first gonopod, caudal view; B, same, lateral view; C, same, cephalic view; D, same mesial view; E, apex of same, distal view; F, left third maxilliped, external view.

gonopod. In the new species the mesial plate is quadrate, while in *A. pestai* the mesial plate is slightly rounded; the subapical mesial process is acute distally, followed by a deep depression in *A. casanarensis,* whereas the subapical mesial process is rounded, and there is a shallow depression in *A. pestai.* The marginal process is spatulated distally in the new species, whereas in *A. pestai* the marginal process is rounded distally. In the new species the apex has the mesial and cephalic plates distally overlapping, whereas they are parallel in *A. pestai;* in the new species there is a basal triangular projection in the apex which is absent in *A. pestai.* In *A. casanarensis* the field of spines is straight, and there are only uniform conspicuous spines, whereas in *A. pestai* the field of spines is recurved, with large setae distally, and short spinules near the spermatic channel.

Discussion

In a cladistic study of the tribe Kingsleyini, Rodríguez & Pereira (1992) concluded that in *Eudaniela pestai* the exognath of the third maxilliped is less reduced than in other members of the tribe. In addition, the cephalic lobe of the first male gonopod is formed by two separate plates which resemble an ancestral *Strengeriana*-type of gonopod with three independent plates. For these reasons they considered "*Eudaniela pestai* as approaching the ancestral pseudothelphusid condition", a conclusion confirmed by Rodríguez & Campos (1998). More recently, a cladistic analysis of morphological characters was conducted by Sternberg et al. (1999) to resolve the relationships of the *Eudaniela* species complex. The result presented *Eudaniela* as a paraphyletic taxon, and *E. pestai* was positioned basal to the *Eudaniela* species complex, and to other representatives of the tribe Kingsleyini, i.e. the genera *Fredius* Pretzmann, 1967, *Guinotia* Pretzmann, 1965, *Kingsleya* Ortmann, 1897, and *Microthelphusa* Pretzmann, 1968. In this study *E. pestai* is transferred to the new genus *Achagua,* and with the new species *A. casanarensis* the they seem to constitute a basal group from which *Eudaniela* species originated. Thus, *Achagua* likely represents a sister-group to all other Kingsleyini.

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