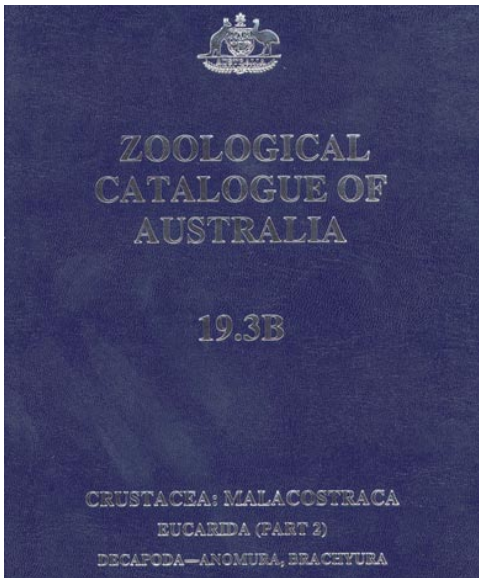

Zoological Catalogue of Australia
Crustacea: Malacostraca
Eucarida (Part 2) Decapoda—Anomura, Brachyura
Volume 19.3B

P J F Davie

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ORDER: ANOMURA

INTRODUCTION

The infraorder Anomura includes 14 families arranged in four superfamilies: Coenobitoidea (hermit-crabs, and the Hairy Stone Crab—Coenobitidae, Diogenidae, Lomisidae, Pylochelidae, Pylojacquesidae); Paguroidea (stone or king crabs, and other hermit-crabs—Lithodidae, Paguridae, Parapaguridae); Galatheoidea (squat lobsters, porcellain-crabs and allies—Aeglidae, Chirostylidae, Galatheidae, Porcellanidae); and Hippoidea (mole-crabs—Albuneidae, Hippidae). Only the Aeglidae is not represented in Australian waters. Borradaile (1903) included the Thalassinidea within the Anomura, and this view persisted for many years, even into recent literature (e.g. Glaessner 1969; McLaughlin 1980; Williams 1984). Burkenroad (1963) excluded the thalassinids, a move supported by de Saint Laurent (1979), and having wide acceptance since Bowman & Abele's (1982) 'Classification of Recent Crustacea'.

Within the Paguroidea the traditional concept of evolution held that the lithodid crab-like body form evolved from a typical shell-dwelling hermit crab—a view given modern credence by Cunningham *et al.* (1992), based on DNA data. However, two recent papers by McLaughlin & Lemaitre (1997, 2000) present convincing evidence from adult and larval morphology, that points to the reverse having occurred, with hermit-crabs having arisen from a lithodid-like ancestor through calcium loss, habitat change, and consequential morphological adaptations.

Williamson (1992) and Spears *et al.* (1992) revived the controversial view that the Dromioidea brachyurans are actually anomurans, although this was disputed subsequently by Scholtz & Richter (1995), and it is not accepted here.

The alternative name 'Anomala' has often been used for this group. McLaughlin & Holthuis (1985) discussed thoroughly the nomenclatural history of both names, and recommended the use of Anomura on the basis of widest usage, and in the interests of stability of nomenclature.

Diagnosis

Carapace variable in shape; not fused to epistome. Eyes stalked, compound; generally well developed. Antennules with peduncle 3-segmented; flagella usually paired. Antennal peduncles sometimes with five, possibly six, or fewer segments; exopod usually reduced to acicle; flagellum variable in length. Mandibles with or without palp; molar and incisor processes usually not distinct. Maxillulae with endopodal palp. Maxillae biramous; usually with bilobed endites. Maxillipeds with flagella usually present; sometimes absent from first; often with *crista dentata*; usually not operculate. First pereiopod usually chelate, second sometimes chelate; fourth and fifth usually chelate or subchelate, one or both frequently reduced. Abdomen with pleopods rarely well developed; often reduced or present only on one side; both sexes sometimes with copulatory structures; uropods often reduced or modified, occasionally absent; telson occasionally reduced or absent; sometimes together with uropods forming tailfan. Segmentation: head with 5 + 3 thoracic (maxillipeds); thorax with 5; abdomen with 6, excluding telson, although segmentation frequently obscured. Sexes separate; gonopores on coxae of third pereiopods of female, on fifth of male; first and/or second pleopods often modified as gonopods in both sexes; female sometimes with abdominal brood pouch; male sometimes with sexual tube(s). (After McLaughlin 1980).

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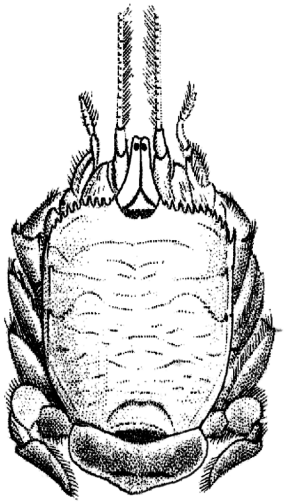
ALBUNEIDAE



Albunea speciosa
[from Dana 1855: pl. 25 fig. 6]

INTRODUCTION

Albuneids are relatively small, crab-like anomurans. Typically, like the closely related Hippidae, they burrow into sandy substrates. This habit means that they are rarely encountered unless specifically targeted for collection, and thus have been poorly studied. They are mostly found in relatively shallow coastal waters, but range in depth down to 225 metres.

Albuneids are well represented in Australian waters by four of the six genera recognised. *Stemonopa* Efford & Haig, 1968, is monotypic and apparently indigenous to Western Australia. A second genus *Austrolepidopa* Efford & Haig, 1968, was also considered indigenous until the recent description of a third species, *A. caledonia* Boyko & Harvey, 1999, from New Caledonia. Perhaps the most significant paper dealing with the Australian fauna is that of Efford & Haig (1968) although they did not treat the most common genus, *Albunea*. The publication by Serène & Umali (1965), and later works by Serène (1973, 1979), are key modern works on Indo-west Pacific species in general. Most recently, Boyko & Harvey (1999) provided an annotated list and key to Indo-west Pacific genera and species.

Diagnosis

Carapace subrectangular; dorsal surface moderately convex; regions weakly defined; a broad mat of very short, dense, simple setae just behind front ('setal field'); numerous transverse setose grooves. Rostrum reduced or absent; antennal flagellum elongate. Ocular peduncle short to markedly elongate; cornea distinct, atrophied, or absent. Ocular plate often exposed; often deeply indented to give impression of ocular acicles. Third maxillipeds subpediform, merus not enlarged, with short exopod; basis with or without *crista dentata*. First pereiopods subchelate. Dactyli of second, third and fourth pereiopods flattened. Endopod and exopod of uropod long, lamellar. Telson well developed, lamellar, but not greatly elongated. Nearly transparent decalcified 'windows' may be present on lateral and mesial surfaces of pereiopods 2–4, and on dorsal surface of first and second abdominal somites. Female gonopores on coxae of third pereiopods; male gonopores on fifth (males of *Austrolepidopa* and *Lepidopa* with accessory male pore on coxae of third pereiopods). Pleopods absent or rudimentary in males; present on female abdominal somites 2–5, uniramous. (After Miyake 1978; Boyko & Harvey 1999).

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ALBUNEIDAE Stimpson, 1858

Albuneidae Stimpson, W. (1858). Crustacea Anomura: Prodromus descriptionis animalium evertebratorum, quae in Expeditione ad Oceanum Pacificum Septentrionalem, a Republica Federata missa, Cadwaladaro Ringgold et Johanne Rodgers Ducibus, observavit et descripsit W. Stimpson. Pars VII. *Proc. Acad. Nat. Sci. Phila.* **10**: 225–252 [230] [name in its original spelling 'Albunidae' placed as Name No. 276 on the Official Index of Rejected and Invalid Family-Group Names in Zoology, see International Commission on Zoological Nomenclature (1958). Opinion 522. Suppression under the Plenary Powers (i) of certain names published by C.S. Rafinesque for genera and species of the Orders Decapoda and Stomatopoda (Class Crustacea) in the period 1814–1818 and (ii) of certain specific names currently regarded as senior subjective synonyms of the names of the type species of *Homola* Leach, 1815, and *Lissa* Leach, 1815 respectively both being genera assigned to the list of the foregoing Orders. *Opin. Declar. Int. Comm. Zool. Nomencl.* **19**: 209–248 [220]; name corrected to Albuneidae in the same Opinion and given Name No. 242 on the Official List of Family Group Names in Zoology].
Type genus: *Albunea* Weber, 1795.

Albunea Weber, 1795

Albunea Weber, F. (1795). *Nomenclator entomologicus secundum entomologian systematicam ill. Fabricii, adjectis speciebus recens detectis et varietatibus.* Chiloni et Hamburgi : C.E. Bohn viii 171 pp. [94] [gender feminine].
Type species: *Cancer symmysta* Linnaeus, 1758 by subsequent designation, see Holthuis, L.B. (1956). Proposed suppression under the plenary powers (a) of certain names given by C.S. Rafinesque to genera and species of the orders Decapoda and Stomatopoda (Class Crustacea) and (b) of certain specific names currently regarded as senior subjective synonyms of the names of the type species of the genera "Homola" and "Lissa", both of Leach, 1815, belonging to the foregoing class. *Bull. Zool. Nomencl.* **12**: 227–239.

Albunea Fabricius, J.C. (1798). *Supplementatione Entomologiae Systematicae.* Hafniae : Proft et Storch ii 572 pp. [372, 397] [junior homonym of *Albunea* Weber, 1795].
Type species: *Cancer symmista* Linnaeus, 1758 (= *Albunea symnista* (Linnaeus, 1758)) by subsequent designation, see Milne Edwards, H. (1837). Les Crustacés. Livraison 33. 278 pp., Atlas, pls 1–80 *in* Cuvier, G. (ed.) *Le Règne Animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux, et d'introduction à l'anatomie comparée.* Paris : Déterville 278 pp., Atlas, pls 1–80 [pl. 42 fig. 3] (published in parts from 1836 to 1844; this work bears the words 'edition accompagnée de planches gravées représentant les types de tous les genres').

Symnista Rafinesque-Schmaltz, C.S. (1815). *Analyse de la nature ou tableau de l'univers et de corps organisés.* Palermo 224 pp. [98] [unnecessary replacement name for *Albunea* Fabricius, 1798, and thus a junior objective synonym; Name No. 1197 on the Official Index of Rejected and Invalid Generic Names in Zoology, see International Commission on Zoological Nomenclature (1958). Opinion 522. Suppression under the Plenary Powers (i) of certain names published by C.S. Rafinesque for genera and species of the Orders Decapoda and Stomatopoda (Class Crustacea) in the period 1814–1818 and (ii) of certain specific names currently regarded as senior subjective synonyms of the names of the type species of *Homola* Leach, 1815, and *Lissa* Leach, 1815 respectively both being genera assigned to the list of the foregoing Orders. *Opin. Declar. Int. Comm. Zool. Nomencl.* **19**: 209–248 (217)].

Extralimital distribution: Indo-west Pacific Oceans.
Species excluded from limital area: ALBUNEIDAE: *Albunea steinitzi* Holthuis, 1958, see Boyko, C.B. & Harvey, A.W. (1999). Crustacea Decapoda: Albuneidae and Hippidae of the tropical Indo-West Pacific region. pp. 379–406 *in* Crosnier, A. Résultats des Campagnes MUSORSTOM, Volume 20. *Mém. Mus. natn. Hist. nat. Paris* **180**: 1–588 [391] (these authors were unable to identify this species from Australia despite looking at all available material. The earlier record, that of Haig, J. (1974). The Anomuran crabs of Western Australia: their distribution in the Indian Ocean and adjacent seas. *J. Mar. Biol. Ass. India* **14**(2): 443–451, is to be referred to a new species).

Albunea holthuisi Boyko & Harvey, 1999

Albunea holthuisi Boyko, C.B. & Harvey, A.W. (1999). Crustacea Decapoda: Albuneidae and Hippidae of the tropical Indo-West Pacific region. pp. 379–406 *in* Crosnier, A. Résultats des Campagnes MUSORSTOM, Volume 20. *Mém. Mus. natn. Hist. nat. Paris* **180**: 1–588 [386 figs 6, 7].
Type data: holotype USNM*.
Type locality: Nosy Bé, Madagascar.

Distribution: QLD (Great Barrier Reef); Indo-west Pacific Oceans.
Ecology: benthic, sand bottom, sublittoral, burrowing.

Albunea microps Miers, 1878

Albunea microps White, A. (1847). *List of the Specimens of Crustacea in the Collection of the British Museum.* London : British Museum viii 143 pp. [129] [*nom. nud.*].

Albunea microps Miers, E.J. (1878). Revision of the Hippidae. *J. Linn. Soc. Lond. Zool.* **14**: 312–336 pl. 5 [328 pl. 5 figs 12, 13].
Type data: holotype BMNH 1937.6.7.3 ♂.
Type locality: Sooloo Islands [Sulu Archipelago], Philippines.

Distribution: QLD (Great Barrier Reef); Indo-west Pacific Oceans (east Africa to Indonesia, Philippines, and southern Japan).
Ecology: benthic, coral reef, shallow subtidal; sand to sandy mud and shell-grit substrates, depth 3–45 m.
References: Boyko, C.B. & Harvey, A.W. (1999). Crustacea Decapoda: Albuneidae and Hippidae of the tropical Indo-West Pacific region. pp. 379–406 *in* Crosnier, A. Résultats des Campagnes MUSORSTOM, Volume 20. *Mém. Mus. natn. Hist. nat. Paris* **180**: 1–588 [386] (discussion of species status); Markham, J.C. & Boyko, C.B. (1999). A new genus for *Ione indecora* Markham, 1988, a second record for that species, and a new congeneric species from Australia (Crustacea: Isopoda: Bopyridae: Ioninae). *Am. Mus. Novit.* **3258**: 1–7 (first Australian record).

Albunea speciosa Dana, 1852

Albunea speciosa Dana, J.D. (1852). *Crustacea. U.S. Exploring Expedition. During the years 1838, 1839, 1840, 1841, 1842.* Under the command of Charles Wilkes, U.S.N. Philadelphia : C. Sherman Vol. 13 1618 pp. [405] [Pt 1: 1–685; Pt 2: 686–1618].
Type data: neotype USNM 260868 ♂.
Subsequent designation: Boyko, C.B. (1999). The Albuneidae (Decapoda: Anomura: Hippoidea) of the Hawaiian Islands, with description of a new species. *Proc. Biol. Soc. Wash.* **112**(1): 145–163 [147].
Type locality: Oahu, Hawai'i.

Distribution: WA (NW coast); Indo-west Pacific (Hawai'i, Seychelles, Maldives).
Ecology: benthic, burrowing, coral reef, sand bottom, subtidal; recorded from 3.7–13.7 m depth.

Albunea symmysta (Linnaeus, 1758)

Cancer symmysta Linnaeus, C. (1758). Cancer. pp. 625–634 *in, Systema naturae per Regna Tria Naturae*, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis. 10th edn Holmiae : L. Salvius 824 pp. [630] [often misspelled as '*symnista*'].
Type data: no type designated.

Albunea edsoni Calado, T.C. dos S. (1997). *Albunea edsoni*, uma mova espëcie da fam Albuneidae para Lord Howe, Australia (Crustacea, Anomura, Albuneidae). *Nauplius, Rio Grande* **5**(2): 17–22 [18 figs 1, 2].
Type data: holotype BMNH 1956.11.22.106 ♀*.
Type locality: Lord Howe Is.

Taxonomic decision for synonymy: Davie, P., this work (following C.B. Boyko, *in litt.* who re-examined the holotype of *A. edsoni* Calado, and found it to be conspecific with *A. symmysta*).

Distribution: Lord Howe Island, QLD (NE coast), WA (NW coast); Indo-Pacific Oceans.
Ecology: benthic, sand bottom, sublittoral, burrowing.
Reference: Serène, R. & Umali, A.F. (1965). A review of Philippine Albunaeidae, with descriptions of two new species. *Philipp. J. Sci.* **94**(1): 87–116 figs 1–12 pls 1–6 [90] (description and figures).

Austrolepidopa Efford & Haig, 1968

Austrolepidopa Efford, I.E. & Haig, J. (1968). Two new genera and three new species of Crabs (Decapoda : Anomura : Albuneidae) from Australia. *Aust. J. Zool.* **16**: 897–914 figs 1–10 [898].
Type species: *Austrolepidopa schmitti* Haig & Efford, 1968 by original designation.

Extralimital distribution: New Caledonia.

Austrolepidopa schmitti Efford & Haig, 1968

Austrolepidopa schmitti Efford, I.E. & Haig, J. (1968). Two new genera and three new species of Crabs (Decapoda : Anomura : Albuneidae) from Australia. *Aust. J. Zool.* **16**: 897–914 figs 1–10 [898 figs 1–4].
Type data: holotype AM P15341 ♀, paratypes AM P6369 12 ♀, AM P6370 10 ♀, AM P15342 1 ♀, USNM 122072 2 ♀, Allan Hancock Foundation (221) 2 ♀, BMNH 1967.9.2.1–2 2 ♀, RMNH D23281 2 ♀.
Type locality: Noosa Head, mouth of the Noosa River, QLD.

Distribution: QLD (Central E coast); known only from type locality.
Ecology: benthic, sand bottom, sublittoral, burrowing.

Austrolepidopa trigonops Efford & Haig, 1968

Austrolepidopa trigonops Efford, I.E. & Haig, J. (1968). Two new genera and three new species of Crabs (Decapoda : Anomura : Albuneidae) from Australia. *Aust. J. Zool.* **16**: 897–914 figs 1–10 [904 figs 5–7].
Type data: holotype WAM 62-62 ♀, paratype(s) WAM 72-62 ♀.
Type locality: 8 km N of E end of Rottnest Is., WA.

Distribution: WA (Central W coast, Lower W coast); known only from limital area.
Ecology: sand bottom, silt bottom, sublittoral, burrowing; from 11–36 m depth.

Paralbunea Serène, 1979

Paralbunea Serène, R. (1979). Description of *Paralbunea manihinei* gen and spec. nov. (Decapoda, Hippidea, Albuneidae). *Crustaceana* **Suppl. 5**: 95–99, 1 pl. [97].
Type species: *Albunea paradoxa* Gordon, 1938 by original designation.

Extralimital distribution: Indo-west Pacific.

Paralbunea dayriti (Serène & Umali, 1965)

Albunea dayriti Serène, R. & Umali, A.F. (1965). A review of Philippine Albunaeidae, with descriptions of two new species. *Philipp. J. Sci.* **94**(1): 87–116 figs 1–12 pls 1–6 [103].
Type data: holotype NMP 938 8 specimens*.
Type locality: Batangas Bay, Batangas Province, Philippines.

Distribution: WA (NW coast); Philippines, China.
Ecology: benthic, sand bottom, sublittoral, burrowing.

Paralbunea mariellae (Serène, 1973)

Albunea mariellae Serène, R. (1973). A new species of Decapoda Hippidea: *Albunea mariellae* nov. sp. from the Banda Sea. *Crustaceana* **24**(3): 261–264 pls 1–2 [261 pl. 1].
Type data: holotype WAM 125-71, paratype(s) WAM 126-71 1♂.
Type locality: N of Pulu Durowa, small island N of Nuhurowa Island, Kai [Kei] Archipelago, Banda Sea, Indonesia.

Distribution: WA (NW coast); east Indo-west Pacific Oceans (Indonesia).
Ecology: benthic, sand bottom, sublittoral, burrowing; rubble bottom.

Stemonopa Eford & Haig, 1968

Stemonopa Efford, I.E. & Haig, J. (1968). Two new genera and three new species of Crabs (Decapoda : Anomura : Albuneidae) from Australia. *Aust. J. Zool.* **16**: 897–914 figs 1–10 [908].
Type species: *Stemonopa insignis* Efford & Haig, 1968 by monotypy.

Extralimital distribution: Australian endemic.

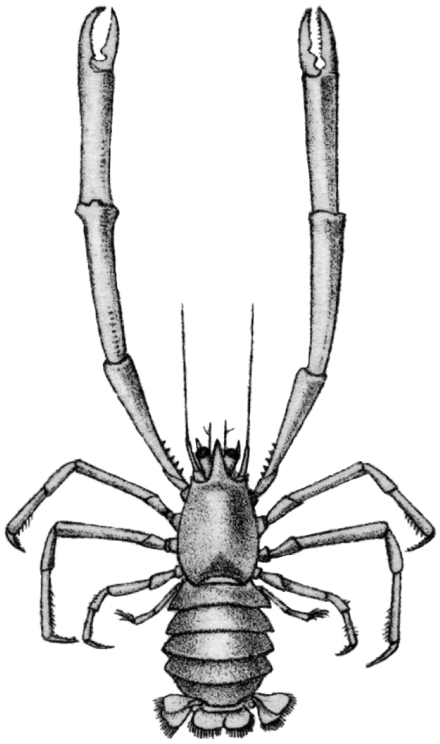
Stemonopa insignis Efford & Haig, 1968

Stemonopa insignis Efford, I.E. & Haig, J. (1968). Two new genera and three new species of Crabs (Decapoda : Anomura : Albuneidae) from Australia. *Aust. J. Zool.* **16**: 897–914 figs 1–10 [908 figs 8–10].
Type data: holotype WAM 61-62 ♀.
Type locality: N of Maud's Landing, Point Maud, WA.

Distribution: WA (Central W coast); known only from limital area.
Ecology: sublittoral, benthic, burrowing; amongst coral rubble.

CHIROSTYLIDAE

INTRODUCTION



Uroptychus australis
[Henderson 1888: pl. 21 fig. 4]

Members of the Chirostylidae closely resemble Galatheidae in appearance. The two families, together with the Porcellanidae and the Aeglidae, are grouped under the superfamily Galatheoidea. Like galatheids, chirostylids are often small and inconspicuous and are found in a variety of habitats from shallow subtidal reefs to the deep sea.

Very little has been published on the Australian fauna; the key works are those of Henderson (1885) and Baba (1986).

Diagnosis

Body depressed, symmetrical, more or less longitudinally ovate (somewhat shrimp-like); rostrum distinct, usually well developed and prominent, variable in form; eyes well developed, ocular acicles absent; epistome unarmed. Abdomen bent upon itself but not folded against thorax; third to fifth pleopods paired; male gonopods often present, female first pleopods absent; telson with a trans-verse fissure, otherwise entire and not divided into smaller plates; uropods spatulate; tailfan folded beneath preceding abdominal somites. First pereiopods chelate, greatly elongated, slender; fourth pereiopod ambulatory. Antennal peduncle 5-segmented, second and third article distinctly separated; flagellum of moderate length; usually with antennal scale. Sternal plate of last thoracic somite absent.

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Henderson, J.R. (1888). Report on the Anomura collected by H.M.S. Challenger during the years 1873–1876. *Rep. Scient. Res. Voy. H.M.S. Challenger Zool.* **27**: 1–221 21 pls

CHIROSTYLIDAE Ortmann, 1892

Chirostylidae Ortmann, A.E. (1892). Die Decapoden-Krebse des Strassburger Museums, mit besonderer Berücksichtigung der von Herrn Dr. Döderlein bei Japan und bei den Liu-Kiu-Inseln gesammelten und zur Zeit im Strassburger Museum auf bewahrten Formen. IV Theil. Die Abtheilungen Galatheidea und Paguridea. *Zool. Jahrb. Syst.* **6**(2): 241–325 pls 11, 12.
Type genus: *Chirostylus* Ortmann, 1892.

Uroptychinae Doflein, F. & Balss, H. (1913). Die Galatheiden der Deutschen Tiefsee-Expedition. *Wiss. Ergeb. deutschen Tiefsee-Exped. Valdivia 1898–1899* **20**: 125–184 pls 12–17 [134].
Type genus: *Uroptychus* Henderson, 1888.

Eumunidinae Milne Edwards, A. & Bouvier, E.L. (1894). Considérations générales sur la famille des Galathéidés. *Ann. Sci. Nat. Zool. (7)***16**: 191–327 [296].

Diptycinae Milne Edwards, A. & Bouvier, E.L. (1894). Considérations générales sur la famille des Galathéidés. *Ann. Sci. Nat. Zool. (7)***16**: 191–327 [296].

Taxonomic decision for synonymy: Van Dam, A.J. (1933). Die decapoden der Siboga-Expedition. VIII. Galatheidea: Chirostylidae. *Siboga Exped. Monogr.* **39a7**: 1–46 [2].

Chirostylus Ortmann, 1892

Chirostylus Ortmann, A.E. (1892). Die Decapoden-Krebse des Strassburger Museums, mit besonderer Berücksichtigung der von Herrn Dr. Döderlein bei Japan und bei den Liu-Kiu-Inseln gesammelten und zur Zeit im Strassburger Museum auf bewahrten Formen. IV Theil. Die Abtheilungen Galatheidea und Paguridea. *Zool. Jahrb. Syst.* **6**(2): 241–325 pls 11, 12 [246].
Type species: *Chirostylus dolichopus* Ortmann, 1892 by monotypy.

Extralimital distribution: Indo-west Pacific Ocean. See: Baba, K. (1988). Chirostylid and galatheid crustaceans (Decapoda: Anomura) of the "Albatross" Philippine Expedition, 1907–1910. *Res. Crust.* **Spec. No. 2**: i–v, 1–203.

Generic reference: Haig, J. (1974). The Anomuran crabs of Western Australia: their distribution in the Indian Ocean and adjacent seas. *J. Mar. Biol. Ass. India* **14**(2): 443–451 [447].

Chirostylus dolichopus Ortmann, 1892

Chirostylus dolichopus Ortmann, A.E. (1892). Die Decapoden-Krebse des Strassburger Museums, mit besonderer Berücksichtigung der von Herrn Dr. Döderlein bei Japan und bei den Liu-Kiu-Inseln gesammelten und zur Zeit im Strassburger Museum auf bewahrten Formen. IV Theil. Die Abtheilungen Galatheidea und Paguridea. *Zool. Jahrb. Syst.* **6**(2): 241–325 pls 11, 12 [246 pl. 11 fig. 2, 2b].
Type data: holotype MZUS 347 1♂.
Type locality: Kadsiyama [Katsuyama], Sagami Bay, Japan.

Distribution: WA (NW coast); Indo-west Pacific Oceans.
Ecology: sand bottom, benthic, continental shelf; bottom sand and shells, depth 35–140 m.

Eumunida Smith, 1883

Taxonomic decision for subgeneric arrangement: de Saint Laurent, M. & Poupin, J. (1996). Crustacea, Anomura: les espèces indo-ouest pacifiques du genre *Eumunida* Smith, 1880 (Chirostylidae) description de six espèces nouvelles. pp. 337–385 *in* Crosnier, A. (ed.) Résultats des Campagnes MUSORSTOM, Volume 15. *Mém. Mus. natn. Hist. nat. Paris* **168**(1-539): [347] (includes key to Indo-west Pacific species).

Extralimital distribution: Indo-west Pacific and Atlantic Oceans.

Eumunida (Eumunida) Smith, 1883

Eumunida Smith, S.I. (1883). Preliminary report on the Brachyura and Anomura dredged in deep water off the south coast of New England by the United States Fish Commission in 1880, 1881, and 1882. *Proc. U.S. Natl Mus.* **6**: 1–57 [44].
Type species: *Eumunida picta* Smith, 1883 by monotypy.

Extralimital distribution: Indo-west Pacific and Atlantic Oceans.

Eumunida (Eumunida) australis de Saint Laurent & Macpherson, 1990

Eumunida australis de Saint Laurent, M. & Macpherson, E. (1990). Les espèces atlantiques du genre *Eumunida* Smith, 1883 (Crustacea: Decapoda: Chirostylidae). *J. Nat. Hist.* **24**: 647–666 [664–665 figs 2d, 4d, 5d, 6d, 8d, h, 10d, 11].
Type data: holotype BMNH 1907.16.10 ♂.
Type locality: Tasman Sea [38°13'S 168°42.5'E].

Distribution: TAS (SE oceanic); known only from type locality.
Ecology: benthic, continental slope, oceanic province; depth 685 m.

Eumunida (Eumunida) multilineata de Saint Laurent & Poupin, 1996

Eumunida (Eumunida) multilineata de Saint Laurent, M. & Poupin, J. (1996). Crustacea, Anomura: les espèces indo-ouest pacifiques du genre *Eumunida* Smith, 1880 (Chirostylidae) description de six espèces nouvelles. pp. 337–385 *in* Crosnier, A. (ed.) Résultats des Campagnes MUSORSTOM, Volume 15. *Mém. Mus. natn. Hist. nat. Paris* **168:** 1–539 [348–350 figs 1a–i, 11a,b].
Type data: holotype QM W15801 ♀, paratypes QM W10116 2♂, QM W10117 ♂, MNHP Ga3508 ♂, QM W11385 5♂, 2♀, QM W11415 ♂, QM W15803 4♂ 2♀, MNHP Ga3507 ♀.
Type locality: off Yepoon, QLD [23°07'S 153°19'E].

Distribution: QLD (NE oceanic).
Ecology: benthic, continental slope, oceanic province; depth 380–522 m.

Gastroptychus Caullery, 1896

Ptychogaster Milne Edwards, A. (1880). No. 1. Reports on the results of dredging under the supervision of Alexander Agassiz, in the Gulf of Mexico, and in the Caribbean Sea, 1877, '78, '79, by the U.S. Coast Survey Steamer "Blake". Lieut.-Commander C.D. Sigsbee, U.S.N., and Commander J.R. Bartlett, U.S.N., Commanding. VIII. Etudes préliminaires sur les Crustacés. *Bull. Mus. Comp. Zool.* **8**(1): 1–68 pls 1–2 [63] [junior homonym of *Ptychogaster* Pomel, 1847 (fossil Reptilia: Chelonia)].
Type species: *Ptychogaster spinifer* A. Milne Edwards, 1880 by monotypy.

Gastroptychus Caullery, M. (1896). Crustacés Schizopodes et Décapodes. *In* Koehler, R., Résultats scientifiques de la campagne du "Caudan" dans le Golfe de Gascogne. *Ann. Univ. Lyon* **26**: 365–419 pls 13–17 [390] [*nom. nov.* for *Ptychogaster* A. Milne Edwards, 1880].

Extralimital distribution: worldwide.

Gastroptychus rogeri Baba, 2000

Gastroptychus rogeri Baba, K. (2000). Two new species of Chirostylids (Decapoda: Anomura: Chirostylidae) from Tasmania. *J. Crust. Biol.* **20**(Special No. 2): 246–252 [246 figs 1, 2].
Type data: holotype TMH G3497 ♂, paratype(s) TMH G4030 ♂.
Type locality: Pedra Branca, S Tasmania [43°50'S 147°00'E].

Distribution: TAS (SE oceanic); known only from limital area.
Ecology: benthic, continental slope, oceanic province; depth 850–1000 m.

Uroptychus Henderson, 1888

Diptychus Milne Edwards, A. (1880). No. 1. Reports on the results of dredging under the supervision of Alexander Agassiz, in the Gulf of Mexico, and in the Caribbean Sea, 1877, '78, '79, by the U.S. Coast Survey Steamer "Blake". Lieut.-Commander C.D. Sigsbee, U.S.N., and Commander J.R. Bartlett, U.S.N., Commanding. VIII. Etudes préliminaires sur les Crustacés. *Bull. Mus. Comp. Zool.* **8**(1): 1–68 pls 1–2 [61] [junior homonym of *Diptychus* Steindachner, 1866 (Pisces)].
Type species: none designated; originally included nominotypical species: *Diptychus armatus* A. Milne Edwards, 1880; *Diptychus intermedius* A. Milne Edwards, 1880; *Diptychus nitidus* A. Milne Edwards, 1880; *Diptychus rugosus* A. Milne Edwards, 1880; *Diptychus uncifer* A. Milne Edwards, 1880.

Uroptychus Henderson, J.R. (1888). Report on the Anomura collected by H.M.S. Challenger during the years 1873–1876. *Rep. Scient. Res. Voy. H.M.S. Challenger Zool.* **27**: 1–221 21 pls [173] [*nom. nov.* for *Diptychus* A. Milne Edwards, 1880].

Extralimital distribution: Indo-west Pacific Oceans. See: Baba, K. (1988). Chirostylid and galatheid crustaceans (Decapoda: Anomura) of the "Albatross" Philippine Expedition, 1907–1910. *Res. Crust.* **Spec. No. 2**: i–v, 1–203.

Uroptychus australis (Henderson, 1885)

Diptychus australis Henderson, J.R. (1885). Diagnoses of the new species of Galatheidae collected during the "Challenger" Expedition. *Ann. Mag. Nat. Hist.* **16**(5): 407–421 [420].
Type data: syntypes BMNH (the type series includes three different species, two of them undescribed; a lectotype for *U. australis* will be selected and the new species described by K. Baba (in preparation)).
Type locality: from four Challenger Expedition stations: 1) off Port Jackson, 410 fathoms; 2, 3) north of the Kermadec Islands, 520 and 600 fathoms; 4) off Banda Island, 360 fathoms.

Distribution: NSW (SE oceanic); New Zealand, Indonesia.
Ecology: benthic, continental slope; hard ground, volcanic mud, depth 659–1098 m.

Uroptychus brucei Baba, 1986

Uroptychus brucei Baba, K. (1986). Two new Anomuran Crustacea (Decapoda: Anomura) from North-west Australia. *Beagle, Occ. Pap. N.T. Mus. Arts Sci.* **3**(1): 1–5 [1 figs 1, 2].
Type data: holotype NTM Cr.000604 ♂, paratype(s) NTM Cr.000598 2♂.
Type locality: North-west Shelf, WA [17°59.4'S 118°18.4'E].

Distribution: WA (NW oceanic); known only from limital area.
Ecology: benthic, continental slope; depth 406–458 m.

Uroptychus gracilimanus (Henderson, 1885)

Diptychus gracilimanus Henderson, J.R. (1885). Diagnoses of the new species of Galatheidae collected during the "Challenger" Expedition. *Ann. Mag. Nat. Hist.* **16**(5): 407–421 [420].
Type data: holotype BMNH 1888:33 ovigerous ♀.
Type locality: Port Jackson, NSW.

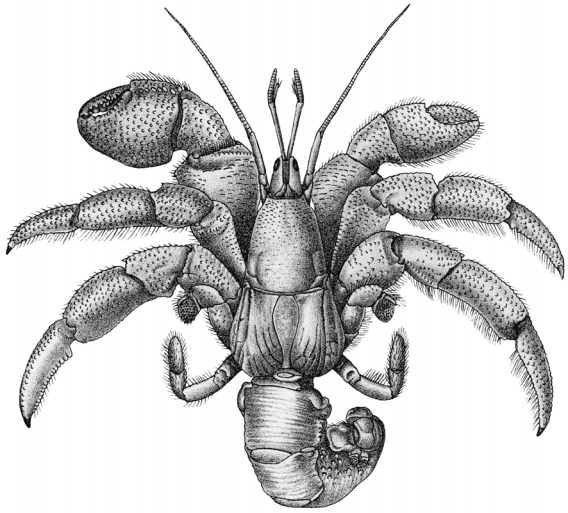
Distribution: NSW (SE oceanic); Indo-west Pacific Oceans.
Ecology: mud bottom, benthic, continental rise, continental slope; depth 421–1668 m.
Reference: Baba, K. (1989). Chirostylid and Galatheid Crustaceans of Madagascar (Decapoda, Anomura). *Bull. Mus. natn. Hist. nat. Paris* **11**(A4): 921–975 [941].

Uroptychus raymondi Baba, 2000

Uroptychus raymondi Baba, K. (2000). Two new species of Chirostylids (Decapoda: Anomura: Chirostylidae) from Tasmania. *J. Crust. Biol.* **20**(Special No. 2): 246–252 [250 fig. 3].
Type data: holotype TMH G3517 ♀, paratype(s) TMH G3517 6♂ 11♀.
Type locality: off St. Helens, Tasmania [41°25'S 148°40'E].

Distribution: TAS (SE oceanic); known only from type locality.
Ecology: benthic, continental slope, oceanic province; depth 645 m.

COENOBITIDAE



Coenobita perlatus [from Alcock 1905: pl. 14 fig. 2]

INTRODUCTION

Coenobitids form a small family of circumtropical, semiterrestrial hermit crabs. Adult coenobitids are fully terrestrial, but they still migrate to the sea to release planktonic zoeae. Species of *Coenobita* are commonly known as 'land hermit crabs'; and perhaps the best known to Australians is *Coenobita variabilis* which is often sold in the pet industry under the name of 'crazy crabs'. The most spectacular member of the family is the Coconut Crab, *Birgus latro*. It is the largest known land arthropod, growing up to 2.5 kg in weight, and is prized as food where it occurs. This species is not found on the Australian mainland, but is widespread on the more oceanic islands of the tropical Indo-west Pacific, and is abundant on Australian protectorates such as Christmas and Cocos-Keeling Islands in the eastern Indian Ocean. The biology of this species has been reported on by Brown & Fielder (1991). The most important recent work on Australian *Coenobita* species is that of Harvey (1992), who finally clarified the identity of *Coenobita variabilis*, and described its larval development.

Diagnosis

Carapace and body mostly paguroid in form ('hermit crabs'), or with abdomen calcified and tucked under abdomen (*Birgus latro*); carapace well calcified. Eyestalks laterally flattened; eyes held subparallel to each other. Antennular peduncles prominently elongate, first segment deflexed; distal two segments slender and cylindrical; dorsal flagellum compressed with tip truncate. Antennae short, laterally compressed; antennal acicle small and usually fused to second peduncular segment. Third maxillipeds approximated basally; ischium with well-developed *crista dentata*; accessory tooth absent. Flagella of exopod of second and third maxillipeds much reduced. Chelipeds massive, left usually larger than right. Walking legs stout, longer than chelipeds. Fourth pereiopod chelate or subchelate; fifth pereiopod chelate. Abdomen bilaterally asymmetrical, segments not clearly marked. Male without unpaired pleopods; female with three unpaired pleopods. Uropods bearing rasp used to grasp gastropod shell (except *Birgus*). Fourteen paired phyllobranchiae (but only 10 functional); third maxilliped and cheliped each with two paired rudimentary arthrobranchs.