

Pherecardites Horst, 1912 and
Branchamphinome Hartman, 1967 are synonyms
(Annelida, Amphinomidae, Amphinominae)

Joke BLEEKER, Leslie HARRIS,
Harry ten HOVE &
Sergio I. SALAZAR-VALLEJO



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***Pherecardites* Horst, 1912 and *Branchamphinome* Hartman, 1967 are synonyms (Annelida, Amphinomidae, Amphinominae)**

Joke BLEEKER

Naturalis Biodiversity Center,
Darwinweg 2, 2333 CR Leiden (The Netherlands)

Leslie HARRIS

Natural History Museum of Los Angeles County,
900 Exposition Blvd., Los Angeles, California, 90007 (United States)

Harry A. TEN HOVE

Naturalis Biodiversity Center,
Darwinweg 2, 2333 CR Leiden (The Netherlands)

Sergio I. SALAZAR-VALLEJO

Depto. Sistemática y Ecología Acuática, El Colegio de la Frontera Sur,
Chetumal, Q. Roo (México)
ssalazar@ecosur.mx, savs551216@hotmail.com (corresponding author)

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ABSTRACT

Uncommon benthic annelid taxa are problematic as they were described briefly, with few or no illustrations. Thus, taxa might become confused or forgotten, rendering it difficult to delimit genera or species. The amphinomid genus *Pherecardites* Horst, 1912, with *P. parva* Horst, 1912 as its type species, was briefly described as having a caruncle with a median axis and lateral lamellae directed posteriorly. The anterior end was not illustrated for *P. parva*, but it was for *P. quinquemaculata* Augener, 1927. Another genus was proposed for a similar Antarctic annelid: *Branchamphinome* Hartman, 1967, with *B. antarctica* Hartman, 1967 as its type species, having a caruncle with a larger median lobe and other ones directed backwards. *Pherecardites* was overlooked and most subsequently described species were included in *Branchamphinome*. A comparison of type or topotype specimens led us to conclude these two genera are synonyms, so that *Pherecardites* must be retained by priority, and illustrations are included showing their resemblance. Keys are included for identifying all amphinomin genera and all species in *Pherecardites*.

KEY WORDS

Caruncle,
deep-sea,
eye development,
pigmentation,
new synonymy,
new combinations.

RÉSUMÉ

Pherecardites Horst, 1912 et *Branchamphinome* Hartman, 1967, sont synonymes (Annelida, Amphinomidae, Amphinominae).

Les taxons des annélides benthiques rares sont problématiques car décrits brièvement, avec peu ou pas d'illustrations. Ainsi, les taxons peuvent être confondus ou oubliés, ce qui rend difficile la détermination des genres ou des espèces. Le genre des amphinomiens *Pherecardites* Horst, 1912, avec *P. parva* Horst, 1912 pour espèce type, a été brièvement décrit comme ayant une caroncule avec un axe médian et des lamelles latérales dirigées vers l'arrière. La tête n'a pas été illustrée pour *P. parva*, mais elle l'est pour *P. quinquemaculata* Augener, 1927. Un autre genre a été proposé pour une annélide antarctique semblable : *Branchamphinome* Hartman, 1967, avec *B. antarctica* Hartman, 1967 pour espèce type, décrit comme ayant une caroncule avec un plus grand lobe médian et d'autres dirigés vers l'arrière. *Pherecardites* a été oublié et la plupart des espèces décrites ensuite ont été incluses dans *Branchamphinome*. Une comparaison des spécimens type ou des topotypes nous a menés à la conclusion que ces deux genres sont synonymes, de sorte que *Pherecardites* a la priorité; des illustrations sont incluses pour montrer leur ressemblance. Deux clés sont fournies pour identifier tous les genres des amphinomiens, et pour toutes les espèces de *Pherecardites*.

MOTS CLÉS

Caroncule,
mer profonde,
développement de l'œil,
pigmentation,
synonymie nouvelle,
combinaisons nouvelles.

INTRODUCTION

A common problem in the taxonomy of marine annelid taxa sprung from publications having short descriptions, often with a few or no illustrations, by some of our predecessors. The late Kristian Fauchald explained this as a natural means of development because when you discover a unique species, you do not need too much information for separating it from others, especially if there are a few known species; it is after the discovery of other species in the same genus that more details are needed for delimiting taxa precisely. However, sometimes the scarcely known taxa are not found again so that they might become confused or forgotten.

In his contribution to the study of the RV *Siboga* Expedition, Horst (1912: 33) proposed *Pherecardites* Horst, 1912 as a new genus, with *P. parva* Horst, 1912 as its type species (by monotypy), from the Malay Archipelago. He indicated the caruncle had “a median axis and some lateral lamellae, directed backward”. And that branchiae were “ramified, commencing on the first segment”. He thought this new genus would be “intermediate between *Hermodice* Kinberg, 1857 and *Pherecardia* Horst, 1886, its ventral bristles resembling those of *Hermodice*, the dorsal ones those of *Pherecardia*”. For *P. parva*, named after the size of the specimens belonging to the type series and collected in 397-1264 m water depth, he added that “its body, much resembling that of a polynoid, [...] nearly of the same breadth over its entire length, only posteriorly [...] becomes somewhat narrower”. He added that “the caruncle extends over three segments and consists of a median axis and four lateral lobes, directed backward”. His generic diagnosis included spurred, harpoon chaetae and denticulate capillaries (his pl. 9, figs 17-19), the spurred neurochaetae have denticles along the same side as the spur, as opposed to running on the opposite side, as in typical spurred harpoon chaetae; however, the anterior end was not illustrated.

Augener (1927: 88) described another species, *P. quinquemaculata* Augener, 1927, from Southeastern Australia in sandy bottoms at 54-90 m water depth. He noted the body

resembled those shown by small *Eurythoe* Kinberg, 1857 specimens (Augener 1927: 89); he also illustrated the anterior end, an anterior parapodium (his figure 2a, b), and chaetal tips (his figure 2c-g). The main differences with the type species are that in *P. quinquemaculata* there are four distinctive eyes, and a pigmentation pattern including five spots per segment, whereas in *P. parva* there are neither eyes nor pigmentation pattern. Augener (1927: 90, fig. 2c-g) illustrated the chaetae as harpoon notochaetae, with or without spurs, but the spurred ones with denticles along the inner surface, and denticulate capillaries.

In her monograph on Antarctic polychaetes, Hartman (1967: 42) proposed *Branchamphinome* Hartman, 1967 as a new genus, with *B. antarctica* Hartman, 1967, collected in sediments at 915-1153 m water depth, as its type species. In the diagnosis, she included the body shape (ovate), that branchiae were on all segments, and the caruncle was tripartite. For the body shape, however, in the description of the species she noted “smaller individuals resemble the short *Chloëia* Savigny in Lamarck, 1818 whereas longer ones are more like *Eurythoe*”. The caruncle was described as “tripartite, consisting of a larger, longer median (lobe) with lateral branches, and a pair of shorter, lateral lobes [...]” and that the “middle part overlaps the first and second segments”. Her only illustration for the species (pl. 12, fig. A) was a close-up of the anterior end. It is remarkably similar to the anterior end of *P. quinquemaculata*, including some curious digitate lobes along the posterior prostomial margin. There are some differences in the relative size of eyes and in the number and size of branchial filaments, but they could be explained because Hartman's specimens were twice as large as those studied by Augener. Further, Hartman (1967: 42) included in the diagnosis that chaetae were spurred and denticulate, and in the description of *B. antarctica* she indicated notochaetae as denticulate and spurred harpoon chaetae, and neurochaetae denticulate. Consequently, on the basis of the available information, *Pherecardites* and *Branchamphinome* are very similar to each other and could be synonyms.

On the other hand, keys for amphinomid genera by Chamberlin (1919: 25) or by Fauvel (1923, 1953) did not use body

shape for separating similar genera, and the latter overlooked *Pherecardia* and *Pherecardites*. On the other hand, Fauchald (1977: 100) incorporated the body shape using ovate or fusiform against rectangular, and despite diagnosing *Pherecardites* with branchiae from chaetiger 1, as in *Branchamphinome*, both genera sorted out in different places after the body shape. Our objectives were to assess the resemblances between the type species of *Pherecardites* and *Branchamphinome* after the study of type specimens of both genera, and we conclude they are synonyms. Keys for identifying all amphinomin genera, and all species of *Pherecardites* are also included.

MATERIAL AND METHODS

Specimens are deposited in the Los Angeles County Museum of Natural History (LACM), Los Angeles, California, United States, and in Naturalis Biodiversity Center, National Museum of Natural History, Leiden (NMNHL), now housing the former Zoological Museum-Amsterdam collections (ZMA), The Netherlands. The species included are not redescribed; some observations are included for comparative purposes, and some photographs are included for showing little known or non-previously illustrated features. Specimens were temporarily stained with Methyl green or with Shirlastain-A, and the images will appear greenish or orange after these pigments. Photographs were made with stereomicroscopes with digital cameras, and sequences were compressed with HeliconFocus (<https://www.heliconsoft.com/heliconsoft-products/helicon-focus/>). Chaetal features are well known and were not emphasized.

ABBREVIATIONS

Institutions

LACM	Los Angeles County Museum of Natural History, Los Angeles;
NMNHL	Naturalis Biodiversity Center, National Museum of Natural History, Leiden (NMNHL);
ZMA	Zoological Museum-Amsterdam collections, Amsterdam.

RESULTS

Family AMPHINOMIDAE Savigny *in* Lamarck, 1818

Subfamily AMPHINOMINAE Savigny *in* Lamarck, 1818

Amphinomae Savigny *in* Lamarck, 1818: 327. — Savigny 1822: 14, 57.

Amphinomidae – Baird 1868: 215. — McIntosh 1885: 6. — Chamberlin 1919: 23. — Fauchald 1977: 100. — Kudenov 1993: 95.

Amphinominae – Borda *et al.* 2015: 330.

TYPE GENUS. — *Amphinome* Bruguière, 1789.

DIAGNOSIS (modified from Borda *et al.* 2015). — Amphinomids with caruncle variable, rarely absent. Branchiae with single or double stems with filaments digitate; simple cirriform branchiae absent. Anus dorsoterminal on last chaetiger.

As indicated in the key, amphinomin genera are separated after several diagnostic features such as the type of caruncle, dorsal development of first chaetiger, presence of branchiae along body, alignment of neuropodia, and presence of special chaetae such as hooks or thin furcates.

Genus *Pherecardites* Horst, 1912

Pherecardites Horst, 1912: 33.

Branchamphinome Hartman, 1967: 42 n. syn.

TYPE SPECIES. — *Pherecardites parva* Horst, 1912, by monotypy.

GENDER. — Feminine, after the epithet originally proposed for the type species, *parva*; Brown (1954: 590) indicates *parvus* is a Latin masculine adjective, meaning little or small (*parva* feminine, *parvum* neuter (see below).

DIAGNOSIS. — Amphinominae with chaetiger 1 dorsally incomplete. Caruncle with a median ridge and separate, diverging lateral lobes. Branchiae from chaetiger 1. Neurochaetae spurred, with denticles along inner side.

REMARKS

Pherecardites Horst, 1912 was described without an illustration of the anterior end. Fauchald (1977) included *Pherecardites* Horst, 1912 in his key to all genera; however, Fauchald regarded the body shape of *Branchamphinome* as oval, whereas for *Pherecardites* it was assumed as rectangular. Nevertheless, Hartman (1967: 43) indicated the body shape of the type species, *B. antarctica* Hartman, 1967 changes during development: “Smaller individuals resemble the short *Chloeia* whereas longer ones are more like *Eurythoe*.” The latter has been regarded as having rectangular body.

Consequently, *Pherecardites* and *Branchamphinome* have the same body shape and types of chaetae. What about the caruncle? Horst (1912: 33) indicated “caruncle consisting of a median axis and some lateral lamellae, directed backwards.” And in describing the type species, *P. parva*, a few lines below, he wrote: “its caruncle extends over three segments and consists of a median axis and four lateral lobes, directed backwards.” Hartman (1967: 43) indicated, in the description of the type species, *B. antarctica*, “the caruncle is tripartite, consisting of a larger, longer median lobe with lateral branches, and a pair of shorter lateral lobes [...]” These two descriptions indicate a very similar shape, and after the study of type specimens, the two genera are herein regarded as synonyms.

Pherecardites Horst, 1912 might be regarded as a name applied to fossils (ICZN 1999, Art. 20) and consequently, it could not “be used as the valid name of a taxon”. Further, as indicated in the example given for the same article, the genus-group name might be available if proposed “for genus-group of taxa of fossils [...] and not merely to indicate fossil members of genera of extant animals”. Horst (1912) proposed *Pherecardites*, forming the name after *Pherecardia* Horst, 1886, but he was not referring to any fossil members of the same group. Consequently, it cannot be rejected as a valid name.

KEY TO SUBFAMILIES OF AMPHINOMIDAE SAVIGNY *IN* LAMARCK, 1818

REMARKS

Amphinomid subfamilies were proposed and defined by Borda *et al.* (2012, 2015). They were initially regarded as different clades, informally named after the body shape as fusiform vs rectangular (rectilinear). However, as indicated below, body shape changes during development and this explains why it is being regarded as an additional, non-diagnostic feature. The main difference relies in the type of branchiae, their stems, and branching pattern of branchial filaments. An additional relevant feature is the presence of cirriform branchiae along some anterior chaetigers, which is currently restricted to some archinomin genera.

- 1. Branchiae with single stem, branched, with filaments depressed or digitate, sometimes pinnate; single cirriform branchiae sometimes present in anterior chaetigers (body tapered or fusiform) Archinominae Kudenov, 1991
- Branchiae with single or double stems, with filaments digitate, never pinnate; single cirriform branchiae absent (body rectangular) Amphinominae Savigny *in* Lamarck, 1818

KEY TO GENERA OF AMPHINOMINAE SAVIGNY *IN* LAMARCK, 1818
(MODIFIED FROM SUN & LI 2017)

REMARKS

Paramphinome Sars, 1869 is a *nomen nudum* because it was included in a species list (Sars 1869); the genus and species were published posthumously by his son (Sars 1872).

- 1. Caruncle present, variably developed; neuropodia lateral; neurochaetae non-retractile 2
- Caruncle absent; neuropodia ventral; neurochaetae retractile *Hipponoe* Audouin & Milne-Edwards, 1830
- 2(1). Branchiae present on all chaetigers, starting from chaetiger 1 3
- Branchiae missing in some chaetigers, starting from anterior chaetigers (not from the first) 4
- 3(2). Caruncle with a median ridge, concealing lateral plates, never with digitate lobes; spurred neurochaetae without denticles *Eurythoe* Kinberg, 1857 (*partim*)
- Caruncle with a median ridge and up to four lateral digitate lobes directed posteriorly; spurred neurochaetae with denticles along inner side *Pherecardites* Horst, 1912 (incl. *Branchamphinome* Hartman, 1967, see above)
- 4(2). Branchiae present from chaetiger 2-4; eyes commonly present 5
- Branchiae present from chaetiger 6; eyes absent; caruncle with a median ridge and smooth lateral lobes *Benthoscolex* Horst, 1912
- 5(4). Chaetiger 1 dorsally continuous, complete 6
- Chaetiger 1 dorsally discontinuous, incomplete 7
- 6(5). Chaetiger 1 with stout, falcate notohooks; caruncle round, sessile, without free lateral wings; neurochaetae bifurcates; harpoon notochaetae with 1 row of denticles *Paramphinome* Sars *in* Sars, 1872
- Chaetiger 1 without notohooks; caruncle stalked, broadly triangular to chordate with free lateral wings; neurochaetae falcate, unidentate; harpoon notochaetae with up to 2 rows of denticles ... *Amphinome* Bruguière, 1789
- 7(5). Caruncle small, not extended beyond one chaetiger 8
- Caruncle large, extended posteriorly beyond more than one chaetiger 9
- 8(7). Branchiae present on almost all chaetigers *Cryptonome* Borda, Kudenov, Bienhold & Rouse, 2012
- Branchiae restricted to anterior chaetigers *Linopherus* de Quatrefages, 1866
- 9(8). Caruncle narrow, longer than wide, with a median ridge 10
- Caruncle wide, often longer than wide, or wider than long; branchiae from chaetiger 1 12
- 10(9). Caruncle median ridge concealing lateral lobes (visible in lateral view) 11
- Caruncle without lateral lobes; branchiae from chaetigers 2-3 *Pareurythoe* Gustafson, 1930
- 11(10). Bifurcate neurochaetae short, thick, shorter tine 0.5-4.0 times longer than handle width; branchiae present from chaetigers 2-4 *Eurythoe* Kinberg, 1857 (*partim*)
- Bifurcate neurochaetae long, thin, shorter tine 10-15 times longer than handle width; branchiae present from chaetiger 4 *Alleurythoe* Sun & Li, 2017
- 12(9). Caruncle as long as wide, with a median ridge, with series of foliose lateral lobes *Pherecardia* Horst, 1886
- Caruncle slightly longer than wide, without median ridge *Hermodice* Kinberg, 1857

There are a few instances where a similarly ending genus-group name has been regarded as valid, such as *Tringites* Cabanis in Gundlach, 1856 (Aves, Scolopacidae), or *Oceanites* Keyserling & Blasius, 1840 (Aves, Hydrobatidae). On the other hand, Read & Fauchald (2022) explained the etymology as: “The name of the genus is formed by the postposition of the suffix of Greek origin *-ites*, used to form adjectives, especially those to identify groups as ‘those belonging to’, to the name of the genus *Pherecardia* Horst, 1886, and seems to be used to indicate the resemblance of the new genus *Pherecardites* with *Pherecardia*.” On the other hand, the suffix *-ites* is “to be treated as masculine unless its author, when establishing the name, stated that it had another gender or treated it as such by combining it with an adjective species-group name in another gender form” (ICZN 1999, Art. 30.1.4.4). As indicated above, because Horst used the feminine (*parva*) species-group name, the gender of the genus must be treated as feminine.

Hartman (1967) compared *Branchamphinome* with *Benthoscolex* Horst, 1912 because both have tripartite caruncle, and concluded they differ because the former has eyes, and branchiae from chaetiger 1, whereas the latter had no eyes, and branchiae from chaetiger 6. Kudenov (1993) modified the diagnosis but restricted the comparison to *Benthoscolex*. After Horst (1912) the presence of spurred neurochaetae with denticles along the inner side in *Pherecardites* resembles *Hermodice*, although some other genera also have this type of neurochaetae such as *Benthoscolex*, *Linopherus* de Quatrefages, 1866, *Paramphinome* Sars in Sars, 1872 and *Pareurythoe* Gustafson, 1930. Horst likely restricted the comparison to *Hermodice* and *Pherecardia* because they also have complex caruncle, as opposed to those present in the other genera. *Benthoscolex*, however, has a caruncle with three longitudinal lobes directed posteriorly, but they rise from the same point, not from a single median ridge, as is the case in *Pherecardites*.

As currently redefined, *Pherecardites* Horst, 1912 includes *Branchamphinome* Hartman, 1967. Consequently, the species described in the latter genus must be newly combined such that *Pherecardites* includes *P. antarctica* (Hartman, 1967) n. comb., *P. islandica* (Detinova, 1968) n. comb., *P. kohtsukai* (Jimi in Jimi et al. 2021) n. comb., *P. parva* Horst, 1912, *P. quinque maculata* Augener, 1927, and *P. tropicalis* (Barroso, Ranauro & Kudenov, 2017) n. comb.

Pherecardites parva Horst, 1912
(Fig. 1)

Pherecardites parva Horst, 1912: 33, pl. 9, figs 17-19. — Bleeker & van der Spoel 1992: 152 (lectotype designation).

TYPE MATERIAL. — **Indonesia**. Lectotype • 1 specimen; RV *Siboga*; Sta. 122; 01°58.5'N, 125°0.5'E; 1264-1165 m depth; 17.VII.1899; ZMA V.Pol 1072.1.g.

PARALECTOTYPES. — **Indonesia** • 1 specimen; RV *Siboga*; Sta. 139; 00°11'S, 127°25'E; 397 m depth; 4.VIII.1899; ZMA V.Pol. 1072.2 • 1 specimen; RV *Siboga*; Sta. 173; 03°27'S, 131°0.5'E; 567 m depth; 28.VIII.1889; ZMA V.Pol. 1072.3.

DISTRIBUTION. — Indonesia, in sediments at 397-1264 m water depth.

OBSERVATIONS

Lectotype (ZMA V.Pol 1072.1) colorless, without posterior region, bent ventrally, breaking in two (Fig. 1A). Body about 10 mm long, 2.5 mm wide, 30 chaetigers. Prostomium (Fig. 1B) slightly eroded, left lateral antenna lost, right one present, inserted close to median antennal base. Median antenna thick, bent laterally, without tip. 2/3 as long as caruncle. Palps lost. Eyes not seen. Caruncle straight, with a median ridge and 4 digitate lateral lobes, directed posteriorly. Branchiae from chaetiger 1 lost; chaetiger 2 with 2 digitate filaments, in an-

KEY TO SPECIES OF *PHERECARDITES* HORST, 1912
(modified after Jimi et al. 2021)

- 1. Prostomium with eyes, sometimes coalescent; first branchiae with 3 or more filaments 2
- Prostomium with indistinct eyes; body pale; first branchiae with 1-2 filaments
..... *P. parva* Horst, 1912, Indonesia
- 2(1). Median segments branchiae with 15-20 filaments; body colorless
..... *P. antarctica* (Hartman, 1967) n. comb. (redescr. Kudenov 1993: 95), Antarctic Seas
- Median segments branchiae with 4-12 filaments; body variable 3
- 3(2). Body pale; eyes nearly coalescent, forming an 8-shaped spot
..... *P. islandica* (Detinova, 1968) n. comb. (recorded as *B. antarctica* by Amoureux 1982: 34), NE Atlantic
- Body with dorsal pigmentation; eyes separate, not coalescent 4
- 4(3). Median branchiae with 4-8 filaments 5
- Median segments with about 12 filaments; dorsal pigmentation includes 5 spots, three dorsal and two inter-ramal
..... *P. quinque maculata* Augener, 1927, New Zealand
- 5(4). Venter of first four chaetigers broadly pigmented, following segments pale
..... *P. kohtsukai* (Jimi in Jimi et al., 2021) n. comb., Japan
- Venter with similar pigmentation along body
..... *P. tropicalis* (Barroso, Ranauro & Kudenov, 2017) n. comb., SW Atlantic

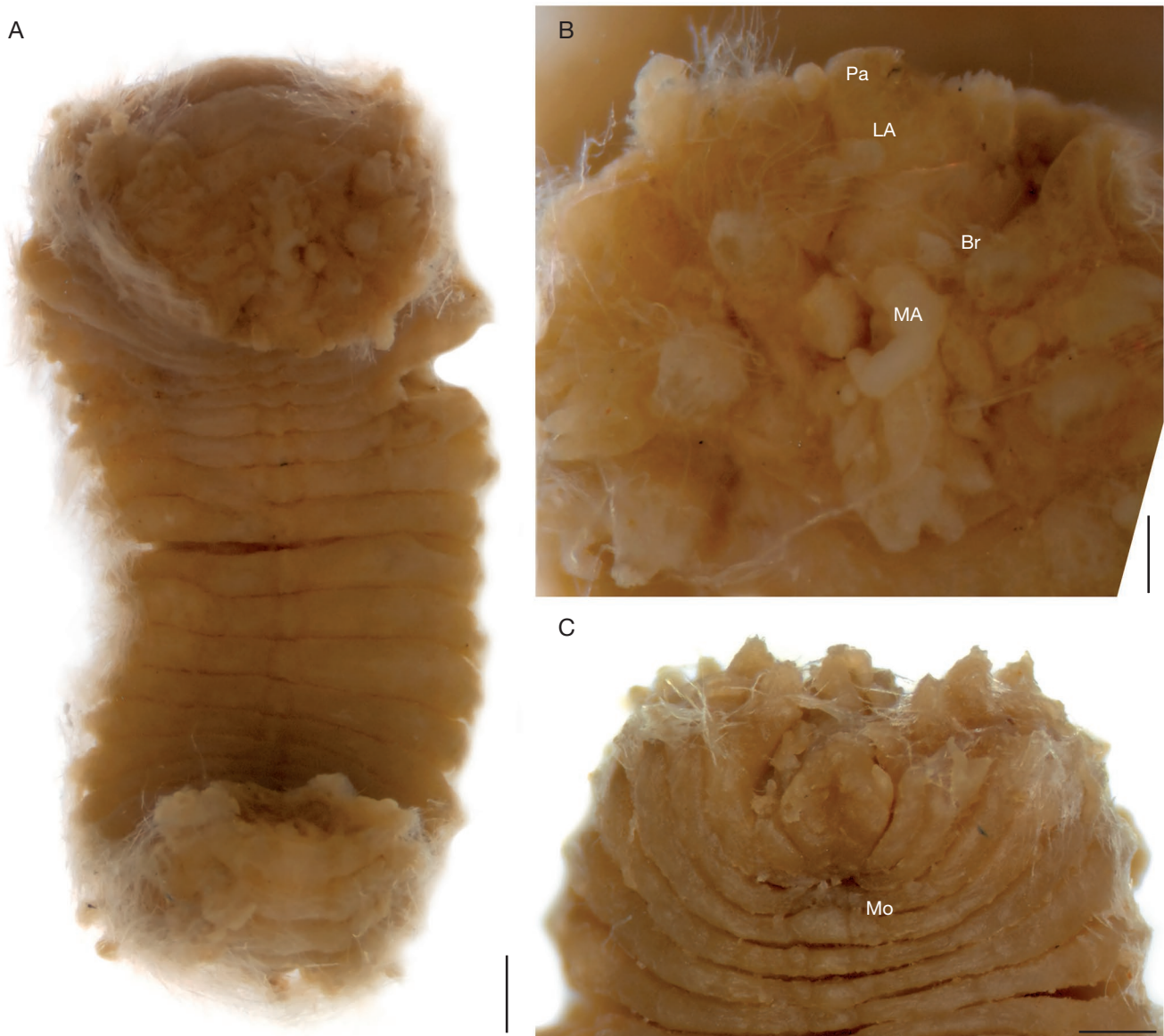


FIG. 1. — *Pherecardites parva* Horst, 1912, lectotype, ZMA V.Pol 1072.1: **A**, ventral view; **B**, anterior end, dorsal view; **C**, anterior end, ventral view. Abbreviations: **Br**, branchia; **LA**, lateral antenna; **MA**, median antenna; **Mo**, mouth; **Pa**, palp. Scale bars: A, 0.36 mm; B, 0.14 mm; C, 0.26 mm. Photos: Frank Loggen.

terior chaetigers branchiae with about 5 filaments. Pharynx not exposed (Fig. 1C). Posterior end lost; pygidial features unknown.

REMARKS

Horst (1912: 33) did not see eyes in his specimens (longest one slightly more than 7 mm in length) but noted some black spots. Kudenov (1993: 96-97) noted in *P. antarctica* (Hartman, 1967) n. comb., specimens of different size (8-12 mm long) had eyes well developed and their pigments were retained despite being in ethanol for over 30 years, whereas in *P. parva* eyes were not seen. Horst (1912: 33) characterized the caruncle in the diagnosis for *Pherecardites*, and in the description of *P. parva*, as having a median ridge and lateral lamellae, directed posteriorly, extended along three segments. Branchiae were noted as starting in chaetiger 1 but the number

of filaments was not given. Likewise, the presence of branchiae along posterior chaetigers was not indicated, nor the shape of the posterior end.

Pherecardites antarctica (Hartman, 1976) n. comb.
(Fig. 2)

Branchamphinome antarctica Hartman, 1967: 42, pl. 12, fig. A (anterior end). — Kudenov 1993: 95, figs 1, 2 (redescr.).

TYPE MATERIAL. — **Antarctica**. Not seen (examined and redescribed by Kudenov 1993).

ADDITIONAL MATERIAL. — **Antarctica** • 1 specimen; RV *Eltanin*; Sta. 1346; 54°49' to 54°50'S, 129°48' to 129°46'W; 549 m depth; 7.XI.1964; LACM.

DISTRIBUTION. — Antarctic, in sediments at 333-1153 m water depth.



FIG. 2.— *Pherecardites antarctica* (Hartman, 1967) n. comb., non-type specimen, LACM: **A**, complete specimen, dorsal view; **B**, anterior end, dorsal view; **C**, complete specimen, ventral view, pharynx partially exposed; **D**, posterior region, dorsal view. Abbreviations: **Br**, branchia; **LA**, lateral antenna; **MA**, median antenna; **Pa**, palp; **Ph**, pharynx. Scale bars: A, 0.42 mm; B, 0.03 mm; C, 0.76 mm; D, 0.34 mm. Photos: S.I. Salazar-Vallejo.

OBSERVATIONS

Non-type specimen (LACM, only one available) colorless, complete, oval (Fig. 2A), slightly bent ventrally, pharynx partially exposed (Fig. 2C). Body 8 mm long, 3.5 mm wide, 26 chaetigers. Prostomium (Fig. 2B) distorted due to eversion of pharynx, bent posteriorly; lateral antennae eroded, inserted ahead of anterior eyes; median antenna thin, tapered, longer than caruncle. Palps conical, directed laterally. Eyes dark brown, anterior and posterior eyes fused laterally; anterior eyes reniform, twice as large as posterior round eyes. Caruncle distorted, with a median ridge and 3–4 lateral digitate lobes directed posteriorly. Branchiae with digitate filaments from chaetiger 1, with about 10 filaments along anterior chaetigers, becoming less abundant medially and posteriorly, continued to last chaetigers (Fig. 2D). Pharynx with a short smooth basal ring, and a longer distal ring; a middorsal ridge visible in the aperture. Posterior end tapered; pygidium with anus terminal, anal plate round, without cirri.

REMARKS

Hartman (1967, pl. 12, fig. A) only included a schematic illustration of the anterior end. Her figure shows the lateral antennae are ahead of the anterior eyes, the median antenna is inserted behind the posterior eyes, and palps are directed laterally and inserted ahead of lateral antennae. The caruncle includes a median, longer ridge with six lateral lobes, with the proximal ones apparently arising from the posterior prostomial margin. The eyes were depicted as circular, slightly separate from each other, and the anterior eyes slightly larger than posterior ones. Kudenov (1993) proposed a lectotype, noted several differences regarding the original illustration, and consequently illustrated several specimens of different size. Kudenov also illustrated the ontogenetic changes of *P. antarctica* n. comb. regarding its prostomium and caruncle. He showed that smaller specimens (8 mm long) have eyes distinct, anterior eyes 2–3 times larger than posterior ones, and closer to each other, and the caruncle is a small blunt ridge with two pairs of short (about as long as wide), digitate lateral branches. In

medium-sized specimens, the eyes remain distinct and with similar size proportions, but the caruncle changes with the median ridge becoming tapered, and the lateral branches grow into digitate long lobes (2-3 times longer than wide), becoming a palmate structure. Larger specimens have eyes coalescent into 8-shaped spots, with anterior eyes oval to reniform, and the caruncle now includes some additional short, digitate lobes, crowded along the posterolateral prostomial margins, whereas the lateral branches are retained in size and position. Kudenov (1993) also gave a detailed account of the types of chaetae and branchial branching pattern, and this explains why these features are not included in our observations. The only confusion was regarding the affinities to other amphinomid genera, because *Pherecardites* was not taken into account, but *Branchamphinome* was only compared to *Benthoscolex* Horst, 1912. Consequently, because most diagnostic features for *Branchamphinome* are also present in *Pherecardites*, and because the latter genus-group name has priority over *Branchamphinome*, we are regarding them as synonyms, retaining the older name, and have newly combined Hartman's species in this genus.

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