

## New Records of Pseudionine Bopyrid Isopods, including two new Species and one new Genus, infesting Porcellanid Crabs (Decapoda: Anomura) on the Pacific coast of North and Central America

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*Abstract.*—*Aporobopyrus bourdonis*, new species, earlier reported from the Pacific coast of Mexico but never described, infests *Petrolisthes edwardsii* (de Saussure), the same host species as before, in Costa Rica. *Aporobopyrus muguensis* Shiino, 1964, previously reported several times along the coast of California infesting *Pachycheles rudis* Stimpson and *P. pubescens* Holmes, is redescribed on the basis of material from Monterey, California, infesting *P. pubescens*. *Aporobopyrus trilobatus* (Nierstrasz and Brender à Brandis, 1925), previously known from the Caribbean Sea and the Pacific coast of Mexico, infests *Petrolisthes ortmanni* Nobili, a new host record, in Costa Rica. *Discomorphus magnifolius*, new genus, new species, infests *Petrolisthes cinctipes* (Randall) in central California. Synonymies are given for all species. Included is a summary of all porcellanids known to bear bopyrid parasites in the eastern Pacific.

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There are relatively few species of bopyrid isopods known from the Pacific coast of the Americas (Markham 1992). Ongoing collections and reexamination of material already in museum collections are slowly increasing the number of known species from that coast, though it will probably never become large. Material of two species, both new to the fauna of Costa Rica, had been collected as parasites of two crabs in the anomuran family Porcellanidae on the Pacific coast of Costa Rica and were housed in the collection of the Museo de Zoología, Universidad de Costa Rica (designated UCR). One proved to belong to a species earlier recorded from elsewhere, while the second had previously been recorded but not described. Another specimen from California, in the collection of the National Museum of Natural History, Smithsonian Institution (designated USNM), for over 50 years, represents a new species in a new genus.

### Systematics

Family Bopyridae, Rafinesque, 1815

Subfamily Pseudioninae R. Codreanu, 1967

Genus *Aporobopyrus* Nobili, 1906

Type-species, by monotypy, *Aporobopyrus aduliticus* Nobili, 1906. Number of valid species hitherto described: 19. Known distribution: Red Sea; Pakistan; Japan; Okinawa; Hong Kong; Moluccas; Amboina; California to Mexico; Gulf of Mexico; Caribbean Sea; Brazil; West Africa. Hosts: Various genera, nearly all in anomuran family Porcellanidae.

### Discussion

The genus *Aporobopyrus* was established by Nobili (1906) for its type-species *A. adulticus* Nobili, 1906, a parasite of *Petrolisthes rufescens* Heller in the Red Sea. Nobili's (1906) original description of *A. adulticus* was carefully prepared, so it has been easy to assign subsequently described species to the genus. However, because of its close similarity to the rather ill-defined genus *Pseudione* Kossmann, 1881, some species subsequently considered to belong to *Aporobopyrus* were originally described as species of *Pseudione*. Bourdon (1976) redescribed several species of *Aporobopyrus*; and Adkison (1988) rediagnosed the genus, transferred three species into it from *Pseudione* and incorporated the genus *Pleurocryptosa* Nierstrasz and Brender à Brandis, 1929, and its five described species into it. With the description of the new species below, there are now 21 recognized species of *Aporobopyrus* world-wide, all but one infesting porcellanid crabs. Of these, three species have been previously reported from the eastern Pacific. *Aporobopyrus muguensis* Shiino, 1964, is known from California, as a parasite of *Pachycheles rudis* Stimpson and *P. pubescens* Holmes (Shiino 1964, Van Wyk 1982, Sassaman 1985) and the west coast of Mexico (Campos and Rosa de Campos 1989). Originally described from Japan by Shiino (1934), *A. oviformis* Shiino, 1934, was later reported to infest *Pachycheles pubescens* Holmes at Point Mugu, California (Shiino 1964). Finally, *A. trilobatus* (Nierstrasz and Brender à Brandis, 1925) was originally described under the name *Pseudione trilobata* as a parasite of *Pisosoma angustifrons* Benedict [now *Neopisosoma angustifrons* (Benedict)] at Curaçao in the Caribbean Sea (Nierstrasz and Brender à Brandis 1925); Bourdon (1976) reported it as a parasite of *Petrolisthes hians* Nobili at Zihuatenejo Bay on the west coast of Mexico, and its known range is now extended to the west coast of Costa Rica.

#### *Aporobopyrus bourdonis*, new species

Fig. 1.

“[A] bopyrid.”—Haig 1968: 61 [Chamela Bay, Jalisco, Mexico, 19°31'N, 105°02'W; infesting *Petrolisthes edwardsii* (de Saussure)].

“Bopyré indéterminé (J. Haig).”—Bourdon 1976: 236–238, 241; fig. 43 [Study of material reported above].

“Pseudioninae, gen. sp.?”—Salazar-Vallejo and Leija-Tristán 1989: 430 [No new material; citation of above record].

? “[I]sopod bopyrids” pro parte.—Lazarus-Agudelo & Roccatagliata, 2007: 109 [Pacific coast of Colombia; infesting *Petrolisthes edwardsii* (de Saussure)].

Material examined. Infesting *Petrolisthes edwardsii* (de Saussure, 1853). Near Isla Juanilla, Area Conservación de Jurquillal, Guanacaste, Costa Rica, 10°59'N, 85°43'W. 1♀, holotype; 1♂, allotype. Museo de Zoología, UCR 2014-19.

#### Description of holotype female (Fig. 1A–H)

Length (exclusive of uropods) 2.47 mm, maximal width 1.62 mm, head length 0.68 mm, head width 0.98 mm, pleon length 0.54 mm. Body distortion 30°. All segments and body regions distinct (Fig. 1A, B). No pigmentation except for minute eyespots and tiny spots near sides of dorsal surfaces of some pereomeres and first pleomere.

Head broadly rounded anteriorly, greatly extended from body, produced into slightly curved right angle posteriorly. Fairly short but broad frontal lamina covering all of front margin. Two tiny dark eyespots near sides of anterior part of head. Antennae of three

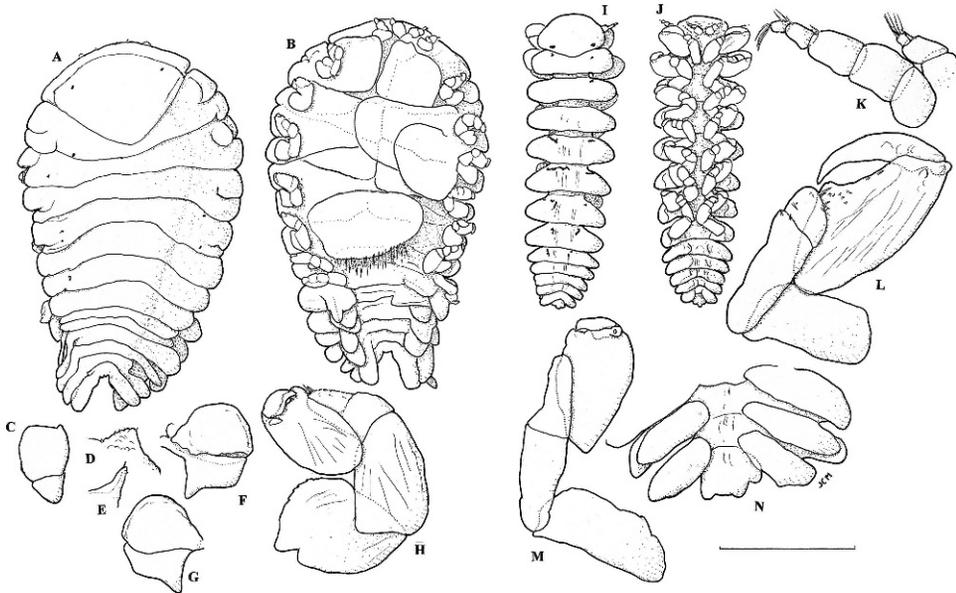


Fig. 1. *Aporobopyrus bourdonis*, new species. A–H, Holotype female. I–N, Allotype male. A. Dorsal view. B. Ventral view. C. Right maxilliped. D. Palp of same. E. Spur of same. F. Right oostegite 1, external. G. Same, internal. H. Right pereopod 1. I. Dorsal view. J. Ventral view. K. Right antennae. L. Left pereopod 1. M. Left pereopod 7. N. End of pleon in ventral view. Scale: 1.00 mm for A, B, I, J; 0.87 mm for C, F, G; 0.17 mm for D, E, H, K–N.

articles apiece, those of both pairs equally large and extending only very slightly beyond margin of head. Maxilliped (Fig. 1C) subovate in outline, its anteromedial corner produced into small and completely nonarticulating palp (Fig. 1D), its posterior article extended anteromedially into slender sharp plectron (Fig. 1E).

Pereon with pereomeres all of about same length, broadest across second pereomere and tapering smoothly behind that; all pereomeres deeply separated laterally; pereomeres 1–4 bearing tergal plates on both sides. Oostegites almost completely enclosing brood pouch; oostegite 1 (Fig. 1F, G) semicircular anteriorly, extended into short straight-sided triangular point posterolaterally, with slightly sinuate flap overhanging separating groove; fifth oostegite with row of long setae along posterior margin. Pereopods (Fig. 1H) all of about same size and similar structure; all articles distinct, dactyli reduced, their short tips inserted into cuplike receptacles produced on anterolateral corners of propodi; distal ends of meri sparsely setose; bases lacking carinae.

Pleon of six pleomeres, all shorter than pereomeres, and all of about same length, progressively narrower posteriorly; first five produced into long lanceolate lateral plates on both sides, most directed posteriorly; final pleomere produced into similar long posterolaterally directed uropods. Five pairs of biramous pleopods, their endopodites as laterally directed ovate lobes, endopodites oblong and posteriorly directed; all pleopods larger on longer side of body. Last pleomere produced into long nonarticulating uropods of same structure as lateral plates.

#### *Description of allotype male (Fig. 1I–N)*

Length 2.37 mm, maximal width 0.73 mm, head length 0.35 mm, head width 0.55 mm, pleon length 9.51 mm. All body regions and segments distinct (Fig. 1I, J). Tiny black eyes

near posterior borders of head, irregularly shaped dark splotches near dorsal anterolateral margins of several pereomeres and first pleomere.

Head slightly narrower than first pereomere and extending clearly forward from that segment, roughly semicircular but with posterior margin slightly convex. Antennae (Fig. 1K, L) reduced and not reaching to margins of head, of three and five articles respectively, some articles sparsely setose distally.

Pereon of seven deeply separated pereomeres, its sides nearly parallel. No midventral tubercles. Pereopods all relatively large, some extending beyond sides of body; dactyli and propodi of first two pairs much larger than others, all pereopods progressively somewhat smaller overall posteriorly; meri and carpi of all pereopods fused.

Pleon of six pleomeres, all of about same length but each narrower than preceding, sides of pleomeres 1–5 forming straight converging lines, pleomere 6 greatly reduced and embedded in posterior margin of preceding one. Pleopods as broad sessile oval swellings on pleomeres 1–5. No uropods or conspicuous anal cone (Fig. 2N).

### *Etymology*

Name *bourdonis*, Latin genitive singular of third declension noun, selected in honor of Roland Bourdon, the noted authority on the Bopyridae, who first studied this species but did not name it.

### *Discussion*

The descriptive notes and illustration provided by Bourdon (1976) are detailed enough to provide confidence that this is the same species that he was studying. *Aporobopyrus bourdonis* most closely resembles *A. muguensis* Shiino, 1964, reported below, in both sexes and is easily distinguished from all other species of the genus. Specifically, females of both *A. bourdonis* and *A. muguensis* have very broad extended heads and long slender uropods, while males of both species are more than three times as long as broad, with all pereomeres deeply separated and of nearly the same width and the sides of the first one not curved forward (Shiino, 1964). The female of *A. muguensis* differs from that of *A. bourdonis* in that the frontal lamina of its head is not demarcated, its body is more rounded, it has dorsally visible coxal plates on more pereomeres, its pleopodal endopodites are larger than its exopodites, and its uropods touch each other medially. The male of *A. muguensis*, in contrast with that of *A. bourdonis*, has a shorter head and its posterior margin produced into posterolateral lobes extending beyond a prominent anal cone. *A. bourdonis* is the only species of bopyrid known to infest *Petrolisthes edwardsii*. Lazarus-Agudelo & Roccatagliata (2007), in a brief abstract, report finding 44 infested individuals of *P. edwardsii* on the Pacific coast of Colombia but they have not reported the identity of the parasites, which may or may not be *A. bourdonis*.

*Aporobopyrus muguensis* Shiino, 1964

Fig. 2.

*Aporobopyrus muguensis* Shiino, 1964: 20–22; fig. 1 [Point Mugu, California; infesting *Pachycheles rudis* Stimpson].—Schultz, 1969: 315; fig. 500(b).—Markham, 1975: 265; table I.—Miller, 1975: 285, 286, 305; pl. 64; fig. 15.—Bourdon, 1976: 166, 187.—Van Wyk, 1980: 889 [San Simeon, California; infesting *P. rudis*; study of effects on host].—Lee and Miller, 1980: 544; pl. 57; photograph 21.11 [Pacific Grove and Dillon Beach, California; infesting *P. rudis*].—Haig and Abbott, 1980: 589.—Wallerstein, 1980: 235.—Hart, 1982: 32.—Van Wyk, 1982: 459–471; figs. 1–5; tables

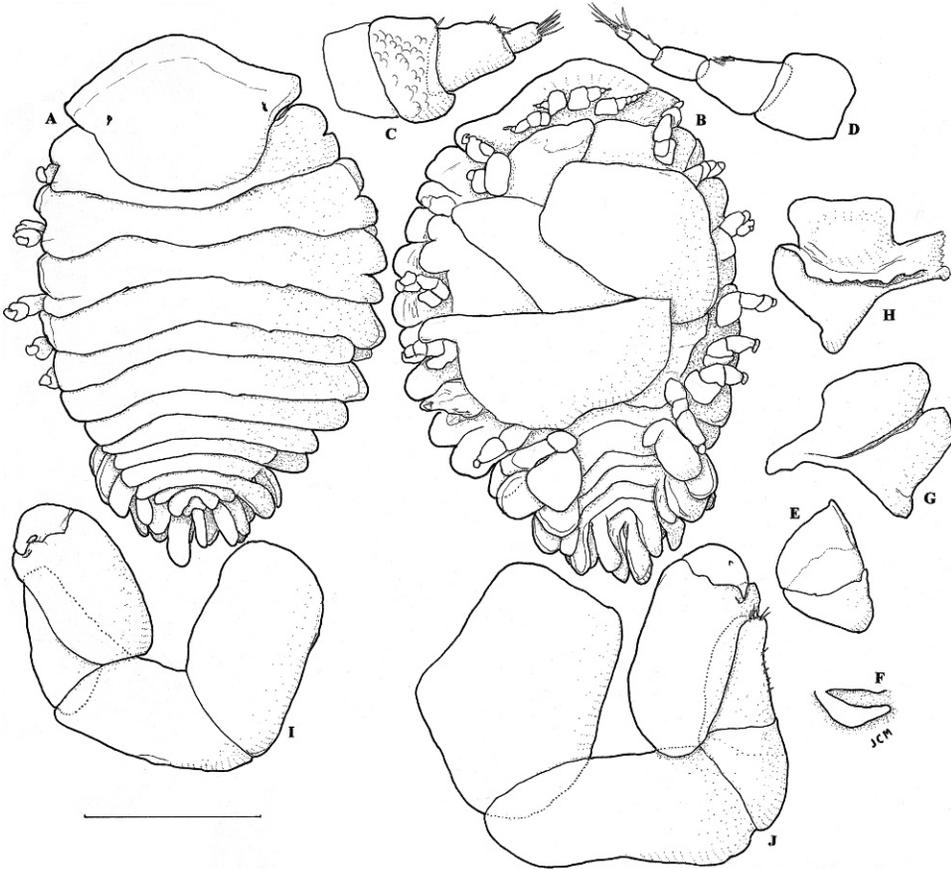


Fig. 2. *Aporobopyrus muguensis* Shiino, 1964, female. A. Dorsal view. B. Ventral view. C. Left antenna 1. D. Right antenna 2. E. Right maxilliped, external. F. Barbula, right side. G. Right oostegite 1, external. H. Same, internal. I. Right pereopod 1. J. Right pereopod 7. Scale: 1.00 mm for A, B; 0.87 mm for E, G, H; 0.34 mm for F; 0.17 mm for C, D, I, J.

1–3 [San Simeon, California; infesting *P. rudis*; study of effects on host].—Sassaman et al., 1984: 651, 653 [Monterey, California; infesting *P. rudis* and *P. pubescens* Holmes].—Austin, 1985: 587.—Sassaman, 1985: 778, 782, 785, 787 [Monterey, California; infesting *P. rudis* and *P. pubescens*; bearing hyperparasite *Cabirops montereyensis* n. sp.].—O'Brien and van Wyk, 1985: 196; 197; 210 fig. 2 [San Simeon, California; infesting *P. rudis*; study of effects on host].—Campos-Gonzalez and Campoy-Favela, 1987: 39, 40–41, 42, 47; fig. 1.—Markham, 1988: 27.—Campos and Rosa de Campos, 1989: 33; table 2.—Jay, 1989: 75.—Salazar-Vallejo and Leija-Tristan, 1989: 429.—Markham, 1992: 3; table 1.—Sassaman, 1992: 575, 576 [Malibu, California; infesting *P. holosericus* Schmitt; hyperparasitized].—Cash and Bauer, 1993: 120.—Oliveira and Masunari, 1998: 1708.—Brusca et al., 2001: 22.—McDermott, 2002: 39.—Brusca et al., 2007: 535.—Kuris et al., 2007: 654.

*Aporobopyrus*.—Carlton and Kuris, 1975: 410.—Sassaman, 1985: 783.

*Aporobopyrus muguensis* [sic].—Bourdon, 1976: 240.

*Aporobopyrus muquensis* [sic].—Campos and Rosa de Campos, 1989: 30.

*Aparobopyrus* [sic].—Raibaut and Trilles, 1993: 423.

*Aporobopyrus mugensis* [sic].—Espinosa-Pérez and Hendrickx, 2006: 236; appendix 1.

Material examined. Infesting *Pachycheles pubescens* Holmes, 1900. In kelp holdfast, Monterey, California, 36°35'N, 121°55'W, M. Morris coll. #82-025, 13 March 1982: 1♀, USNM.

*Descriptive notes*.—The present female is proportionately somewhat wider (Fig. 2A, B) than the type. Its head (Fig. 2A) is extended farther laterally, but its tiny eyes are very similar. The antennae (Fig. 2C, D), not previously mentioned, are about equally long, of four and five articles respectively, the first one being broader. The maxilliped (Fig. 2E) is only slightly produced into a small nonarticulating palp and a long slender plectron. The barbula (Fig. 2F) bears only one long slender projection on each side. Like that of the type, the pereon is little ornamented. The first oostegite (Fig. 2G, H) is much broader than long and produced into a blunt posterior projection; its internal ridge is only slightly ornamented. The pereopods (Fig. 2I, J) are slightly larger posteriorly, the meri and carpi of the anterior ones being fused. The pleopods are similar to those of the type, their exopodites extending considerably beyond the margins of the pleomeres, the subcircular endopodites not covering the central region of the dorsal surface of the pleon. The uropods are less visible dorsally than in the type but highly conspicuous ventrally.

Despite having been collected several times along the coast of California, *Aporobopyrus mugensis* has not been further described since the original account of Shiino (1964), two of whose drawings Miller (1975) reproduced. Lee and Miller (1980) presented an original drawing and a color photograph of *A. mugensis*, but neither contains enough detail to be diagnostic to species.

*Aporobopyrus trilobatus* (Nierstrasz and Brender à Brandis, 1925)

*Pseudione trilobata* Nierstrasz and Brender à Brandis 1925: 2–3, 7; figs. 7–10 [Spaansebaai, Curaçao, Netherlands Antilles; infesting *Pisosoma angustifrons* Benedict {=*Neopisosoma angustiformis* (Benedict)}].—Monod 1933: 227.—Shiino 1933: 271.—Schultz 1969: 325; fig. 519.—Bourdon 1976: 165, 167–171, 240, 241; figs. 1–3 [Bahía de Zihuatenejo, Guerrero, Mexico, 17°37'N, 101°34'W, infesting *Petrolisthes hians* Nobili; diagnosis and redescription].—Markham 1978: 489.—Markham 1988: 3, 4, 17–18; fig. 7 [Piscaderabaai, Curaçao; infesting *Pachycheles pilosus* (H. Milne Edwards); synonymy and descriptive notes].—Salazar-Vallejo and Leija-Tristán 1989: 430.—Campos and Rosa de Campos 1989: 33; table 2.

“[A] bopyrid”: Haig 1968: 67 [Bahía de Zihuatenejo, Guerrero, Mexico, 17°37'N, 101°34'W, infesting *Petrolisthes hians* Nobili; material examined and identified by Bourdon (1976) above].

*Pseudione tridentata* [sic]: Markham 1988: 56; table 1.

*Pseudione trilobotata* [sic]: Adkison 1988: 579 [Transferred to genus *Aporobopyrus*].

*Aporobopyrus trilobotata* [sic]: Adkison 1988: 579.

*Aporobopyrus trilobata* [sic]: Markham 1992: 3; table 1.—Espinosa-Pérez & Hendrickx 2001: 50.

Material examined. Infesting *Petrolisthes ortmanni* Nobili, 1901. Lower intertidal, Cambutal, near Roca Punta Domenical, Puntarenas, Costa Rica, 09°13'N, 83°50'W, 16 May 1995, J. M. Montoya coll. & det. of host: 1♀, immature; 1♂, UCR 2032-14.

*Descriptive notes on female*

Length (exclusive of frontal lamina and uropods) 3.25 mm, maximal width 1.74 mm, head length 0.81 mm, head width 1.01 mm, pleon length 0.70 mm, body axis distortion 2°. Body outline irregularly oval. All body regions and pereomeres distinct, some pleomeres fused. No pigmentation except for minute eyespots.

Head greatly extended and strongly separated from anterior of pereon, rounded and markedly convex both anteriorly and posteriorly. Short frontal margin completely covering anterior edge and extending to turning point between anterior and posterior curves. Eyes as single tiny dark spots near lateral margins. Antennae extending obliquely beyond anterior margin of head, each of three articles. Maxilliped of subrectangular anterior articles and much smaller subtriangular posterior article; anteromedial corner produced into blunt minutely setose point but not distinct palp; plectron acutely pointed, markedly extended anteriorly and tightly pressed against margin of anterior article. Barbula with single short lanceolate unornamented projection on each side.

Pereon with nearly parallel sides, most pereomeres about same length, their sides irregular; third pereomere slightly longer and broader than others. Oostegites large relative to body size, almost completely covering whole body ventrally and somewhat visible dorsally; oostegite 1 semicircular anteriorly, produced into posteriorly extended slender terete posterolateral projection, internal ridge bearing only sparse simple teeth; other oostegites strongly overlapping and fully enclosing brood pouch. Pereopods all of about same size, with all articles distinct, dactyli bluntly pointed, carpi heavily setose, bases noncarinate.

Pleon of five incompletely separated pleomeres, first four bearing very slender biramous pleopods, their endopodites much smaller. End of pleon produced into similar uniramous uropods.

*Descriptive notes on male*

Length 1.98 mm, maximal width 0.56 mm, head length 0.26 mm, head width 0.37 mm, pleon length 0.47 mm. All body regions and segments distinctly set apart. Small eyespots and scattered small splotches on dorsal surfaces of some pereomeres and pleomeres.

Head semicircular, straight posteriorly, abruptly narrower than first pereomere. Eyespots as single small points near posterolateral corners. Antennae of three and five articles respectively, each bearing long setae distally, few elsewhere.

All pereomeres deeply separated laterally and about same size, so sides of pereomeres almost parallel. Pereopods all strongly developed. In first two pairs, dactyli long and curved, their tips almost reaching serrated setose distal margins of respective carpi; propodi greatly enlarged and resting on respective bases; meri and carpi fused. Posterior pereopods with dactyli and propodi more reduced, other articles elongate, carpi and meri separate.

Pleon of six distinct pleomeres, each narrower than preceding one. Pleopods as five pairs of sessile uniramous lanceolate flaps. Final pleomere as reduced triangular pleotelson with traces of tiny uropods on ventral surface, reduced anal cone in middle.

*Remarks*

This is the first record of bopyrid infestation of *Petrolisthes ortmanni*, a species known from the Gulf of California to western South America (Boschi 2000, Brusca 1980). Because the female is immature, as indicated by its lack of eggs and relatively slender body (and possibly also the very slight distortion of its body axis and the disheveled appearance of its pleopods), there remains some slight doubt about the identity of this material. Nonetheless, the female's barbula, maxilliped and first oostegite conform well

with those previously recorded for *A. trilobatus*, and the present male agrees well with those reported by Bourdon (1976). For these reasons, I consider it most likely to belong to that species. It is uncertain why the gender of the species name has not previously been corrected to match that of its current genus, but this appears to be the first use of the form *trilobatus*.

Genus *Discomorphus*, new genus

Diagnosis: Female: Broader than long, only slightly distorted. Head broader than long, completely covered anteriorly by short frontal lamina, barbula nearly undeveloped; maxilliped bearing prominent articulating palp. Pereomeres all of nearly same length, their coxal plates reduced or absent; long narrow oostegites extending clear across brood pouch and greatly overlapping opposite ones. Pleon nearly straight across posterior margin, of six pleomeres, first five produced into extended lateral plates, sixth as small embedded pleotelson; five pairs of biramous pleopods, exopodites of first three greatly expanded; no uropods. Male: Unknown. Host: Genus *Petrolisthes*. Type-species, by present designation, *Discomorphus magnifolius* n. sp.

Etymology: Greek stems *Disco-* (“circle”) + *morphus* (“form”) selected in reference to outline of female’s body and to reflect name of similar-appearing female of genus *Orbimorphus* Richardson. Gender masculine.

*Discomorphus magnifolius* n. sp.

Fig. 3.

Material examined. Infesting *Petrolisthes cinctipes* (Randall, 1839). Intertidal, Mussel Point, Pacific Grove, Monterey County, California, 36°38’N, 121°56’W, 19 June 1951, C. Hand coll.: 1♀, holotype, USNM 154611.

*Description of holotype female (Fig. 3)*

Length (exclusive of pleopods) 5.32 mm, maximal width 5.46 mm, head length 1.84 mm, head width 2.91 mm, pleon length 0.96 mm. Body distortion 12°. All segments and body regions distinct (Fig. 3A, B). Body outline nearly circular except posterior border, exclusive of pleopods, almost straight; middorsal region of last pereomere and of all pleomeres markedly swollen dorsally. No pigmentation.

Head suboval, broadly rounded both anteriorly and posteriorly, much broader than long, slightly extended from body. Fairly short but broad frontal lamina covering all of front margin and beyond on both sides. No eyespots. Antennae (Fig. 3C) of three and five articles respectively, those of both pairs equally large, only those of second pair extending very slightly beyond margin of head. Barbula (Fig. 3D) with only one tiny projection on each side. Maxilliped (Fig. 3E) subovate in outline, its anteromedial corner produced into prominent, extended and distinctly articulating palp, its posterior article extended anteromedially into slender sharp plectron.

Pereon with pereomeres all of about same length, broadest across third to fifth pereomeres; all pereomeres deeply separated laterally; pereomeres 1–4 bearing tergal plates on both sides. Oostegites almost completely enclosing brood pouch; oostegite 1 (Fig. 3F, G) semicircular anteriorly, extended into short straight-sided triangular point posterolaterally, with slightly sinuate flap overhanging separating groove; fifth oostegite with row of long setae along posterior margin. Pereopods (Fig. 3H, J) all of similar structure but nearly doubling in size posteriorly; all articles distinct; dactyli reduced, their short tips (Fig. 3I, K) inserted into obscure cuplike receptacles on anterior margins of propodi; distal ends of meri sparsely setose; bases of posterior pereopods carinate.

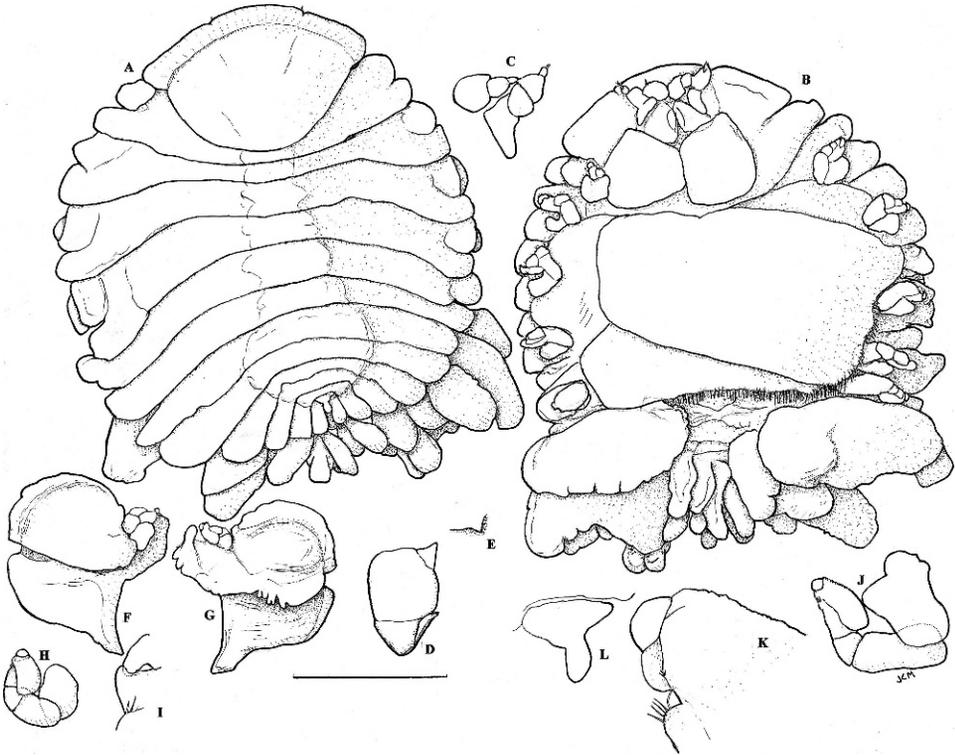


Fig. 3. *Discomorpha magnifoliatus* new species, Holotype female. A. Dorsal view. B. Ventral view. C. Left antennae. D. Right maxilliped. E. Left side of barbula. F. Right oostegite 1, external. G. Same, internal. H. Right pereopod 1. I. Distal region of same. J. Right pereopod 7. K. Distal region of same. L. Pleotelson, sixth pleomere. Scale: 2.00 mm for A, B, D-G; 1.00 mm for C; 0.87 mm for H, J; 0.40 mm for I, K.

Pleon of six pleomeres, first five of about same length but each much narrower than preceding. Lateral plates extended far to sides on pleomere 1, making that segment as broad as final pereomere, others progressively angled farther back until those on pleomere 5 extending straight back; edges of lateral plates on sides of pleomeres 1-3 forming curved converging lines, those on pleomeres 3-6 nearly straight across back of body. Five pairs of biramous pleopods nearly symmetrical on opposite sides of body, endopodites of first three pairs greatly expanded into large subrectangular fleshy lobes extending far to sides, other exopodites and all endopodites much reduced and mostly extending posteriorly somewhat beyond margins of lateral plates; pleopods covering all but small medioanterior region of pleon ventrally. Pleomere 6 (Fig. 3L) hastate, its anterior region nearly as broad as whole article, posterior half only one-third that broad, lateral plates of fifth pleomere extending far beyond it on both sides. No uropods.

Male unknown.

*Etymology*

Latin adjective *magnifoliatus*, "large-leaved," in reference to greatly expanded exopodites of female's first three pairs of pleopods.

### Discussion

The female of *Discomorphus magnifolius* n. sp. superficially looks quite similar to *Orbimorphus constrictus* Richardson, 1910, a parasite of *Petrolisthes armatus* (Gibbes) collected only once, on the coast of Peru. *Orbimorphus constrictus* remains the sole known species of the genus *Orbimorphus*, as described by Richardson (1910) and redescribed by Bourdon (1976). *Discomorphus magnifolius* differs in details sufficiently significant to make its inclusion in the genus *Orbimorphus* untenable. Specifically, its body is proportionately much broader; its barbula is very simple, rather than having two well-developed projections on each side; the palp articulates distinctly with the maxilliped, rather than being fused with it; it has six pleomeres, not five, the sixth being much reduced, inset and of unique shape; and the greatly expanded endopodites of the pleopods are like none known for any other bopyrid species. It is regrettable that the male of the new species is unknown, but, despite its absence, the distinctive characters of the female justify the placement of the species in a new genus. In a recent report on a newly erected genus of pseudionine bopyrid infesting a galatheid host in the Gulf of California, Román-Contreras and Boyko (2007) presented a very useful tabulation of the characters diagnostic for all 22 genera currently known to include parasites of galatheoids worldwide. Comparison of the characters of the female of *Discomorphus* n. g. with those in that table makes it immediately evident that it does not conform with the diagnosis of any previously known genus of galatheoid-infesting bopyrid and so becomes the 23<sup>rd</sup> such genus to belong to that group.

This is the first record of bopyrid infestation of *Petrolisthes cinctipes*, which is reported from British Columbia to southern California (Haig and Abbott, 1980).

### Remarks on host porcellanids

In his valuable catalog of marine decapod crustaceans of the Americas, Boschi (2000) lists 78 species in seven genera of the family Porcellanidae recorded from the Pacific coasts of North and South America. Until very recently, of those, only seven species in two genera have been known to serve as hosts of bopyrid isopods, all of them documented above. Species on that list herein newly added are *Petrolisthes cinctipes* and *P. ortmanni*. The infested species are: *Pachycheles holosericus* (bearing *Aporobopyrus muguensis* in southern California); *P. pubescens* (bearing *A. muguensis* in central California and *A. oviformis* Shiino in southern California); *P. rudis* (bearing *Aporobopyrus muguensis* in central to southern California); *Petrolisthes cinctipes* (bearing *Discomorphus magnifolius* in central California); *P. edwardsii* (bearing *Aporobopyrus bourdonis* in Puntarenas, Costa Rica); *P. hians* (bearing *Aporobopyrus trilobatus* in Guerrero, Mexico); and *P. ortmanni* (bearing *A. trilobatus* in Puntarenas, Costa Rica). Lazarus-Agudelo & Roccatagliata (2007) now report the collection of bopyrid-infested individuals of 12 species of porcellanids on the Pacific coast of Colombia, the first such record from any part of the Pacific coast of South America. Unfortunately, their preliminary account, an abstract only, does not name any of the parasites. The hosts, five *Petrolisthes* spp., three *Pachycheles* spp., two *Neopisosoma* spp., and one species each in the genera *Megalobrachium* and *Pisidia*, are all new host records. Whether the parasites they bear belong to one or more of the species considered above is unknown. *Petrolisthes ortmanni*, newly documented as a bopyrid host in this report, is also included in the list by Lazarus-Agudelo & Roccatagliata (2007), and that citation is accordingly included as a possible synonym of the parasite *Aporobopyrus trilobatus*, above.

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