

Provisional list of the marine and freshwater isopods (Crustacea) of New Caledonia

Niel L. BRUCE

Marine Biodiversity and Biosecurity, National Institute of Water and Atmospheric Research,
Private Bag: 14901, Kilbirnie, Wellington, New Zealand
n.bruce@niwa.co.nz

Little is known about the marine isopods of New Caledonia, and the level of documented knowledge for the region can be described only as minimal. For example, the highly species-rich Sphaeromatidae (currently 682 species world wide) is represented by only three formally recorded species. The isopod fauna listed here for New Caledonia totals 83 species. The nearby regions of New Zealand (Gordon in press and updated) and eastern Australia (Poore 2002, 2005) have, in comparison, marine isopod species totals of 315 and approximately (depending on where geographical boundaries are drawn) 625 named species respectively; those regions cannot be regarded as at a level of knowledge that could be yet described as 'well known'.

One could make predictions as to the likely potential diversity of isopods to be found in New Caledonia, based on known totals from elsewhere, and arrive at an assumed figure. The typical facies that is found on coral reefs is by now reasonably well known, and is highly diverse as suggested by Kensley (1988). The large-sized component (> 8 mm) of the isopod fauna of the continental shelf and slope has been sampled by various programs under the MUSORSTOM programs and this author's examination of those collections indicates that a high diversity (between 35 and 60 species of mostly undescribed Aegidae, Cirolanidae, Cymothoidea and Sphaeromatidea) will be found if collections are made using appropriate techniques. A reasonable and conservative expectation would be that the number of marine isopods in the New Caledonia EEZ could be as high as 1000 species to a depth of 2000 metres.

Monod (1973) recorded two species of marine isopod, but these are considered to be mis-identifications (Bruce 1997a; Lowry & Dempsey in press). Some records of isopods from New Caledonia, particularly from the Chesterfield Reefs in the Coral Sea, have appeared as incidental records in papers that do not mention the region in the title, such as Bruce (1994a), Poore & Kensley (1981) and Poore & Lew Ton (1998, 1990, 2002).

Notes: Classification follows Brandt & Poore (2003). For the sake of completeness all aquatic isopods known from New Caledonia are listed, including freshwater taxa. Oniscidea are not included. For Bopyridae only the host noted for New Caledonia is included, and the host name is as it appears in the cited publication.

REFERENCES

- BEDDARD F.E., (1886). Report on the Isopoda collected by H.M.S. *Challenger* during the years 1873–76. Part II. *Challenger Reports (Zoology)*, **17**(48), 1–175.
- BOURDON R., (1979). picarides de Madagascar. I. *Bulletin du Muséum National d'Histoire Naturelle, Paris, 3e série*, **371** (1, Section A. 2), 353–392.
- BOURDON R., (1981). Crustacés Isopodes. I. Bopyridae parasites des Pénéides. Résultats des Campagnes MUSORSTOM. I. Philippines (18–28 mars 1976) Volume 1. *Mémoires ORSTOM*, **91**, 237–260.
- BOYKO C.B., (2003). A new genus and species of bopyrid isopod (Crustacea, Isopoda, Bopyridae, Orbioninae) parasitic on *Sicyonia* (Crustacea, Decapoda, Penaeoidea) from New Caledonia. *Zoosystema*, **25**(4), 593–600.
- BOYKO C.B., (2004). The Bopyridae (Crustacea, Isopoda) parasites of the Styrodactylidae (Crustacea, Decapoda, Caridea). *Zoosystema*, **26**(2), 199–210.

- BRANDT A. & POORE G.C.B. (2003). Higher classification of the flabelliferan and related Isopoda based on a reappraisal of relationships. *Invertebrate Systematics*, **17**(6), 893–923.
- BRUCE A.J. (1972). *Filophryxus dorsalis* gen. nov., sp. nov., an unusual bopyrid parasite from eastern Australia. *Parasitology*, **65**, 351–358.
- BRUCE N.L. (1980a). The Cirolanidae (Crustacea: Isopoda) of Australia: the Coral Sea. *Cahiers de l'Indo-pacifique*, **2**, 155–173.
- BRUCE N.L. (1980b). A new family of marine isopod (Flabellifera: Isopoda: Crustacea) from the reefs of the Coral Sea. *Cahiers de l'Indo-pacifique*, **2**, 175–183.
- BRUCE N.L. (1983). Aegidae (Isopoda: Crustacea) from Australia with descriptions of three new species. *Journal of Natural History*, **17**, 757–788.
- BRUCE N.L. (1994a). The Cassidininae Hansen, 1905 (Crustacea: Isopoda: Sphaeromatidae) of Australia. *Journal of Natural History*, **28**, 1077–1173.
- BRUCE N.L. (1994b). New records of marine isopod crustaceans (Sphaeromatidae) from Hawaiian waters. *Crustaceana*, **67**, 381–386.
- BRUCE N.L. (1996). Crustacea Isopoda: Some Cirolanidae from the MUSORSTOM Cruises off New Caledonia. Résultats des Campagnes MUSORSTOM, Volume 15. *Mémoires du Muséum National d'Histoire Naturelle, Paris*, **168**, 147–166.
- BRUCE N.L. (1997a). A new species of *Syscenus* Harger, 1880 (Crustacea: Isopoda: Aegidae) from eastern Australia with a revised diagnosis to the genus. *Records of the Australian Museum*, **49**, 113–120.
- BRUCE N.L. (1997b). A new genus of marine isopod (Crustacea: Flabellifera: Sphaeromatidae) from Australia and the Indo-Pacific region. *Memoirs of the Museum of Victoria*, **56**(1), 145–234.
- BRUCE N.L. (2004). Reassessment of the isopod crustacean *Aega deshaysiana* (Milne Edwards, 1840) (Cymothoidea: Aegidae)—a world-wide complex of 21 species. *Zoological Journal of the Linnean Society*, **142**(2), 135–232.
- BRUCE N.L. (2005). Two new species of the mesopelagic isopod genus *Syscenus* Harger, 1880 (Crustacea: Isopoda: Aegidae) from the southwestern Pacific. *Zootaxa*, **1070**, 31–42.
- CHOPRA B. (1923). Bopyrid isopods parasitic on Indian Decapoda Macrura. *Records of the Indian Museum*, **25**, 411–550.
- COINEAU N. (1968). Contribution à l'études de la faune interstitielle. Isopodes et Amphipodes. *Mémoires du Muséum National d'Histoire Naturelle, série A, Zoologie*, **55**, 145–216.
- GORDON D.P. (Ed.). (in press) *The New Zealand Inventory of Biodiversity. Volume 2: Kingdom Animalia — Radiata, Lophotrochozoa, and Deuterostomia, Canterbury University Press, Christchurch*, pp.
- HANSEN H.J. (1897). Reports on the dredging operations off the west coast of Central America to the Galapagos, to the west coast of Mexico, and in the Gulf of California, in charge of Alexander Agassiz, carried on by the U.S. Fish Commission Steamer «Albatross», during 1891, Lieut-Commander Z.L. Tanner, U.S.N., commanding. XXII. The Isopoda. *Bulletin of the Museum of Comparative Zoology at Harvard College*, **31**(5), 93–129.
- HARRISON K. & HOLDICH D.M. (1982). New eubranchiata sphaeromatid isopods from Queensland waters. *Memoirs of the Queensland Museum*, **20**, 421–446.
- HOLDICH D.M. & HARRISON K. (1981). Platybranch sphaeromatids (Crustacea: Isopoda) from the Australian region with description of a new genus. *Records of the Australian Museum*, **33**, 617–643.
- JOHNSTON G. (1834). Illustrations in British Zoology. *Magazine of Natural History*, **7**, 230–235.
- KENSLEY B. (1979). New species of anthurideans from the Cook and Fiji Islands (Crustacea: Isopoda: Anthuridea). *Proceedings of the Biological Society of Washington*, **92** (4), 814–836.
- KENSLEY B. (1988). Preliminary observation on the isopod crustacean fauna of Aldabra Atoll. *Bulletin of the Biological Society of Washington*, **8**, 40–44.
- LOWRY J.K. & DEMPSEY K. (2006). The giant deep-sea scavenger genus *Bathynomus* (Crustacea, Isopoda, Cirolanidae) in the Indo-West Pacific, in Richer De Forges, B. & Justine, J.-L. (eds). *Tropical Deep-Sea Benthos, volume 24. Mémoires du Muséum national d'Histoire naturelle*, **193**, 163–192.
- MALYUTINA M.V. (1998). [*Acanthocope mendelevi* — a new species of Munnopsidae (Crustacea, Isopoda, Asellota) from the New Caledonia Basin.]. *Biologiya Morya*, **24**(5), 331–334 [in Russian].
- MARKHAM J.C. (1990). Crustacea Isopoda: New records of Bopyridae from New Caledonian waters. Résultats des Campagnes MUSORSTOM Editions du Muséum, Paris, Volume 6. *Mémoires du Muséum National d'Histoire Naturelle, série A Zoologie*, **145**, 55–69.
- MARKHAM J.C. (1994). Crustacea Isopoda: Bopyridae in the MUSORSTOM collections from the tropical Indo-Pacific. I. Subfamilies Pseudioninae (in part), Argeinae, Orbioninae, Athelginae and Entophilinae. Résultats des Campagnes MUSORSTOM, Editions du Muséum, Paris, Volume 12. *Mémoires du Muséum National d'Histoire Naturelle, Paris*, **161**, 225–253.
- MONOD T. (1971). Sur un exemplaire topotypique d'*Hansenolana anisopous* Stebbing 1900 (Crust., Isopodes). *Cahiers du Pacifique*, **15**, 7–18.
- MONOD T. (1973). Sur quelques crustacés Néo-Calédoniens de profondeur. *Cahiers de O.R.S.T.O.M., Série Océanographique*, **21**, 117–131.

- NEGOESCU I. (1994). Isopoda. Anthuridea (Crustacea, Peracarida) from New Caledonia and Loyalty Islands (South-western Pacific Ocean). I. *Travaux du Muséum d'Histoire Naturelle 'Grigore Antipa'*, **34**, 147–225.
- POORE G.C.B. (1998). Deep-water Arcturidae (Crustacea, Isopoda, Valvifera) from French collections in the south-western Pacific Ocean. *Zoosystema*, **20**, 379–399.
- POORE G.C.B. (Ed.) (2002). *Crustacea: Malacostraca: Syncarida and Peracarida: Isopoda, Tanaidacea, Mictacea, Thermosbaenacea, Spelaeogriphacea*. CSIRO, Melbourne, **i–xii**, 1–433 pp.
- POORE G.C.B. (2005). Supplement to the 2002 catalogue of Australian Crustacea: Malacostraca – Syncarida and Peracarida (Volume 19.2A): 2002–2004. *Museum Victoria Science Reports*, **7**, 1–15.
- POORE G.C.B. & BRANDT A. (1997). Crustacea Isopoda Serolidae: *Acutiserolis cidaris* and *Caecoserolis novaecaledoniae*, two new species from the Coral Sea. Résultats de Campagnes MUSORSTOM, Volume 18. *Mémoires du Muséum National d'Histoire Naturelle, Paris*, **176**, 151–168.
- POORE G.C.B. & KENSLEY B. (1981). *Coralanthura* and *Sauranthura*, two new genera of Anthurideans from north-eastern Australia (Crustacea: Isopoda: Anthuridae). *Proceedings of the Biological Society of Washington*, **94**(2), 503–513.
- POORE G.C.B. & LEW TON H.M. (1986). New species of *Aenigmathura* and *Pseudanthura* (Crustacea: Isopoda: Paranthuridae) from eastern Australia. *Memoirs of the Museum of Victoria*, **47**(1), 59–73.
- POORE G.C.B. & LEW TON H.M. (1988). *Amakusanthura* and *Apanthura* (Crustacea: Isopoda: Anthuridae) with new species from tropical Australia. *Memoirs of the Museum of Victoria*, **49**(1), 107–147.
- POORE G.C.B. & LEW TON H.M. (1990). *Accalathura* (Crustacea: Isopoda: Paranthuridae) from northern Australia and adjacent seas. *Memoirs of Museum Victoria*, **50**(2), 379–402.
- POORE G.C.B. & LEW TON H.M. (2002). Expanathuridae (Crustacea: Isopoda) from the Australian region. *Zootaxa*, **82**, 1–60.
- RICHARDSON, H. (1903). Isopods collected at the Hawaiian Islands by the U.S. Fish Commission Steamer 'Albatross'. *Bulletin of the United States Fish Commission*, **23**, 817–826.
- RICHARDSON H. (1909). Isopods collected in the Northwest Pacific by the U.S. Bureau of Fisheries Steamer «Albatross» in 1906. *Proceedings of the U.S. National Museum*, **37**(1701), 75–129.
- SCHIOEDTE J.C. & MEINERT F. (1881). Symbole ad monographium Cymothoarum crustaceorum isopodum familiè. II. Anilocride. *Naturhistorisk Tidsskrift, Kjøbenhavn*, **12**, 1–166. pls 1–10.
- SHIINO S.M. (1933). Bopyrids from Tanabe Bay. *Memoirs of the College of Science, Kyoto Imperial University. B.*, **8**(3, article 8), 249–300.
- STEBBING T.R.R. (1900). On some crustaceans from the Falkland Islands. collected by Mr. Rupert Vallentin. *Proceedings of the Zoological Society of London*, 517–568.
- TRILLES J.-P. (1972). Sur quatre isopodes cymothoïdes du Pacifique (Nouvelle-Calédonie). *Cahiers de l'Office de Recherche Scientifiques et Techniques Outre Mers, série Océanographique*, **10**, 3–17.
- TRILLES J.P. & JUSTINE J.-L. (2004). Une nouvelle espèce de Cymothoïdæ et trois Aegidæ (Crustacea, Isopoda) récoltés sur des poissons de profondeur au large de la Nouvelle-Calédonie. *Zoosystema*, **26**(2), 211–233.
- WÄGELE J.-W. (1982). A new hypogean *Cyathura* from New Caledonia (Crustacea, Isopoda, Anthuridea). *Bulletin Zoologisch Museum, Universiteit van Amsterdam*, **8**(23), 189–197.

List of New Caledonia marine and freshwater Isopoda

*Authoritative but unpublished identifications are marked with an asterisk.

ASELLOTA Latreille, 1802

Microparasellidae Karaman, 1933

Microcharon heimi Coineau, 1968: 4–8 m

Microcharon salvati Coineau, 1968: interstitial

Paracharon renaudae Coineau, 1968: interstitial

Munnopsidae Lilljeborg, 1864

Acanthocope mendeleevi Maljutina, 1998: 3400–3410 m

CYMOTHOIDA Wagele, 1989

Aegidae White 1850

Aega alazon Bruce, 2004; 46–550 m

**Aega coroo* Bruce, 1983; 230–600 m

Aega hamiota Bruce, 2004; 508–700 m

Aega kixalles Bruce, 2004; 540–545 m

**Aega monophthalma* Johnston, 1834; 590–600 m

Aega musorstom Bruce, 2004; 475–615 m

**Aega plebeia* Hansen, 1897; 768–1788 m

Aega rickbruscai Bruce, 2004; 535–615 m

**Aega urotoma* Barnard, 1914 (= '*webbi*' of Trilles & Justine 2004, misidentification); 110–329 m

**Aega vigilans* Haswell, 1881; shallow to 146 m

Aega sp. ('*angustata*' of Trilles & Justine 2004, misidentification)

**Syscenus latus* Richardson, 1909; 688–1056 m

Syscenus moana Bruce, 2005; 1220–1410 m

Bopyridae Rafinesque, 1815

Asymmetrorbione drepanopleon Boyko, 2003: *Sicyonia truncata* (Kubo, 1949) and *S. curvirostris* Balss, 1913, 260–522 m

Asymmetrorbione cf. *kempfi* (Chopra, 1923); host *Sicyonia truncata* (Kubo), 440 m (Markham 1994; Boyko 2003)

Bopyrinina paucimaculata Markham, 1990; host *Periclimenes hertwigi* Blass, Menou & Tirard, 442–462 m

Entophilus onuinectus Richardson, 1903; host *Munida 'incerta'* Henderson, 710 m (Markham 1994)

Eragia profunda Markham, 1994; host *Prionocrangon* sp., 2100–2110 m

Eriphrixus obesus Markham, 1990; host *Periclimenes vaubani* Bruce, 450 m

Filophryxus dorsalis Bruce, 1972; host *Periclimenes uniunguiculatus* Bruce, 600 m (Markham 1990)

Gigantione elconaxii Markham, 1994; host *Elconaxia* sp., 920–760 m

Ionella maculata Markham, 1994; host *Callianassa* sp., 65 m

Mediophrixus pinuum Markham, 1990; host *Athanas* sp., depth not stated

Metaphrixus rastriferis Markham, 1990; host *Periclimenes rastifer* Bruce, 33 m

Parapenaeon brevicoxalis Bourdon, 1981; host *Hymenopenaeus halli* Bruce, 675–710 m (Markham 1994)

Parapenaeon expansa Bourdon, 1979; host *Metapenaeopsis gailardi* Crosnier, 15 (Markham 1994)

Pseudione clevai Boyko, 2004; 558–647 m; host *Parastylodactylus tranterae* Cleva, 1990, 490–647 m

Pseudione stylopoda Boyko, 2004; 558–647 m; host *Parastylodactylus richeri* Cleva, 1990, 393–397 m

Pseudostegia setoensis Shiino, 1933; host '*Trizopagurus*', 400–560 m (Markham 1994)

Schizobopyrina undamanica (Chopra, 1923); host *Periclimenes bidentatus* Bruce, 33–82 m (Markham 1990)

Cirolanidae Dana, 1852

Bathynomus richeri Lowry & Dempsey, 2006

Eurydice orientalis Hansen, 1890; surface plankton to shallow (doubtful, see Bruce 1980a)

Hansenolana anisopous Stebbing, 1900; shallow (Monod 1971)

Metacirolana neocaledonica Bruce, 1996; 1753–2049 m

Metacirolana nana (Bruce, 1980a); 12–20 m

Metacirolana basteni (Bruce, 1980a); 0–15 m

Politolana crosnieri Bruce, 1996; 650 m

Scutulana pezata Bruce, 1996; 440 m

Sintorolana atrox Bruce, 1996; 1635 m

Cymothoidae Leach, 1814

Anilocra australis Schioedte & Meinert, 1881; fish parasite

Anilocra gigantea (Herklots, 1870); fish parasite (Trilles 1972)

Anilocra longicauda Schioedte & Meinert, 1881; fish parasite

Ceratothoa carinata (Bianconi, 1869); fish parasite (Trilles 1972)

Ceratothoa impressa (Say, 1818); fish parasite (Trilles 1972)

Elthusa parabolii Trilles & Justine, 2004; fish parasite

Nerocila excisa (Richardson, 1901); fish parasite (Trilles 1972)

Anthuridae Leach, 1814

Apanthura restio Poore & Lew Ton, 1988; shallow reef to 15 m

Haliophasma profunda Negoescu, 1994; 1040 m

Quantanthura caledonensis Negoescu, 1994; 500 m

Stygocyathura numeae Wagele, 1982; interstitial

Pendantanthura anophthalma Negoescu, 1994; 261–435 m

Expantthuridae

Coralanthura endeavourae Poore & Kensley, 1981; shallow reef to 15 m

Eisothistos bellonae Poore & Lew Ton, 2002; shallow reef

Expantthura ardaea (Poore & Kensley, 1981); intertidal reef to 10 m (Poore & Lew Ton 2002)

Expantthura collaris (Kensley, 1979); shallow reef to 30 m (Poore & Lew Ton 2002)

Hyssuridae Wägele, 1981

Kupellonura caudoserrata Negoescu, 1994; 310–315 m

Leptanthuridae Poore, 2001

Accalathura singularia Negoescu, 1994; 305–310 m

Accalathura themedea Poore & Lew Ton, 1990; shallow reef to 20 m

Aenigmathura calliandra Poore & Lew Ton, 1986; shallow reef to 15 m

Aenigmathura lifouensis Negoescu, 1994; 510–520 m

Bullowanthura furcillata Negoescu, 1994; 760–790 m

Leptanthura monnioti Negoescu, 1994; 500–790 m

Leptanthura segonzaci Negoescu, 1994; 975–1560 m

Leptanthura sp. 1: 595 m (Negoescu, 1994)

Paranthuridae Menzies & Glynn, 1968

Pseudanthura baeckea Poore & Lew Ton, 1986; 1620–1630 (Negoescu 1994)

Colanthura sp.: 470–480 m (Negoescu 1994)

LIMNORIIDEA Wagele, 1989**Keuphyliidae Bruce, 1980**

Keuphylia nodosa Bruce, 1980b; 6–20 m

SPIHAEROMATIDEA Wagele, 1989**Serolidae Dana, 1852**

Acutiserolis cidaris Poore & Brandt, 1997; 891–1491 m

Caecoserolis novaecaledoniae Poore & Brandt, 1997; 500–2750 m

Sphaeromatidae Latreille, 1825

Neosaesa rugosa Harrison & Holdich, 1982; intertidal reefs to 27 m, to 75 m at Hawaii (Bruce 1994b)

Oxinasphaera corypantha Bruce, 1997b; 20 m

Platysphaera membranata Holdich & Harrison, 1981; shallow reefs to 30 m (Bruce 1994a)

VALVIFERA Sars, 1882**Arcturidae Dana, 1849**

Chaetarcturus crosnieri Poore, 1998; 970–2040 m

Chaetarcturus taniae Poore, 1998; 1618–1740 m

Dolichiscus cornutus (Beddard, 1886); 530–1410 m (Poore 1998)

Chaetiliidae Dana, 1849

Stegidotea carinata Poore, 1991; 535–650 m

Stegidotea forcipes Poore, 1991; 595 m

Stegidotea longipes Poore, 1991; 1395–1410 m

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