

AUTHORSHIP AND DIAGNOSIS OF THE GENUS *ARCOOTHERES* MANNING, 1993 (CRUSTACEA: BRACHYURA: PINNOTHERIDAE)

Ernesto Campos

Facultad de Ciencias, Universidad Autónoma de Baja California, Apartado Postal 2300, Ensenada, Baja California, México
Email: ecampos@faro.ens.uabc.mx

Raymond B. Manning

Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560-0163, U.S.A.
+ deceased January 18, 2000

ABSTRACT. – The pinnotherid generic name *Arcotheres* was first published by Bürger (1895) as a synonym of *Pinnotheres* Bosc, 1802, and thus is unavailable. The generic name must be attributed to Manning (1993), who first recognized it as a genus distinct from *Pinnotheres*. The type species is *Pinnotheres palaensis* Bürger, 1895. Nine other species of *Pinnotheres* named by Bürger in 1895 are transferred to *Arcotheres*. Members of the genus, inhabitants of bivalves, are restricted to the Indo-Pacific region.

KEY WORDS. – Crustacea, Pinnotheridae, genus *Arcotheres*, Diagnosis, Authorship

The name *Arcotheres* was established by E. Nauck to accommodate several pinnotherid crab species that resemble *Pinnotheres palaensis* Bürger, 1895. However, this generic name was never published and only appeared in Nauck's personal notes. Bürger (1895) reassessed Nauck's unpublished proposal and decided not to consider *Arcotheres* as a valid genus. Rathbun (1918), following Bürger's recommendation, placed *Arcotheres* as a junior synonym of the genus *Pinnotheres* Bosc, 1802. Recently one of us (Manning, 1993) reviewed the taxonomy of several genera placed in synonymy with *Pinnotheres* and concluded that *Arcotheres* (type species *Pinnotheres palaensis* Bürger, 1895) should be recognized as a separate genus. Manning removed *Arcotheres* from the synonymy of *Pinnotheres*, diagnosed the genus, and considered Bürger (1895) to be the author of the generic name.

We have been recently informed by L. B. Holthuis (pers. com.) that Bürger (1895) should not be considered the author of *Arcotheres*. Here we correct authorship and date of publication for this genus. In addition, the diagnosis of *Arcotheres* is emended and, based on Bürger's paper, we transfer nine other species described by Bürger from *Pinnotheres* Bosc, 1802, to *Arcotheres*.

The following abbreviations and acronyms are used: MXP3, third maxilliped; WL, walking leg(s); USNM, National Museum of Natural History, Smithsonian Institution, Washington.

Arcotheres Manning, 1993

(Fig. 1-2)

Arcotheres Bürger, 1893: 361 [unavailable; introduced in synonymy]. – Manning, 1993: 524.

Type species. – *Pinnotheres palaensis* Bürger, 1895, by subsequent designation by Rathbun (1918: 62). Gender of the genus masculine.

Diagnosis. – Carapace subhexagonal, anterolateral margin acute, posterior margin concave. MXP3 with ischium and merus indistinguishably fused; exopod with 3-segmented flagellum; palp 3-segmented; propodus longer than carpus; digitiform dactylus inserted medially on ventral margin of propodus, may extend or slightly overreaching apex of propodus. WL3 asymmetrical in length, either left or right is longer. Dactyli of WL dissimilar, those of longer WL3-4 longer than those of WL1-2. Abdomen of 6 somites and telson well separated in both sexes.

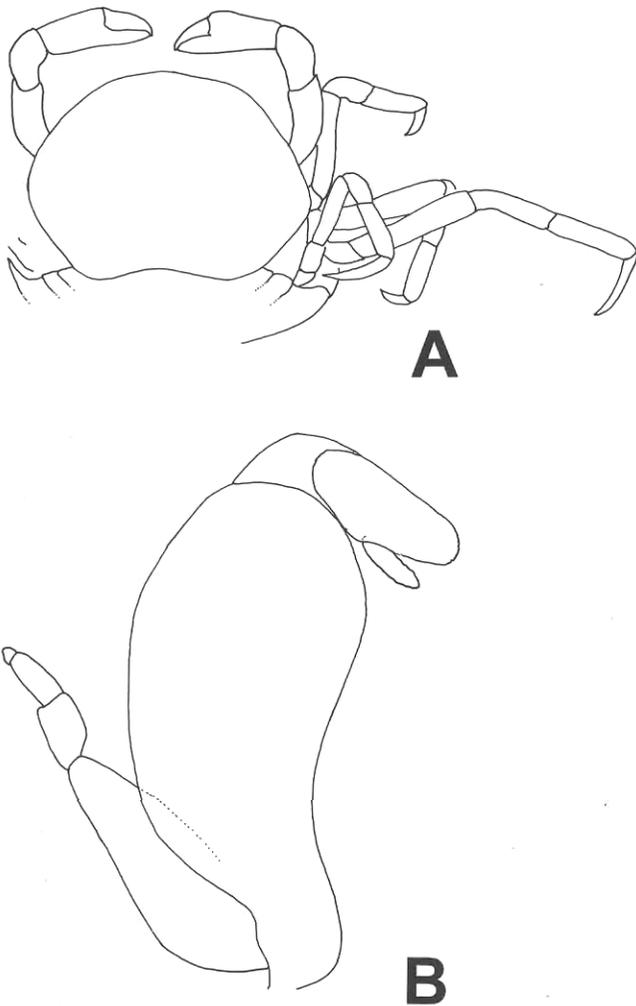


Fig. 1. *Arcotheres palaensis* (Bürger, 1895), spent female, 7.8 x 11.1 mm, Philippines, USNM 256948. A, dorsal view (walking legs of left side omitted; extent of abdomen indicated on both sides); B, MXP3. From Manning, 1993: fig. 1.

Distribution. – Indo West Pacific.

Hosts. – In Bivalvia.

Remarks. – *Arcotheres* was first published by Bürger (1895) as a synonym of the genus *Pinnotheres*. The following comments by L.B. Holthuis (in litt., 6 June 1996) concerning the authorship of this genus were received in response to an inquiry by one of us (E. Campos, in litt., 21 May 1996): “*Arcotheres* ... is a generic name originally published as a synonym of *Pinnotheres* by Bürger (1895). Art. 50g of the International Code of Zoological Nomenclature says: ‘If a scientific name (taken, for example, from a label or manuscript) is first published in the synonymy of an available name ... its author is the person who published it as a synonym, even if some other originator is cited ...’. Therefore, if *Arcotheres* were accepted as from 1895, Bürger certainly would be the author. But there is another snag. The first words that I left out of the above citation (between

‘name’ and ‘its’) runs as follows ‘and prior to 1961 becomes available through the provisions of Article 11e’. This Article 11e says that ‘a name first published as a junior synonym is not thereby made available unless prior to 1961 it has been treated as an available name or treated as a senior homonym’. So far as I can make out, before 1961 *Arcotheres* has never been adopted as a valid name nor has it been used as a senior homonym. Rathbun (1918) cited it in the synonymy of *Pinnotheres*, but did not adopt it, and neither did anyone else so far as I can make out. The first use of *Arcotheres* as a valid name is by Manning, 1993, who thus becomes the author and the name has to be cited as *Arcotheres* Manning, 1993.”

Manning (1993) noted that *Arcotheres* differs from *Pinnotheres* in having the dactyli of WL 3-4 longer than and different from the dactyli of the first two WL and also has a spatulate (=digitiform) rather than styliform dactylus on the MXP3. Additional distinctive characters of *Arcotheres* include the hexagonal carapace with the anterolateral margin acute and WL3 asymmetrical from side to side and longer than the rest. These last two characters allow the separation of *Arcotheres* from all known pinnotherid crab genera.

An analysis of Bürger’s (1895) account revealed that the following nine species described by him should also be removed from the genus *Pinnotheres* and included in *Arcotheres*. These species are: *A. arcophilus* (Ubay, Philippine Islands; Indonesia; Malaysia), *Arcotheres consors* (Palau Islands and Indonesia), *A. exiguus* (Samar Island, Philippine Islands), *A. latissimus* (Indo-Malayan Seas; Siglap, Singapore; Manila, Philippine Islands; Hakata Bay, Japan), *A. modiolicola* (SW India; Singapore; Malaysia; Philippine Islands), *A. nudifrons* (Lapinig, Philippine Islands), *A. rhombifer* (Ubay, Philippine Islands), *A. rotundatus* (Burias, Philippine Islands), and *A. similis* (Singapore; Malaysia; Ubay, Philippine Islands; Cape Jaubert, Australia). The morphology of these species conforms to the diagnostic characters of *Arcotheres*. In particular, these species share with *A. palaensis* an hexagonal carapace with the anterolateral margins acute; WL3 asymmetrical right and left and longer than the others; and the dactyli of WL dissimilar, those of WL3-4 longer than those of WL1-2. *Arcotheres palaensis* is known from the Palau Islands; Ubay and Burias, Philippine Islands; Indonesia; and Malaysia.

ACKNOWLEDGMENTS

We thank L.B. Holthuis, Nationaal Natuurhistorisch Museum, Leiden, The Netherlands, for pointing out the correct author of the genus *Arcotheres*. Many thanks to Dr. P. K. L. Ng for reviewed this typescript with great care; to Lilly King Manning and Alma Rosa de Campos for preparing the figures for publication.

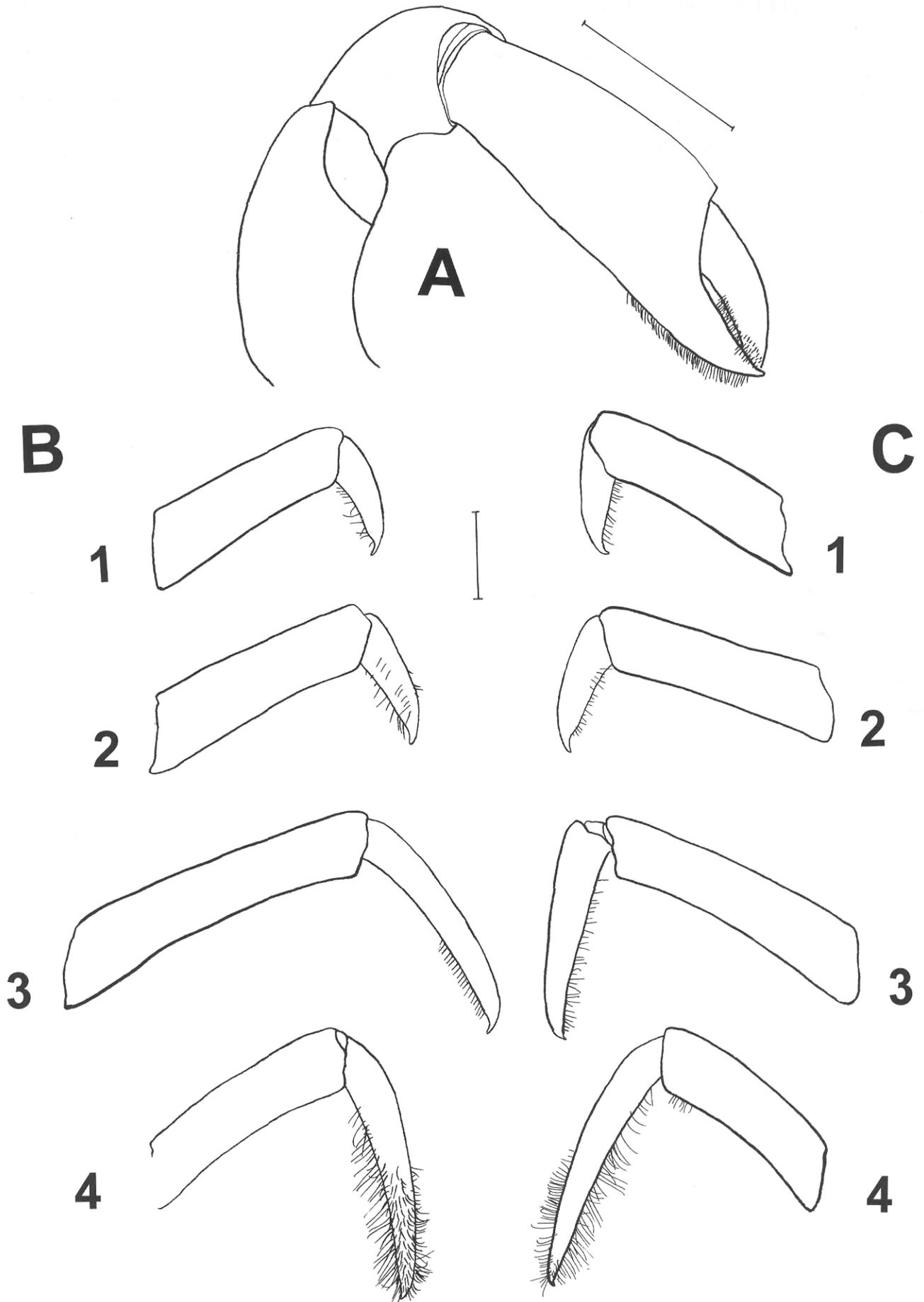


Fig. 2. *Arcotheres palaensis* (Bürger, 189), spent female, Philippines, USNM 256948. A, cheliped outer view; B 1-4, C 1-4, right and left WL 1 to 4.

LITERATURE CITED

- Bosc, L. A. G., 1802. *Histoire naturelle des Crustacés, contenant leur description et leurs moeurs, avec figures dessinés d'après nature*, 1: 1-258, pls. 1-8; 2: 1-296, pls. 9-18. Deterville, Paris.
- Bürger, O., 1895. Ein Beitrag zur Kenntniss der Pinnotherinen. *Zool. Jahrb.*, 8: 361-390, pls. 9, 10.
- Manning, R. B., 1993. Three genera removed from the synonymy of *Pinnotheres*
- Bosc, 1802 (Brachyura: Pinnotheridae). *Proc. Biol. Soc. Wash.*, 106(3): 53-531.
- Nauck, E., 1880. Die Kaugerüst der Brachyuren. *Zeitschr. Zool., Leipzig*: 34:11-69, pl. 1.
- Rathbun, M. J., 1918. The grapsoid crabs of America. *U.S. Natl. Mus., Bull.* 97: 1-461.