

**Coming out of your shell or crawling back in: Multiple interphylum
host switching events within a clade of bivalve- and ascidian-
associated shrimps (Caridea: Palaemonidae)**

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Supplementary material

APPENDIX S1 Literature sources of Table 1 comprising primary synonyms, geographical distributions and host ranges.

***Anchiopontonia* Bruce, 1992**

***Anchiopontonia hurii* (Holthuis, 1981)**

Pontonia hurii – Holthuis, 1953: 57 [nomen nudum]; Morrison, 1954: 6 [nomen nudum]; Wiens, 1962: 275 [nomen nudum]; Bruce, 1975: 162 [listed] [nomen nudum]; Holthuis, 1981: 796, fig. 4.

Anchiopontonia hurii – Bruce, 1992: 1276, figs. 1–4; Fransen, 1994: tab. 1 (listed); Bruce, 1996: 204; Poupin, 1998: 12, fig. 2 (listed); De Grave, 1999: 126, pl. 1 fig. a; Li, 2000: 4, fig. 5 (listed); Hayashi, 2003a: 485, 486, figs. 468, 469; Bruce, 2005: 378 (listed); Hayashi, 2006a: 510 (listed); Chan & Mitsuhashi, 2007: 297; Fransen, 2008: 18; Juncker & Poupin, 2009: 32 (listed); Poupin, 2010: 34; De Grave & Fransen, 2011: 340 (listed); Fransen, 2012: 101; Fransen & Reijnen, 2012: 47; Kou *et al.*, 2015: 371, fig. 1, tab. 1; De Grave *et al.*, 2015: tab. 1, fig. 1; Gan *et al.*, 2015: tab. 2, fig. 1; Horká *et al.*, 2016: figs. 2, 3, suppl. tab. S1; Chow *et al.*, 2021: fig. 2, tab. A.1 (listed).

Geographic distribution. Indo-West Pacific: Sabah, Malaysia; Gura Ici, Indonesia; Raja Ampat, Indonesia; Papua New Guinea; Okinawa, Ryukyu Islands, Japan; New Caledonia; Loyalty Islands; Marshall Islands, Tuamotu Islands.

Hosts. Mollusca: Bivalvia: Pectinida: Spondylidae: *Spondylus varius* Sowerby; *Spondylus* sp.

***Ascidonia* Fransen, 2002**

***Ascidonia californiensis* (Rathbun, 1902)**

Pontonia californiensis Rathbun, 1902: 902.

Ascidonia californiensis – Fransen 2002: 203, figs. 129–138 (full synonymy, geographical distribution and hosts); De Grave & Fransen, 2011: 342 (listed); Wicksten, 2012: 51, fig. 13A, B (listed).

Geographic distribution. East Pacific: Santa Cruz Island, California; Santa Rosa Island; Engels Bank; off San Jose Creek Beach, Carmel.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidia vermiciformis* (Ritter); *A. paratropa* (Huntsman).

***Ascidonia flavomaculata* (Heller, 1864)**

Alciope heterochelus Rafinesque, 1814: 24.

Pontonia flavomaculata Heller, 1864: 51; Calado & Narciso, 2002: 123; Costa *et al.*, 2002: 88, 96, fig.; Wirtz & Debelius, 2003: 130, fig.

Pontonia Phallusiae Marion, 1879: 226.

Pontonia Diazonae Joliet, 1882: 118.

Pontonia phallusiae – Marion, 1883: 68.

“Un Alphaeus en una Phallusia” – Buen, 1916: 276.

Ponthonia Phallusiae – Colombo, 1885: 23, 27.

Pontonia elegans Sarato, 1885: 2 [nomen nudum].

Ponthonia phallusiae – Colombo, 1888: 92.

Ascidonia flavomaculata – Fransen, 2002: 215, figs. 139–147, pls. 7, 8 (full synonymy, geographical distribution and hosts); Fransen, 2006: 714; Oliveira *et al.*, 2009: 63–67, figs. 1, 2; Froglia, 2010: 523 (listed); Baeza & Díaz-Valdés, 2011: 351–361, figs. 1–4; De Grave & Fransen, 2011: 343 (listed); García-Raso *et al.*, 2018: 2013 (listed); González, 2018: 410 (listed).

Asidonia flavomaculata – García-Raso *et al.*, 2018: 209 (listed).

Geographic distribution. East Atlantic: Mediterranean: Alboran Sea, western Mediterranean; Balearic Islands; Adriatic Sea, Ionian Sea; Aegean Sea; Lebanon. Northeast Atlantic from Portugal to Gulf of Guinea; Canary Islands and Cape Verde Islands.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidia aximensis* Millar; *A. conchilega* Müller; *A. involuta* Heller; *A. mentula* O.F. Müller; *Phallusia mammillata* (Cuvier); Stolidobranchia: Pyuridae: *Microcosmus sulcatus* (Coquebert); Aplousobranchia: Diazonidae: *Diazona violacea* Savigny.

***Ascidonia miserabilis* (Holthuis, 1951)**

Pontonia grayi – Rathbun, 1901 (p.p.): 122 [non fig. 25].

Pontonia miserabilis Holthuis, 1951: 148, pl. 47 figs. d–i.

Pontonia micrabilis; Cabrera-Peña & Solano-López, 1996: 916.

Pontonia meserabilis – Li, 2000: 265 (listed).

Pontonia miserrabilis – Li, 2000: 266, fig. 353 (listed).

Ascidonia miserabilis – Fransen, 2002: 227, figs. 148–154 (full synonymy, geographical distribution and hosts); Fransen, 2006: 715, fig. 1; Baeza, 2010: 257; De Grave & Fransen, 2011: 343 (listed); Poupin, 2018: 105 (listed); Palomino-Alvarez *et al.*, 2019: 6.

Geographic distribution. West Atlantic: Caribbean Sea: Vieques Island, Porto Rico; Antigua Island; Martinique; Guadeloupe; Gulf of Mexico; Santa Marta, Colombia; Cubagua, Venezuela.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidia interrupta* Heller; *A. panamensis* Bonnet & Rocha. The specimen found by Criales (1984) in *Spondylus americanus* Hermann, 1781, might be misidentified (see Fransen, 2002).

***Ascidonia pusilla* (Holthuis, 1951)**

Pontonia pusilla Holthuis, 1951: 142, pl. 45 figs. a–k; Wicksten & Hendrickx, 2003: 60 (listed);

Martínez-Guerrero & López-Pérez, 2018: tab. 1 (listed).

Pontonia spighti Fujino, 1972: 293, figs. 1–3.

Ascidonia pusilla – Fransen, 2002: 236, figs. 155–162 (full synonymy, geographical distribution and hosts); De Grave & Fransen, 2011: 343 (listed); Salas-Moya *et al.*, 2021: table 1, 2.

Geographic distribution. East Pacific: Panama; Costa Rica; Ecuador; Galapagos Islands.

Hosts. Chordata: Ascidiacea: Aplousobranchia: Diazonidae: *Rhopalaea birkelandi* Tokioka; Stolidobranchia: Pyuridae: *Pyura lignosa* Michaelsen.

***Ascidonia quasipusilla* (Chace, 1972)**

Pontonia quasipusilla Chace, 1972: 41–43, fig. 10.

Ascidonia quasipusilla – Fransen, 2002: 248, figs. 163–170, pls. 9, 10 (full synonymy, geographical distribution and hosts); Fransen, 2006: 715; De Grave & Fransen, 2011: 343 (listed); Brinkmann & Fransen, 2016: 438, tab. 1; Horká *et al.*, 2016: figs. 1–3, suppl. tab. S1; Poupin, 2018: 105 (listed).

Geographic distribution. West Atlantic: Caribbean: Antigua Island; Martinique; Guadeloupe; Curaçao; East Atlantic: Mauritania.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Pyuridae: *Microcosmus exasperatus* Heller; *Pyura torpida* (Sluiter).

Bruceonia Fransen, 2002

Bruceonia ardeae (Bruce, 1981)

Pontonia ardeae Bruce, 1980: 48 (nomen nudum).

Pontonia ardeae Bruce, 1981b: 113, figs. 1–8; Bruce, 2010: 66 (listed).

Bruceonia ardeae – Fransen, 2002: 387, figs. 249–257 (full synonymy, geographical distribution and hosts); De Grave & Fransen, 2011: 343 (listed).

Geographic distribution. Indo-West Pacific: Heron Island, Australia.

Hosts. Mollusca: Bivalvia: Venerida: Chamidae: *Chama pacifica* Broderip.

Cainonia Bruce, 2005

Cainonia medipacifica (Edmondson, 1935)

Pontonia medipacifica Edmondson, 1935: 6, fig. 2.

Dactylonia medipacifica – Fransen, 2002: 307, figs. 202–208 (full synonymy, geographical distribution and hosts).

Cainonia medipacifica – Bruce, 2005: 375; Chow *et al.*, 2021: fig. 2, tab. A.1; De Grave & Fransen, 2011: 344 (listed); Dobson *et al.*, 2014: appendix S1; Dobson *et al.*, 2016: supplementary information; Feller *et al.*, 2021: table 1 (listed).

Geographic distribution. Indo-West Pacific: Ambon, Indonesia; Taiwan; Caroline Islands; Midway Island; Hawaiian Islands.

Hosts. Mollusca: Bivalvia: Pectinida: Spondylidae: *Spondylus varians* Sowerby; *Spondylus* sp.; Venerida: Chamidae: *Chama* sp.

***Colemonia* Bruce, 2005**

***Colemonia litodactylus* Bruce, 2005**

Colemonia litodactylus Bruce, 2005: 335, figs. 1–4, 22A; De Grave & Fransen, 2011: 344 (listed).

Colemania litodactylus – Marin, 2006: 337 (listed).

Geographic distribution. Indo-West Pacific: Papua New Guinea.

Hosts. Chordata: Ascidiacea: ‘unidentified encrusting ascidian’.

***Conchodytes* Peters, 1852**

***Conchodytes biunguiculatus* (Paulson, 1875)**

Pontonia biunguiculatus Paulson, 1875: 111, pl. 15 fig. 1.

Conchodytes biunguiculata – Borradaile, 1917: 394 (listed).

Conchodytes biunguiculatus – Nobili, 1906: 67 (listed); Kemp, 1922: 279, 280–282, fig. 103; Holthuis, 1952: 17, 199–200 (full synonymy); Hipeau-Jacquotte, 1967: 156; Bruce, 1972a: 221 (listed); Hipeau-Jacquotte, 1973a: 96–112, fig. 1a³–d³, 3a³–b³, 4a³–d³, 5, 6c, 7a³–f³, 8a³–d³; Hipeau-Jacquotte, 1973b: 63–70, fig. 1; Hipeau-Jacquotte, 1974a: 367–382; Hipeau-Jacquotte, 1974b: 383–402; Hipeau-Jacquotte, 1974c: 403–408; Hipeau-Jacquotte, 1974d: 359–386; Bruce, 1976b: 465; Bruce, 1978b: 206, 222, 280; Devaney & Bruce, 1978: 222; Bruce, 1983c: 200 (listed); Bruce & Svoboda, 1983: 36 (listed); Bruce, 1984: 148, 163 (listed); Fransen, 1994: 89, fig. 3; Fransen, 1994: 111, tab. 1 (listed); Britayev & Fakhrutdinov, 1994: 130, fig. 6D–F; De Grave, 1999: 133; De Grave, 2000: 121; Li, 2000: 24, fig. 24; Li, 2001: 76; Li & Liu, 2002: 372, fig. 2a–f; Bruce, 2003b: 212; Li *et al.*, 2004: 528, fig. 15; Bruce, 2005: 378 (listed); Li *et al.*, 2007: 180, fig. 76 (listed); Marin & Savinkin, 2007: 195 (listed); De Grave & Fransen, 2011: 344 (listed); Fransen & Reijnen, 2012: 47; Fransen & Reijnen, 2013: 276, fig. 10; Dobson *et al.*, 2014: appendix S1; Dobson *et al.*, 2016: supplementary information; Chow *et al.*, 2021: fig. 2, tab. A.1 (listed); Feller *et al.*, 2021: table 1 (listed).

Conchodytes kempfi Bruce, 1990b: 183–184, fig. 3BE; Bruce, 1993: 60, fig. 4; Britayev & Fakhrutdinov, 1994: 130, fig. 6A–C; Marin, 2012: 362 (listed).

Geographic distribution. Indo-West Pacific: Red Sea; Seychelles; Madagascar; Zanzibar; Kenya; Andaman Islands; Hong Kong; Nhatrang, Tre Island, Vietnam; Kepulauan Seribu, SW Sulawesi, Ambon, Indonesia; Papua New Guinea; Hainan, China; Taiwan; Vanuatu; Enewetak Atoll.

Hosts. Mollusca: Bivalvia: Ostreida: Pinnidae: *Atrina vexillum* (Born); *Atrina* sp.; *Pinna atropurpurea* G.B. Sowerby; *P. bicolor* Gmelin; *P. muricata* Linnaeus; *Pinna* sp.; *Streptopinna saccata* (Linnaeus); Margaritidae: *Pinctada nigra* Gould; *Pinctada* sp.

***Conchodytes chadi* (Marin, 2011)**

Lacertopontonia chadi Marin, 2011: 57–68, figs 1–7; Fransen, 2012: 102.

Conchodytes chadi – Fransen & Reijnen, 2012: 44, figs. 1, 2; Fransen & Reijnen, 2013: 276, fig. 10.

Geographic distribution. Indo-West Pacific: Sabah, Malaysia; Lizard Island, Australia.

Hosts. Mollusca: Bivalvia: Ostreida: Ostreidae: *Lopha cristagalli* (Linnaeus).

***Conchodytes kempoides* Bruce, 2013**

Conchodytes kempoi Bruce, 1989a: 183–184, fig. 3 B–E; Bruce, 1990: 10 (listed); Marin & Savinkin, 2007: 195 (listed); Marin, 2012: 361 (listed).

Conchodytes kempoides Bruce, 2013: 92.

Geographic distribution. Indo-West Pacific: Cebu Island, Philippines.

Hosts. Mollusca: Bivalvia: Ostreida: Isognomonidae: *Isognomon isognomon* (Linnaeus).

***Conchodytes maculatus* Bruce, 1989**

Conchodytes maculatus Bruce, 1989b: 182, figs. 1–6; Bruce, 1990: 10 (listed); Chace & Bruce, 1993: 73, fig. 18; Fransen, 1994: 111, tab. 1 (listed); Li, 2000: 25, fig. 25 (listed); Humphreys & Norton, 2005: 33, fig. 78; Li & Bruce, 2006: 628; Marin & Savinkin, 2007: 178, fig. 84A, B; Chan & Mitsuhashi, 2007: 297; Juncker & Poupin, 2009: 33 (listed); Poupin, 2010: 40; Marin, 2012: 362 (listed); De Grave & Fransen, 2011: 344 (listed).

Geographic distribution. Indo-West Pacific: Nhatrang, Vietnam; Philippines; NW Australia; New Caledonia.

Hosts. Mollusca: Bivalvia: Ostreida: Margaritidae: *Pinctada maxima* (Jameson); Pearl oysters.

***Conchodytes meleagrinae* Peters, 1852**

Conchodytes meleagrinae Peters, 1852a: 594; Peters, 1852b: 289; Hilgendorf, 1879: 836 (listed); Borradaile, 1898: 390 (listed); Borradaile, 1899: 1007; Borradaile, 1900: 409; Nobili, 1906: 63, pl. 3 fig. 5; Nobili, 1907: 9; Borradaile, 1917: 393, pl. 57 fig. 26 (listed); Balss, 1921: 15; Kemp, 1922: 285–286; Edmondson, 1925: 8; Seurat, 1934: 60; Kubo, 1940: 58–62, figs. 24–25; Armstrong, 1941: 13; Edmondson, 1946: 250, fig. 131; Barnard, 1950: 801–802, fig. 151n–o (listed); Fourmanoir, 1952: 177; Holthuis, 1952: 195, fig. 95; Holthuis, 1953: 59–60; Bruce, 1972a: 221, colour fig. (listed); Bruce, 1973: 139; Bruce, 1976a: 147 (listed); Bruce, 1976b: 465; Bruce, 1977a: 73, fig. 14cd; Titcomb *et al.*, 1978: 357; Bruce, 1978a: 120; Bruce, 1978b: 279–280; Devaney & Bruce, 1978: 222; Bruce, 1979: 233; Bruce, 1981a: 3 (listed); Bruce, 1981c: 93 (listed); Bruce, 1983c: 200 (listed); Bruce & Svoboda, 1983: 36 (listed); Bruce, 1984: 148 (listed); Holthuis, 1986: 271; Hogarth, 1989: 111 (listed); Bruce, 1990: 15, tab. 1, 18, tab. 2; Bruce, 1991a: 262, fig. 25ad; Bruce, 1993: 61; Chace & Bruce, 1993: 47, 74 (listed); Fransen, 1994: 96, fig. 21, pl. 1E; Fransen, 1994: 111, pl. 2, tab. 1 (listed); Britayev & Fakhrutdinov, 1994: 132, fig. 7A–C; Poupin, 1998: 13 (listed); De Grave, 1999: 133, pl. 1f–g; Li, 2000: 25, fig. 26; Debelius, 2001: 33, photos; Li, 2001: 77; Davie, 2002: 307; Paulay *et al.*, 2003: appendix (listed); Li, 2004: 67; Bruce, 2005: 343, fig. 5; Bruce, 2006: 3, fig. 1A, B; Hayashi, 2006a: 510, 512 (listed); Li & Bruce, 2006: 628; Li *et al.*, 2007: 182, fig. 77 (listed); Marin & Savinkin, 2007: 195 (listed); Chan & Mitsuhashi, 2007: 297; Mitsuhashi *et al.*, 2007: tab. 1, fig. 1; Li, 2008a: 205; Li, 2008b: 235, fig. 3; Fransen, 2008: 18; Juncker & Poupin, 2009: 33 (listed); Poupin, 2010; Bruce, 2010: 63 (listed); De Grave & Fransen, 2011: 344 (listed); Fransen, 2012: 102; Fransen &

Reijnen, 2012: 47; Marin, 2012: 362 (listed); Li *et al.*, 2012: 8; Fransen & Reijnen, 2013: 266, figs. 1–7; Poupin *et al.*, 2013: 5 (listed); Dobson *et al.*, 2014: appendix S1; Kou *et al.*, 2015: 371, fig. 1, tab. 1; De Grave *et al.*, 2015: tab. 1; Gan *et al.*, 2015: tab. 2, fig. 1; Hosie *et al.*, 2015: 283; Dobson *et al.*, 2016: supplementary information; Horká *et al.*, 2016: figs. 1–3, suppl. tab. S1; Horka *et al.*, 2018: 73, tab. 1, suppl. tab. S1; Colleye *et al.*, 2018: 36; Chow *et al.*, 2021: fig. 2, tab. A.1 (listed); Feller *et al.*, 2021: table 1 (listed).

Pontonia meleagrinae – Spence Bate, 1888: 707, pl. 124 figs. 1, 2.

? *Conchodytes tridacnae* – Miyake & Fujino, 1968: 426, fig. 8; McNeill, 1968: 7, 22.

Conchodytes cf. *meleagrinae* – Poupin & Juncker, 2010: 276, fig. 277a (listed).

Geographic distribution. Indo-West Pacific: Red Sea; Ibo, Moçambique; Kenya; Seychelles; Amirantes; Farquhar; Aldabra; Socotra, Yemen; Oman; Aden; Île Europe; Maldives; Andaman Islands; Nhatrang, Tre Island, Vietnam; Anambas Island, Ternate, Raja Ampat, Aru Islands, Indonesia; Sabah, Malaysia; Perhentian Islands, South China Sea; Hainan Island, China; Japan; Papua New Guinea; Torres Strait; One Tree Island, Capricorn Group, Moreton Bay, Low Isles, Kimberleys, Cape Jaubert, Australia; Mayotte; Loyalty Islands; New Caledonia; Palau; Caroline Islands; Tuamotu Island, French Polynesia; Amanu, Rikitea, Polynesia; Samoa; Enewetak Atoll; Fiji; Vanuatu; Cook Islands; Hawaii; Sri Lanka (Ceylon).

Hosts. Mollusca: Bivalvia: Ostreida: Margaritidae: *Pinctada imbricata* Röding; *P. margaritifera* (Linnaeus); *P. maxima* (Jameson); *P. nigra* Gould; *P. radiata* (Leach); *Pinctada* sp.; Pinnidae: *Pinna* sp.; Pectinida: Spondylidae: *Spondylus* sp.; Cardiida: Cardiidae: *Tridacna gigas* (Linnaeus).

***Conchodytes monodactylus* Holthuis, 1952**

Conchodytes monodactylus Holthuis, 1952: 200–204, figs. 96–98; Johnson, 1961: 60; Bruce, 1972a: 221 (listed); Bruce, 1977b: 177–178, fig. 8; Bruce, 1979: 233; Johnson, 1979: 32 (listed); Bruce, 1983c: 200 (listed); Bruce, 1983a: 44; Morton, 1987: 129–140, figs. 1, 2B, 4–9, tab. 1; Bruce, 1989b: 182; Bruce, 1990: 16, tab. 1, 18, tab. 2 (listed); Chace & Bruce, 1993: 75 (listed); Fransen, 1994: 111, tab. 1 (listed); 75 (listed); Bruce & Coombes, 1995: 107; De Grave, 1999: 134, fig. 5, pl. 1h; Li, 2000: 26, fig. 27 (listed); Bruce, 2005: 378 (listed); Li *et al.*, 2007: 183, fig. 78 (listed); Marin & Savinkin, 2007: 178; De Grave & Fransen, 2011: 344 (listed); Fransen & Reijnen, 2012: 47; Marin, 2012: 362 (listed); Fransen & Reijnen, 2013: 276, fig. 10.

Geographic distribution. Indo-West Pacific: Kepulauan Seribu, Lesser Sunda Islands, Indonesia; Singapore; Nhatrang, Vietnam; Hong Kong; Papua New Guinea; Southern Taiwan; Magnetic Island and Cobourg Peninsula, Australia.

Hosts. Mollusca: Bivalvia: Ostreida: Pteriidae: *Pteria penguin* (Röding); Pinnidae: *Atrina* sp.; *Pinna atropurpurea* G.B. Sowerby; *P. bicolor* Gmelin; *Pinna* sp.

***Conchodytes nipponensis* (De Haan, 1844)**

Hymenocera nipponensis De Haan, 1844: pl. 46, fig. 8.

Pontonia nipponensis – Borradaile, 1898: 388 (listed); Balss, 1914: 53, fig. 33; Borradaile, 1917: 391 (listed).

Conchodytes nipponensis – Parisi, 1919: 74, figs. 5–6; Kemp, 1922: 282, fig. 104; Kubo, 1937: 629, figs. 1–5; Kubo, 1940: 64, figs. 28–29; Fujino & Miyake, 1967: 29; Suzuki, 1971: 3, fig. 2, pl. 1; Bruce, 1972a: 221 (listed); Bruce, 1983c: 200 (listed); Bruce, 1990: 16, tab. 1, 18, tab. 2 (listed); Chace & Bruce, 1993: 75, fig. 19; Müller, 1993: 15–16 (full synonymy); Fransen, 1994: 90; Fransen, 1994: 111, tab. 1 (listed); Li, 2000: 27–28, fig. 28 (listed); Hayashi, 2006a: Li *et al.*, 2007: 183, fig. 79 (listed); De Grave & Fransen, 2011: 345 (listed); Dobson *et al.*, 2014: appendix S1; De Grave *et al.*, 2015: tab. 2, fig. 4F; Dobson *et al.*, 2016: supplementary information; Feller *et al.*, 2021: table 1 (listed).

Geographic distribution. Indo-West Pacific: Hainan Islands, China; Irian Jaya, Indonesia; Philippines; Japan.

Hosts. Mollusca: Bivalvia: Ostreida: Pinnidae: *Atrina japonica* Reeve; *A. pectinata* (Linnaeus); *Atrina* sp.; *Pinna bicolor* Gmelin; *Pinna* sp.; Pectinida: Pectinidae: *Amusium balloti* (Bernardi); *Pecten* (*Notovola*) *albicans* (Schroeter).

***Conchodytes philippinensis* Bruce, 1996**

Conchodytes philippinensis Bruce, 1996: 212, figs. 6, 29b; Li, 2000: 28, fig. 29 (listed); De Grave & Fransen, 2011: 345 (listed).

Geographic distribution. Indo-West Pacific: Philippines.

Hosts. Unknown, probably Mollusca, Bivalvia.

***Conchodytes placunae* (D.S. Johnson, 1967)**

Chernocaris placunae Johnson, 1967: 500, figs. 1–11; Bruce, 1972a: 222 (listed); Johnson, 1979: 31 (listed); Bruce, 1983a: 44; Bruce, 1990: 10 (listed); Bruce & Coombes, 1995: 107; Strack, 1993: 66, pl. 3 fig. 2; Chace & Bruce, 1993: 72 (listed); Fransen, 1994: 90; Fransen, 1994: 108, fig. 3, tab. 1; Li, 2000: 22 (listed); Marin & Savinkin, 2007: 177, fig. 83B; De Grave & Fransen, 2011: 344 (listed); Radhakrishnan *et al.*, 2012: 66 (listed); Marin, 2012: 361 (listed); Anker & De Grave, 2016: 409, fig. 78.

Conchodytes placunae – Fransen & Reijnen, 2012: 47; Fransen & Reijnen, 2013: 276, fig. 10; Dobson *et al.*, 2014: appendix S1; Dobson *et al.*, 2016: supplementary information; Feller *et al.*, 2021: table 1 (listed).

Geographic distribution. Indo-West Pacific: Singapore; Kepulauan Seribu, Ambon, Indonesia; Nhatrang, Vietnam; Arafura Sea; India (listed by Radhakrishnan *et al.* (2012), no source provided).

Hosts. Mollusca: Bivalvia: Pectinida: Placunidae: *Placuna ephippium* (Philipsson); *P. placenta* (Linnaeus); *Placuna* sp.

***Conchodytes pteriae* Fransen, 1994**

Conchodytes pteriae Fransen, 1994: 97, figs. 38–58; Li, 2000: 28, fig. 30 (listed); De Grave & Fransen, 2011: 345 (listed); Fransen, 2012: 102; Fransen & Reijnen, 2012: 47; Marin, 2012: 347; Fransen & Reijnen, 2013: 276, fig. 10.

Geographic distribution. Indo-West Pacific: Seychelles; Sabah, Malaysia; Nhatrang, Vietnam.

Hosts. Mollusca: Bivalvia: Ostreida: Pteriidae: *Pteria aegyptiaca* (Dillwyn); *P. loveni* (Dunker); *Pteria* sp.

***Conchodytes tridacnae* Peters, 1852**

Conchodytes tridacnae Peters, 1852a: 594; Peters, 1852b: 289; Hilgendorf, 1879: 835 (listed); Borradaile, 1898: 390 (listed); Nobili, 1899: 6 (235); Nobili, 1906: 66 (listed); Borradaile, 1917: 393 (listed); Kemp, 1922: 283–285, fig. 105; Chopra, 1931: 303; Kubo, 1940: 62–64, figs. 26–27; Armstrong, 1941: 13; Barnard, 1950: 801 (listed); Holthuis, 1952: 195–199, fig. 95; Holthuis, 1953: 60; Barnard, 1958: 12 (listed); Miyake & Fujino, 1968: 426–428, fig. 8; Castro, 1971: 397; Bruce, 1972a: 221 (listed); Bruce, 1973: 138–139; Bruce, 1974: 201; Evans *et al.*, 1974: E-5 (listed); Bruce, 1976a: 147 (listed); Bruce, 1976b: 465; Bruce, 1977a: 71, fig. 14a–b; Bruce, 1977b: 176–177, fig. 7A–E; Bruce, 1978a: 120; Devaney & Bruce, 1978b: 222; Bruce, 1979: 233; Bruce, 1981a: 3–4; Bruce, 1982: 205

(listed); Bruce, 1983c: 201 (listed); Bruce & Svoboda, 1983: 36 (listed); Bruce, 1984: 148 (listed); Bruce, 1990: 16, tab. 1, 18, tab. 2 (listed); Bruce, 1991a: 262–263, fig. 25E–F; Chace & Bruce, 1993: 47, 76 (listed); Fransen, 1994: 104, fig. 22, pl. 1F; Fransen, 1994: 111, pl. 2, tab. 1; Britayev & Fakhrutdinov, 1994: 134, fig. 7D; Li, 1996: 225; Li, 1997: 230, fig. 5f–h; Li, 1998: 220, figs. 1–3; Li, 2000: 29, fig. 31 (listed); Li, 2001: 77; Hayashi, 2002: 326, 327, 329, figs. 436, 438; Hayashi, 2006a: 510, 512 (listed); Chan & Mitsuhashi, 2007: 297; Li *et al.*, 2007: 184, fig. 80 (listed); Marin & Savinkin, 2007: 195 (listed); Juncker & Poupin, 2009: 33 (listed); Poupin, 2010: 40; Bruce, 2010: 63 (listed); De Grave & Fransen, 2011: 345 (listed); Marin, 2012: 362 (listed); Eckman, 2014: 34 (listed).

Pontonia tridacnae Dana, 1852: 571, pl. 37 fig. 1; Ortmann, 1890: 509, pl. 37 fig. 10d–i.

Pontonia (Conchodytes) tridacnae – Miers, 1884: 290.

Not Conchodytes tridacnae – Miyake & Fujino, 1968: 426, fig. 8 (= *Conchodytes meleagrinae* Peters).

Geographic distribution. Indo-West Pacific: Red Sea; Ibo, Moçambique; Zanzibar; Tanganyika; Kenya; Seychelles; Amirantes; Farquhar; Aldabra; Laccadives; Andaman Islands; Nhatrang, Vietnam; North Danger Reef, Spratly Islands, South China Sea; Hainan Island, China; Japan; Mafor island, Geelvink Bay, Papua New Guinea; Torres Strait; One Tree Island, Heron Island, Warrior Reef, Australia; New Caledonia; Arno Atoll, Marshall Islands; Enewetak Atoll; Mayotte; Cook Islands; Palau; Hawaii; Ogasawara islands (Bonin islands).

Hosts. Mollusca: Bivalvia: Cardiida: Cardiidae: *Tridacna crocea* Lamarck; *T. derasa* (Röding); *T. gigas* (Linnaeus); *T. maxima* (Röding); *T. squamosa* Lamarck; *Tridacna* sp.; Chopra

(1931) recorded a specimen from an unidentified holothuroid; Hayashi (2006) lists *Pinctada margaritifera* (Linnaeus) and *Pinctada maxima* (Jameson) as possible hosts, but these records and references could not be checked.

Remarks: The species is often confused with *Conchodytes meleagrinae* and probably partly confused with *Conchodytes biunguiculatus*, therefore the geographical distribution and hosts listed here should be used with caution.

***Dactylonia* Fransen, 2002**

***Dactylonia anachoreta* (Kemp, 1922)**

Pontonia anachoreta Kemp, 1922: 264, figs. 93–95; Bruce, 2006: 33 (listed).

Pontonia anchoreta – Bruce, 1994: 126.

Macrurous Crustacea; Oka, 1915: 20.

Dactylonia anachoreta – Fransen, 2002: 272, figs. 178–184 (full synonymy, geographical distribution and hosts); Fransen, 2006: 716; De Grave & Fransen, 2011: 348 (listed); Radhakrishnan *et al.*, 2012.

Geographic distribution. Indo-West Pacific: Indian Ocean: South Red Sea; Gulf of Aden; Yemen; Ras Iwatine, Kenya; Seychelles; India.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Styelidae: *Polycarpa annandalei* Oka; *Polycarpa* sp., aff. *anguinea* (Sluiter); *P. arnoldi* (Michaelsen); and from unidentified ascidians.

***Dactylonia ascidicola* (Borradaile, 1898)**

Pontonia ascidicola Borradaile, 1898: 389.

Dactylonia ascidicola – Fransen, 2002: 282, figs. 185–193, pls. 11, 12 (full synonymy, geographical distribution and hosts); Paulay *et al.*, 2003: appendix (listed); Bruce, 2005: 378 (listed); Fransen, 2006: 716; Chan & Mitsuhashi, 2007: 297; Marin & Savinkin, 2007: 178, fig. 89A; Fransen, 2008: 18; Juncker & Poupin, 2009: 33 (listed); Poupin, 2010: 41; De Grave & Fransen, 2011: 348 (listed); Fransen, 2012: 102; Marin, 2012: 363 (listed); Kou *et al.*, 2015: 371, fig. 1, tab. 1; Gan *et al.*, 2015: tab. 2, fig. 1; Horká *et al.*, 2016: figs. 2, 3, suppl. tab. S1; De Gier & Fransen, 2018: 125; Levitt-Barmats & Shenkar, 2018: 6, 10, fig. 2A; Chow *et al.*, 2021: fig. 2, tab. A.1 (listed).

Geographic distribution. Indo-West Pacific: Southern Red Sea and Gulf of Aqaba; Tuléar, Madagascar; Sulawesi, Sumbawa, Ambon, Bali, Raja Ampat, Indonesia; Sabah, Malaysia; Vietnam; Philippines; Taiwan; Papua New Guinea; Bismarck Archipelago, New Britain; New Caledonia; Guam; Tahiti.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidia divisa* Tokioka; *A. empheres* Sluiter; *A. ornata* Monniot & Monniot; *A. sydneiensis* Stimpson; *Ascidia* sp.; *Phallusia julinea* Sluiter; *P. nigra* Savigny; Aplousobranchia: Diazonidae: *Rhopalaea crassa* (Herdman);

Rhopalaea sp.; Stolidobranchia: Pyuridae: *Herdmania momus* (Savigny). Many records from unidentified ascidians.

***Dactylonia borradalei* Bruce, 2005**

Pontonia ascidicola – Bruce, 1996: 241, fig. 29 g, h.

Dactylonia ascidicola – Fransen, 2003: 284 (partim).

Not *Pontonia ascidicola* Borradaile, 1898: 389; 1899: 409, pl. 36, fig. 6.

Dactylonia sp. Bruce, 2003c: 305.

Dactylonia borradalei Bruce, 2005: 375; Marin, 2006: 338 (listed); De Grave & Fransen, 2011: 348 (listed).

Geographic distribution. Indo-West Pacific: New Caledonia.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidia sydneiensis* Stimpson.

***Dactylonia carinicula* Bruce, 2006**

Dactylonia carinicula Bruce, 2006: 4, figs. 2–5; Marin, 2006: 338 (listed); De Grave & Fransen, 2011: 348 (listed).

Pontonia carinicula – Bruce, 2006: 33.

Geographic distribution. Indo-West Pacific: Indian Ocean: Socotra, Yemen.

Host. Ascidiacea: ‘dead Acropora’, ‘presumably from encrusting tunicate’ (Bruce, 2006).

***Dactylonia franseni* Bruce, 2003**

Pontonia sp. – Bruce, 1976b: 483.

Dactylonia franseni Bruce, 2003c: 299, figs. 1–4; Marin, 2006: 337 (listed); De Grave & Fransen, 2011: 348 (listed).

Geographic distribution. Indo-West Pacific: Indian Ocean: Kenya.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidia* sp.

***Dactylonia holthuisi* Fransen, 2002**

Dactylonia holthuisi Fransen, 2002: 295, figs. 194–201, pl. 13A (full synonymy, geographical distribution and hosts); Fransen, 2006: 716; Marin, 2006: 336 (listed); Fransen, 2008: 18; De Grave & Fransen, 2011: 348 (listed); Fransen, 2012: 102; Gan *et al.*, 2015: tab. 2, fig. 1; De Gier & Fransen, 2018: 137 (listed).

Geographic distribution. Indo-West Pacific: Bali, Ambon, Raja Ampat, Indonesia; Sabah, Malaysia; Papua New Guinea; Taiwan.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Plurellidae: *Plurella colini* Monniot & Monniot; *P. monogyna* Monniot & Monniot; *Plurella* sp.

***Dactylonia monnioti* (Bruce, 1990)**

Pontonia monnioti Bruce, 1990b: 183, figs. 21–24, 38e–h, 39i, j; Poupin, 2010: 41.

Dactylonia monnioti – Fransen, 2002: 317, figs. 209, 210 (full synonymy, geographical distribution and hosts); Chan & Mitsuhashi, 2007: 297; Juncker & Poupin, 2009: 33 (listed); Poupin, 2010: 41; De Grave & Fransen, 2011: 348 (listed).

Geographic distribution. Indo-West Pacific: New Caledonia, Chesterfield Islands.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidia alterna* Monniot & Monniot, 1991.

***Dactylonia okai* (Kemp, 1922)**

Pontonia okai Kemp, 1922: 261, figs. 89–92.

Dactylonia okai – Fransen, 2002: 322, figs. 211–218, pl. 13B, C, 14 (full synonymy, geographical distribution and hosts); Bruce, 2010: 66 (listed); De Grave & Fransen, 2011: 348 (listed); Dobson *et al.*, 2014: appendix S1; Dobson *et al.*, 2016: supplementary information; Feller *et al.*, 2021: table 1 (listed).

Geographic distribution. Indo-West Pacific: Mombassa, Kenya; off Cape Negrais, Myanmar; Bali, Lesser Sunda Islands, Sape Strait, Ambon, Sumbawa, Indonesia; Sulu Archipelago, Philippines; South China Sea; Heron Island, Queensland, Australia; Moorea, French Polynesia.

Hosts. Chordata: Ascidiacea; Phlebobranchia: Ascidiidae: *Ascidia depressiuscula* Heller; *A. willeyi* Oka; *Ascidia* sp.; *Phallusia julinea* Sluiter; Corellidae: *Corella aequabilis* Sluiter; several records from unidentified ascidians.

***Notopontonia* Bruce, 1991**

***Notopontonia platycheles* Bruce, 1991**

Notopontonia platycheles Bruce, 1991b: 608, figs. 1–6, 14e. (full description, geographical distribution); Berggren, 1999: 180, figs. 2, 4, 5. (geographical distribution, hosts, habitat).

Geographic distribution. Indo-West Pacific: Fitzgerald Reserve, Shark Bay, Robe, Southern and Western Australia.

Hosts. *Herdmania momus* (Savigny).

***Odontonia* Fransen, 2002**

***Odontonia bagginsi* De Gier & Fransen, 2018**

Odontonia bagginsi De Gier & Fransen, 2018: 137, figs. 8–14, 15^E, 16A, 17A.

Geographic distribution. Indo-West Pacific: Tidore, Indonesia.

Hosts. Chordata: Ascidiacea: solitary ascidian.

***Odontonia compacta* (Bruce, 1996)**

Pontonia compacta Bruce, 1996: 242–247, figs. 15–18.

Odontonia compacta – Fransen, 2002: 335, figs. 219, 248 (full synonymy, geographical distribution and hosts); Chan & Mitsuhashi, 2007: 297; Juncker & Poupin, 2009: 36 (listed); Poupin, 2010: 59; De Grave & Fransen, 2011: 354 (listed); De Gier & Fransen, 2018: 124, 150, fig. 19.

Geographic distribution. Indo-West Pacific: New Caledonia.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Pyuridae: *Pyura albanyensis* Michaelsen.

***Odontonia katoi* (Kubo, 1940)**

Pontonia katoi Kubo, 1940: 55, figs. 21–23; Hayashi, 2003b: 368, 369, figs. 466–467, figs. 466, 467; Hayashi, 2006b: 643 (listed).

Odontonia katoi – Fransen, 2002: 339, figs. 220–228, pls. 15, 16 (full synonymy, geographical distribution and hosts); Fransen, 2006: 717; Marin & Savinkin, 2007: 184; Chan & Mitsuhashi, 2007: 297; Fransen, 2008: 18; Juncker & Poupin, 2009: 36 (listed); Poupin, 2010: 59; Bruce, 2010: 66 (Listed); De Grave & Fransen, 2011: 354 (listed); Fransen, 2012: 103; Marin, 2012: 364 (listed); Dobson *et al.*, 2014: appendix S1; Baeza *et al.*, 2015: 1–18, figs. 2–5; Dobson *et al.*, 2016: supplementary information; De Gier & Fransen, 2018: 124, 125, figs. 16C, 17F, 19, 21; Feller *et al.*, 2021: table 1 (listed).

Geographic distribution. Indo-West Pacific: Red Sea; Tanganyika; Moçambique; Maldives; Sulawesi, Bali, Ambon, Seram, Lesser Sunda Islands, Gorong Islands, Raja Ampat, Indonesia; Sabah, Malaysia; Nhatrang, Vietnam; Philippines; Papua New Guinea; Coil Reef, Wistari Reef, Heron Island, Lizard Island, Cockburn Sound, Australia; Japan; New Caledonia; Loyalty Island; Palau Island; Tonga.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Styelidae: *Cnemidocarpa pedata* (Herdman); *Polycarpa aurata* (Quoy & Gaimard); *P. captiosa* (Sluiter); *P. cryptocarpa* (Sluiter); *P. nigricans* (Heller); *P. pedunculata* (Heller); *Polycarpa* sp.; *Styela palinorsa* (Sluiter); *Styela* sp.; Pyuridae: *Cynthia ritteri* Oka (= *Halocynthia igaboja* Oka); *Herdmania momus* (Savigny); *Pyura gangelion* (Savigny).

***Odontonia kerangcaris* Fransen, Groenhof & de Gier, 2021**

Odontonia kerangcaris Fransen, Groenhof & De Gier, 2021: 276, figs. 1–8.

Geographic distribution. Indo-West Pacific: Berau Islands, NE Kalimantan, Indonesia.

Hosts. Mollusca: Bivalvia: Venerida: Chamidae: *Chama lazarus* Linnaeus.

***Odontonia plurellicola* De Gier & Fransen, 2018**

Odontonia plurellicola De Gier & Fransen, 2018: 128, figs. 1–7, 15A–D, 16F, 17E.

Geographic distribution. Indo-West Pacific: W Halmahera, Indonesia.

Hosts. Chordata: Ascidiacea; Phlebobranchia: Plurellidae: *Plurella* sp.

***Odontonia rufopunctata* Fransen, 2002**

Odontonia rufopunctata Fransen, 2002: 352, figs. 229–234, 248, pl. 17 (full synonymy, geographical distribution and hosts); Fransen, 2006: 724, fig. 6A; Marin, 2006: 336 (listed); Fransen, 2008: 18; De Gier & Fransen, 2018: 124, 125, figs. 16D, 17G, 18B, D, 19–21.

Odontonia maldivensis Fransen, 2006: 716, figs. 2–5; De Grave & Fransen, 2011: 354 (listed);
De Gier & Fransen, 2018: 124, figs. 16G, 18A, C, 19, 21.

Geographic distribution. Indo-West Pacific: Maldives; Sulawesi, Bali, Halmahera, Raja Ampat, Indonesia; Papua New Guinea.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Styelidae: *Polycarpa camptos* Monniot & Monniot; *P. cryptocarpa* (Sluiter); *P. pigmentata* (Herdman); *Polycarpa* sp.; Pyuridae: ? *Herdmania momus* (Savigny).

***Odontonia seychellensis* Fransen, 2002**

Pontonia sp. Fransen, 1994c: 135–136, figs. 107–112, pl. 4C.

Odontonia seychellensis Fransen, 2002: 361, figs. 235–240, 248, pl. 18 (full synonymy, geographical distribution and hosts); Marin, 2006: 336 (listed); De Grave & Fransen, 2011: 354 (listed); De Gier & Fransen, 2018: 124, fig. 19.

Geographic distribution. Indo-West Pacific: Indian Ocean: Seychelles.

Hosts. Chordata: Ascidiacea: unidentified solitary ascidian.

***Odontonia sibogae* (Bruce, 1972)**

Pontonia katoi – Holthuis, 1952 (p.p.): 158, figs. 73a,b, 74b, 75a,b,d–f, 76c,f,g, 77a,e,f [not *P. katoi* Kubo, 1940].

Pontonia sibogae Bruce, 1972c: 183, 185, fig. 1.

Odontonia sibogae – Fransen, 2002: 371, figs. 241–246, pl. 19 (full synonymy, geographical distribution and hosts); Fransen, 2006: 724; Bruce, 2006: 17; Chan & Mitsuhashi, 2007: 297; Shenkar & Loya, 2008; Fransen, 2008: 18; Juncker & Poupin, 2009: 36 (listed); Poupin, 2010: 59; De Grave & Fransen, 2011: 354 (listed); Fransen, 2012: 103; Fransen & Reijnen, 2012: 47; Horká *et al.*, 2016: figs. 2, 3, suppl. tab. S1; De Gier & Fransen, 2018: 124, figs. 16B, 17D, 19–21; Levitt-Barmats & Shenkar, 2018: 1–14, figs. 1–6; Chow *et al.*, 2021: fig. 2, tab. A.1 (listed).

Geographic distribution. Indo-West Pacific: Indian Ocean: Red Sea; Oman, Arabian Sea; Seychelles; Nosy Bé, Madagascar; Sulawesi, Bali, off Damar Island, Amboin, Seram, Bali, Tidore, Raja Ampat, Indonesia; Sabah, Malaysia; Papua New Guinea; Queensland; Western Australia, Australia; New Caledonia.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Styelidae: *Polycarpa argentata* (Sluiter); *P. aurata* (Quoy & Gaimard); *Polycarpa* sp.; *Styela whiteleggei* (Herdman); Pyuridae: *Herdmania momus* (Savigny); *Pyura gangelion* (Savigny); Aplousobranchia: Diazonidae: *Rhopalaea crassa* (Herdman); Phlebobranchia: Ascidiidae: *Phallusia nigra* Savigny; several records from unidentified ascidians.

***Odontonia simplicipes* (Bruce, 1996)**

Pontonia simplicipes Bruce, 1996: 247–250, figs. 19–20, 29i.

Odontonia simplicipes – Fransen, 2002: 382, figs. 247–248 (full synonymy, geographical distribution and hosts); Chan & Mitsuhashi, 2007: 297; Juncker & Poupin, 2009: 36 (listed); Poupin, 2010: 59; De Grave & Fransen, 2011: 354 (listed); De Gier & Fransen, 2018: 124, fig. 19.

Geographic distribution. Indo-West Pacific: Chesterfield Islands; New Caledonia.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Styelidae: *Polycarpa nigricans* Heller.

***Odontonia* sp.**

Odontonia sp. – Fransen, 2006: 725, fig. 6B, C.

Geographic distribution. Indo-West Pacific: Indian Ocean: Moçambique.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Styelidae: *Polycarpa mytiligera* (Savigny).

***Opaepupu* Anker & De Grave, 2021**

***Opaepupu huna* Anker & De Grave, 2021**

Opaepupu huna Anker & De Grave, 2021: 55, figs. 1–8.

Geographic distribution. Indo-West Pacific: Hawaiian Archipelago.

Hosts. Mollusca: Bivalvia, Trapezidae: *Trapezium oblongum* (Linnaeus).

***Pinnotherotonia* Marin & Paulay, 2010**

***Pinnotherotonia rumphiusi* Marin & Paulay, 2010**

Pinnotherotonia rumphiusi Marin & Paulay, 2010: 38, figs. 1–6.

Geographic distribution. Indo-West Pacific: Palau.

Hosts. Mollusca: Bivalvia, Veneridae: *Periglypta crispata* (Deshayes).

***Platypontonia* Bruce, 1968**

***Platypontonia brevirostris* (Miers, 1884)**

Pontonia ? brevirostris Miers, 1884: 562, pl. 51 fig. B.

Pontonia brevirostris – Borradaile, 1898: 389 (listed); Borradaile, 1917: 391 (listed); Holthuis, 1952: 15 (listed).

Platypontonia brevirostris – Bruce, 1968: 290–297, figs. 1–3; Bruce, 1972a: 222 (listed); Bruce, 1973: 136–138, fig. 2; Bruce, 1975: 162 (listed); Bruce, 1976a: 147 (listed); Bruce, 1984: 147 (listed); Bruce, 1990: 13, tab. 1, 17, tab. 2, 19, tab. 2 (listed); Müller, 1993: 149 (listed); Fransen, 1994b: 111, tab. 1 (listed); Bruce, 1994: 120 (listed); Li, 2000: 256, fig. 338 (listed); Hayashi, 2001: 567–569, figs. 422–423; Bruce, 2010: 50, 66 (listed); De Grave & Fransen, 2011: 368 (listed).

Platypontonia brevirostoris – Suzuki, 1971: 100 (listed).

Geographic distribution. IWP: Seychelles; Farquhar Atoll.

Hosts. Mollusca: Bivalvia: Ostreida: Ostreidae: *Lopha cristagalli* (Linnaeus); ‘clamp shells’.

***Platypontonia hyotis* Hipeau-Jacquotte, 1971**

Platypontonia hyotis Hipeau-Jacquotte, 1971a: 126–139, figs. 1–7; Bruce, 1972a: 222 (listed); Hipeau-Jacquotte, 1972: 10; Hipeau-Jacquotte, 1973a: 104–105; Hipeau-Jacquotte, 1974e: 108–109, fig. 1; Bruce, 1975: 162; Bruce, 1978b: 287 (listed); Bruce, 1983b: 895, figs. 7J, 10B–C; Bruce, 1990: 19, tab. 2; Müller, 1993: 119 (listed); Chace & Bruce, 1993: 127 (listed); Bruce, 1994: 119, fig. 55 (listed); Fransen, 1994: 133, pl. 4B; Fransen, 1994: 111, pl. 2, tab. 1; Li, 2000: 256, fig. 339 (listed); Hayashi, 2001: 567, figs. 422, 423; Hayashi, 2006a: 510, 512 (listed); De Grave & Fransen, 2011: 368 (listed); Fransen, 2012: 104; Fransen & Reijnen, 2012: 47; Marin, 2012: 351, pl. 54B; Fransen & Reijnen, 2013: 276, fig. 10; Dobson *et al.*, 2014: appendix S1; Dobson *et al.*, 2016: supplementary information; Chow *et al.*, 2021: fig. 2, tab. A.1; Feller *et al.*, 2021: table 1 (listed).

Platypontonia pterostreae Suzuki, 1971: 5–10, figs. 3–4, pl. 3; Miyake, 1982: 38, pl. 13 fig. 6.

Platypontonia hiotis – Hayashi, 2006a: 510, 512 (listed).

Geographic distribution. Indo-West Pacific: Madagascar; Seychelles; Seram, Tidore, Indonesia; Sabah, Malaysia; Nhatrang, Vietnam; Japan; Taiwan; Australia.

Hosts. Mollusca: Bivalvia: Ostreida: Gryphaeidae: *Hyotissa hyotis* (Linnaeus); *H. inermis* (G.B. Sowerby); Ostreidae: *Lopha cristagalli* (Linnaeus); *Ostrea* sp.

***Pontonia* Latreille, 1929**

***Pontonia chimaera* Holthuis, 1951**

Pontonia chimaera Holthuis, 1951a: 125, pl. 39 figs. a–p; Fransen, 2002: 71, figs. 36–41 (full synonymy, geographical distribution and hosts); Wicksten & Hendrickx, 2003: 60 (listed); Hendrickx, 2005: 164 (listed); De Grave & Fransen, 2011: 368 (listed); Martínez-Guerrero & López-Pérez, 2018: tab. 1 (listed).

Geographic distribution. East Pacific: Archipiélago de las Perlas, Panamá; Bahía Venetia, Sonora, Gulf of California, Mexico.

Hosts. Mollusca: Gastropoda: Littorinimorpha: Strombidae: *Strombus galeatus* Swainson; ‘in shell of gastropod’ (Wicksten, 1983).

***Pontonia domestica* Gibbes, 1850**

Pontonia occidentalis Gibbes, 1848: xvi [nomen nudum].

Pontonia domestica Gibbes, 1850: 196; Fransen, 2002: 80, figs. 42–50 (full synonymy, geographical distribution and hosts); Nizinski, 2003: 104; Baeza, 2010: 257; De Grave & Fransen, 2011: 368 (listed); Baeza *et al.*, 2013: 178, tab. 2 (listed).

Conchodytes domesticus – Cary & Spaulding, 1909: 11.

Conchodytes domestica – Rathbun, 1901: 122.

Geographic distribution. West Atlantic: Bahamas; South Carolina; Florida; Louisiana; Gulf of Mexico; Concha Bay, Colombia; Cubagua, Venezuela; East Atlantic: there is a doubtful record from Porto Santo, Madeira by Borradaile (1917) (d'Udekem d'Acoz, 1999).

Hosts. Mollusca: Bivalvia: Ostreida: Pinnidae: *Atrina rigida* (Lightfoot); *A. seminuda* (Lamarck); *A. serrata* (Sowerby); *Pinna muricata* Linnaeus; *Pinna* sp.; Pectinida: Pectinidae: there is a doubtfull record from *Pecten* sp. by Borradaile (1917).

***Pontonia longispina* Holthuis, 1951**

Pontonia longispina Holthuis, 1951a: 128, pl. 40 figs. a–j; Fransen, 2002: 93, figs. 51–57 (full synonymy, geographical distribution and hosts); Wicksten & Hendrickx, 2003: 60 (listed); Hendrickx, 2005: 164 (listed); De Grave & Fransen, 2011: 369 (listed); Martínez-Guerrero & López-Pérez, 2018: tab. 1 (listed).

Geographic distribution. East Pacific: Lower California and Sonora, Mexico.

Hosts. Unknown.

***Pontonia manningi* Fransen, 2000**

Pontonia margarita; Holthuis, 1951: 137 (in part), pl. 44 (not *Pontonia margarita* Smith, 1869).

Pontonia sp. – Coelho & Ramos, 1972: 146.

Pontonia manningi Fransen, 2000: 101–108, figs. 1–4; Fransen, 2002: 102, figs. 58–70, pl. 1 (full synonymy, geographical distribution and hosts); Nizinski, 2003: 104; Wirtz & Debelius, 2003: 130, fig; Cardoso, 2006: 28, fig. 19–22; Marin, 2006: 336 (listed); Bracken *et al.*, 2009: 282, tab. 1, fig. 1 (listed); De Grave & Fransen, 2011: 369 (listed); Vieira *et al.*, 2012: 24, fig. 17; Baeza *et al.*, 2016: 1–17, figs. 2–5; Tavares *et al.*, 2017: 165, fig. 3E; González, 2018: 410 (listed); Poupin, 2018: 111.

Geographic distribution. West Atlantic: from North Carolina to the Caribbean Sea and the Gulf of Mexico, Bonaire, Margarita, Guideloupe south to Maranhão, Banco Vitória, Espírito Santo and Trindade Island, Brazil; East Atlantic: Canary Islands; Cape Verde Islands.

Hosts. Mollusca: Bivalvia: Pectinida: Pectinidae: *Argopecten gibbus* (Linnaeus); *Chlamys mildredae* Bayer; *Pecten gibbosus* (see Fransen, 2000) [unclear which species is meant here, could be misspelling of *Argopecten gibbus* (Linnaeus) or *Plicatula gibbosa* Lamarck]; Spondylidae: *Spondylus americanus* Hermann; *S. gaederopus* Linnaeus; *S. senegalensis* Schreibers; Ostreida: Pteriidae: *Pteria columbus* (Röding); Pinnidae: *Pinna* sp.

***Pontonia margarita* Smith in Verrill, 1869**

Pontonia margarita Smith, 1869: 245; Fransen, 2002: 119, figs. 71–79 (full synonymy, geographical distribution and hosts); Holguín-Quinones *et al.*, 2002: 177; Rodriguez *et al.*, 2002: 258; Wicksten & Hendrickx, 2003: 60 (listed); Baeza *et al.*, 2013: 178, tab. 2 (listed); Hendrickx, 2005: 164 (listed); Baeza, 2008: 387–395, figs. 1, 3, 4; De Grave & Fransen, 2011: 369 (listed); Hendrickx & Wicksten, 2011: 29; Dobson *et al.*, 2014: appendix S1; Dobson *et al.*, 2016: supplementary information; Góngora-Gómez *et al.*, 2015: 107–110, figs. 1, 2; Ayón-Parente *et al.*, 2016: 321; Martínez-Guerrero & López-Pérez, 2018: tab. 1 (listed); García-Ulloa *et al.*, 2019: 1–7, figs. 4–7; Salas-Moya *et al.*, 2021: table 1, 2; Feller *et al.*, 2021: table 1 (listed) Vélez-Arellano *et al.*, 2022: 1–5, fig. 2.

Coralliocaris Camerani Nobili, 1901: 3.

Coralliocaris camerani – Borradaile, 1917: 385.

Conchodytes margarita – Borradaile, 1917: 394 (listed).

Geographic distribution. East Pacific: known from shallow waters along the coast of California to Colombia and the Galapagos Islands. Records of the species from the West Atlantic refer to *P. manningi* Fransen, 2000.

Hosts. Mollusca: Bivalvia: Ostreida: Margaritidae: the species is usually encountered in the pearl oyster *Pinctada fimbriata* (Dunker) but has also been recorded in *Pinctada mazatlanica* (Hanley); Pinnidae: *Atrina tuberculosa* (G.B. Sowerby I); *Pinna rugosa* Sowerby; and unidentified *Pinna* species.

***Pontonia mexicana* Guérin-Méneville, 1855 [in Guérin-Méneville, 1855-1856]**

Pontonia mexicana Guérin-Méneville, 1855-1856: xix, pl. 2 fig. 12; Fransen, 2002: 132–146, figs. 80–90, pls. 2, 3 (full synonymy, geographical distribution and hosts); Lira, 2004: tab. 1; Tagliafico *et al.*, 2005: 91, tab. 1; Hernández-Ávila *et al.*, 2007: tab. 1; Baeza, 2010: 257; De Grave & Fransen, 2011: 369 (listed); Baeza *et al.*, 2011: 41–47, figs. 1, 3–5; Vieira *et al.*, 2012: 26, fig. 18 (listed); Baeza *et al.*, 2013: 178, tab. 2 (listed); Dobson *et al.*, 2014: 2, fig. 1, appendix S1; Dobson *et al.*, 2016: supplementary information; Poupin, 2018: 111; Feller *et al.*, 2021: table 1 (listed).

Pontonia armata Sharp, 1893: 119 [non H. Milne Edwards, 1837, = *Paranchistus armatus*].

Pontonia grayi Rathbun, 1901 (p.p.): 122, fig. 25.

Panthonia mexicana – Valdés Ragués, 1909: 181.

Pontonia sp. – Aucoin *et al.*, 2010: 135–141.

Geographic distribution. West Atlantic: Mexico; Honduras; Santa Maria, Colombia; Cuba; Jamaica; Porto Rico; Dominican Republic; Curaçao; Bonaire; Tobago Island; Martinique; Cubagua, Venezuela; Venezuela; Saint Lucia Island; Isla de Cozumel; Tortugas; Bahamas; St John, Tortola; Anguilla; Martinique; Tobago; Los Roques.

Hosts. Mollusca: Bivalvia: Ostreida: Pinnidae: *Atrina seminuda* (Lamarck); *Pinna carnea* (Gmelin); *Pinna rigida* (Lightfoot); and from unidentified specimens of *Pinna* sp. Holthuis (1951: 134) mentions a female specimen with a total length of 17 mm that was found between

the branches of a specimen of the ophiuroid *Astrophyton muricatum* (Lamarck) at the Island Bonaire. This specimen could not be located in the RMNH collection.

***Pontonia panamica* Marin & Anker, 2008**

Pontonia panamica Marin & Anker, 2008: 503, figs. 1–7; De Grave & Fransen, 2011: 369 (listed); Dobson *et al.*, 2014: appendix S1; Dobson *et al.*, 2016: supplementary information; De Gier & Fransen, 2018: 125; Martínez-Guerrero & López-Pérez, 2018: tab. 1 (listed); Feller *et al.*, 2021: table 1 (listed).

Geographic distribution. East Pacific: Panama.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidia* cf. *interrupta* Heller; *Ascidia* sp.

***Pontonia pilosa* Fransen, 2002**

Pontonia sp. nov. Wirtz & d'Udekem d'Acoz, 2001: 114.

Pontonia pilosa Fransen, 2002: 147, figs. 91–99, pl. 4 (full synonymy, geographical distribution and hosts); Wirtz & Debelius, 2003: 130, fig.; Marin, 2006: 336 (listed); De Grave & Fransen, 2011: 369 (listed); González, 2018: 410 (listed).

Geographic distribution. East Atlantic: Cape Verde Islands.

Hosts. Mollusca: Bivalvia, Venerida: Chamidae: *Pseudochama radians* (Lamarck).

***Pontonia pinnae* Lockington, 1878**

Pontonia pinnae Lockington, 1878: 163; Fransen, 2002: 158, figs. 100–118 (full synonymy, geographical distribution and hosts); Holguín *et al.*, 2002: 177; Rodríguez *et al.*, 2002: 258; Wicksten & Hendrickx, 2003: 60 (listed); Hendrickx, 2005: 164 (listed); De Grave & Fransen, 2011: 369 (listed); Martínez-Guerrero & López-Pérez, 2018: 4, tab. 1 (listed).

Geographic distribution. East Pacific: from the Gulf of California, Mexico, to the Gulf of Panama and Colombia.

Hosts. Mollusca: Bivalvia: Ostreida: Pinnidae: *Atrina tuberculosa* (Sowerby); *Pinna rugosa* Sowerby; unidentified species of *Pinna* sp. The species has once been recorded from a pearl oyster at Taboga Island, Gulf of Panama (Holthuis, 1951). Juvenile specimens were found in the clam *Laevicardium elatum* (Sowerby) (Cardiidae) and *Megapitaria aurantiaca* (Sowerby) (Veneridae) by Campos, Félix-Pico & García-Domínguez (1995: 177) who suggested that these clams might serve as occasional hosts for juveniles of *P. pinnae*.

***Pontonia pinnophylax* (Otto, 1821)**

“.. a small carid ..” Aristotle, ca. 350 B.C.: book V, chapter 15, p 547.

Squilla Cerutus & Chiocco, 1622: 95.

? *Scyllarus Pinnother* Sachs, 1665: 97.

Astacus minimus Hasselquist, 1757: 450

“Wagter”; Chemnitz, 1781: 1.

“Chevrettes” – Chandler, 1806: 156.

Alpheus Tyrhenus Risso, 1816: 94, pl. 2 fig. 2 [not *Cancer tyrrhenus* Petagna, 1792].

Autonomea Olivii Latreille, 1818: 336 fig. 10 [not *Autonomea Olivii* Risso, 1816].

Palaemon pinnophylax Otto, 1821: 12.

Gnathophyllum Tyrhenus – Desmarest, 1823: 323.

Callianassa thyrenus – Risso, 1827: 54.

Alpheus pinnophylax – Otto, 1828: 341, pl. 21 figs. 1, 2.

Pontonia tyrrhena – Latreille, 1829: 96.

Pontonia custos Guérin-Méneville, 1829-1844: vol. 2 Crust. pl. 21 fig. 2, vol. 3 Crust.: 15.

Pontonia Thyrenus – Roux, 1831: 26.

Pontonia parasitica Roux, 1831: 26.

Alpheus thyrenus – Latreille, 1831: 73.

Astacus thyrenus – Comte, 1832-1840: pl. 56.

Pontonia heterochelis Guérin, 1832: ?.

Astacus (P.) tyrrhenus – Voigt, 1836: 181.

Pontonia Tyrrhena – Hope, 1851: 16.

Pontonia Tyrrhenia – A. Milne-Edwards, 1882: 15.

Pontonia tyrrhenia – Gourret, 1884: 15.

Pontonia Pyrrhena – Van Beneden, 1900: 29.

Pontonia tyrrena – Magri, 1926: 90.

Pontonia thyrraena – Ninni, 1930: 6.

Astacus tyrrhenus (Risso MS) Monod, 1931: 123.

Autonomea Olivii (Risso MS) Monod, 1931: 123, fig. 8.

Pontonia Custos – Zariquiey Cenarro, 1935: 96.

Pontonia pinnophylax – Holthuis, 1947: 319; Fransen, 2002: 172, figs. 110–119, pls. 5, 6 (full synonymy, geographical distribution and hosts); Costa *et al.*, 2002: 90, fig.; Wirtz & Debelius, 2003: 103 fig., 129 fig.; Rada & Milat, 2009: 1383–1392, figs. 2–5; Froglio, 2010: 523 (listed); De Grave & Fransen, 2011: 369 (listed); Baeza *et al.*, 2013: 178, tab. 2 (listed); Brown, 2014: 61 (colour photograph); Dobson *et al.*, 2014: appendix S1; Akyol & Ulaş, 2015: 102–106, fig. 1; Dobson *et al.*, 2016: supplementary information; De Gier & Fransen, 2018: 125; González, 2018: 410 (listed); De Grave *et al.*, 2019: 876: Trigos & Vicente, 2019: 151–154, figs. 2, 3, 4a; Lopes, 2021: 17–19; Feller *et al.*, 2021: table 1 (listed).

Pontonia – Tortajada, 1949: 52.

Ponthonia custos – Rossignol, 1957: 112, fig. 20.

Pontonia syrrhena – Hanström, 1933: 443.

Alpheus megacheles Simeonidis, 1995: 119, colourfig.

Geographic distribution. East Atlantic: occurring in the Mediterranean from the east coast of Spain to the coast of Turkey, not recorded from the North African coast of the Mediterranean Sea. In the Northeastern Atlantic it has been recorded from the Azores, Madeira, Canary Islands, Cape Verde Islands; St. Helena; Senegal; Sierra Leone; Congo; Gabon, Angola. There is a record of a specimen found on pilings at Ulnis an der Schlei, Germany, in the Baltic Sea (Bruce, 1991b). This is very remarkable as the usual host of the species does not occur in this area. d'Udekem d'Acoz (1999) remarks that this specimen might have been escaped from an aquarium.

Hosts. Mollusca: Bivalvia: Ostreida: Pinnidae: the regular host for this species is *Pinna nobilis* Linnaeus in the Mediterranean Sea and *Pinna rudis* Linnaeus, in the eastern Atlantic and Mediterranean Sea. Specimens from Ascension were collected from *Atrina rigida* (Lightfoot). However, Manning & Chace (1990: 10) noted that this recorded host probably refers to *Pinna rudis* Linnaeus, which is the only pinnid species known from Ascension (see Rosewater, 1975). The East Atlantic species *Atrina chautardi* Nicklés, occurring from Mauritania to Angola, has not been recorded as host of *P. pinnophylax* but may well be hosting this shrimp. The specimen from the Baltic was free living. Holthuis (1961) also reported a specimen from Turkey collected among stones.

***Pontonia simplex* Holthuis, 1951**

Pontonia simplex Holthuis, 1951: 135, pl. 42 figs. a–m; Fransen, 2002: 190, figs. 120–128 (full synonymy, geographical distribution and hosts); Wicksten & Hendrickx, 2003: 62 (listed);

Hendrickx, 2005: 165 (listed); Martínez-Guerrero & Hendrickx, 2011: 4, tab. 1 (listed); Hendrickx & Wicksten, 2011: 29; De Grave & Fransen, 2011: 369 (listed); Ayón-Parente *et al.*, 2016: 322; Martínez-Guerrero & López-Pérez, 2018: tab. 1 (listed); Salas-Moya *et al.*, 2021: table 1, 2.

Geographic distribution. East Pacific: Gulf of California; Mexico; Costa Rica; Panama.

Hosts. Mollusca: Bivalvia; Ostreida: Pinnidae: *Pinna rugosa* (Sowerby); unidentified *Pinna* sp.

***Pseudopontonia* Bruce, 1992**

***Pseudopontonia minuta* (Baker, 1907)**

Pontonia minuta Baker, 1907: 189, pl. 24, figs. 9–12; Borradaile, 1917: 392; Hale, 1927: 57, fig. 51; Holthuis 1952: 15; Bruce, 1972b: 65–75, figs. 1–5; Bruce, 1976c: 92; Bruce, 1983a: 211 (listed); Chace & Bruce, 1993: 62.

Pseudopontonia minuta – Bruce 1992: 1273; Bruce, 1994: 133, fig. 62; Li, 2000: 280, fig. 376 (listed); Davie, 2002: 337–338; Bruce, 2003a: 112–114, fig. 2; Fransen, 2006: 725; De Grave & Fransen, 2011: 371 (listed).

Geographic distribution. Indo-West Pacific: Moçambique; South Australia.

Hosts. Chordata: Ascidiacea: Stolidobranchia: Styelidae: *Polycarpa flava* Kott; *P. nigricans* (Heller).

***Rostronia* Fransen, 2002**

***Rostronia stylirostris* (Holthuis, 1952)**

Pontonia stylirostris Holthuis, 1952: 16, 169, figs. 82–84; Bruce, 2006: 33 (listed).

Rostronia stylirostris – Fransen, 2002: 260: figs. 171–177 (full synonymy, geographical distribution and hosts); Fransen, 2006: 716; De Grave & Fransen, 2011: 371 (listed); Kneer et al., 2013: 486.

Geographic distribution. Indo-West Pacific: Red Sea; Oman; Tanganyika; Moçambique; East Kalimantan, and between Misool and New Guinea, Indonesia; Queensland, Australia, Queensland.

Hosts. Chordata: Ascidiacea: Phlebobranchia: Ascidiidae: *Ascidea subterranea* Kneer et al.; *Ascidia sydneiensis* Stimpson.

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TABLE S1 List of specimens and materials used in the analyses of the current study.

List of specimens and materials used in the analyses of the current study. Species and genera names, collection registration numbers (Coll. nr.), specimen localities, host associations, availability of gene sequences, and sources of previous literature of both the molecular (DNA) and morphological information are given. Museum abbreviations: RMNH.CRUS.D. – Decapod crustacean collection, Naturalis Biodiversity Center, former Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands; NTOU – National Taiwan Ocean University, Taiwan; USNM – Smithsonian Institution, National Museum of Natural History, Washington DC, USA; UMML – University of Miami Marine Laboratories, Miami, USA; MNHN – Muséum National D’Histoire Naturelle, Paris, France; QWM – Queensland Museum, South Brisbane, Australia; OUMNH – Oxford University Museum of Natural History, Oxford, UK; NTM Cr. – Northern Territory Museum of Arts and Sciences, Darwin, Australia; NSMT – National Museum of Nature and Science, Tokyo, Japan; UO – University of Ostrava, Czech Republic; SMF – Senckenberg Museum Frankfurt, Germany; SAMA – South Australian Museum, Adelaide, Australia; MZB – Museum Zoologicum Bogoriense, Bogor, Indonesia; FLMNH UF – Florida Museum of Natural History, Gainesville, USA; BMNH – British Museum of Natural History, London; AHF – National History Museum of Los Angeles County, LA, USA; ULLZ – University of Louisiana at Lafayette Zoological Collection, USA; MTQ – Museum of Tropical Queensland, Townsville, Australia. Other abbreviations are part of non-registered voucher collections. GenBank accession numbers are given when available. Species which were only used in the morphological analyses are given a collection number, locality and host record based on the specimens in the Naturalis decapod collections (RMNH.CRUS.D.), or on the information mentioned in the description (see Morph. Source(s)). Unknown host associations are indicated as a question mark (?), uncertain host associations are indicated with a genus or order name, and an asterisk (*). New sequences are indicated in **bold**, sequences that were used in the Total Evidence (TE) analysis are underlined. Superscript numbers ¹ to ⁶ are discussed as notes below.

Species	Coll. nr.	Locality	Host Organism	COI	H3	16S	18S	DNA Source(s)	Morph. Source(s)
INGROUP									
<i>Anchipontonia</i> Bruce, 1992									
<i>A. huri</i> (Holthuis, 1981)	RMNH.CRUS.D.49842	Indonesia, Bali, Tulamben	Bivalvia: <i>Spondylus versicolor</i> Schreibers, 1793		ON312298			This study	
<i>A. huri</i> (Holthuis, 1981)	RMNH.CRUS.D.53602	Indonesia, Pulau Pulau Gura Ici	Bivalvia: <i>Spondylus</i> sp.*	JX185692				1	
<i>A. huri</i> (Holthuis, 1981)	RMNH.CRUS.D.53832	Malaysia, Sabah, Semporna	Bivalvia: <i>Spondylus varius</i> G.B. Sowerby I, 1827	<u>JX185691</u>	ON244246	ON312297		1, This study	2, 3
<i>A. huri</i> (Holthuis, 1981)	NTOU M01830	Japan, Okinawa	Bivalvia*	KU064955	KU065038 (KF738309)	KF738358	KJ584130	4, 5	
<i>A. huri</i> (Holthuis, 1981)	J2009-P	Japan, Okinawa	?				KJ584119		6
<i>Ascidonia</i> Fransen, 2002									
<i>A. californiensis</i> (Rathbun, 1902)	USNM 170570	U.S.A., California, Los Angeles County	Asciidiacea: <i>Ascidia vermiciformes</i> (Ritter, 1913)						7
<i>A. flavomaculata</i> (Heller, 1864)	RMNH.CRUS.D.45617	Cape Verde Islands, Sal, S coast near Santa Maria	Asciidiacea*						7
<i>A. miserabilis</i> (Holthuis, 1951)	UMML 32.9611	Venezuela, Cubagua	?			<u>GQ227824</u>		8	7, 9, 10
<i>A. pusilla</i> (Holthuis, 1951)	MNHN-Na 11266 / MNHN ¹	Panama, Pearl Islands	Asciidiacea: <i>Pyura lignosa</i> Michaelsen, 1908						7
<i>A. quasipusilla</i> (Chace, 1972)	RMNH.CRUS.D.45620	Mauritania	Asciidiacea: <i>Pyura</i> sp.*			ON312299		This study	
<i>A. quasipusilla</i> (Chace, 1972)	RMNH.CRUS.D.57001	Curaçao	Asciidiacea: <i>Pyura torpida</i> (Sluiter, 1898)	KX090119	KX090140	KX090096		11	
<i>A. quasipusilla</i> (Chace, 1972)	RMNH.CRUS.D.57050	Curaçao	Asciidiacea: <i>Pyura torpida</i> (Sluiter, 1898)	<u>KU064957</u>	<u>KU065041</u>	<u>KU064808</u>	ON312286	4, This study	
<i>A. quasipusilla</i> (Chace, 1972)	RMNH.CRUS.D.51678	Mauritania	Asciidiacea*		ON244247	ON312300		This study	7, 9
<i>Bruceonia</i> Fransen, 2002									
<i>Bruceonia ardeae</i> (Bruce, 1981)	RMNH.CRUS.D.32303	Australia, Queensland, Heron Island	Bivalvia: <i>Chama pacifica</i> Broderip, 1835						12
<i>Cainonia</i> Bruce, 2005									

<i>C. medipacifica</i> (Edmondson, 1935)	NTOU.M02293	Taiwan	?		<u>MW815286</u>	<u>MW843310</u>	13	
<i>C. medipacifica</i> (Edmondson, 1935)	RMNH.CRUS.47462	Ambon, Indonesia	Bivalvia: <i>Spondylus varius</i> G. B. Sowerby I, 1827				7, 14	
<i>Colemonia</i> Bruce, 2005								
<i>C. litodactylus</i> Bruce, 2005	QMW27252	Papua New Guinea, Milne Bay	Asciidiacea*				14	
<i>Conchodytes</i> Peters, 1852								
<i>C. biunguiculatus</i> (Paulson, 1875)	RMNH.CRUS.D.53208	Indonesia, Java Sea, Kepulauan Seribu	Bivalvia: <i>Pinna bicolor</i> Gmelin, 1791	JX185695			1	
<i>C. biunguiculatus</i> (Paulson, 1875)	RMNH.CRUS.D.53209	Vanuatu, Santo	Bivalvia: <i>Pinna atropurpurea</i> G.B. Sowerby I, 1825	JX185696			1, 15, 16, 17	
<i>C. biunguiculatus</i> (Paulson, 1875)	RMNH.CRUS.D.57922	Vanuatu, Santo	Bivalvia: <i>Pinna</i> sp.*	<u>ON239546</u>	<u>ON312301</u>	<u>ON312287</u>	This study	
<i>C. biunguiculatus</i> (Paulson, 1875)	AQBUKCB07	India, Kerala	?	MH287042			18	
<i>C. biunguiculatus</i> (Paulson, 1875)	OUMNH.ZC.2011-05-0023	Israel, Eilat	Bivalvia: <i>Pinctada margaritifera</i> (Linnaeus, 1758)	<u>MW817947</u>	<u>MN986660</u>	<u>MN993983</u>	<u>MN993961</u>	13, 19
<i>C. chadi</i> (Marin, 2011)	RMNH.CRUS.D.53857	Malaysia, Sabah, Semporna, Ligitan Isl.	Bivalvia: <i>Lopha cristagalli</i> (Linnaeus, 1758)	<u>JX185697</u>			1, 1, 20	
<i>C. kempoides</i> Bruce, 2013 ²	NTM Cr.06474	Philippines, Cebu Isl.	Bivalvia: <i>Isognomon isognomon</i> (Linnaeus, 1758)				21, 22	
<i>C. maculatus</i> Bruce, 1989	RMNH.CRUS.D.6527	Indonesia, Aru Islands, E. coast, Jeden Isl.	Bivalvia: <i>Pinctada maxima</i> (Jameson, 1901)				23	
<i>C. meleagrinae</i> Peters, 1852	RMNH.CRUS.D.49843	Indonesia, Bali, Tulamben	Bivalvia: <i>Pinctada margaritifera</i> (Linnaeus, 1758)		<u>ON312302</u>		This study	
<i>C. meleagrinae</i> Peters, 1852	RMNH.CRUS.D.53202	Indonesia, N Moluccas, Halmahera mainland, Pasir Lamo	Bivalvia: <i>Spondylus</i> sp.*	KF638630			24	
<i>C. meleagrinae</i> Peters, 1852	RMNH.CRUS.D.53211	Indonesia, Ternate	Bivalvia: <i>Pinctada margaritifera</i> (Linnaeus, 1758)	<u>JX185699</u>			1	
<i>C. meleagrinae</i> Peters, 1852	RMNH.CRUS.D.53816	Malaysia, Sabah, Semporna, Ligitan Reef	Bivalvia: <i>Pinctada margaritifera</i> (Linnaeus, 1758)	JX185698			1	
<i>C. meleagrinae</i> Peters, 1852	RMNH.CRUS.D.53834	Malaysia, Sabah, Semporna, Boheydulang Isl.	Bivalvia: <i>Pinctada margaritifera</i> (Linnaeus, 1758)				1, 14, 24, 25, 26, 27, 28, 29	
<i>C. meleagrinae</i> Peters, 1852	RMNH.CRUS.D.53871	Malaysia, Sabah, Semporna, S Kulapuan Isl.	Bivalvia: <i>Pinctada margaritifera</i> (Linnaeus, 1758)	KF638631			24	
<i>C. meleagrinae</i> Peters, 1852	RMNH.CRUS.D.57916	Indonesia, NE Sulawesi, Bitung, Lembeh Strait	Bivalvia: <i>Pteria</i> sp.*		<u>ON312305</u>	<u>ON312289</u>	This study	
<i>C. meleagrinae</i> Peters, 1852	RMNH.CRUS.D.57923	Vanuatu, Santo	Bivalvia: <i>Pinctada</i> sp.*	<u>ON239547</u>	<u>ON312306</u>	<u>ON312290</u>	This study	
<i>C. meleagrinae</i> cf. Peters, 1852	RMNH.CRUS.D.57913	Indonesia, Bali	Bivalvia: <i>Pteria</i> sp.*		<u>ON312303</u>		This study	
<i>C. meleagrinae</i> cf. Peters, 1852	RMNH.CRUS.D.57915	Indonesia, NE Sulawesi, Bitung, Lembeh Strait	Bivalvia: <i>Pteria</i> sp.*		<u>ON312304</u>	<u>ON312288</u>	This study	
<i>C. meleagrinae</i> Peters, 1852	NSMT-2220	Japan, Okinawa	?	KF738312			5	
<i>C. meleagrinae</i> Peters, 1852	J2000-M36	Australia, Moreton Bay	?	KC515093	KC515051		30	
<i>C. meleagrinae</i> Peters, 1852	10F	Japan, Okinawa, Kuroshima, Nakamoto	?		EF540837		31	
<i>C. meleagrinae</i> Peters, 1852	UO V08-100	Vietnam, Nhatrang Bay	Bivalvia: <i>Pinctada</i> sp.*	KU064959	KU065043	KU064810	KU064880	4
<i>C. monodactylus</i> Holthuis, 1952	RMNH.CRUS.D.53212	Indonesia, Java Sea, Kepulauan Seribu, Tikus Island	Bivalvia: <i>Pteria</i> sp.*	<u>JX185694</u>	<u>ON244248</u>	<u>ON312307</u>		1, This study
<i>C. nipponensis</i> (De Haan, 1844)	RMNH.CRUS.D.57925	Indonesia, Java Sea, Kepulauan Seribu	Bivalvia: <i>Atrina pectinata</i> (Linnaeus, 1767)		<u>ON312308</u>			32, 33, 34, Fransen, unpubl.
								15, 16, 17, 28, 35

<i>C. philippinensis</i> Bruce, 1996	MNHN-Na 10279	Philippines	?						36
<i>C. placunae</i> (D.S. Johnson, 1967)	RMNH.CRUS.D.47466	Indonesia, Moluccas, Amboin, Inner Bay	Bivalvia: <i>Placuna placenta</i> (Linnaeus, 1758)		ON312309		This study		
<i>C. placunae</i> (D.S. Johnson, 1967)	RMNH.CRUS.D.53216	Indonesia, Java Sea, Kepulauan Seribu	Bivalvia: <i>Placuna placenta</i> (Linnaeus, 1758)	JX185693	ON244249	ON312310		1, This study	15, 37, Fransen, unpubl.
<i>C. pteriae</i> Fransen, 1994	RMNH.CRUS.D.42763	Seychelles, Bird Isl.	Bivalvia: <i>Pteria aegyptiaca</i> (Dillwyn, 1817)	JX185700				1	
<i>C. pteriae</i> Fransen, 1994	RMNH.CRUS.D.53846	Malaysia, Sabah, Semporna	Bivalvia: <i>Pteria</i> sp.*	JX185701	ON244250	ON312311	ON312291	1, This study	15
<i>C. pteriae</i> Fransen, 1994	RMNH.CRUS.D.53865	Malaysia, Sabah, Semporna	Bivalvia: <i>Pteria</i> sp.*	ON239548				This study	
<i>C. tridacnae</i> Peters, 1852	RMNH.CRUS.D.42786	Seychelles, St. Francois atoll, W rim	Bivalvia: <i>Tridacna</i> cf. <i>maxima</i> (Röding, 1798)		ON244252	ON312312		This study	15, 16, 25, 26, 28, 29, 32, 34
<i>C. tridacnae</i> Peters, 1852	RMNH.CRUS.D.58009	Maldives, Faafu Atoll, Magoodhoo Isl.	Bivalvia: <i>Tridacna squamosa</i> Lamarck, 1819		ON244251	ON312313		This study	
Dactylonia Fransen, 2002									
<i>D. anachoreta</i> (Kemp, 1922)	RMNH.CRUS.D.50551	Indonesia, NE Kalimantan, Berau islands	Asciidiacea: <i>Ascidia</i> sp.*		ON312314		This study	7, 16, 36	
<i>D. ascidicola</i> (Borradaile, 1898)	RMNH.CRUS.D.48678	Indonesia, Bali, Tulamben	Asciidiacea*		KU170688			4	
<i>D. ascidicola</i> (Borradaile, 1898)	RMNH.CRUS.D.53793	Indonesia, Borneo, Sabah	Asciidiacea: <i>Ascidia</i> sp.*	MH257317				36	
<i>D. ascidicola</i> (Borradaile, 1898)	RMNH.CRUS.D.57921	Indonesia, Raja Ampat	Asciidiacea: <i>Polyarpa conecta</i> (Sluiter, 1904)		ON312315	ON312292		This study	
<i>D. ascidicola</i> (Borradaile, 1898)	RMNH.CRUS.D.57930	Indonesia, Halmahera	Asciidiacea*			ON312293		This study	
<i>D. ascidicola</i> (Borradaile, 1898)	RMNH.CRUS.D.57966	Indonesia, NE Kalimantan, Berau islands	Asciidiacea: <i>Ascidia</i> sp.*		ON244254	ON312316		This study	7, 34
<i>D. ascidicola</i> (Borradaile, 1898)	RMNH.CRUS.D.58010	Maldives, Faafu Atoll, Magoodhoo Isl., Housereef	Asciidiacea: <i>Ascidia glabra</i> Hartmeyer, 1922		ON244253			This study	
<i>D. ascidicola</i> (Borradaile, 1898)	T2010-D	Taiwan, Keelung	?		KJ584137	KJ584123		6	
<i>D. ascidicola</i> (Borradaile, 1898)	NTOU M01549	Taiwan	?		KF738317	KF738363		5	
<i>D. borradalei</i> Bruce, 2005 ³	MNHN-Na 12889	New Caledonia, Neokumbi Reef	Asciidiacea: <i>Ascidia sydneiensis</i> Stimpson, 1854					14, 36	
<i>D. carinicula</i> Bruce, 2006	SMF 29117	Socotra, Rhyi di Hamri, E of Hawlaf,	"From dead <i>Acropora</i> sp.", possibly compound ascidian					27	
<i>D. franseni</i> Bruce, 2003	RMNH.CRUS.D.50658	Kenya, Mombasa, Old Port, Nyali	Asciidiacea: <i>Ascidia</i> sp.*					14, 39	
<i>D. holthuisi</i> Fransen, 2002	RMNH.CRUS.D.48681	Indonesia, Bali, Tulamben	<i>Plurella</i> sp.*		ON312317		This study		
<i>D. holthuisi</i> Fransen, 2002	RMNH.CRUS.D.53555	Indonesia: Ternate	<i>Plurella</i> sp.*	ON239549			This study		
<i>D. holthuisi</i> Fransen, 2002	RMNH.CRUS.D.57967	Indonesia, NE Sulawesi, Bitung, Lembeh Strait	<i>Plurella</i> sp.*		ON244255	ON312318		This study	
<i>D. holthuisi</i> Fransen, 2002	NMMBCA4123	Taiwan	?		KJ019699	KJ019641		40	
<i>D. monnioti</i> (Bruce, 1990)	MNHN-NA 11157	New Caledonia, Chesterfield Island,	?					7, 41	
<i>D. okai</i> (Kemp, 1922)	RMNH.CRUS.D.48680	Indonesia, Bali, SE-side Pulau Serangan	Asciidiacea*		ON312319		This study	7, 16, 34	
<i>D. okai</i> (Kemp, 1922)	RMNH.CRUS.D.53589	Indonesia, Ternate	Asciidiacea*	ON239550		ON312320		This study	
<i>Dactylonia</i> sp.	HCL-2006	Philippines, Panglao Island	?		DQ642876	DQ642850		31	
<i>Dactylonia</i> sp.	T2010-D	Philippines, Panglao Island	?		KC515094			30	
Notopontonia Bruce, 1991									
<i>N. platychelus</i>	SAMA C.424	Robe, South Australia	Asciidiacea: <i>Herdmania momus</i> (Savigny, 1816)					42	
Odontonia Fransen, 2002									

<i>O. bogginsi</i> de Gier & Fransen, 2018	MZB.4733	Indonesia, Halmahera, Tidore	Asciidiacea*	<u>MH257316</u>	38	38
<i>O. compacta</i> (Bruce, 1996)	MNHN-Na 12851	New Caledonia, Lagoon	?		7, 36	
<i>O. katoi</i> (Kubo, 1940)	RMNH.CRUS.D.48689	Indonesia, Bali, Tulamben	Asciidiacea: <i>Polycarpa aurata</i> (Quoy & Gaimard, 1834)	<u>MH251614</u>	38	7, 28, 32, 34
<i>O. katoi</i> (Kubo, 1940)	RMNH.CRUS.D.50552	Indonesia, NE Kalimantan, Berau islands	Asciidiacea: <i>Polycarpa pigmentata</i> (Herdman, 1906)	<u>ON312321</u>	This study	
<i>O. katoi</i> (Kubo, 1940)	RMNH.CRUS.D.57295	Indonesia, NE Sulawesi, Bitung, Lembeh Strait	Asciidiacea: <i>Polycarpa aurata</i> (Quoy & Gaimard, 1834)	MH251615	38	
<i>O. kerangcaris</i> Fransen, Groenhof & de Gier, 2021	MZB.5341	Indonesia, NE Kalimantan, Berau islands	Bivalvia: <i>Chama lazarus</i> Linnaeus, 1758	<u>ON312294</u>	This study	43
<i>O. plurellicolia</i> de Gier & Fransen, 2018	RMNH.CRUS.D.53554	Indonesia, Ternate	<i>Plurella</i> sp.*	<u>ON312295</u>	This study	38
<i>O. rufopunctata</i> Fransen, 2002	RMNH.CRUS.D.53601	Indonesia, Halmahera mainland, Tanjung Ratenu	Asciidiacea*	MH257314	38	
<i>O. rufopunctata</i> Fransen, 2002	RMNH.CRUS.D.57296	Maldives, Faafu Atoll, Magoodhoo Isl.	Asciidiacea: <i>Herdmania momus</i> (Savigny, 1816)	<u>ON244256</u>	MH251616	38, This study
<i>O. rufopunctata</i> Fransen, 2002	RMNH.CRUS.D.57297	Maldives, Faafu Atoll, Magoodhoo Isl.	Asciidiacea: <i>Polycarpa cryptocarpa</i> (Sluiter, 1885)	<u>ON244257</u>	MH251617	38, This study
<i>O. rufopunctata</i> Fransen, 2002	RMNH.CRUS.D.57298	Indonesia, NE Sulawesi, Bitung, Lembeh Strait	Asciidiacea: <i>Polycarpa</i> sp.*	<u>MH257313</u>	<u>ON244258</u>	38, This study
<i>O. rufopunctata</i> Fransen, 2002	RMNH.CRUS.D.57299	Indonesia, NE Sulawesi, Bitung, Tanjung Nanas I	Asciidiacea: <i>Polycarpa</i> sp.*	<u>ON244259</u>	MH251619	38, 7, 44 This study
<i>O. rufopunctata</i> Fransen, 2002	RMNH.CRUS.D.57300	Indonesia, NE Sulawesi, Bitung, Tanjung Nanas I	Asciidiacea: <i>Polycarpa</i> sp.*	<u>ON244260</u>	MH251620	38, This study
<i>O. rufopunctata</i> Fransen, 2002	RMNH.CRUS.D.58011	Maldives, Faafu Atoll, Magoodhoo Isl., Housereef	Asciidiacea: <i>Herdmania momus</i> (Savigny, 1816)	<u>ON244262</u>		This study
<i>O. rufopunctata</i> Fransen, 2002	RMNH.CRUS.D.58012	Maldives, Faafu Atoll, Magoodhoo Isl., Housereef	Asciidiacea*	<u>ON244261</u>		This study
<i>O. seychellensis</i> Fransen, 2002	RMNH.CRUS.D.42762	Seychelles, E of Mahé, E coast of Sainte Anne Isl.	Asciidiacea*	<u>ON244263</u>		This study 7
<i>O. sibogae</i> (Bruce, 1973)	RMNH.CRUS.D.48691	Indonesia, Bali, Sanur	Asciidiacea: <i>Polycarpa</i> sp.*		MH251621	38
<i>O. sibogae</i> (Bruce, 1973)	RMNH.CRUS.D.53964	Malaysia, Sabah, Semporna area, Horn Reef	Asciidiacea: <i>Polycarpa argentata</i> (Sluiter, 1890)	JX185703		1 7, 32, 34, 45
<i>O. sibogae</i> (Bruce, 1973)	RMNH.CRUS.D.53558	Indonesia, Halmahera, Tidore	Asciidiacea*	MH257315		38
<i>O. sibogae</i> (Bruce, 1973)	RMNH.CRUS.D.57926	Indonesia, Ternate	Asciidiacea: <i>Herdmania</i> sp.*		<u>ON312322</u>	This study
<i>O. sibogae</i> (Bruce, 1973)	RMNH.CRUS.D.57929	Indonesia, Ternate	Asciidiacea: <i>Polycarpa aurata</i> (Quoy & Gaimard, 1834)		<u>ON312323</u>	<u>ON312296</u> This study
<i>O. sibogae</i> (Bruce, 1973)	UO Aq08-T2	Jordan, Aqaba	Asciidiacea: <i>Herdmania momus</i> (Savigny, 1816)	<u>KU064983</u>	<u>KU065068</u>	<u>KU064903</u> 4
<i>O. simplicipes</i> (Bruce, 1996)	MNHN-Na 12844:	Chesterfield Islands	Asciidiacea: <i>Polycarpa nigricans</i> Heller, 1878			7, 36
<i>Opaepupu</i> Anker & De Grave, 2021						
<i>O. huna</i> Anker & De Grave, 2021	FLMNH UF 45826	Hawaiian Archipelago, Hawai'i, Kāne'ohe Bay	Bivalvia: <i>Trapezium oblongum</i> (Linnaeus, 1758)			46
<i>Pinnotherotonia</i> Marin & Paulay, 2010						
<i>P. rumphiusi</i> Marin & Paulay, 2010	FLMNH UF 3032	Palau, Koror Island	Bivalvia: <i>Periglypta crispata</i> (Deshayes, 1854)			47
<i>Platypontonia</i> Bruce, 1968						
<i>P. brevirostris</i> (Miers, 1994)	BMNH No. 82.24	Seychelles	?			48

<i>P. hyotis</i> Hipeau-Jacquotte, 1971	RMNH.CRUS.D.48499	Philippines, Cebu Strait, W of Bohol, W side of Sandingan Isl.	Bivalvia: <i>Hyotissa hyotis</i> (Linnaeus, 1758)	ON312324	This study
<i>P. hyotis</i> Hipeau-Jacquotte, 1971	RMNH.CRUS.D.49848	Indonesia, Bali, SE-end Tulamben	Bivalvia: <i>Hyotissa</i> sp.*	ON312325	This study
<i>P. hyotis</i> Hipeau-Jacquotte, 1971	RMNH.CRUS.D.53215	Indonesia, Tidore	Bivalvia: <i>Hyotissa hyotis</i> (Linnaeus, 1758)	JX185702	1
<i>P. hyotis</i> Hipeau-Jacquotte, 1971	RMNH.CRUS.D.53852	Malaysia, Sabah, Semporna	Bivalvia: <i>Hyotissa hyotis</i> (Linnaeus, 1758)	ON239551	This study 35, 49
<i>P. hyotis</i> Hipeau-Jacquotte, 1971	NTOU.M02296	Taiwan	?	MW815302 MW843332	13
<i>Pontonia</i> Latreille, 1829					
<i>P. chimaera</i> Holthuis, 1951	USNM 85390:	Panama, Archipiélago de las Perlas	Gastropoda: <i>Strombus galeatus</i> Swainson, 1823		7, 50
<i>P. domestica</i> Gibbes, 1850	UMML 32.9621	Venezuela, Cubagua	?	GQ227818	8
<i>P. domestica</i> Gibbes, 1850	USNM 169538/53405	Gulf of Mexico	Bivalvia: <i>Atrina</i> sp.		7, 50
<i>P. longispina</i> Holthuis, 1951	AHF 402	Mexico, Angel de la Guardia Island	?		7, 50
<i>P. manningi</i> Fransen, 2000	RMNH.CRUS.D.48667	Cape Verde Islands, São Tiago, Tarrafal	Bivalvia: <i>Spondylus senegalensis</i> Schreibers, 1793	ON312326	This study 7
<i>P. manningi</i> Fransen, 2000	RMNH.CRUS.D.58013 ⁴	Curaçao	Bivalvia: <i>Spondylus americanus</i> Herdmann, 1781	ON244270	This study
<i>P. manningi</i> Fransen, 2000	RMNH.CRUS.D.58013 ⁴	Curaçao	Bivalvia: <i>Spondylus americanus</i> Herdmann, 1781	ON239552 ON244271	This study
<i>P. manningi</i> Fransen, 2000	RMNH.CRUS.D.58014	Curaçao	Bivalvia: <i>Spondylus americanus</i> Herdmann, 1781	ON239553 ON244264	This study
<i>P. manningi</i> Fransen, 2000	POMA1	?	?	KT224394	51
<i>P. manningi</i> Fransen, 2000	ULLZ 8536	?	?	EU868705 EU868800	52
<i>P. margarita</i> Smith in Verrill, 1869	RMNH.CRUS.D.42581	Costa Rica, Golfo Dulce	Bivalvia: <i>Pinctada mazatlanica</i> (Hanley, 1856)		7, 50
<i>P. margarita</i> Smith in Verrill, 1869	RMNH.CRUS.D.42582	Mexico, Guaymas, Sonora	Bivalvia: <i>Pinctada mazatlanica</i> (Hanley, 1856)	ON244265	This study
<i>P. mexicana</i> Guérin-Méneville, 1855	RMNH.CRUS.D.42578	Bahama Islands, W side of Frozen Key	Bivalvia: <i>Pinna</i> sp.*		7, 50
<i>P. mexicana</i> Guérin-Méneville, 1855	RMNH.CRUS.D.58015 ⁴	Curaçao	Bivalvia: <i>Pinna carneaa</i> Gmelin, 1791	ON244266	This study
<i>P. mexicana</i> Guérin-Méneville, 1855	RMNH.CRUS.D.58015 ⁴	Curaçao	Bivalvia: <i>Pinna carneaa</i> Gmelin, 1791	ON244267	This study
<i>P. mexicana</i> Guérin-Méneville, 1855	UMML 32.9609	Venezuela, Cubagua	?	GQ227823	8
<i>P. panamica</i> Marin & Anker, 2008	RMNH.CRUS.D.51824	Panama, Pacific coast, Playa Venao	Asciidae*	ON244268 ON312327	This study
<i>P. panamica</i> Marin & Anker, 2008	RMNH.CRUS.D.51825	Panama, Pacific coast, Playa Venao	Asciidae: <i>Ascidia cf. interrupta</i> Heller, 1878	MH257312 ON244269 MH251622	38, This study 53
<i>P. pilosa</i> Fransen, 2002	RMNH.CRUS.D.48677	Cape Verde Islands, São Tiago Islands, Tarrafal	Bivalvia: <i>Pseudochama radians</i> (Lamarck, 1819)		7
<i>P. pinnae</i> Lockington, 1878	RMNH.CRUS.D.9477	Mexico, Sonora, Guaymas Bay	?		7, 50
<i>P. pinnophylax</i> (Otto, 1821)	RMNH.CRUS.D.42607	Cape Verde Islands	Bivalvia: <i>Pinna</i> sp.*	KU170692	4 7, 34, 42
<i>P. pinnophylax</i> (Otto, 1821)	RMNH.CRUS.D.42608	Cape verde Islands, São Nicocau	Bivalvia: <i>Pinna rudis</i> Linnaeus, 1758	MH251623	38
<i>P. pinnophylax</i> (Otto, 1821)	OUMNH.ZC.2018-01-018	Ascension Isl.	Bivalvia: <i>Pinna</i> sp.*	MN986676 MN994003	19
<i>P. simplex</i> Holthuis, 1951	USNM 90153	East Pacific coast of Mexico	?		7, 50
<i>Pontonia</i> sp.	ULLZ 8886	?	?	EU868706 EU868801	52
<i>Pseudopontonia</i> Bruce, 1992					
<i>P. minuta</i> (Baker, 1907)	AMS No. P. 17411	New South Wales, Australia	Asciidae: <i>Polycarpa flava</i> Kott, 1985		54, 55

<i>Rostronia</i> Fransen, 2002								7, 32						
<i>R. stylrostris</i> (Holthuis, 1952)	RMNH.CRUS.D.42566/425 67	Red Sea Coast, Eritrea	Asciidiacea*											
OUTGROUPS														
<i>Actinimenes</i> Ďuriš & Horká, 2017														
<i>A. inornatus</i> (Kemp, 1922)	MTQ W-33160	Australia, Lizard Isl.	Cnidaria: <i>Stichodactyla</i> sp.	<u>KU064997</u>	KU065085	KU064841	KU064915	4						
<i>A. inornatus</i> (Kemp, 1922)	RMNH.CRUS.D.48435	Philippines, Cebu Strait	Cnidaria: <i>Stichodactyla mertensi</i> Brandt, 1835						16, 56, 57 ⁵ , 58					
<i>A. ornatus</i> (Bruce, 1969)	UO V08-80	Vietnam, Nhatrang Bay	Cnidaria: <i>Heteractis</i> sp.	<u>KU065001</u>	KU065089	KU064843	KU064919	4						
<i>A. ornatus</i> (Bruce, 1969)	RMNH.CRUS.D.47552	Indonesia, Moluccas, Ambon Strait	Cnidaria: <i>Entacmaea quadricolor</i> (Leuckart in Rüppell & Leuckart, 1828)						57 ⁵ , 58, 59					
<i>Cuapetes</i> A.H. Clark, 1919														
<i>C. tenuipes</i> (Borradaile, 1898)	RMNH.CRUS.D.48784	Indonesia, SW Sulawesi, Makassar, Bone Baku	Free-living						16, 57, 60 ⁶					
<i>C. tenuipes</i> (Borradaile, 1898)	UO V08-48	Vietnam, Nhatrang Bay	Free-living, Cnidaria: <i>Actinodendron</i> sp.	<u>KU064965</u>	KU065049	KU064814	KU064885	4						
<i>Periclimenes</i> G.O. Costa, 1844														
<i>P. colemani</i> Bruce, 1975	UO V08-104	Vietnam, Nhatrang Bay	Echinodermata: <i>Toxopneustes</i> sp.	<u>KU064991</u>	KU065079		KU064911	4						
<i>P. colemani</i> Bruce, 1975	OUMNH.ZC.2010-03-009	Vietnam	?			MW843322			13					
<i>P. colemani</i> Bruce, 1975	-	Australia, Queensland, Heron Island	Echinodermata: <i>Asthenosoma intermedium</i> H.L. Clark, 1938						61					
<i>Typton</i> G.O. Costa, 1844														
<i>T. wasini</i> Bruce, 1977	MTQ W-33302	Australia, Lizard Isl.	Porifera: <i>Callyspongia</i> sp.	<u>KU065019</u>	KU065107	KU064862	KU064936							
<i>T. wasini</i> Bruce, 1977	-	Kenya, Wasini Island	Porifera: <i>Haliclona (Reneira)</i> sp.						62					

Notes:

¹⁾ One of the two specimens of *Ascidonia pusilla* illustrated by Fransen (2002) was featured without a specific collection number. In the publication, the suffix of the Muséum national d'Histoire naturelleis used (MNHN). The specimen could not be recovered in the digital collection environment, and is here again featured without an accession number.

²⁾ Comprehensive descriptions and illustrations of *Conchodytes kempoides* are lacking in literature. For the morphological data matrix, the species was scored as in the closely related *C. biunguiculatus* to which it is morphologically extremely similar (Bruce, 2013), with the exception of the characters with which it differs from that species.

³⁾ Comprehensive descriptions and illustrations of *Dactylonia borradalei* are lacking in literature. For the morphological data matrix, the species was scored as in the closely related *D. ascidicola* to which it is morphologically extremely similar (Bruce, 2005), with the exception of the characters with which it differs from that species.

⁴⁾ There are two specimens of *Pontonia manningi* featured with the same collection accession number (RMNH.CRUS.D.58013). Similarly, two specimens of *P. mexicana* have the same collection accession number as well (RMNH.CRUS.D.58015). In both cases, two individuals from the same sample were taken during subsampling.

⁵⁾ Because illustrations of the mouthparts and comprehensive taxonomic descriptions are lacking for *Actinimenes inornatus* and *A. ornatus*, the mouthparts are scored as in the closely related *Actinimenes ornatellus* (Bruce, 1997c; De Gier & Fransen, in prep.). A check of material present in the Naturalis collection revealed that the mouthparts of these species are indeed generally closely similar. Moreover, descriptions of *A. ornatus* are more limited than that of *A. inornatus*.

and because these species are almost identical in morphology (Fransen, 1989), besides some minute differences, some characters of *A. ornatus* are scored as in *A. inornatus*.

⁶) Bruce, 1992a describes *Cuapetes lacertae* which is closely related to *C. tenuipes*. Because comprehensive illustrations and descriptions of *C. tenuipes* are lacking, the species was mainly scored as *C. laceratae*.

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Notes

- Some parts are modified or extracted from Fransen (2002) and De Gier & Fransen (2018) because of their direct applicability to the current assemblage of species.
- In species where the second pereiopods are similar, the distinction between major and minor chelae cannot be made and the character is scored as in the bigger chela or as present in both the chelae of that species.
- In the only known specimen of *Pseudopontonia minuta* the third pereiopods are damaged, so the fourth pereiopods are scored instead, assuming general similarity between the third and fourth pereiopods.
- Descriptions and illustrations of *Conchodytes kempoides* and *Dactylonia borradalei* are largely lacking, except for a short diagnosis of *C. kempoides* by Bruce (2013). Since these species have been remarked to be very similar to *Conchodytes biunguiculatus* and *Dactylonia ascidicola* respectively (Bruce, 2005; 2013), the morphological features for which no description is present are scored as in those aforementioned species.
- In *Conchodytes meleagrinae* the presence of a small tooth on the basal protuberance is individually not constant. To distinguish between *C. maculatus*, *C. philippinensis* and *C. tridacnae* in which it is not present, the tooth is scored as being present in *C. meleagrinae*.
- Detailed descriptions and illustrations of the mouthparts of *Actinimenes inornatus* and *A. ornatus* are lacking. Therefore, the mouthparts of the closely related *A. ornatellus* (Bruce, 1979) are used in the scoring table (see Appendix I: notes).

Rostrum

1. Number of dorsal teeth: A, 6 to 11 teeth; B, 2 to 4 subdistal teeth; C, one distal or subdistal tooth; D, without teeth. Character state A is present in all outgroup species except for *Typton wasini*. *Rostronia stylirostris* and *T. wasini* both have state B. State C is present in *Anchiopontonia hurii*, *Ascidonia californiensis*, *A. flavomaculata*, *Dactylonia ascidicola*, *D. anachoreta*, *D. borradalei* and *Pontonia*. The other genera have character state D. Because it is likely that a complex structure like a tooth will not evolve back during the morphological adaptation to the endosymbiotic lifestyle of a species to its host, the reduction of the rostral teeth is modelled using a linear step matrix with irreversible states.

	A	B	C	D
A	0	1	1	1
B	i	0	1	1
C	i	i	0	1
D	i	i	i	0

2. Number of ventral teeth: A, 5 to 9 teeth; B, one distal or subdistal tooth; C, with or without one subdistal tooth; D, without teeth. *Cuapetes tenuipes* has state A. State B is found in *Anchiopontonia hurii*, *Dactylonia monnioti*, several species of *Odontonia*, *Platypontonia hyotis*, some species of *Pontonia* and in *Periclimenes colemani*. State C can be found in *Actinimenes*, *Odontonia rufopunctata* and several species of *Pontonia*. The remaining species

have no ventral rostral teeth. Because it is likely that a complex structure like a tooth will not evolve back during the morphological adaptation to the endosymbiotic lifestyle of a species to its host, the reduction of the rostral teeth is modelled using a linear step matrix with irreversible states.

	A	B	C	D
A	0	1	1	1
B	i	0	1	1
C	i	i	0	1
D	i	i	i	0

3. Dorsal carina: 0, present, narrow, distinct; 1, present, shallow, indistinct; 2, obsolete or absent, dorsal margin broadly rounded. Narrow and distinct dorsal carinae can be found in *Cuapetes*, *Actinimenes*, *Rostronia*, *Opaepupu* and *Dactylonia*. The dorsal carinae of *Odontonia*, *Pseudopontonia* and *Periclimenes* are present, but shallow and indistinct. Other genera have an indistinct dorsal carina with a broadly rounded dorsal margin.
4. Tip of rostrum in dorsal view: 0, sharp, acute; 1, bluntly acute; 2, bluntly rounded or truncate. The complete outgroup has a sharp, acute tip of the rostrum, as do the species *Ascidonia californiensis*, *A. flavomaculata*, *A. miserabilis* and the genera *Cainonia*, *Colemonia*, *Dactylonia* (except *D. franseni* that has a severely reduced and rounded rostrum), *Pontonia* and *Rostronia*. A bluntly acute rostrum is present in the remainder of *Ascidonia*, *Conchodytes*, *Odontonia*, *Opaepupu*, *Platypontonia* and *Pseudopontonia*. State 2 is present

in only four species, being *Bruceonia ardeae*, *Notopontonia platycheles*, *Dactylonia franseni*, and *Pinnotherotonia rumphiusi*.

Carapace

5. Supra-orbital tooth: A, present; B, absent. The supra-orbital tooth is absent in the ingroup and in the outgroup species *Typton wasini*. The tooth is present in the remaining four outgroup species. Because it is likely that a complex structure like a tooth will not evolve back during the morphological adaptation to the endosymbiotic lifestyle of a species to its host, the loss of the supra-orbital tooth is modelled using a linear step matrix with irreversible states.

$$\begin{array}{cc} & \text{A} \quad \text{B} \\ \text{A} & 0 \quad 1 \\ & \text{B} \quad \text{i} \quad 0 \end{array}$$

6. Hepatic spine: A, present; B, absent. Similar to the supra-orbital tooth, the hepatic spine is only present in *Cuapetes*, *Actinimenes* and *Periclimenes*. Because it is likely that a complex structure like a tooth will not evolve back during the morphological adaptation to the endosymbiotic lifestyle of a species to its host, the loss of the hepatic spine is modelled using a linear step matrix with irreversible states.

$$\begin{array}{cc} & \text{A} \quad \text{B} \\ \text{A} & 0 \quad 1 \\ & \text{B} \quad \text{i} \quad 0 \end{array}$$

7. Antennal spine: 0, prominent, acute; 1, blunt, rounded. *Anchiopontonia*, *Ascidonia flavomaculata*, *Cainonia*, *Colemonia*, *Dactylonia*, *Opaepupu*, *Platypontonia*, *Pontonia* and *Rostronia* share character state 1 with the outgroup, whereas most of the genus *Ascidonia*, *Bruceonia*, *Conchodytes*, *Notopontonia*, *Odontonia*, *Pinnotherotonia* and *Pseudopontonia* have a rounded or reduced antennal spine.
8. Inferior orbital angle: 0, produced or angular; 1, broadly rounded or straight. Character state 0 is present in the outgroup (with exception of *Typton wasini*), *Anchiopontonia*, *Notopontonia*, *Odontonia kerangcaris*, *Pontonia* and *Rostronia*. The development of the inferior orbital angle is unknown in most species of *Conchodytes*, *Opaepupu*, *Pinnotherotonia* and *Pontonia panamica*.
9. Anterolateral margin: 0, approximately straight; 1, slightly concave; 2, slightly convex; 3, oblique. The anterolateral margin of *Anchiopontonia hurii*, *Ascidonia pusilla*, *A. quasipusilla*, *Bruceonia ardeae*, *Cainonia medipacifica*, *Dactylonia ascidicola*, *D. borradalei*, most species of *Odontonia*, *Pontonia margarita* and *Rostronia stylirostris* and several outgroup species is approximately straight. *Pseudopontonia* has a slightly but distinctly concave anterolateral margin, whereas that of *Pinnotherotonia* is convex. The shape of the anterolateral margin is unknown in *Conchodytes philippinensis* and *Dactylonia carinicula*. The remaining species have an oblique anterolateral margin.
10. Anterolateral angle: 0, not produced; 1, produced, falling short of or reaching to the base of the scaphocerite, falling short of carpocerite; 2, produced, reaching beyond the base of the scaphocerite and reaching to or beyond the base of the carpocerite. Only in several outgroup species, *Anchiopontonia* and *Rostronia* the anterolateral angle is not produced. It is slightly produced in *Ascidonia miserabilis*, *A. pusilla*, *A. quasipusilla*, *Bruceonia*, *Colemonia*,

Cainonia, most of *Conchodytes*, *Dactylonia*, *Odontonia*, *Pinnotherotonia*, *Platypontonia*, *Pontonia* and *Pseudopontonia*. The anterolateral angle reaches beyond the base of the scaphocerite and to or beyond the base of the carpocerite in the remaining species of *Ascidonia*, few species of *Conchodytes*, *Notopontonia*, and in *Opaepupu*. In *Conchodytes monodactylus* it is unknown till how far the anterolateral angle extends.

Eyes

11. Nebenauge: A, present; B, absent. The nebenauge or accessory eye is absent in most of the ingroup species, but can be found in the genera *Anchiopontonia*, *Notopontonia*, and *Odontonia*. The presence of the nebenauge is unknown in *Dactylonia monnioti*, *Odontonia compacta*, *O. kerangcaris* and *O. simplices*. Because it is likely that a complex structure like an accessory eyespot will not evolve back during the morphological adaptation to the endosymbiotic lifestyle of a species to its host, the loss of the nebenauge is modelled using a linear step matrix with irreversible states.

A B

A 0 1

B i 0

Antennulae

12. Basal segment, distolateral tooth: 0, present; 1, small or absent; 2, absent. Most species of the ingroup have a distolateral tooth on the basal antennular segment. It is very small or absent in *Anchiopontonia hurii*, *Conchodytes monodactylus*, *Pontonia mexicana*, *P. panamica*, *P.*

pinnophylax and *Pseudopontonia minuta*. It is completely absent in *C. maculatus*, *C. tridacnae*, *Opaepupu huna*, *P. chimaera*, *P. domestica*, *P. margarita* and *P. pilosa*.

13. Basal segment; size of ventromedial tooth: 0, small or absent; 1, strongly developed. A distinct and well-developed ventromedial tooth is present in *Colemonia*, *Odontonia* (except in *O. simplicipes* that has a rather small ventromedial tooth) and *Pseudopontonia*. The development of the ventromedial tooth is unknown in *Anchiopontonia hurii*, several members of *Conchodytes*, *Opaepupu*, *Platypontonia hyotis* and the included outgroups *Actinimenes* and *Periclimenes*.
14. Intermediate segment; dimensions: 0, longer than wide; 1, about as long as wide; 2, wider than long. Intermediate segments that are longer than wide are shared between the outgroup species *Cuapetes tenuipes*, *Actinimenes inornatus* and *A. ornatus*, and the ingroup species *Anchiopontonia hurii*, *Ascidonia californiensis*, *A. flavomaculata*, *Conchodytes biunguiculatus*, *C. chadi*, *C. kempoides*, most species of *Pontonia* and *Rostronia stylirostris*. Character state 1 is found in *Ascidonia miserabilis*, *Cainonia medipacifica*, *Colemonia litodactylus*, *Dactylonia franseni*, *Pontonia chimaera*, *P. domestica*, *P. pilosa* and the outgroup *Periclimenes colemani*. The remaining species have state 2.
15. Distal segment; dimensions: 0, longer than wide; 1, about as long as wide; 2, wider than long. All outgroups except *Typton wasini* have distal segments that are longer than wide. Character state 0 can also be found in the ingroup species *Anchiopontonia hurii*, *Dactylonia caricicula*, *D. franseni*, *Platypontonia brevirostris*, most species of *Pontonia* (only *P. longispina* and *P. panamica* have state 1) and in *Rostronia stylirostris*. The distal segment is as long as wide in *Ascidonia californiensis*, *A. flavomaculata*, *Bruceonia*, *Colemonia*, *Cainonia*, *Conchodytes* (although the dimensions are unknown in *C. monodactylus*), *Notopontonia*, the remainder of

Dactylonia, *Opaepupu* and the included species of *Typton*. Character state 2 is found in *Odontonia*, *Pinnotherotonia*, *Platypontonia hyotis*, *Pseudopontonia* and the remaining members of *Ascidonia*.

Antennae

16. Basicerite; distoventral lateral tooth: A, present; B, absent. The distolateral tooth on the basicerite is only present in members of the outgroup. Because it is likely that a complex structure like a tooth will not evolve back during the morphological adaptation to the endosymbiotic lifestyle of a species to its host, the loss of the distoventral tooth on the antennal basicerite is modelled using a linear step matrix with irreversible states.

	A	B
A	0	1
B	i	0

17. Carpocerite; length relative to scaphocerite: 0, carpocerite falling short of distal margin of scaphocerite lamina; 1, carpocerite reaching to about distal margin of scaphocerite lamina or overreaching distal margin of scaphocerite lamina. A short carpocerite that fails to reach the distal margin of the scaphocerite lamina is found in most of the outgroup but not in *Typton wasini*. Moreover, *Anchiopontonia*, *Cainonia*, all but one *Dactylonia* species, *Odontonia kerangcaris*, *Pinnotherotonia*, *Platypontonia*, *Pontonia* and *Rostronia* also have character state 0. All remaining species have a carpocerite that reaches to or overreaches the scaphocerite lamina.

18. Flagellum; length relative to postorbital carapace length (PoCL): 0, about 12 times as long as the PoCL; 1, between 2.25 and 3.5 times as long as the PoCL; 2, between 0.5 and 2.0 times as long as the PoCL; 3, less than 0.5 times as long as the PoCL. *Cuapetes tenuipes* is the only species with a flagellum about 12 times the length of the PoCL. The outgroup species *Actinimenes*, *Periclimenes colemani* and the ingroup species *Anchiopontonia*, *Dactylonia ascidicola*, *D. borradalei* and *D. monnioti* have state 1. Extremely short flagellae of less than 0.5 times the PoCL length are only found in *Conchodytes*. The relative size of the flagella is unknown in *Conchodytes philippensis*, *Dactylonia carinicula*, *Platypontonia brevirostris* and *Pontonia longispina*. Other genera and species have character state 2.
19. Scaphocerite; length of distolateral tooth relative to length of scaphocerite (incl. tooth): 0, less than 0.1 times the length of scaphocerite; 1, between 0.1 and 0.19 times the length of scaphocerite; 2, equal to or more than 0.2 times the length of scaphocerite; -, inapplicable. The relative size of the distolateral tooth to the length of the scaphocerite is <0.1 in most outgroups (except *Typton wasini* that has state 1), *Dactylonia anachoreta*, *D. okai*, *Platypontonia* and almost all of *Pontonia*. A moderately sized tooth of 0.1-0.19 times the scaphocerite length is found in *Anchiopontonia*, *Cainonia*, *Colemonia*, most of *Conchodytes*, the remaining members of *Dactylonia* and *Odontonia kerangcaris*. A large tooth of ≥ 0.2 times scaphocerite length is present in *Ascidonia*, *Bruceonia*, *Conchodytes chadi*, *C. tridacnae*, *Notopontonia*, *Odontonia* and *Pseudopontonia*. In *Opaepupu*, *Pinnotherontonia* and *Pontonia chimaera* the distolateral tooth is absent.
20. Scaphocerite; length of distolateral tooth relative to distal margin of scaphocerite lamina: 0, distolateral tooth overreaching distal margin of lamina; 1, distolateral tooth falling short of or reaching to about distal margin of lamina; -, inapplicable. In most species, the distolateral

tooth overreaches the distal margin of the scaphocerite lamina. However, in *Anchiopontonia*, *Ascidonia californiensis*, *A. flavomaculata*, *Cainonia*, *Dactylonia anachoreta*, *D. carinicula*, *Platypontonia*, *Pontonia*, *Rostronia* and the outgroup species *Periclimenes colemani* the tooth does not extend beyond the distal margin. In *Opaepupu*, *Pinnotherotonia* and *Pontonia chimaera* the distolateral tooth is absent.

21. Scaphocerite, incision between distolateral tooth and lamina: 0, shallow or without incision; 1, deep;
-, inapplicable. Most species have a shallow incision or are without distinct incision. Only the genera *Ascidonia*, *Notopontonia*, *Odontonia* (except *O. compacta*), and *Pseudopontonia* have a deep incision between distolateral tooth and scaphocerite lamina. In *Opaepupu*, *Pinnotherotonia* and *Pontonia chimaera* the distolateral tooth is absent.

Paragnath

22. Alae; distal lobe: 0, medially rounded; 1, medially bilobed or excavate. Medially bilobed or excavate distal lobe are only found in *Ascidonia*. The character state is unknown in most of *Conchodytes*, *Dactylonia carinicula*, *D. franseni*, *Notopontonia platycheles*, *Pseudopontonia*, *Typton wasini*, *Actinimenes* and *Periclimenes colemani*.
23. Corpus; carinae: 0, two submedian carinae with distinct median groove; 1, two submedian carinae almost completely fused to form one median carina; 2, one median carina. Two well separated carinae are found in *Anchiopontonia*, *Ascidonia*, *Bruceonia*, *Odontonia*, *Pontonia* and *Rostronia*. Character state 1 is present in *Cainonia* and *Conchodytes chadi*. The genus *Dactylonia* has a single median carina. In *Colemonia*, all but one member of *Conchodytes*,

Dactylonia carinicula, *Notopontonia*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia*,

Pseudopontonia and all outgroup species the character state is unknown.

24. Corpus; submedian carinae; orientation: 0, oblique; 1, parallel; -, inapplicable. In the species that have two well separated carinae, the orientation is parallel in *Pontonia* and oblique in the rest of the genera. In *Colemonia*, all but one member of *Conchodytes*, *Dactylonia carinicula*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia*, *Pseudopontonia* and all outgroup species the character state is unknown. In the genera without two well separated carinae the character is scored as inapplicable.
25. Corpus; setation of carina(e): 0, non-setose; 1, setose. Setose carinae are a synapomorphy of *Pontonia*. In *Colemonia*, all but one member of *Conchodytes*, *Dactylonia carinicula*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia*, *Pseudopontonia* and all outgroup species the character state is unknown.
26. Corpus; submedian carinae or median carina; length relative to proximal lobe alea: 0, less than or equal to 1.0; 1, ca. 1.5; 2, equal to or more than 2.0. Relatively short carinae of <1.0 relative length of proximal lobe alea are found in *Anchiopontonia*, *Ascidonia*, *Bruceonia*, *Odontonia* and *Rostronia*. Genera *Cainonia* and *Pontonia* have character state 1, whereas state 2 is found in *Dactylonia*. The character state is unknown in *Colemonia*, *Conchodytes*, *Dactylonia carinicula*, *D. franseni*, *Notopontonia*, *Odontonia bagginsi*, *O. plurelllicola*, *Odontonia kerangcaris*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia*, *Pseudopontonia* and all outgroup members.

Thoracic sternites

27. Second thoracic sternite: 0, anterior margin broad or broadly rounded; 1, V-shaped transverse ridge; 2, anterior margin triangular, produced, forming a more or less developed plate.

Cuapetes tenuipes, *Bruceonia*, *Cainonia*, *Conchodytes*, *Dactylonia*, *Notopontonia*, *Odontonia* and *Rostronia* have the anterior margin broadly rounded. A V-shaped transverse ridge is the autapomorphy of *Anchiopontonia hurii*. The genera *Ascidonia* and *Pontonia*, and the outgroup species *Periclimenes colemani*, *Actinimenes inornatus* and *A. ornatus* have character state 2. The state is unknown in *Colemonia*, most of *Conchodytes*, *Dactylonia carinicula*, *D. franseni*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia*, *Pontonia panamica*, *Pseudopontonia* and *Typton wasini*.

28. Fourth thoracic sternite; lateral posteromedial carinae: 0, with distinct median process; 1, without medial process, with low lateral carinae; 2, with medially developed, centrally notched or completely fused lateral plates, without lateral carinae. *Cuapetes tenuipes* is the only species with a distinct median process. Character state 1 is present in *Ascidonia*, *Cainonia*, *Notopontonia*, *Pontonia* and *Rostronia*. Genera *Anchiopontonia*, *Bruceonia*, *Dactylonia*, *Odontonia*, *Periclimenes* and *Actinimenes* have state 2. Of *Colemonia*, *Conchodytes*, *Dactylonia carinicula*, *D. franseni*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia*, *Pontonia panamica*, *Pseudopontonia* and *Typton wasini* the character state is unknown.

29. Fifth thoracic sternite; lateral plates: 0, bluntly or acutely pointed plates, with deep slit in between; 1, broad rectangular, blunt angles medially, left and right carinae separate; 2, broad rectangular, blunt angles medially, left and right carinae partly fused. State 0 is present in *Colemonia*. Most species and genera have state 1. Character state 2 is found in *Anchiopontonia*, *Dactylonia* and *Periclimenes colemani*. Most of *Conchodytes*, *Dactylonia*

carinicula, *D. franseni*, *Odontonia bagginsi*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia*, *Pontonia panamica*, *Pseudopontonia*, *Typton wasini* and *Cuapetes tenuipes* have an unknown character state.

Mandibles

30. Medial border of incisor process: 0, carinate, without denticles; 1, with one large denticle distomedially; 2, with group of small denticles distomedially; 3, with row of small denticles running up to the anterior margin of the molar process. Mandibles are without denticles on the medial border in all outgroup members, *Anchiopontonia*, *Bruceonia*, *Colemonia*, *Conchodytes*, *Notopontonia*, few species of *Odontonia*, *Opaepupu*, *Pinnotherotonia*, *Pontonia manningi* and *Pseudopontonia*. *Odontonia plurellicola* has a distinct, single large denticle distomedially. Character state 3 is a synapomorphy of the genus *Platypontonia*. Most other species have character state 2 with a group of several denticles distomedially. In two species, being *Conchodytes nippensis* and *C. tridacnae*, the character state is unknown.

Maxillulae

31. Form upper lacinia: 0, slender or moderately broad, distally rectangular, with few setae distally; 1, moderately broad, distally triangular, densely setose distoventrally; 2, broad, distally rounded or subrectangular, swollen, densely setose distoventrally. A relatively slender, distally rectangular and sparsely setose upper lacinia is present in most outgroup members, *Anchiopontonia*, several *Ascidonia* species, *Colemonia*, most of *Odontonia*, *Opaepupu* and *Rostronia*. State 1 is present in *Ascidonia californiensis*, *A. flavomaculata*, *Bruceonia ardeae* and *Pontonia*, whereas state 2 can be found in *Cainonia*, *Conchodytes*,

Dactylonia, *Notopontonia*, *Odontonia bagginsi*, *Pinnotherotonia*, *Platypontonia* and the outgroup species *Typton wasini*. The character could not be scored in *Conchodytes philippensis*, *Dactylonia franseni*, *Odontonia simplices* and *Pseudopontonia minuta* due to the lack of descriptions and illustrations in literature and the lack of available physical material.

32. Maxillula; form lower lacinia: 0, small, slender, with few setae distally; 1, large, triangular to subrectangular, with many simple setae; 2, large, triangular, with many simple setae and few robust, long setae at the tip. The outgroup has a small and slender lower lacinia with distally few setae. This condition can also be found in *Anchiopontonia*, *Bruceonia*, *Notopontonia*, *Odontonia*, *Opaepupu* and *Rostronia*. Character state 2 is unique to *Dactylonia*. The remaining genera have state 1. The character is unknown in *Colemonia litodactylus*, *Conchodytes biunguiculatus*, *C. kempoides*, *C. philippensis*, *C. tridacnae*, *Dactylonia franseni*, *Odontonia plurelllicola* and *Pseudopontonia minuta*.

Maxillae

33. Palp; shape: 0, not expanded to slightly expanded proximally; 1, moderately to strongly expanded proximally. The palp is distinctly expanded in *Ascidonia*, *Conchodytes*, *Notopontonia*, *Pinnotherotonia* and most of *Pontonia*. The state could not be determined in *Conchodytes nipponensis*, *C. philippensis*, *Dactylonia franseni* and *Pontonia panamica*.

34. Palp; setation: 0, with one seta along medial margin or without setae; 1, with row of plumose setae along proximal part of lateral margin, subdistal medial border non-setose; 2, with row of plumose setae along proximal part of lateral margin, subdistal medial border with few simple or plumose setae. State 0 is shared between most of the outgroup and the ingroup

- species *Colemonia litodactylus*, *Notopontonia*, several species of *Odontonia*, *Opaepupu huna*, *Pinnotherotonia rumphiusi*, *Platypontonia brevirostris*, *P. hyotis*, *Pontonia pilosa*, *Pseudopontonia minuta* and *Rostronia stylirostris*. *Conchodytes* is the only genus with state 2. The setation of the palp is unknown in few species of *Conchodytes*, *Dactylonia carinicula*, *D. franseni* and *Pontonia panamica*. The remaining species have state 1.
35. Basal endite; setation: 0, moderate number to many setae on upper and lower lacinia; 1, very few setae on upper and lower lacinia; 2, brush of long, filtratory setae on (fused) upper and lower lacinia. All outgroup species have a moderate number of setae on upper and lower lacinia, as well as the genera *Anchiopontonia*, *Ascidonia*, *Bruceonia*, *Colemonia*, *Opaepupu*, *Pinnotherotonia*, *Pontonia*, *Rostronia* and part of *Odontonia*. Character state 1 is present in *Cainonia*, *Dactylonia*, part of *Odontonia* and in *Pseudopontonia*. Long filtratory setae that form a brush are found in *Conchodytes*, *Notopontonia*, and *Platypontonia*. The state of the character is unknown in *Conchodytes nippensis*, *C. philippensis* and *Dactylonia franseni*.
36. Basal endite; upper and lower lacinia: 0, both laciniae well developed, approximately of equal size; 1, upper lacinia well developed, lower lacinia smaller but still distinct; 2, upper and lower laciniae almost or completely fused. The upper and lower lacinia are both well developed in the outgroup. The lower lacinia is slightly reduced and smaller than the upper lacinia, although still distinct, in *Anchiopontonia*, *Ascidonia*, *Dactylonia holthuisi*, *D. monnioti*, *Notopontonia*, *Odontonia*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia hyotis*, *Rostronia* and all but two species of *Pontonia*. Almost or completely fused laciniae are shared between *Bruceonia*, *Cainonia*, *Colemonia*, *Conchodytes*, most of *Dactylonia*, *Platypontonia brevirostris*, *Pontonia chimaera*, *P. domestica* and *Pseudopontonia*. The state

of the character is unknown in *Conchodytes nipponensis*, *C. philippinensis* and *Dactylonia franseni*.

37. Basal endite; length relative to palp: 0, as long as or longer than palp; 1, shorter than palp.

The basal endite is shorter than the palp in *Anchiopontonia*, *Bruceonia*, *Cainonia*, *Dactylonia*, *Odontonia*, *Pseudopontonia* and in the considered members of *Periclimenes* and *Typton*. The state is unknown in *Conchodytes nipponensis*, *C. philippinensis* and *Dactylonia franseni*.

First maxillipeds

38. Basal and coxal endites: 0, basal and coxal endites partly fused; 1, basal and coxal endites (almost) completely fused. Almost complete to complete fusion of the basal and coxal endites is found in *Ascidonia*, *Conchodytes*, *Dactylonia carinicula*, *Notopontonia*, *Pinnotherotonia*, *Platypontonia*, *Pontonia*, *Pseudopontonia* and the outgroup members of *Typton* and *Actinimenes*. Of *Conchodytes nipponensis* and *Dactylonia franseni* the state is unknown.

39. Setae along median margin: 0, short, only few on basal endite, not forming a basket; 1, moderately long to long, on both basal and coxal endites, with or without a brush of long setae ventro-medially; 2, long, on both basal and coxal endites, forming basket. *Cuapetes tenuipes*, *Anchiopontonia hurii*, *Bruceonia ardeae*, *Colemonia litodactylus*, all species of *Odontonia*, *Pseudopontonia minuta* and *Rostronia stylirostris* have character state 0. Long setae that form a basket are found in *Ascidonia*, *Cainonia*, *Dactylonia* and *Pontonia*. Of *Conchodytes nipponensis* and *Dactylonia franseni* the state is unknown. The remainder of the species have character state 1.

Second maxillipeds

40. Basis: 0, no distinct angle in the median margin of the basis; 1, basis with distinct angle in median margin. An angle in the median margin of the basis is solely found in *Notopontonia* and *Odontonia* (present in all species within that genus with the exception of *O. rufopunctata*).
41. Ischial and meral segments; setation: 0, without row of long plumose setae; 1, with row of long plumose setae ventro-medially, sometimes extending to distal section of basal segment. A row of setae as in character state 1 is present within the genera *Ascidonia*, *Dactylonia*, *Pontonia* and *Cainonia*, although not all species within the first three genera exhibit this character state. Moreover, the meral setation is unknown in *Conchodytes nippensis*, *C. philippinensis* and *Dactylonia franseni*.
42. Epipod; shape and size: 0, of moderate size or small, rounded; 1, trapezoidal, proximally expanded, angular; 2, of moderate size to large, subtriangular or subrectangular; 3, bilobed. Character state 0 is shared between outgroup members *Cuapetes tenuipes*, *Actinimenes inornatus* and *A. ornatus*, as well as ingroup species *Anchiopontonia hurii*, *Opaepupu huna*, *Platypontonia brevirostris*, *P. hyotis* and *Pseudopontonia minuta*. State 1 is present in *Cainonia*, *Dactylonia*, part of *Odontonia* and *Rostronia*. *Odontonia compacta* has a distinctly bilobed epipod. Multiple species of *Conchodytes*, *Dactylonia franseni* and *Typton wasini* have unknown character states. The remainder of species have character state 2.

Third maxillipeds

43. Ischiomeral segment; width relative to penultimate segment width: 0, slender, about as wide as penultimate segment; 1, expanded, wider than penultimate segment. *Ascidonia californiensis*, *A. flavomaculata*, *A. miserabilis* and the genera *Cainonia*, *Colemonia*, *Conchodytes*, *Dactylonia*, *Opaepupu*, *Pinnotherotonia* and almost all of *Pontonia* have an expanded ischiomerus that is distinctly wider than the penultimate segment.
44. Ischiomeral segment; setation on ventral margin: 0, no dense pile of setae; 1, with dense pile of setae. Densely setose ischiomeral segments are present in *Ascidonia californiensis*, *A. flavomaculata*, *A. miserabilis*, as well as *Cainonia*, species of *Conchodytes* of which the character state is known, *Dactylonia*, *Pinnotherotonia*, at least one species of *Platypontonia* and *Pontonia longispina*. Of six *Conchodytes* species and of *Platypontonia brevirostris* the character state is unknown.
45. Exopod; setation of flagellum: 0, with plumose setae in distal half only; 1, with two rows of plumose setae along distal 2/3rd up to almost entire length. Character state 1 is only present in three species, being *Ascidonia californiensis*, *A. flavomaculata* and *Conchodytes maculatus*.
46. Basal segment; setation: 0, medial margin non-setose or sparsely setose; 1, medial margin densely setose. A dense pile of setae is found in part of *Ascidonia*, *Conchodytes*, *Dactylonia*, *Pinnotherotonia*, *Platypontonia* and in part of *Pontonia*.
47. Arthrobranch: 0, small but well developed; 1, rudimentary; 2, absent. The outgroup species *Cuapetes tenuipes* has state 2, to reflect a linear transition series of the reduction of the arthrobranch. Most genera and species do not have an arthrobranch, with the exception of *Periclimenes colemani* and *Platypontonia brevirostris* in which it is small but well

developed, and all but one species of *Ascidonia*, the sole species in *Notopontonia*, all but two species of *Pontonia* and the members of *Actinimenes* which have a reduced arthrobranch.

The character state is unknown in *Conchodytes monodactylus*.

48. Coxal segment; lateral plate: 0, small; 1, large, well developed. A large and well-developed lateral plate is present in the outgroup species *Periclimenes colemani* and *Typton wasini*, as well as the genera *Ascidonia*, *Bruceonia*, *Colemonia*, *Conchodytes*, *Notopontonia*, *Odontonia*, *Pinnotherotonia* and *Rostronia*, with the state being unknown in *Cainonia*.

First pereiopods

49. Carpus; length relative to length of chela: 0, carpus about 2.0 to 2.4 times length of chela; 1, carpus about 1.0-1.9 times length of chela; 2, carpus shorter than chela. The character state is unknown in *Conchodytes philippensis* and *Pontonia brevirostris*.

50. Fingers; length relative to length of palm: 0, longer than palm; 1, about as long as palm; 2, shorter than palm. The relative length of the fingers is unknown in *Conchodytes philippensis*.

Second pereiopods

51. Chela; shape: 0, dissimilar; 1, similar. Most ingroup species have similar chelae, but dissimilar chelae are present in *Ascidonia californiensis*, *A. flavomaculata*, *A. miserabilis*, all of *Dactylonia*, *Rostronia stylirostris* and the outgroup species *Typton wasini* and *Cuapetes tenuipes*. *Odontonia compacta* has an unknown character state.

52. Minor chela; dentition: 0, multidentate (> 10 teeth) over entire cutting edges of fingers; 1, with 0-5 teeth in proximal part fingers. In most species, the minor chela has no to only a few

teeth in the proximal part of the fingers, except in *Cuapetes tenuipes*, *Ascidonia californiensis* and *A. flavomaculata* that have multidentate cutting edges. *Odontonia compacta* has an unknown character state.

53. Major chela; median fossa: 0, indistinct or absent; 1, distinct. Only in *Odontonia katoi*, *Rostronia stylirostris* and the genus *Pontonia* with the exception of *P. manningi* and *P. pilosa* the median fossa is distinct. In *Odontonia compacta* the character state is unknown.
54. Major chela; palm; median margin; serrations: 0, without serrations; 1, partly or completely indistinctly to distinctly serrate. Most species, including all outgroup members, are without serrations. Serrations are merely found in three species of *Ascidonia*, *Cainonia*, *Notopontonia*, *Rostronia* and all but one species of *Dactylonia*, *D. franseni* being the only exception. *Odontonia compacta* has an unknown character state.

Third pereiopods

55. Dactylus; setation: 0, without setae or with only a handful of setae along flexor margin; 1, with scattered setae along flexor margin; 2, with a dense pile of setae along flexor margin; 3, sparsely to moderately setose with a single, distinct group of setae along flexor margin. Of the ingroup, *Colemonia*, *Notopontonia*, *Opaepupu* and *Pseudopontonia* have the character state 0 in common with the outgroup. Densely setose setae are found in *Ascidonia*, *Bruceonia*, *Pinnotherotonia*, *Platypontonia* and the species *Pontonia longispina*, *P. panamica* and *P. pilosa*. Almost all species of *Conchodytes* have character state 3, which is almost unique to the genus but with *Pontonia domestica* also displaying this state. Moreover, *Conchodytes chadi* is the only member within the genus with state 1, like all other remaining species and genera.

56. Dactylus; corpus; flexor margin: 0, without teeth; 1, with few simple teeth or with one strong tooth proximally; 2, with minutely spinulate blunt tubercles; 3, with one small tooth; 4, with row of about 8 small acute denticles. The flexor margin is without teeth in most of the outgroup, the genera *Anchiopontonia*, *Ascidonia*, *Bruceonia*, *Colemonia*, *Notopontonia*, *Opaepupu*, *Pinnotherontonia*, *Platypontonia*, *Pontonia* and *Pseudopontonia*, as well as the species *Conchodytes maculatus*, *C. philippensis*, *C. tridacnae*, *Odontonia kerangcaris* and *O. seychellensis*. Character state 1 is only present in the remainder of *Odontonia*, whereas state 2 is present in *Cainonia*, *Dactylonia* and *Rostronia*. A small tooth, usually placed on a basal protuberance if present, is found in many *Conchodytes* species. State 4 is an autapomorphy of *Typton wasini*.

57. Dactylus; corpus; teeth flexor margin: -, inapplicable; 0, teeth similar, of equal size or increasing in size distally, directed obliquely forward; 1, proximalmost tooth strong, large, directed forward, distal teeth small, simple, perpendicular to margin or forward directing. In species with one tooth or less, this character is not applicable. State 0 is present in *Cainonia*, *Dactylonia*, *Rostronia* and *Typton*, while state 1 is assigned to species of *Odontonia*.

58. Dactylus; additional forward-pointing teeth distal from proximalmost tooth: -, inapplicable; 0, absent; 1, two additional forward-pointing teeth. This character only concerns the genus *Odontonia*. State 1 is present in merely two species, being *O. plurellicola* and *O. simplices*.

59. Dactylus; accessory tooth: 0, absent; 1, present. The majority of species have an accessory tooth, but the tooth is lacking in *Colemonia litodactylus*, *Conchodytes chadi*, *C. monodactylus*, *Odontonia plurellicola*, *O. seychellensis*, *O. simplices*, both species of *Platypontonia*, both considered species of *Actinimenes* and *Cuapetes tenuipes*.

60. Dactylus; position accessory tooth: -, inapplicable; 0, distal; 1, subdistal. In the species with an accessory tooth, a distal placement of the tooth is most common, with *Anchiopontonia hurii*, *Pontonia chimaera*, *P. domestica* and *P. pilosa* being the only species with a subdistally positioned accessory tooth.
61. Dactylus; basal protuberance: 0, absent or feebly developed; 1, one well developed basal protuberance; 2, one rounded protuberance proximally and one at around 2/3rd of ventral margin. Basal protuberances are only well developed in *Conchodytes* and *Odontonia*, with several species of *Cochodytes* exhibiting state 1, while *Odontonia kerangcaris* is the only species with two protuberances.
62. Dactylus; unguis; shape and microstructures: 0, simple or with rows of minute spinules; 1, with few distal scales, decreasing in size proximally; 2, with patch of small scales in distal part; 3, densely covered in micro-denticulations; 4, chisel-like, without distal scales. *Dactylonia* (except *D. franseni*), multiple species of *Odontonia*, *Pinnotherotonia* and *Rostronia* have few distal scales that decrease in size proximally. Character state 2 is unique to *Bruceonia* and similarly states 3 and 4 are only found in *Colemoni* and *Anchiopontonia* respectively. All other ingroup species have character state 0 in common with the outgroup.
63. Dactylus; corpus dimensions: 0, more than 2.0 times as long as broad; 1, less than or equal to 2.0 times as long as broad.

64. Propodus; spines on flexor margin: 0, spines along almost entire margin; 1, small spines in distal part; 2, devoid of spines. The ingroup does not contain species with character state 0, but many genera have small distal spines on the propodus. In contrast, the genera *Bruceonia*, *Conchodytes*, *Opaepupu*, *Pinnotherotonia*, *Platypontonia* and the species *Dactylonia*

borradalei and *Pontonia pilosa* are without propodal spines, similar to the outgroup species *Actinimenes inornatus* and *A. ornatus*.

Abdomen

65. Sixth abdominal segment; posterolateral angle: 0, acutely produced; 1, bluntly produced or straight. State 0 is shared between most outgroup species and the ingroup species *Ascidonia californiensis*, *A. flavomaculata*, *A. miserabilis*, *Colemonia litodactylus*, almost all species of *Dactylonia* with as only exception *D. carinicula*, *Notopontonia*, all of *Pontonia* and *Rostronia*. *Actinimenes inornatus* is the only outgroup member without state 0. All remaining ingroup species have state 1, excluding *Conchodytes philippensis*, *C. pteriae* and both *Platypontonia* species where the character state is not known.
66. Sixth abdominal segment; posteroventral angle: 0, acutely produced or spiniform; 1, bluntly produced; 2, not produced, blunt. Acutely produced or spiniform posteroventral angles are found in outgroup members *Cuapetes tenuipes* and *Typton wasini*, which they have in common with *Ascidonia californiensis*, *A. flavomaculata*, *Odontonia rufopunctata*, and the genera *Colemonia*, *Dactylonia*, *Pontonia* and *Rostronia*. State 2 is only found in *Cainonia medipacifica*, *Odontonia bagginsi*, *O. seychellensis*, *Opaepupu huna* and *Pseudopontonia minuta*. In *Conchodytes philippensis*, *C. pteriae* and both *Platypontonia* species the character state is not known. In the other species a bluntly produced posteroventral angle can be found.

Telson

67. Number of dorsal spines: 0, two pairs, one proximal and one distal pair; 1, five pairs of dorsal spines. *Odontonia sibogae* is the only species with more than two pairs of dorsal spines.
68. Proximal pair of dorsal spines; position on telson: 0, in anterior third of telson length; 1, at around one third of telson length; 2, in intermediate third of telson length. Spines situated in the anterior third of the telson are present in *Anchiopontonia*, *Ascidonia*, *Cainonia*, *Conchodytes*, *Dactylonia*, *Notopontonia*, most of *Odontonia*, *Opaepupu* and *Rostronia*. Only *Periclimenes colemani* has the proximal pair of dorsal telson spines in the intermediate third of the outgroup species, the others have the spines situated at around one third of the telson length. Genera *Bruceonia*, *Colemonia*, *Pinnotherotonia*, *Platypontonia* and the species *Odontonia kerangcaris*, *Pontonia longispina*, *P. mexicana* and *P. pinnophylax* also have state 1. *Odontonia sibogae* has an unknown character state because it was not possible to determine which of the five pairs are homologous to the proximal dorsal pair. The other species have state 2.
69. Proximal pair of dorsal spines; position relative to lateral margins: 0, submarginal; 1, marginal. In the majority of species, the position is submarginal, although marginal spines occur in *Anchiopontonia*, *Ascidonia californiensis*, *A. flavomaculata*, *Colemonia*, *Pontonia* and the outgroup species *Periclimenes colemani*, *Actinimenes inornatus* and *A. ornatus*.
70. Distal pair of telson spines; position on telson: 0, in anterior third of telson length; 1, in intermediate third of telson length; 2, at around two thirds of telson length; 3, in posterior third of telson length. In *Anchiopontonia hurii* and *Cainonia medipacifica* alone the distal pair of dorsal spines is situated in the anterior third. All species of *Ascidonia*, *Conchodytes chadi*, *C. nipponensis*, the complete genus of *Dactylonia*, *Odontonia bagginsi*, *O. katoi*, *O.*

plurellicola, *Opaepupu huna*, *Pontonia longispina* and *Rostronia stylirostris* have spines that are situated in the intermediate third. Most other species, including most of the outgroup, have character state 2, although state 3 is present in *Bruceonia ardeae*, *Conchodytes maculatus*, *C. tridacnae*, *Odontonia compacta*, *Pontonia chimaera*, *P. domestica*, *P. pilosa*, *P. pinnae* and *Periclimenes colemani*. *Odontonia sibogae* has an unknown character state because it was not possible to determine which of the five pairs are homologous to the proximal dorsal pair.

71. Distal pair of dorsal spines; position relative to lateral margins: 0, submarginal; 1, marginal.

Marginally placed spines are found in *Anchiopontonia*, *Colemonia*, *Pontonia* and the outgroup species *Actinimenes inornatus*, *A. ornatus* and *Periclimenes colemani*.

72. Distal pair of dorsal spines; size in relation to telson length: 0, <0.1 times the telson length; 1, around 0.1-0.25 times the telson length; 2, >0.25 times the telson length.

73. Relative size proximal and distal dorsal pair of spines: 0, distal and proximal pair of about equal size; 1, distal pair longer than proximal pair; 2, distal pair shorter than proximal pair. In most species the proximal and distal pairs of dorsal spines are of about equal size. The distal pair is longer than the proximal pair in *Anchiopontonia hurii*, *Ascidonia miserabilis*, *A. pusilla*, *A. quasipusilla*, *Cainonia medipacifica* and *Pontonia longispina*, whereas the opposite is the case in *Ascidonia californiensis* and *A. flavomaculata*.

74. Posterior appendages: 0, 2 or 3 pairs of posterior spines; 1, with or without a pair of small lateral spines, with row of setae. Almost all considered species have three pairs of posterior spines (with two pairs occurring in *Opaepupu huna*), but in *Pseudopontonia* and *Notopontonia* only a pair of small lateral spines is present with the disto-medial margin of the

telson bearing a group of setae, whereas in *Pinnotherotonia* no spines are present at all and instead a row of setae is found along the distal border of the telson.

75. Lateral posterior spines; relative position: 0, marginal, terminal; 1, marginal, slightly preterminal; 2, submarginal to dorsal, preterminal; -, inapplicable. Slightly preterminal but marginal spines are found in *Cainonia*, part of *Conchodytes*, *Platypontonia* and the species *Pontonia manningi*. Preterminal and submarginal dorsal spines are found only in several species of *Conchodytes*. Due to the absence of lateral spines, this character is inapplicable in *Pinnotherotonia*.
76. Intermediate posterior spines; size relative to dorsal spines: 0, shorter than dorsal spines; 1, about as long as dorsal spines; 2, longer than dorsal spines; -, inapplicable. Due to the absence of intermediate spines, this character is inapplicable in *Pinnotherotonia* and *Pseudopontonia*.
77. Intermediate posterior spines; size relative to submedian posterior spines: 0, longer than submedian spines; 1, about as long as submedian spines; 2, shorter than submedian spines; -, inapplicable. Due to the absence of intermediate and/or submedian spines, this character is inapplicable in *Notopontonia*, *Pinnotherotonia*, *Pseudopontonia* and *Opaepupu*.
78. Intermediate posterior spines; size relative to lateral posterior spines: 0, longer than lateral spines; 1, about as long as lateral spines; 2, shorter than lateral spines; -, inapplicable. The intermediate posterior spines are about as long as the lateral posterior spines in *Conchodytes nipponensis*, while they are shorter than the lateral spines in *C. chadi*. The state in *Pinnotherotonia* and *Pseudopontonia* is inapplicable due to the absence of intermediate spines.

Uropods

79. Exopod; distolateral tooth: 0, present; 1, minute or absent. The distolateral tooth is present in the whole outgroup as well as in *Dactylonia holthuisi* and *Notopontonia*. The state is unknown in *Conchodytes nipponensis* and *Dactylonia franseni*.

Male first pleopods

80. Endopod; form: 0, distal part broader than proximal part, flat; 1, gradually tapering distally, not distally expanded; 2, distal part very slender, twisted. Outgroup species *Cuapetes tenuipes*, *Actinimenes inornatus* and *Periclimenes colemani* have character state 0. A gradually tapering and not distally expanded endopod is present in the outgroup species *Typton wasini* and in the ingroup genera *Anchiopontonia*, *Ascidonia*, *Bruceonia*, *Conchodytes*, *Notopontonia*, *Odontonia*, *Opaepupu*, *Platypontonia*, *Pontonia*, *Pseudopontonia* and *Rostronia*. State 2 is only found in *Cainonia* and *Dactylonia*. In several species of *Conchodytes*, *Dactylonia* and *Odontonia* the character state is unknown, which also applies to the species *Colemonia litodactylus*, *Pinnotherotonia rumphiusi*, *Pontonia longispina*, *P. pilosa* and *Actinimenes ornatus*.

81. Endopod; setation: 0, plumose setae along lateral and distal part of lateral margin; simple or indistinctly serrate, short setae along proximal medial margin; with or without few longer plumose setae on proximalmost medial margin; 1, plumose setae along proximal part lateral margin; simple or indistinctly serrate, short setae along proximal part of median margin; distal part devoid of setae; 2, one plumose setae on lateral margin; medial and distal margin devoid of setae; 3, lateral margin without setae; proximal part of medial margin with row of simple short setae; 4, lateral margin with short, stiff, subspiniform setae distally; distal part of

medial margin with short, stiff, subspiniform setae; distal part with few short, stiff, subspiniform setae; 5, lateral margin with one plumose seta, distal margin with two long simple setae; medial margin with row of short simple setae. Character state 0 is shared between *Cuapetes tenuipes*, *Actinimenes inornatus*, *Periclimenes colemani* and the genera *Anchiopontonia*, *Ascidonia*, *Bruceonia*, *Conchodytes*, *Notopontonia*, *Odontonia*, *Platypontonia* and *Pseudopontonia*. State 1 is a synapomorphy of the genus *Pontonia* (only considering the species of which this data was available), while state 3 is limited to *Cainonia* and *Dactylonia*. States 4 and 5 are autapomorphies of *Opaepupu huna* and *Typton wasini*, respectively. In several species of *Conchodytes*, *Dactylonia* and *Odontonia* the character state is unknown, which also applies to the species *Colemonia litodactylus*, *Pinnotherotonia rumphiusi*, *Pontonia longispina*, *P. pilosa* and *Actinimenes ornatus*.

Colour in life

82. Ova and eggs: 0, silver-greyish or transparent; 1, yellow, orange or reddish; 2, greenish.

Silver-greyish to transparent ova are found in *Cuapetes tenuipes* and the two included species of *Actinimenes*. The eggs and ova of *Ascidonia flavomaculata*, *A. miserabilis*, *Dactylonia holthuisi*, *Odontonia katoi* and *Typton wasini* are of a greenish colour. Of the species *Ascidonia californiensis*, *A. pusilla*, *Colemonia litodactylus*, *Conchodytes kempoides*, *C. maculatus*, *C. philippinensis*, all but one species of *Dactylonia*, *Notopontonia*, *Odontonia compacta*, *O. kerangcaris*, *O. simplicipes*, *Platypontonia brevirostris*, *Pontonia chimaera*, *P. longispina*, *P. margarita*, *P. simplex*, *Pseudopontonia minuta* and *Periclimenes colemani* the egg colour is unknown. The other species have character state 1.

83. Main colour pattern: 0, few thin yellow to red and black coloured bands, spots and lines on body and appendages; 1, thin white lines on carapace and abdomen only; 2, reticulate pattern of many white lines on body and appendages; 3, red and white bands on body and appendages; 4, body covered in large, scattered chromatophores, pereiopods may or may not be covered; 5, body and appendages (densely) covered in small chromatophores; 6, body and appendages both covered in small and large chromatophores; 7, without distinct pattern; 8, dense white ground colour with large deep red spots and bands; 9, with lines of minute red and white chromatophores on body, purple and white chromatophores on appendages.

Character states 0, 1, 3, 8 and 9 are autapomorphies of the species *Cuapetes tenuipes*, *Anchiopontonia hurii* and *Notopontonia platycheles*, *Platypontonia hyotis*, *Periclimenes colemani* and *Actinimenes ornatus*, respectively. A reticulate pattern of white lines is characteristic for most species of *Pontonia* and *Rostronia stylirostris*. Character state 4 occurs in *Ascidonia flavomaculata*, *A. miserabilis*, *Dactylonia anachoreta*, *D. ascidicola* and *Opaepupu huna*. Character state 5 is prominent in the genera *Conchodytes* and *Odontonia*, as well as in *Ascidonia quasipusilla*, *Colemonia litodactylus*, *Pinnotherotonia rumphiusi* and *Typton wasini*. State 6 is limited to *Dactylonia franseni*, *D. holthuisi* and *D. okai*. *Pontonia pilosa* and *Actinimenes inornatus* are without a distinct colour pattern. The colour is unknown in the species *Ascidonia californiensis*, *A. pusilla*, *Conchodytes kempoides*, *C. philippinensis*, *Dactylonia borradalei*, *D. carinicula*, *D. monnioti*, *Odontonia compacta*, *O. kerangcaris*, *O. simplicipes*, *Platypontonia brevirostris*, *Pontonia chimaera*, *P. longispina*, *P. simplex* and *Pseudopontonia minuta*.

84. Chromatophores; size and colour: -, inapplicable; 0, large yellow or white chromatophores; 1, star-shaped large white chromatophores, not on pereiopods; 2, large yellow or white and

many small red chromatophores; 3, small white chromatophores only; 4, small white with or without fewer red chromatophores; 5, small white with or without fewer yellow chromatophores; 6, small red with or without fewer white chromatophores. This character is only applicable to species that have scattered chromatophores. Additional to all species of *Ascidonia* of which the colour is known, the species *Bruceonia ardeae*, *Cainonia medipacifica*, *Dactylonia anachoreta* and *D. ascidicola* have large yellow or white chromatophores. Character state 1 is an autapomorphy of *Opaepupu huna*. State 2 only occurs in *Dactylonia franseni*, *D. holthuisi* and *D. okai*. Bodies sprinkled with small white chromatophores are found in *Colemonia litodactylus*, *Conchodytes chadi*, *C. monodactylus*, *C. placunae* and *C. tridacnae*. Species *Conchodytes biunguiculatus*, *C. meleagrinae*, *C. nipponensis* and *Odontonia katoi* have character state 4. *Odontonia sibogae* is the only species with character state 5, whereas state 6 is present in *Conchodytes maculatus*, *C. pteriae*, *Odontonia bagginsi*, *O. rufopunctata* and *Typton wasini*. The colour is unknown in the species *Ascidonia californiensis*, *A. pusilla*, *Conchodytes kempoides*, *C. philippinensis*, *Dactylonia borradalei*, *D. carinicula*, *D. monnioti*, *Odontonia compacta*, *O. kerangcaris*, *O. simplices*, *Platypontonia brevirostris*, *Pontonia chimaera*, *P. longispina*, *P. simplex* and *Pseudopontonia minuta*.

85. Chromatophores; presence of additional, larger, white spots: -, inapplicable; 0, absent; 1, present, on whole body; 2, present, only on tailfin. This character is only applicable to the species with chromatophores. In the genera *Cainonia*, *Conchodytes*, *Notopontonia*, *Opaepupu*, *Pinnotherontonia* and the species *Ascidonia flavomaculata* and *Typton wasini* no additional white spots are present. In contrast, *Ascidonia miserabilis*, *A. quasipusilla*, *Dactylonia ascidicola*, *D. holthuisi* and *D. okai* have additional spots on the tailfin only and

all species of *Odontonia* with a known colour pattern have additional white spots on their whole body. The state of this character is unknown in the species *Ascidonia californiensis*, *A. pusilla*, *Bruceonia ardeae*, *Colemonia litodactylus*, *Conchodytes kempoides*, *C. philippinensis*, *Dactylonia anachoreta*, *D. borradalei*, *D. carinicula*, *D. franseni*, *D. monnioti*, *Odontonia compacta*, *O. kerangcaris*, *O. simplices*, *Platypontonia brevirostris*, *Pontonia chimaera*, *P. longispina*, *P. simplex* and *Pseudopontonia minuta*.

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TABLE S2 Morphological character state analysis: Data matrix.

(1/2: character 1 – 40)

Species	Morphological character states																																								
	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4				
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0		
<i>Archipontonia</i>																																									
<i>A. hurii</i>	C	B	2	0	B	B	0	0	0	0	A	1	?	0	0	B	0	1	1	1	0	0	0	0	0	0	1	2	2	0	0	0	0	1	0	1	1	0	0	0	
<i>A. californiensis</i>	C	D	2	0	B	B	1	1	3	2	B	0	0	0	1	B	1	2	2	1	1	0	0	0	0	2	1	1	2	1	1	1	1	0	1	0	1	2	0		
<i>A. flavomaculata</i>	C	D	2	0	B	B	0	1	3	2	B	0	0	0	1	B	1	2	2	1	1	0	0	0	0	2	1	1	2	1	1	1	1	0	1	0	1	2	0		
<i>A. miserabilis</i>	D	D	2	0	B	B	1	1	3	1	B	0	0	1	2	B	1	2	2	0	1	1	0	0	0	0	2	1	1	2	0	1	1	1	0	1	2	0			
<i>A. pusilla</i>	D	D	2	1	B	B	1	1	0	1	B	0	0	2	2	B	1	2	2	0	1	1	0	0	0	2	1	1	2	0	1	1	1	0	1	2	0				
<i>A. quasipusilla</i>	D	D	2	1	B	B	1	1	0	1	B	0	0	2	2	B	1	2	2	0	1	1	0	0	0	2	1	1	2	0	1	1	1	0	1	2	0				
<i>Brueconia</i>																																									
<i>B. ardeae</i>	D	D	2	2	B	B	1	1	0	1	B	0	0	2	1	B	1	2	2	0	0	0	0	0	0	0	2	1	0	1	0	0	1	0	2	1	0	0	0		
<i>Cainonia</i>																																									
<i>C. medipacifica</i>	D	D	2	0	B	B	0	1	0	1	B	0	0	1	1	B	0	2	1	1	0	0	1	-	0	1	0	1	1	2	2	0	1	1	2	1	0	2			
<i>Colemania</i>																																									
<i>C. litodactylus</i>	D	D	2	0	B	B	0	1	3	1	B	0	1	1	1	B	1	2	1	0	0	0	?	?	?	?	?	?	0	0	0	?	0	0	0	2	0	0	0		
<i>Conchodytes</i>																																									
<i>C. biunguiculatus</i>	D	D	2	1	B	B	1	1	3	1	B	0	?	0	1	B	1	3	1	0	0	?	?	?	?	?	?	?	0	2	?	1	2	2	2	0	1	1	0		
<i>C. chadi</i>	D	D	2	1	B	B	1	1	3	1	B	0	0	0	1	B	1	3	2	0	0	0	1	-	?	?	?	?	?	0	2	1	1	?	2	2	0	1	1	0	
<i>C. kempoides</i>	D	D	2	1	B	B	1	1	3	1	B	0	?	0	1	B	1	3	1	0	0	?	?	?	?	?	?	?	0	2	?	1	2	2	2	0	1	1	0		
<i>C. maculatus</i>	D	D	2	1	B	B	1	?	3	2	B	2	0	2	1	B	1	3	1	0	0	?	?	?	?	?	?	?	0	2	1	1	2	2	2	0	1	1	0		
<i>C. meleagrinae</i>	D	D	2	1	B	B	1	?	3	1	B	0	0	2	1	B	1	3	1	0	0	0	?	0	?	?	0	2	1	1	2	2	2	0	1	1	0				
<i>C. monodactylus</i>	D	D	2	1	B	B	1	?	3	?	B	1	?	2	?	B	1	3	1	0	0	?	?	?	?	?	?	?	0	2	1	1	?	2	2	0	1	1	0		
<i>C. nipponensis</i>	D	D	2	1	B	B	1	?	3	1	B	0	?	2	1	B	1	3	1	0	0	?	?	?	?	?	?	?	2	1	?	?	?	?	?	?	?	?	?	?	
<i>C. philippinensis</i>	D	D	2	1	B	B	1	?	?	2	B	0	?	2	1	B	1	?	1	0	0	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	1	1	?
<i>C. placunae</i>	D	D	2	1	B	B	1	?	3	2	B	0	?	2	1	B	1	3	1	0	0	?	?	?	?	?	?	?	1	0	2	1	1	2	2	0	1	1	0		
<i>C. pteriae</i>	D	D	2	1	B	B	1	?	3	1	B	0	0	2	1	B	1	3	1	0	0	?	?	?	?	?	0	?	?	0	2	1	1	?	2	2	0	1	1	0	
<i>C. tridacnae</i>	D	D	2	1	B	B	1	?	3	1	B	2	?	2	1	B	1	3	2	0	0	?	?	?	?	?	?	?	1	?	2	?	1	2	2	0	1	1	0		
<i>Dactylnonia</i>																																									
<i>D. anachoreta</i>	C	D	0	0	B	B	0	1	3	1	B	0	0	2	1	B	1	2	0	1	0	0	2	-	0	2	0	2	1	2	2	2	0	1	1	2	1	0	2		
<i>D. ascidicola</i>	C	D	0	0	B	B	0	1	0	1	B	0	0	2	1	B	0	1	1	0	0	2	-	0	2	0	2	1	2	2	2	0	1	1	2	1	0	2			
<i>D. borradalei</i>	C	D	0	0	B	B	0	1	0	1	B	0	0	2	1	B	0	1	1	0	0	2	-	0	2	0	2	1	2	2	2	0	1	1	2	1	0	2			
<i>D. carinicula</i>	D	D	0	0	B	B	0	1	?	1	B	0	0	2	0	B	0	?	1	1	0	?	?	?	?	?	?	?	?	2	2	2	0	?	1	2	1	2	0		
<i>D. franseni</i>	D	D	0	2	B	B	0	1	3	1	B	0	0	1	0	B	0	2	1	0	0	?	2	-	?	?	?	?	?	2	?	?	?	?	?	?	?	?	?	?	
<i>D. holthuisi</i>	D	D	0	0	B	B	0	1	3	1	B	0	0	2	1	B	0	2	1	0	0	0	2	-	0	2	0	2	1	2	2	2	0	1	1	1	0	2			
<i>D. monniotii</i>	D	B	0	0	B	B	0	1	3	1	B	0	?	0	0	2	1	B	0	1	1	0	0	0	2	-	0	2	0	2	1	2	2	0	1	1	1	0			
<i>D. okai</i>	D	D	0	0	B	B	0	1	3	1	B	0	0	2	1	B	0	2	0	0	0	0	2	-	0	2	0	2	1	2	2	2	0	1	1	2	1	0	2		
<i>Notopontonia</i>																																									
<i>N. platychelae</i>	D	D	2	2	B	B	1	0	3	2	A	0	0	2	1	B	1	2	2	0	1	?	?	-	0	?	0	1	1	0	2	0	1	0	2	1	0	1	1	0	
<i>Odontonia</i>																																									
<i>O. bogginsi</i>	D	B	1	1	B	B	1	1	0	1	A	0	1	2	2	B	1	2	2	0	1	0	0	0	0	?	0	2	?	0	2	0	0	1	0	1	1	0	0	1	
<i>O. compacta</i>	D	B	1	1	B	B	1	1	0	1	?	0	1	2	2	B	1	2	2	0	0	0	0	0	0	0	2	2	2	0	0	0	1	1	1	0	0	1			
<i>O. katoi</i>	D	B	1	1	B	B	1	1	0	1	A	0	1	2	2	B	1	2	2	0	1	0	0	0	0	0	0	2	2	2	0	0	0	1	0	1	1	0	0	1	
<i>O. kerangcaris</i>	D	D	1	1	B	B	1	0	0	1	?	0	1	2	2	B	0	2	1	0	1	0	0	0	0	?	0	2	2	0	0	0	0	1	1	1	0	0	1		
<i>O. plurellilicola</i>	D	B	1	1	B	B	1	0	1	A	0	1	2	2	B	1	2	2	0	1	0	0	0	0	?	0	2	2	1	0	?</										

<i>O. simplicipes</i>	D	D	1	1	B	B	1	1	3	1	?	0	0	2	2	B	1	2	2	0	1	0	0	0	0	0	2	2	2	?	0	0	0	1	1	1	0	0	1		
<i>Opaepupu</i>																																									
<i>O. huna</i>	D	D	0	1	B	B	0	?	3	2	B	2	?	2	1	B	1	2	-	-	-	0	?	?	?	?	?	?	?	0	0	0	0	0	1	0	0	1	0		
<i>Pinnotherotonia</i>																																									
<i>P. rumphiusi</i>	D	D	2	2	B	B	1	?	2	1	B	0	0	2	2	B	0	2	-	-	-	0	?	?	?	?	?	?	?	0	2	1	1	0	0	1	0	1	1	0	
<i>Platypontonia</i>																																									
<i>P. brevirostris</i>	D	D	2	1	B	B	0	1	3	1	B	0	0	2	0	B	0	?	0	1	0	0	?	?	?	?	?	?	?	?	3	2	1	0	0	2	2	0	1	1	0
<i>P. hyotis</i>	D	B	2	1	B	B	0	1	3	1	B	0	?	2	2	B	0	2	0	1	0	0	?	?	?	?	?	?	?	?	3	2	1	0	0	2	1	0	1	1	0
<i>Pontonia</i>																																									
<i>P. chimaera</i>	C	B	2	0	B	B	0	0	3	1	B	2	0	1	0	B	0	2	-	-	-	0	0	1	1	1	2	1	1	2	1	1	1	1	0	2	0	1	2	0	
<i>P. domestica</i>	C	C	2	0	B	B	0	0	3	1	B	2	0	1	0	B	0	2	0	1	0	0	0	1	1	1	2	1	1	2	1	1	1	1	0	2	0	1	2	0	
<i>P. longispina</i>	C	B	2	0	B	B	0	0	3	1	B	0	0	0	1	B	0	?	0	1	0	0	0	1	1	1	2	1	1	2	1	1	1	1	0	1	0	1	2	0	
<i>P. manningi</i>	C	B	2	0	B	B	0	0	3	1	B	0	0	0	0	B	0	2	0	1	0	0	0	1	1	1	2	1	1	0	1	1	1	1	0	1	0	1	2	0	
<i>P. margarita</i>	C	C	2	0	B	B	0	0	0	1	B	2	0	0	0	B	0	2	0	1	0	0	0	1	1	1	2	1	1	2	1	1	1	1	0	1	0	1	2	0	
<i>P. mexicana</i>	C	C	2	0	B	B	0	0	3	1	B	1	0	0	0	B	0	2	0	1	0	0	0	1	1	1	2	1	1	2	1	1	1	1	0	1	0	1	2	0	
<i>P. panamica</i>	C	D	2	0	B	B	0	?	3	1	B	1	0	0	1	B	0	2	0	1	0	0	0	1	1	1	?	?	?	?	2	1	1	?	?	0	1	0	1	2	0
<i>P. pilosa</i>	C	B	2	0	B	B	0	0	3	1	B	2	0	1	0	B	0	2	0	1	0	0	0	1	1	1	2	1	1	2	1	1	0	0	0	1	0	1	2	0	
<i>P. pinnae</i>	C	C	2	0	B	B	0	0	3	1	B	1	0	0	0	B	0	2	0	1	0	0	0	1	1	1	2	1	1	2	1	1	1	1	0	1	0	1	2	0	
<i>P. pinnophylax</i>	C	C	2	0	B	B	0	0	3	1	B	1	0	0	0	B	0	2	0	1	0	0	0	1	1	1	2	1	1	2	1	1	1	1	0	1	0	1	2	0	
<i>P. simplex</i>	C	B	2	0	B	B	0	0	3	1	B	0	0	0	0	B	0	2	0	1	0	0	0	1	1	1	2	1	1	2	1	1	1	1	0	1	0	1	2	0	
<i>Pseudopontonia</i>																																									
<i>P. minuta</i>	D	D	1	1	B	B	1	1	1	1	B	1	1	2	2	B	1	2	2	0	1	?	?	?	?	?	?	?	?	?	0	?	?	0	0	1	2	1	1	0	0
<i>Rostronia</i>																																									
<i>R. stylirostris</i>	B	D	0	0	B	B	1	1	0	0	B	0	0	0	0	B	0	2	0	1	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	0	0	0	
<i>Typton</i>																																									
<i>T. wasini</i>	B	D	1	0	B	B	0	1	3	1	B	0	0	2	1	B	1	2	1	0	0	?	?	?	?	?	?	?	?	?	0	2	0	0	1	0	0	1	1	0	
<i>Periclimenes</i>																																									
<i>P. colemani</i>	A	B	1	0	A	A	0	0	0	0	A	0	?	1	0	A	0	1	0	1	0	?	?	?	?	?	?	?	2	2	2	0	0	0	0	0	1	0	1	0	
<i>Actinimenes</i>																																									
<i>A. inornatus</i>	A	C	0	0	A	A	0	0	0	0	A	0	?	0	0	A	0	1	0	0	0	?	?	?	?	?	?	?	2	2	2	1	0	0	0	0	0	1	1	0	
<i>A. ornatus</i>	A	C	0	0	A	A	0	0	0	0	A	0	?	0	0	A	0	1	0	0	0	?	?	?	?	?	?	?	2	2	2	1	0	0	0	0	0	0	1	1	0
<i>Cuapetes</i>																																									
<i>C. tenuipes</i>	A	A	0	0	A	A	0	0	0	0	A	0	0	0	0	A	0	0	0	0	0	?	?	?	?	?	?	?	0	0	0	0	0	0	0	0	0	0	0	0	

(2/2: character 41 – 85)

Species	Morphological character states																																												
	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	7	8	8	8	8	8											
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5										
Anchipontonia																																													
<i>A. huri</i>	0	0	0	0	0	0	0	2	0	2	1	1	1	0	0	1	0	-	-	1	1	0	4	1	1	1	1	0	0	0	0	0	0	1	1	0	1	1	-	-					
<i>A. californiensis</i>	1	2	1	1	1	1	1	1	0	0	0	1	2	0	-	-	1	0	0	0	0	1	0	0	0	1	1	0	2	2	0	0	0	1	0	1	1	0	?	?	?	?			
<i>A. flavomaculata</i>	1	2	1	1	1	1	1	1	0	0	0	1	2	0	-	-	1	0	0	0	1	1	0	0	0	1	1	0	2	2	0	0	0	1	0	1	1	0	2	4	0	0			
<i>A. miserabilis</i>	1	2	1	1	0	1	1	1	0	1	0	1	2	0	-	-	1	0	0	0	1	1	0	1	0	0	1	0	2	1	0	0	0	1	0	1	1	0	2	4	0	2			
<i>A. pusilla</i>	0	2	0	0	0	0	1	1	1	1	0	0	2	0	-	-	1	0	0	0	1	1	1	0	0	0	1	0	1	1	0	0	0	1	0	1	1	0	?	?	?	?			
<i>A. quasipusilla</i>	0	2	0	0	0	0	2	1	1	1	1	0	0	2	0	-	-	1	0	0	0	1	1	1	0	0	0	1	0	2	1	0	0	0	1	0	1	1	0	1	5	0	2		
Bruceonia																																													
<i>B. ardeae</i>	0	2	0	0	0	0	0	2	1	1	1	1	0	0	2	0	-	-	1	0	0	2	0	2	1	1	0	1	3	0	0	0	0	0	0	2	2	0	1	1	0	1	4	0	?
Cainonia																																													
<i>C. medipacifica</i>	1	1	1	1	0	0	2	?	1	2	1	1	0	1	1	2	0	-	1	0	0	3	0	1	1	2	0	0	0	0	2	1	0	1	0	0	0	1	2	3	1	4	0	0	
<i>Colemonia</i>																																													
<i>C. litodactylus</i>	0	2	1	0	0	0	2	1	1	1	1	0	0	0	0	-	-	0	-	0	0	1	1	0	0	0	1	1	2	1	0	0	0	0	2	1	0	1	?	?	5	3	?		
Conchodytes																																													
<i>C. biunguiculatus</i>	0	?	1	1	0	1	2	1	1	2	1	1	0	0	3	3	-	-	1	0	1	0	1	2	1	1	0	0	0	2	0	1	0	0	2	0	0	0	1	2	?	1	5	4	0
<i>C. chadi</i>	0	2	1	?	0	1	2	1	0	1	1	1	0	0	1	3	-	-	0	-	0	0	1	2	1	1	0	0	0	1	0	0	0	2	0	2	1	?	1	5	3	0			
<i>C. kempoides</i>	0	?	1	1	0	1	2	1	1	2	1	1	0	0	3	3	-	-	1	0	0	0	1	2	1	1	0	0	0	2	0	1	0	0	1	1	?	?	?	?	?				
<i>C. maculatus</i>	0	2	1	1	1	1	2	1	0	0	1	1	0	0	3	0	-	-	1	0	1	0	1	2	1	1	0	0	0	3	0	1	0	0	1	0	0	1	1	0	?	5	6	0	
<i>C. meleagrinae</i>	0	2	1	1	0	1	2	1	1	0	1	1	0	0	3	3	-	-	1	0	1	0	1	2	1	1	0	0	0	2	0	1	0	0	1	1	0	1	5	4	0				
<i>C. monodactylus</i>	0	2	1	?	0	1	?	1	1	1	1	1	0	0	3	3	-	-	0	-	1	0	1	2	1	1	0	0	0	2	0	1	0	0	1	1	0	1	5	3	0				
<i>C. nipponensis</i>	?	?	1	?	0	1	2	1	1	1	1	1	0	0	3	3	-	-	1	0	1	0	1	2	1	1	0	0	0	2	0	1	1	?	1	0	1	5	4	0					
<i>C. philippinensis</i>	?	?	1	?	0	1	2	1	?	?	1	1	0	0	3	0	-	-	1	0	0	0	1	2	?	?	0	0	0	2	0	0	0	0	2	2	0	1	?	?	?	?	?		
<i>C. placunae</i>	0	?	1	?	0	1	2	1	1	0	1	1	0	0	3	3	-	-	1	0	0	0	1	2	1	1	0	0	0	2	0	1	0	0	2	1	?	1	5	3	0				
<i>C. pteriae</i>	0	2	1	1	0	1	2	1	1	1	1	0	0	3	3	-	-	1	0	1	0	1	2	?	?	0	0	0	2	0	1	0	0	1	0	0	1	1	0	1	5	6	0		
<i>C. tridacnae</i>	0	?	1	?	0	1	2	1	1	1	1	1	0	0	3	0	-	-	1	0	1	0	1	2	1	1	0	0	0	3	0	1	0	0	1	1	0	1	5	3	0				
Dactylyonia																																													
<i>D. anachoreta</i>	1	1	1	1	0	1	2	0	1	0	0	1	0	1	1	2	0	-	1	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	1	1	0	1	?	?	4	0	?		
<i>D. ascidicola</i>	1	1	1	1	0	1	2	0	1	1	0	1	0	1	1	2	0	-	1	0	0	1	0	1	0	0	0	0	1	0	2	0	0	0	0	1	0	1	2	3	?	4	0	2	
<i>D. borradalei</i>	1	1	1	1	0	1	2	0	1	1	0	1	0	1	1	2	0	-	1	0	0	1	0	2	0	0	0	0	1	0	2	0	0	0	1	2	3	?	?	?					
<i>D. carinicula</i>	0	1	1	1	0	1	2	0	1	0	0	1	0	1	1	2	0	-	1	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	1	1	?	?	?	?					
<i>D. franseni</i>	?	2	1	1	0	1	2	0	1	0	0	1	0	0	1	2	0	-	1	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	0	1	0	2	?	6	2	2			
<i>D. holthuisi</i>	1	1	1	1	0	1	2	0	2	1	0	1	0	1	1	2	0	-	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	2	0	0	?	2	6	2	2		
<i>D. monnioti</i>	0	1	1	1	0	1	2	0	1	0	0	1	0	1	1	2	0	-	1	0	0	1	0	1	0	0	0	0	1	0	2	0	0	0	1	2	3	?	?	?					
<i>D. okai</i>	1	1	1	1	0	1	2	0	2	1	0	1	0	1	1	2	0	-	1	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	1	1	0	1	2	3	?	6	2	2	
Notopontonia																																													
<i>N. platychelae</i>	0	2	0	0	0	0	1	1	1	0	1	1	0	1	0	0	-	-	1	0	0	0	1	1	0	1	0	0	0	2	0	1	0	0	-	0	0	1	0	?	1	-	0		
Odontonia																																													
<i>O. bagginsi</i>	0	1	0	0	0	0	2	1	1	1	1	0	0	0	1	1	1	1	0	0	0	1	1	1	2	0	0	0	1	0	1	0	0	0	0	2	0	1	?	1	5	6	1		
<i>O. compacta</i>	0	3	0	0	0	0	2	1	1	2	?	?</																																	

<i>O. huna</i>	0	0	1	0	0	0	2	0	1	1	1	1	0	0	0	0	-	-	1	0	0	0	0	2	1	2	0	0	0	1	0	0	0	0	0	0	-	0	1	1	4	1	4	1	0			
<i>Pinnotherotonia</i>																																																
<i>P. rumphiusi</i>	0	2	1	1	0	1	2	1	0	0	1	1	0	0	2	0	-	-	1	0	0	1	1	2	1	1	0	1	0	2	0	0	0	1	-	-	-	1	?	?	1	5	3	0				
<i>Platypontonia</i>																																																
<i>P. brevirostris</i>	0	0	0	?	0	1	0	0	?	1	1	1	0	0	2	0	-	-	0	-	0	0	0	2	?	?	0	1	0	2	0	1	0	0	1	0	1	0	?	?	?	?						
<i>P. hyotis</i>	0	0	0	1	0	1	2	0	1	1	1	1	0	0	2	0	-	-	0	-	0	0	0	2	?	?	0	1	0	2	0	1	0	0	1	0	1	1	0	1	3	-	-					
<i>Pontonia</i>																																																
<i>P. chimaera</i>	0	2	0	0	0	0	1	0	1	1	1	1	0	1	0	-	-	1	1	0	0	0	1	0	0	0	2	1	3	1	0	0	0	0	2	1	0	1	1	1	?	?	?	?	?			
<i>P. domestica</i>	1	2	0	0	0	1	1	0	1	0	1	1	0	3	0	-	-	1	1	0	0	1	1	0	0	0	2	1	3	1	0	0	0	0	2	1	0	1	1	1	1	2	-	-				
<i>P. longispina</i>	1	2	1	1	0	0	1	0	1	0	1	1	0	2	0	-	-	1	0	0	0	0	1	0	0	0	1	1	1	2	1	0	0	0	0	1	?	?	?	?	?							
<i>P. manningi</i>	1	2	1	0	0	0	2	0	1	0	1	1	0	0	1	0	-	-	1	0	0	0	1	1	0	0	0	2	1	2	1	1	0	0	1	1	1	0	1	1	1	2	-	-				
<i>P. margarita</i>	1	2	1	0	0	1	1	0	1	1	0	1	1	0	1	0	-	-	1	0	0	0	1	1	0	0	0	2	1	2	1	1	0	0	0	0	1	0	1	1	1	?	2	-	-			
<i>P. mexicana</i>	1	2	1	0	0	1	1	0	1	0	1	1	0	1	1	0	-	-	1	0	0	0	1	1	0	0	0	1	1	2	1	1	0	0	0	0	1	1	1	1	2	-	-					
<i>P. panamica</i>	1	2	1	0	0	0	2	0	1	0	1	1	0	2	0	-	-	1	0	0	0	1	1	0	0	0	2	1	2	1	2	0	0	0	0	1	1	1	1	2	-	-						
<i>P. pilosa</i>	1	2	1	0	0	1	1	0	1	0	1	1	0	0	2	0	-	-	1	1	0	0	0	2	0	0	0	2	1	3	1	1	0	0	0	0	1	0	1	?	?	1	7	-	-			
<i>P. pinnae</i>	1	2	1	0	0	1	1	0	1	0	1	1	0	1	0	-	-	1	0	0	0	1	1	0	0	0	2	1	3	1	0	0	0	0	1	1	0	1	1	1	2	-	-					
<i>P. pinnophylax</i>	1	2	1	0	0	1	1	0	1	0	1	1	0	1	0	-	-	1	0	0	0	1	1	0	0	0	1	1	2	1	1	0	0	0	1	2	0	1	1	1	2	-	-					
<i>P. simplex</i>	0	2	1	0	0	1	1	0	1	0	1	1	0	1	0	-	-	1	0	0	0	0	1	0	0	0	2	1	2	1	1	0	0	0	0	1	1	1	?	?	?	?						
<i>Pseudopontonia</i>																																																
<i>P. minuta</i>	0	0	0	0	0	0	2	0	1	1	1	1	0	0	0	0	-	-	1	0	0	0	1	1	1	2	0	2	0	1	0	1	0	-	-	-	1	1	0	?	?	?	?					
<i>Rostronia</i>																																																
<i>R. stylirostris</i>	0	1	0	0	0	0	2	1	2	0	0	1	1	1	1	2	0	-	1	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	1	1	2	-	-						
<i>Typton</i>																																																
<i>T. wasini</i>	0	?	0	0	0	0	2	1	1	2	0	1	0	0	0	4	0	-	1	0	0	0	1	0	0	0	0	1	0	2	0	1	0	0	0	2	0	0	0	1	5	2	5	6	0			
<i>Periclimenes</i>																																																
<i>P. colemani</i>	0	2	0	0	0	0	0	1	1	2	1	1	0	0	0	0	-	-	1	0	0	0	1	0	0	1	0	2	1	3	1	0	0	0	0	2	0	0	0	0	0	?	8	-	-			
<i>Actinimenes</i>																																																
<i>A. inornatus</i>	0	0	0	0	0	0	1	0	1	0	1	1	0	0	0	0	-	-	0	-	0	0	0	2	1	1	0	1	1	2	1	0	0	0	0	0	0	0	7	-	-							
<i>A. ornatus</i>	0	0	0	0	0	0	1	0	1	0	1	1	0	0	0	0	-	-	0	-	0	0	0	2	0	1	0	1	1	2	1	0	0	0	0	1	0	0	?	?	0	9	-	-				
<i>Cuapetes</i>																																																
<i>C. tenuipes</i>	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	-	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-			

FIGURE S1 Single-gene phylogenetic trees: A, Phylogeny based on the RAxML tree topology of the COI marker. Bayesian posterior probabilities and RAxML bootstrap support values are expressed respectively as percentages. Dashes (--) indicate RAxML values <50; asterisk (*) indicates different topology of the BI tree. Support and probability values of intraspecific nodes were dismissed. Newly generated barcodes are indicated as collection accession numbers (RMNH.CRUS.D.).

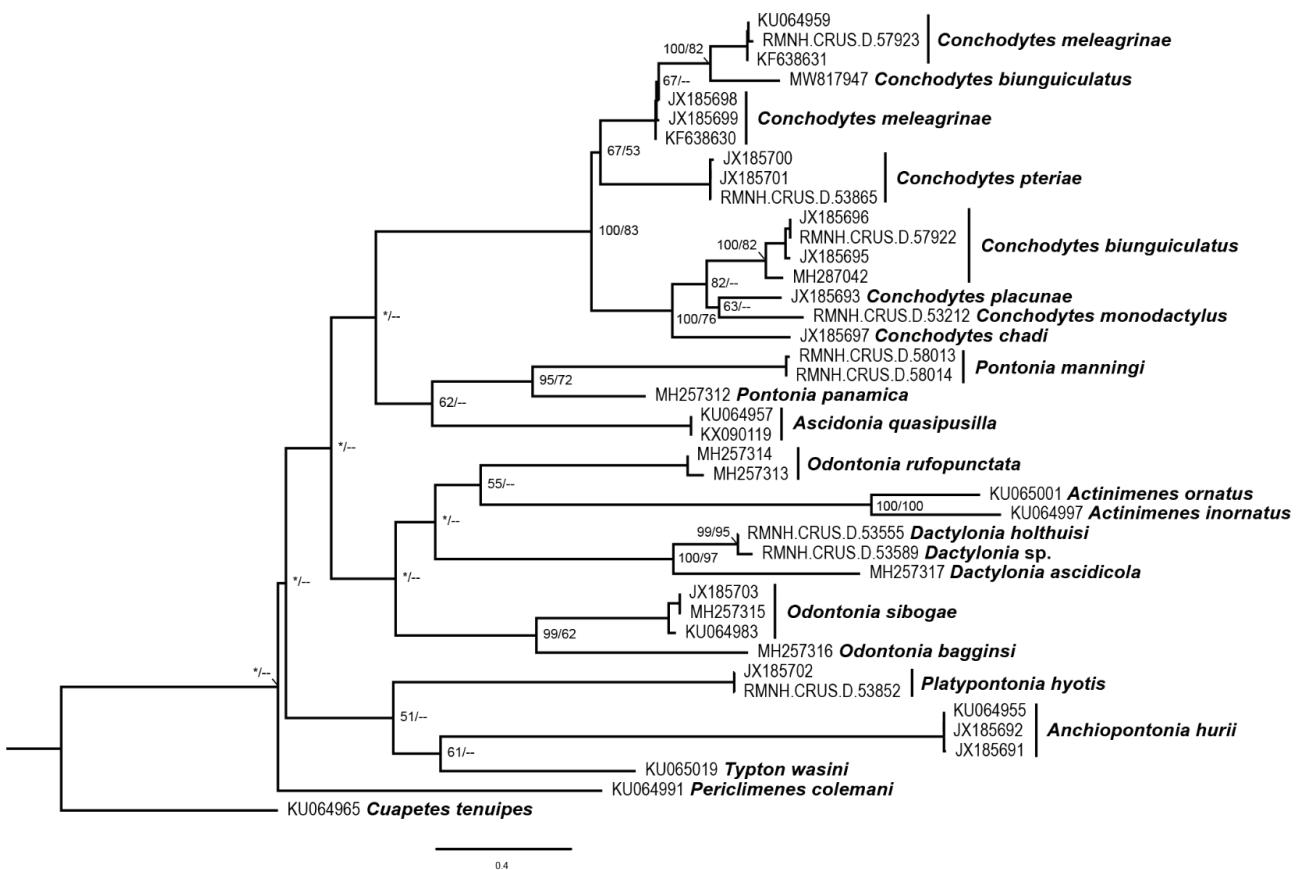


FIGURE S1 Single-gene phylogenetic trees: B, Phylogeny based on the RAxML tree topology of the H3 marker. Bayesian posterior probabilities and RAxML bootstrap support values are expressed respectively as percentages. Dashes (--) indicate RAxML values <50; asterisk (*) indicates different topology of the BI tree. Support and probability values of intraspecific nodes were dismissed. Newly generated barcodes are indicated as collection accession numbers (RMNH.CRUS.D.).

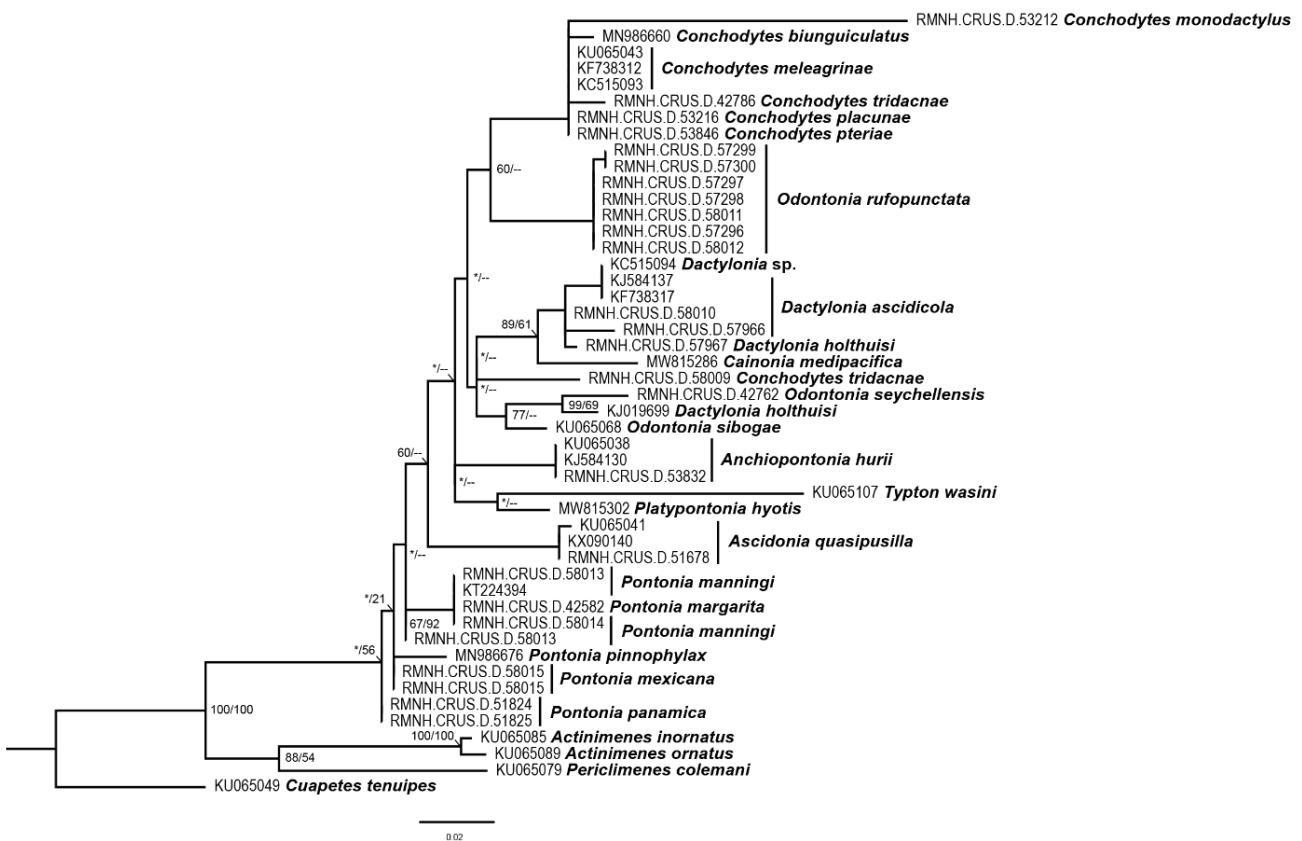


FIGURE S1 Single-gene phylogenetic trees: C, Phylogeny based on the RAxML tree topology of the 16S marker. Bayesian posterior probabilities and RAxML bootstrap support values are expressed respectively as percentages. Dashes (--) indicate RAxML values <50; asterisk (*) indicates different topology of the BI tree. Support and probability values of intraspecific nodes were dismissed. Newly generated barcodes are indicated as collection accession numbers (RMNH.CRUS.D.).

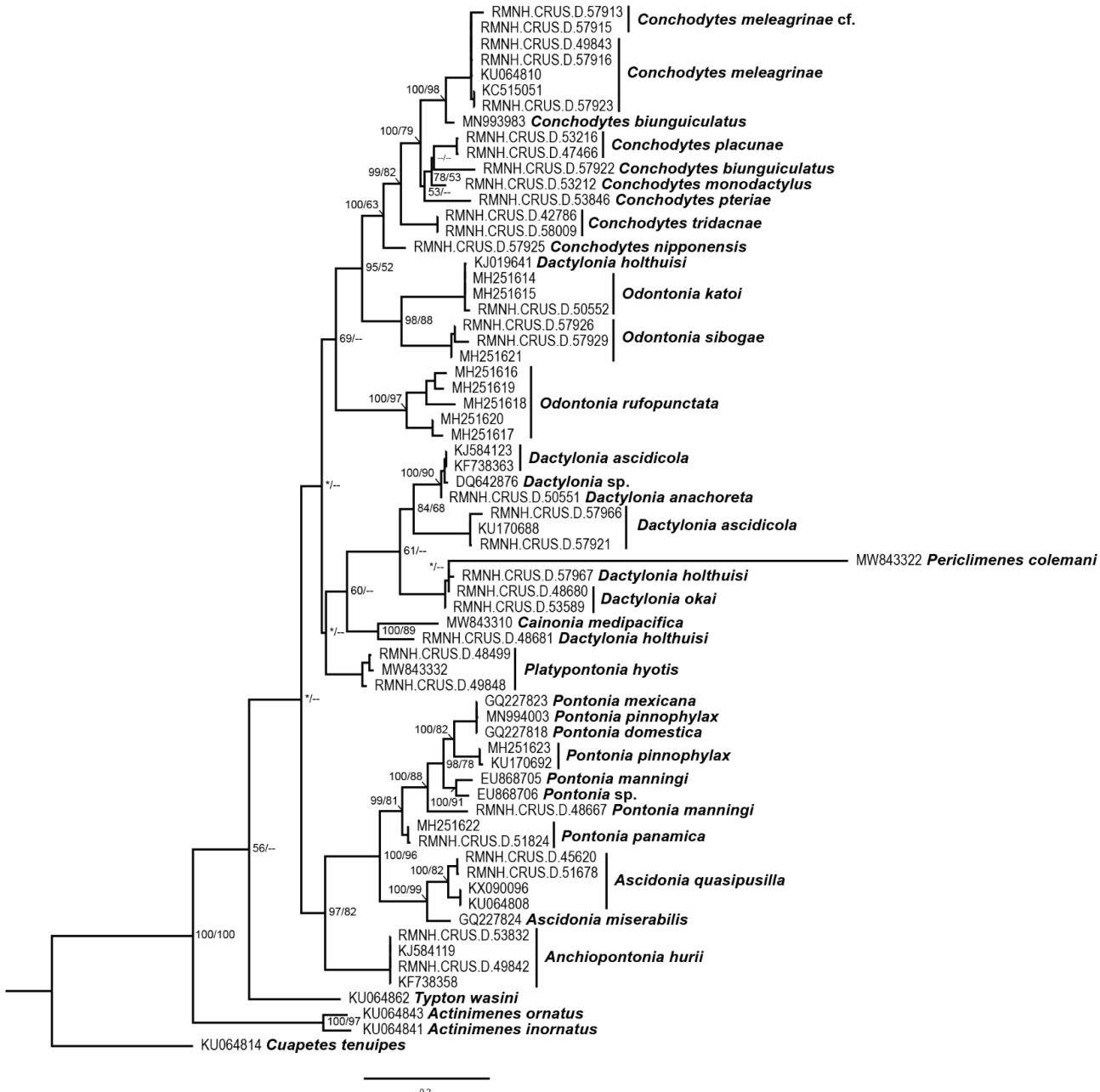


FIGURE S1 Single-gene phylogenetic trees: D, Phylogeny based on the RAxML tree topology of the 18S marker. Bayesian posterior probabilities and RAxML bootstrap support values are expressed respectively as percentages. Dashes (--) indicate RAxML values <50; asterisk (*) indicates different topology of the BI tree. Support and probability values of intraspecific nodes were dismissed. Newly generated barcodes are indicated as collection accession numbers (RMNH.CRUS.D. and MZB.).

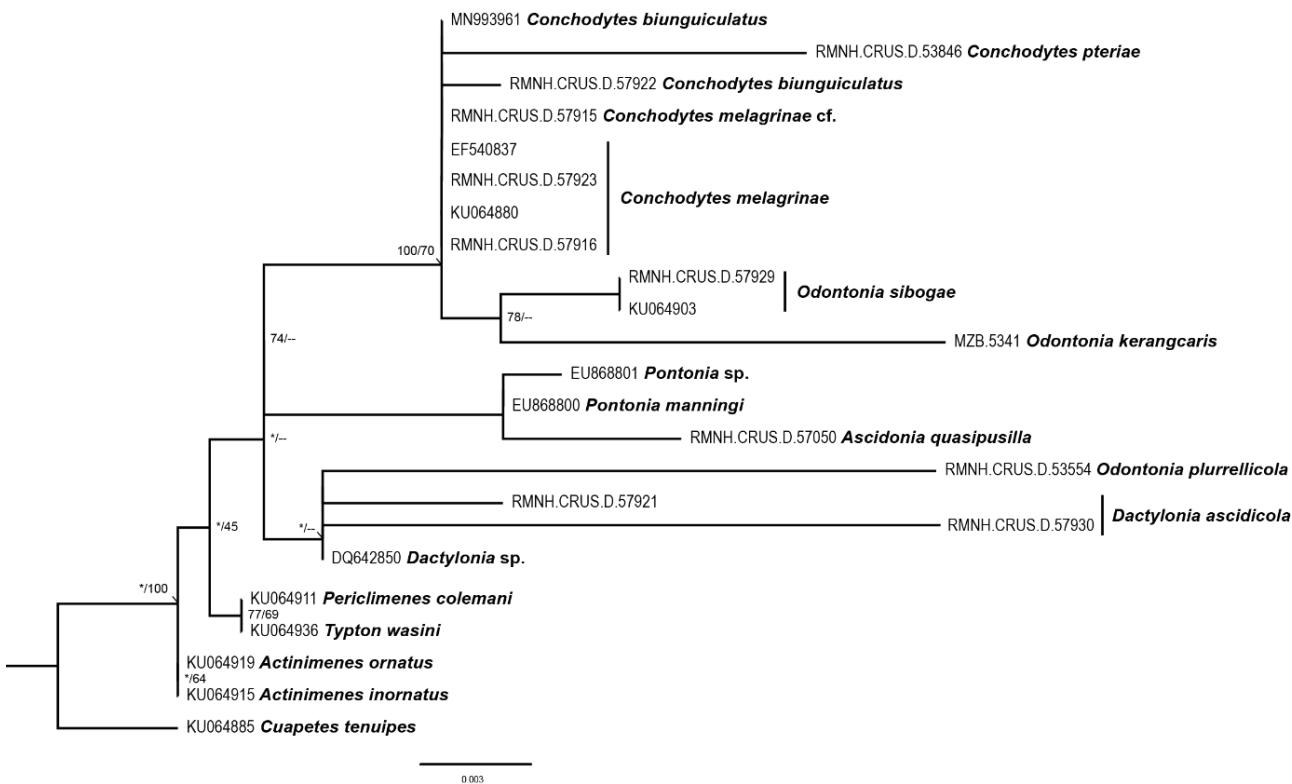


TABLE S3 Output (and AIC scores) of fitted models compared in the Biogeographical analysis (BIOGEOBEARS).

Model	LnL	Nr.params	d	e	j	AIC	AIC_wt
DEC	-88.1143	2	0.145197	0.076325	0	180.2286	2.81E-14
DEC+J	-57.6721	3	0.043018	1.00E-12	0.031604	121.3444	0.171986
DIVALIKE	-92.3872	2	0.284939	0.191509	0	188.7744	3.92E-16
DIVALIKE+J	-57.6061	3	0.044365	1.00E-12	0.031129	121.2123	0.183729
BAYAREALIKE	-111.585	2	0.167346	0.276526	0	227.1703	1.80E-24
BAYAREALIKE+J	-56.3515	3	0.030756	1.00E-07	0.032534	118.7029	0.644285

TABLE S4 ML probability (P) values for ancestral character state analyses (host associations and ancestral ranges).

		ML-values: Host associations							ML-values: Ancestral ranges										
Node in topology	Node (list)	Chordata:	Tunicata	Cnidaria	Echinodermata	Free-living	Mollusca:	Bivalvia	Mollusca:	Gastropoda	Porifera	E Atl	W Atl	EP	IWP	E + W Atl	E Atl + IWP	W Atl + EP	EP + IWP
65	1	0.0920	0.1671	0.0882	0.5349	0.0328	0.0326	0.0524	0.0000	0.0000	0.0000	0.9331	0.0000	0.0318	0.0000	0.0350			
66	2	0.1712	0.3557	0.1619	0.1857	0.0260	0.0255	0.0740	0.0000	0.0000	0.0000	0.9889	0.0000	0.0035	0.0000	0.0076			
67	3	0.2594	0.2226	0.2445	0.1206	0.0254	0.0247	0.1028	0.0000	0.0000	0.0000	0.9914	0.0000	0.0014	0.0000	0.0072			
68	4	0.6013	0.0592	0.0642	0.0359	0.0158	0.0141	0.2096	0.0000	0.0000	0.0000	0.9719	0.0000	0.0008	0.0000	0.0273			
69	5	0.9883	0.0013	0.0014	0.0009	0.0034	0.0005	0.0043	0.0000	0.0000	0.0000	0.9177	0.0000	0.0003	0.0000	0.0820			
70	6	0.9952	0.0001	0.0001	0.0001	0.0042	0.0000	0.0003	0.0000	0.0000	0.0000	0.7793	0.0000	0.0001	0.0000	0.2206			
71	7	0.9523	0.0003	0.0003	0.0003	0.0463	0.0002	0.0004	0.0000	0.0000	0.0000	0.9998	0.0000	0.0001	0.0000	0.0001			
72	8	0.3783	0.0001	0.0001	0.0001	0.6213	0.0001	0.0001	0.0000	0.0000	0.0000	0.9999	0.0000	0.0000	0.0000	0.0000			
73	9	0.3590	0.0002	0.0002	0.0002	0.6398	0.0002	0.0002	0.0000	0.0000	0.0000	0.9999	0.0000	0.0001	0.0000	0.0001			
74	10	0.0230	0.0002	0.0002	0.0002	0.9761	0.0002	0.0002	0.0000	0.0000	0.0000	0.9999	0.0000	0.0000	0.0000	0.0000			
75	11	0.0001	0.0000	0.0000	0.0000	0.9999	0.0000	0.0000	0.0000	0.0000	0.0000	0.9996	0.0000	0.0002	0.0000	0.0002			
76	12	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9999	0.0000	0.0000	0.0000	0.0000			
77	13	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000			
78	14	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000			
79	15	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9999	0.0000	0.0001	0.0000	0.0001			
80	16	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000			
81	17	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000			
82	18	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9998	0.0000	0.0001	0.0000	0.0001			
83	19	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9999	0.0000	0.0001	0.0000	0.0001			
84	20	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9999	0.0000	0.0000	0.0000	0.0000			
85	21	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9999	0.0000	0.0001	0.0000	0.0001			
86	22	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9997	0.0000	0.0001	0.0000	0.0001			
87	23	0.0026	0.0001	0.0001	0.0001	0.9969	0.0001	0.0001	0.0000	0.0000	0.0000	0.9996	0.0000	0.0002	0.0000	0.0002			
88	24	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9992	0.0000	0.0004	0.0000	0.0004			
89	25	0.2688	0.0001	0.0001	0.0001	0.7307	0.0001	0.0001	0.0000	0.0000	0.0000	0.9998	0.0000	0.0001	0.0000	0.0001			
90	26	0.2652	0.0001	0.0001	0.0001	0.7345	0.0001	0.0001	0.0000	0.0000	0.0000	0.9998	0.0000	0.0001	0.0000	0.0001			
91	27	0.2937	0.0001	0.0001	0.0001	0.7059	0.0001	0.0001	0.0000	0.0000	0.0000	0.9999	0.0000	0.0000	0.0000	0.0000			
92	28	0.3045	0.0004	0.0004	0.0004	0.6937	0.0004	0.0004	0.0000	0.0000	0.0000	0.9999	0.0000	0.0001	0.0000	0.0001			
93	29	0.9874	0.0003	0.0003	0.0003	0.0112	0.0003	0.0003	0.0000	0.0000	0.0000	0.9998	0.0000	0.0001	0.0000	0.0001			
94	30	0.9997	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.9998	0.0000	0.0001	0.0000	0.0001			
95	31	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9999	0.0000	0.0001	0.0000	0.0001			
96	32	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9998	0.0000	0.0001	0.0000	0.0001			
97	33	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9998	0.0000	0.0001	0.0000	0.0001			
98	34	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9999	0.0000	0.0000	0.0000	0.0000			
99	35	0.3253	0.0014	0.0014	0.0014	0.6674	0.0014	0.0014	0.0000	0.0000	0.0000	0.9995	0.0000	0.0003	0.0000	0.0003			
100	36	0.9988	0.0000	0.0000	0.0000	0.0011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004	0.0000	0.0002	0.0000	0.8467			
101	37	0.9987	0.0001	0.0001	0.0001	0.0010	0.0001	0.0001	0.0000	0.0000	0.0000	0.7691	0.0000	0.0002	0.0000	0.1655	0.0651		
102	38	0.9795	0.0003	0.0003	0.0003	0.0188	0.0003	0.0003	0.0000	0.0000	0.0000	0.9315	0.0000	0.0000	0.0000	0.0481	0.0204		
103	39	0.6660	0.0040	0.0040	0.0040	0.3141	0.0040	0.0040	0.0040	0.0000	0.0000	0.9214	0.0000	0.0000	0.0000	0.0754	0.0031		
104	40	0.0014	0.0000	0.0000	0.0000	0.9984	0.0000	0.0000	0.0000	0.0000	0.0000	0.5633	0.0000	0.0000	0.0000	0.4363	0.0003		
105	41	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0182	0.0011	0.0007	0.0001	0.9800	0.0000		
106	42	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0106	0.0010	0.0000	0.0020	0.0001	0.9863	0.0000	
107	43	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0002	0.0031	0.0000	0.0000	0.9274	0.0000	0.0403	0.0000		
108	44	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0039	0.0000	0.0000	0.9177	0.0000	0.0435	0.0000		
109	45	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0015	0.0267	0.0000	0.0000	0.9262	0.0000	0.0456	0.0000		
110	46	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0884	0.0008	0.0000	0.1628	0.0000	0.7479	0.0000		
111	47	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.1390	0.0000	0.0000	0.1681	0.0000	0.6929	0.0000		
112	48	0.0001	0.0001	0.0001	0.0001	0.9980	0.0016	0.0001	0.0001	0.0001	0.0141	0.0003	0.0000	0.2295	0.0010	0.7507	0.0043		
113	49	0.9999	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0248	0.0027	0.0000	0.0005	0.0001	0.9095	0.0025		
114	50	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.8081	0.0026	0.0000	0.0254	0.0000	0.1615	0.0023	
115	51	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0068	0.0000	0.0000	0.4253	0.0011	0.5574	0.0094		
116	52	1.0000	0.0000	0.0000	0.0000	0.0000</td													

FIGURE S2 Corresponding tree topology with node numbers for table S4.

