

## A catalogue of type specimens of Crustacea in the Western Australian Museum, Perth

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### Abstract

Data are given for the type specimens of 223 species of Crustacea held in the Western Australian Museum collection. Taxa are arranged in a systematic order, and a list of references contains all papers in which the taxa are first described. The types of eight species could not be located at the time of writing.

### Introduction

The Western Australian Museum (WAM) crustacean collection comprises approximately 13 000 registered specimen lots which include type specimens of 223 species of Recent Crustacea. Two partially completed type lists exist for the years 1965-66 and 1973 but a complete list of crustacean types has not previously been published. The following account includes all the types that can be found to date in the WAM crustacean collection. Associated pertinent information is also given for each type specimen. Unless otherwise stated, specimens are stored in glass jars in 70 per cent (v/v) ethanol with 10 per cent (v/v) glycerine.

Crustacean classes and orders are based on the sequence given by Bowman and Abele (1982), and the families, genera and species are arranged alphabetically within each order. Species are listed by the scientific name under which they were originally described. Any changes in nomenclature which have been made by later authors are noted in Remarks, together with a reference to the source of the change. Under Remarks are also noted any inconsistencies between the original description and the specimen, its register entry or label, or any additional comments which may be of use to future workers when identifying particular material cited by the describer. Paratype material that has been donated to or deposited in other institutions is also indicated under Remarks.

Some early crustacean taxonomists did not designate type specimens in their descriptions of new species. Where no holotype was designated and where there is no clear indication that the description has been based on a single specimen, specimens of the type series held in the WAM are considered syntypic (Article 73 (b) ICZN) even if only one specimen is held. Where the description is based on a single specimen and the specimen is in the WAM collection, this specimen is

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considered to be the holotype (Article 73 (a) ICZN). Where an author has designated a holotype, the other specimens of the type series are considered to be paratypes (Recommendation 73D ICZN). The WAM collection also contains some specimens which have been labelled 'probable types' by previous workers and this material, which may be of use to future workers, has been included in the Appendix.

Eight types had not been located by the date of submission of the present paper, and their absence is noted in the relevant Remarks. The collections of Professor G.E. Nicholls were originally housed in the Zoology Department, University of Western Australia, where some specimens were used for teaching purposes and where unfortunately most appear to have been lost. The remains of the Nicholls' collections, both amphipod and isopod material, were moved to the WAM and registered into the crustacean collection in the late 1950s. Most of the remaining gammaridean amphipods collected by the Australian Antarctic Expedition 1911-14 (see Nicholls 1938) were transferred to the Australian Museum, Sydney in 1966. Lowry (1982: 320) lists the missing gammaridean amphipod material from the Nicholls' collection. The types of two species in this collection are apparently lost — *Colomastix simplicicauda* is absent from the WAM collection and was never registered into the AM collection, and *Atylopsis megalops* was registered into the AM collection but cannot be found (J.K. Lowry, pers. comm.).

Western Australian Museum registration numbers are prefaced by the letters WAM. In 1901, when collections were begun, all invertebrate material was collectively registered in the WAM Register of Zoological Invertebrates, in chronological order, and numbered sequentially. After December 1913 (WAM 8731) insects, scorpions and spiders were registered separately, but Crustacea were still included in the invertebrate register. After 1930 (WAM 16647) the invertebrates (excluding insects, scorpions and spiders) were still collectively registered, but numbered on a yearly basis, with the specimen registration number followed by the year and separated by a dash. For example, the first specimen registered for the year 1932 is 1-32, followed by 2-32, etc., and similarly for 1933, 1-33, 2-33 etc. Series of registration numbers prior to 1930 sometimes cause confusion to workers from other institutions, but should present no problem if the practice of separating the first and last numbers of a series by a slash, as used in the old WAM invertebrate registers, is noted. For example, WAM 10016/39 refers to the specimens WAM 10016 through to 10039, and not to lot 10016 registered in 1939 (which would be WAM 10016-39). Since 1958 the Crustacean Department has maintained its own catalogue and hence the numbers quoted in this paper for material accessed after 1.1.1958 are Crustacean Department registration numbers.

The type collection comprises largely Western Australian species (168) although 27 types are from other Australian states (Tasmania 17, Northern Territory 1, New South Wales 5, Queensland 2, Victoria 2), 1 is from Christmas

Island, Indian Ocean, 20 are from the Antarctic and Macquarie Island, 1 is from New Zealand, 1 from Hong Kong, 3 from the Sulu Archipelago and 2 from the South-East Pacific.

The following abbreviations are used in the text: c.l. carapace length; c.w. carapace width; AM, The Australian Museum, Sydney; BM, The British Museum (Natural History), London; ICZN, International Commission on Zoological Nomenclature; S. Aust. Mus., South Australian Museum, Adelaide; USNM, United States National Museum, Smithsonian Institution, Washington, DC; WAM, Western Australian Museum, Perth; ZIZM Hamburg, Zoologisches Institut und Zoologisches Museum, University of Hamburg; ZM Uppsala, The Zoological Museum of the University, Uppsala.

### Historical development of the Western Australian Museum crustacean collection\*

In 1892 the Public Museum was established in Perth. The institution changed its title to 'The Western Australian Museum and Art Gallery' in 1897, but it was not until 1960 that the Western Australian Museum became a separate independent institution. In the early years there were many collecting expeditions which laid down the foundations of many of the present day collections. The first fully professional scientific expedition to Western Australia occurred during this period — the Hamburg South-Western Australian Research Expedition of 1905, under Drs W. Michaelsen and R. Hartmeyer. The expedition collected mainly invertebrates including Crustacea. Results appeared in *Die fauna Südwest-Australiens* in five volumes, published between 1907 and 1930, and contain the first systematic studies of Crustacea from Western Australia (Wolf 1911, Budde-Lund 1912, Krüger 1912, Mayer 1912). The Swedish Scientific Expedition of 1910-13, under Dr E. Mjöberg, visited the area between Perth and Albany, and the Kimberley area in the north, and the results were published between 1913 and 1922 in 32 parts of the *Arkiv för Zoologi, Svenska Vetenskapsakademien*, with crustaceans being well represented (Broch 1916, Schwartz 1917, Skogsberg 1917, Balss 1921, Zimmer 1921, Wahrberg 1922, Rathbun 1924). Over a decade later, Balss published on the Brachyura collected by the Mjöberg expedition in southwestern areas of Western Australia (1934-35) and on *Pilumnus* and allied genera (1933), and described one further new Australian species together with a brief zoogeographical review of the Mjöberg collections in 1935. The third expedition of this period was that of Montague to the Montebello Islands in 1912 (Montague 1913). The general collections were published in *Proceedings of the Zoological Society of London* 1914 where Rathbun (1914) reported on the Crustacea.

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\* From Serventy 1957, 1967, 1979, and WAM documents.

W.B. Alexander, the Keeper of Biology at the Museum (1914-19) vigorously expanded the invertebrate collections. In 1914 he collected extensively all over Australia with William Bateson and made large collections of insects and marine specimens. In the Crustacea he published on branchiopods (Alexander 1914a, 1914b) and stomatopods (Alexander 1916a, 1916b). Alexander worked in close association with Professor W.J. Dakin, Professor of Biology in the newly established University of Western Australia. Dakin was a marine and freshwater biologist, with a special interest in the lower Crustacea, and he investigated the Branchiopoda (Phyllozoa) occurring in the inland lakes and claypans of Western Australia (Dakin 1914). In 1913 and 1915 Dakin organised and led two scientific expeditions to the Abrolhos Islands, financed by the Percy Sladen Trust, and Tattersall (1922) published on the amphipods and isopods, and Montgomery (1931) on the Brachyura collected by the expedition.

Between the two World Wars there were stringent financial restrictions on the institution and there was none of the widespread collecting that had been a feature prior to World War I. However, Ludwig Glauert, the Curator of the Museum, collected locally and extensively in the Darling Range, and in the swamps of the Swan Coastal Plain, and conducted a thorough zoological survey of Rottnest Island, making repeated visits there. In the Crustacea he described a new species of freshwater isopod, *Phreatoicus palustris*, from the local swamps of the Perth area (Glauert 1924), and also discovered the shore isopod *Detomarina* at Freshwater Bay on the Swan River, the only mainland colony of this species known on the west coast of Australia (Nicholls 1932). At the University of Western Australia Professor G.E. Nicholls, stimulated by Glauert's discovery of *P. palustris*, specialised in the group and ultimately produced his notable monograph on Australian Phreatoicoidea (1942, 1943). Nicholls also worked on the gammaridean amphipods collected by the Australasian Antarctic Expedition of 1911-14 (Nicholls 1938) and on various freshwater amphipod and marine isopod groups in Western Australia (Nicholls 1924b, 1926b, 1926c, 1929, 1939). His review of the fauna of Western Australia in 1932 indicated the existence of a rich fauna of damp earth and aquatic invertebrates in the state. The earlier work of Sayce (1903), Wolf (1911) and Dakin (1914) had emphasised the rich and varied branchiopod fauna of the inland lakes and claypans of Western Australia. Nicholls made many collections of these animals which were studied by his students — e.g. Milner (1929) on Anostraca, Richardson on Conchostraca (this work remains in manuscript in the Zoology Department, University of Western Australia). In 1936-37 Linder, a visiting Swedish expert on Anostraca, was based at the Zoology Department, conducting fieldwork which was part of his world revision of the order (Linder 1941).

The 1950s heralded a new era of research activity in the state. In the WAM the large increase in available funding enabled the scientific staff to be enlarged. There was an increase in emphasis on zoological research and an active resumption of the exploratory work which had been so characteristic of the institution in

its early days. From 1958 onwards crustacean specimens were recorded in their own catalogue, and in 1965 the first Curator of Crustacea, Dr R.W. George, was appointed. His research interests lay with the higher Crustacea, namely the Palinuridae (George and Holthuis 1965, George and Main 1967, George 1968) and he described the commercial rock lobster of Western Australia (George 1962). He also published on the Scyllaridae (George and Griffin 1972), the Ocypodidae (George and Knott 1964, George and Jones 1984) and the Oxystomata and Gymnopleura (Tyndale-Biscoe and George 1962). Dr George retired in 1984 and was succeeded by Dr G. Morgan.

Since 1958 the emphasis of the crustacean collection has been on the higher marine groups. The collection has greatly expanded due to increased collecting activity by the Crustacean Department, other museum natural history departments, and other agencies. Crustacean material has been accessed from a number of collecting expeditions both within Australian waters (e.g. Cockburn Sound Survey 1958; WAM/USNM Barrow Island Expedition 1966; Ningaloo Expedition 1968; Crown of Thorns Survey, Dampier Archipelago 1972-74; WAM Abrolhos Island Expedition 1974; WAM Rowley Shoals Expedition 1982; WAM Scott Reef Expedition 1984) and without (Norton-Wilson Philippines Expedition 1965; National Geographic Marquesas Expedition 1967; Mariel King Memorial Expedition to the Moluccas 1970). The collecting activities of colleagues from other institutions have yielded large quantities of crustacean material — notably alpheids (A.H. and D.M. Banner), gammaridean amphipods (J.L. Barnard), *Uca* (V. Semeniuk) and oniscoidean isopods (A.J.A. Green). Large collections of majids, portunids, alpheids, marine carids, alburnids, galatheids and xanthids have been amassed through the activities of fisheries research vessels and CSIRO research vessels such as the *Lancelin*, *Dorothea*, *Peron*, *Davena*, *Endeavour*, *Rama*, *Sprightly* and *Diamantina*. More recently explorations on the continental slope of the North-West Shelf by the CSIRO research vessel *Soela* have yielded an interesting deep-water fauna, especially deep-water lobsters and deep-water barnacles, which are now housed in the collection of the WAM.

List of type specimens

Class Branchiopoda Latreille, 1817  
Subclass Calmanostraca Tasch, 1969  
Order Notostraca Sars, 1867  
Family Triopidae Kielhack, 1910

*Lepidurus viridis* Baird var. *elongatus* nov. Wolf, 1911: 267, Figs 11-12. Syntype, 1 WAM 7182. Locality: Broome Hill, WA, Stn 159.

Subclass Diplostraca Gerstaecker, 1866  
Order Conchostraca Sars, 1867  
Family Cyzicidae Stebbing, 1910

*Cyzicus (Estheria) rufa* Dakin, 1914: 301, Pl. II Figs 19-21. Syntypes, 2♀♀ WAM 7730. Locality: Lakeside, Boulder City, WA.

Family Limnadiidae Baird, 1849

*Eulimnadia badia* Wolf, 1911: 270, Figs 14-24. Syntypes, 2 WAM 7185. Locality: Boorabbin, WA.

*Eulimnadia cygnorum* Dakin, 1914: 299, Pl. I Figs 9-13. Syntypes, WAM 5180. Locality: Cannington, near Swan R., WA, in fresh water.

Subclass Sarsostraca Tasch, 1969  
Order Anostraca Sars, 1867  
Family Artemiidae Grochowski, 1896

*Parartemia cylindrifera* Linder, 1941: 221, Fig. 27, Pl. I Figs 3-6. Holotype, ♂ WAM 739-32. Locality: Buniche, Lake Bidy, WA.  
Paratype, ♀ WAM 740-32. Locality: As in holotype.  
Remarks: Only two specimens are known of this species.

*Parartemia extracta* Linder, 1941: 220, Fig. 26. Holotype, ♂ WAM 13700. Locality: Minnivale, WA.  
Paratypes, 4♂♂ + 1♀ WAM 13700/09. Locality: As in holotype.  
Remarks: Only four paratypes present, all badly preserved. Paratype (1♂) also in ZM Uppsala.

*Parartemia informis* Linder, 1941: 225, Fig. 29. Holotype, ♂ WAM 138-62. Locality: Lake Monger, WA.

Paratypes, ♂ WAM 10337, ♀ WAM 10338, many WAM 139-62. Locality: As in holotype.

Remarks: Paratype material not well preserved. Paratypes (2♂♂, 1♀) also in ZM Uppsala.

*Parartemia serventyi* Linder, 1941: 223, Fig. 28. Holotype, ♂ WAM 136-62.

Locality: Lake Gilmore, WA.

Paratypes, many WAM 137-62.

Remarks: Paratypes also in USNM (2♂♂, 2♀♀) and in ZM Uppsala (many).

Family Thamnocephalidae Simon, 1886

*Branchinella affinis* Linder var. *wonganensis* nov. Linder, 1941: 261, Fig. 39d.

Holotype, ♂ WAM 143-62. Locality: Wongan Hills (Agriculture Research Station), WA.

Paratypes, many WAM 144-62. Locality: As in holotype.

Remarks: Geddes (1981: 271) considers this material synonymous with *Branchinella affinis* Linder, 1941: 257-61, Fig. 36. Paratype material also in the ZM Uppsala (10♂♂, 16♀♀).

*Branchinella australiensis* (Richters) var. *occidentalis* nov. Dakin, 1914: 296,

Pl. I Figs 1-5. Syntypes, 2♂♂ WAM 4488/9. Locality: Lake Violet, 5 km from Wiluna, WA.

Remarks: 1♂ dissected. Geddes (1981: 260) synonymised this species with *Branchinella occidentalis* Linder, 1941: 251-2.

*Branchinella basispina* Geddes, 1981: 281, Fig. 15a-e.

Paratypes, many (unregistered). Locality: Homestead Dam, Balladonia Station, WA, 32° 28' S, 123° 52' E.

Remarks: Holotype ♂, Allotype ♀, Paratypes ♂♂ + ♀♀ deposited in the AM, registration numbers P28419, P28420 and P28421 respectively. The WAM paratype material is unregistered and had not been located at the time of writing.

*Branchinella denticulata* Linder, 1941: 262, Figs 38, 39a-c. Holotype, ♂ WAM 145-62. Locality: Lake Gidgee, near Kalgoorlie, WA.

Paratypes, many ♂♂ + ♀♀ WAM 146-62. Locality: As in holotype.

Remarks: WAM 146-62, ♂♂ and ♀♀ paratypes in two tubes. No locality data but locality is probably the same as the holotype as the date and the collector for both agree. Paratypes also in the ZM Uppsala.

*Branchinella longirostris* Wolf, 1911: 257, Figs 1-4. Holotype, WAM 7131.

Locality: Boorabbin, WA.

Remarks: Specimens have not been located. Geddes (1981: 268) remarks that the type material of Wolf (1911) has disintegrated.

***Branchinella nichollsi*** Linder, 1941: 249, Fig. 33.

Paratypes, 11♂♂ + 11♀♀ WAM 142-62. Locality: Lake Gidgee, near Kalgoorlie, WA.

Remarks: Linder (1941: 249) states that the ♂ holotype was also deposited in the WAM. However, there is no record of this in the registers and the holotype has not been located in the collection. Paratype material is present. Paratypes also in ZM Uppsala (4♂♂, 3♀♀). Geddes (1981: 264) designated this material as the subspecies *Branchinella nichollsi nichollsi*.

***Branchinella simplex*** Linder, 1941: 247, Fig. 32. Holotype, ♂ WAM 140-62.

Locality: Lake Kopai, near Kurradjong, WA, 30°46'S, 121°15'E.

Paratypes, 25♀♀ WAM 141-62. Locality: As in holotype.

Remarks: Lake Kopai mis-spelt as Lake Kofar in Linder (1941: 247). Paratypes also in ZM Uppsala (1♂, 2♀♀).

Class Maxillopoda Dahl, 1956

Subclass Cirripedia Burmeister, 1834

Order Thoracica Darwin, 1854

Suborder Lepadomorpha Pilsbry, 1916

Family Heteralepadidae Nilsson-Cantell, 1921

***Paralepas georgei*** Daniel, 1970: 33, Figs 1-10. Holotype, WAM 190-62. Locality:

Off Rottneest I., WA, from *Panulirus cygnus* George.

Paratypes, 5 WAM 191-62 Tasmania, from *Jasus novaehollandiae* Holthuis;

2 WAM 193-62 Doubtful I. Bay, WA, from *Pseudocarcinus gigas* (Lamarck);

21 WAM 196-62 off Rottneest I., WA, from *Hypothalassia armata* (de Haan);

3 WAM 226-68 off Rottneest I., WA, from *P. cygnus* George.

Subclass Copepoda Milne-Edwards, 1840

Order Calanoida Sars, 1903

Family Arietellidae Sars, 1902

***Paramisophria variabilis*** McKinnon and Kimmerer, 1985: 85, Figs 1-2.

Paratypes, 2♂♂ + 2♀♀ WAM 44-84. Locality: Fauré Sill, Shark Bay, WA.

Family Centropagidae Giesbrecht, 1892

***Boeckella shielii*** Bayly, 1985: 79, Fig. 1A-1F. Holotype, ♂ WAM 89-84. Locality:

Pool, 60 km NNE of Esperance, WA.

Allotype, ♀ WAM 90-84. Locality: As in holotype.

Paratypes, ♂ WAM 91-84, ♀ WAM 92-84, 18♂♂ WAM 93-84, 35♀♀ WAM 94-

84. Locality: As in holotype.

Remarks: WAM 89 to 92-84 slides; WAM 93 and 94-84 formalin.



*Hemiboeckella andersonae* Bayly, 1974: 88, Figs 1a-e, 2a-d.

Paratypes, 3♀ WAM 182-73, 3♂♂ WAM 183-73, 10♂♂ + 10♀♀ WAM 184-73. Locality: Culeenup I., Yunderup Delta, WA.

Remarks: WAM 182-73, 3 slides; WAM 183-73, 3 slides; WAM 184-74, formalin.

Class Malacostraca Latreille, 1806  
Subclass Eumalacostraca Grobben, 1892  
Superorder Peracarida Calman, 1904  
Order Amphipoda Latreille, 1816  
Suborder Gammaridea Latreille, 1803  
Family Acanthonotozomatidae Stebbing, 1906

*Iphimediella intermedia* Nicholls, 1938: 71, Fig. 37a-h. Syntypes, several WAM 309-64. Locality: Commonwealth Bay, Australian Antarctic Territory, Stn 2, 527-549 m.

Remarks: Specimens now located in AM (P31682).

*Iphimediella margueritei* Chevreux var. *acuta* nov. Nicholls, 1938: 69, Fig. 36a-c. Syntypes, 3 WAM 308-64. Locality: Commonwealth Bay, Australian Antarctic Territory, 640-732 m.

Remarks: Specimens now located in AM (P18716).

*Panoploea joubini* Chevreux var. *bidentata* nov. Nicholls, 1938: 64, Fig. 33a-g. ? Syntypes, 2 WAM 264-64, 5 WAM 265-64, 1 WAM 266-64. Locality: Commonwealth Bay, Australian Antarctic Territory, Stn 7, 46 m; Stn 7, 110 m; Stn 2, 527-549 m, respectively.

Remarks: Specimens now located in AM (P18721, P18731-32).

*Pariphimediella octodentata* Nicholls, 1938: 75, Fig. 39a-h. Holotype, WAM 307-64. Locality: Commonwealth Bay, Australian Antarctic Territory, 527-549 m.

Remarks: Specimen now located in AM (P18720).

Family Amphilochidae Boeck, 1871

*Austropheonoides mundoe* Barnard, 1972: 18, Figs 2-3. Holotype, ♀ 3.6 mm WAM 219-68. Locality: Middleton Beach, Albany, WA, intertidal; algae and rocks.

*Narapheonoides mullaya* Barnard, 1972: 21, Figs 6-7. Holotype, ♀ 2.9 mm WAM 220-68. Locality: Sugarloaf Rock, Cape Naturaliste, WA, intertidal; wash of rocks and algae, mainly green *Caulerpa* species.

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*Unyapheonoides dabber* Barnard, 1972: 26, Figs 8-9. Holotype, 1.95 mm WAM 174-70. Locality: Cheyne Beach, E of Albany, WA, intertidal; weedy rocks.  
Remarks: Animal cut to pieces.

Family Calliopiidae Sars, 1893

*Atylopsis megalops* Nicholls, 1938: 93, Figs 49a-e, 52a. Syntypes, 2 WAM 302-64. Locality: Commonwealth Bay, Australian Antarctic Territory, 82-91 m.  
Remarks: Specimen transferred to and registered in AM, now missing (see Lowry, 1982: 320).

*Calliope fluviatilis* Thomson, 1879: 240, Fig. C4. ? Holotype, WAM 280-64. Locality: ? Dunedin, New Zealand.  
Remarks: Specimen is from Prof. Nicholls' collection and is probably Thomson's (1879) type. Barnard and Karaman (1982: 181) transferred this species to the genus *Paracalliope* in the family Paracalliopiidae.

Family Ceinidae Barnard, 1972

*Ceina wannape* Barnard, 1972: 29, Figs 10-11. Holotype, ♂ 7.5 mm WAM 218-68. Locality: Inside Forsythe Bluff, 19 km W of Albany, WA, intertidal; wash of dense algae on heavily wave-splashed smooth rocks.

Family Colomastigidae Stebbing, 1906

*Colomastix simplicicauda* Nicholls, 1938: 62, Fig. 32. Holotype, ♀ WAM 253-64. Locality: Macquarie I.  
Remarks: Specimen has not been located in either the WAM or the AM.

Family Dexaminidae Leach, 1813

*Guernea endota* Barnard, 1972: 165, Figs 98-100. Holotype, ♀ 3.0 mm WAM 167-70. Locality: Cheyne Beach, E of Albany, WA, intertidal; weedy rocks.

*Guernea melape* Barnard, 1972: 173, Figs 104-106. Holotype, ♀ 1.85 mm WAM 164-70. Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae and rocks.

*Guernea unchalka* Barnard, 1972: 177, Figs 107-108. Holotype, ♀ 1.8 mm WAM 168-70. Locality: Middleton Beach, WA, intertidal; wash of sandy coralline algae.

*Paradexamine churinga* Barnard, 1972: 57, Figs 21-27. Holotype, ♀ 3.4 mm WAM 211-68. Locality: Jervois Bay, Cockburn Sound, WA, on groin 3 km SE of Woodman Point, 1 m; algae on rocks.

*Paradexamine goomai* Barnard, 1972: 92, Figs 47-49. Holotype, ♀ 5.3 mm WAM 214-68. Locality: Sugarloaf Rock, W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae, mainly green *Caulerpa* species.

*Paradexamine linga* Barnard, 1972: 101, Figs 53-55. Holotype, ♀♀ 3.4 mm WAM 159-70. Locality: 5 km NE of Dunsborough, near Cape Naturaliste, WA, on jetty pilings; wash of sponges and tunicates on pilings of old jetty.

*Paradexamine marlie* Barnard, 1972: 105, Figs 56-58. Holotype, ♀ 3.3 mm WAM 221-68. Locality: Jervois Bay, Cockburn Sound, WA, on groin 3 km SE of Woodman Point, 1 m; algae on rocks.

*Paradexamine narluke* Barnard, 1972: 115, Figs 62-63. Holotype, ♂ 3.3 mm WAM 39-70. Locality: Sugarloaf Rock, Cape Naturaliste, WA, intertidal; wash of common seaweeds.

*Paradexamine otichi* Barnard, 1972: 118, Figs 64-66. Holotype, ♀ 2.85 mm WAM 160-70. Locality: Middleton Beach near Albany, WA, intertidal; wash of sandy rocks, coralline algae.

*Paradexamine quarallia* Barnard, 1972: 126, Figs 70-72. Holotype, ♀ 2.9 mm WAM 156-70. Locality: Cheyne Beach, E of Albany, WA, intertidal; on weedy rocks.

*Paradexamine rongii* Barnard, 1972: 130, Figs 73-74. Holotype, ♀ 3.25 mm WAM 158-70. Locality: 5 km NE of Dunsborough, near Cape Naturaliste, WA, on pilings of old jetty; wash of sponges and tunicates.

*Paradexamine thadalee* Barnard, 1972: 133, Figs 75-77. Holotype, ♀ WAM 162-70. Locality: Cheyne Beach, WA, intertidal.

*Paradexamine windarra* Barnard, 1972: 138, Figs 78-80. Holotype, ♀ 3.95 mm WAM 161-70. Locality: Cheyne Beach, E of Albany, WA, intertidal; on weedy rocks.

Remarks: Specimen dissected.

*Prophlias anomalus* Nicholls, 1939: 314, Figs 1-2. ? Syntypes, '8 examples', WAM 575-85. Locality: W side of Bathurst Pt, Rottnest I., WA, in fine sand and weed between large boulders where waves break continually.

Remarks: 3 slides – note in slide box reads 'This is a Nicholls' species. pbl. - 1939. May be 'type' material, W. Zeidler. March 1977.' Syntypes in S. Aust. Mus. Barnard (1972: 162) transferred this species from the family Phliantidae

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Nicholls, 1939 to the family Dexaminidae Leach, 1813 subfamily Prophliantinae Barnard, 1970.

*Syndexamine wunda* Barnard, 1972: 143, Figs 81-83. Holotype, ♂ 3.7 mm WAM 222-68. Locality: Middleton Beach, Albany, WA, intertidal; wash of sandy rocks, coralline algae.

Family Eusiridae Stebbing, 1888

*Pontogeneiella maneroo* Barnard, 1972: 187, Figs 112-114. Holotype, ♀ 3.4 mm WAM 192-70. Locality: Sugarloaf Rock, Cape Naturaliste, WA, intertidal; wash of common seaweeds.

*Tethygeneia elanora* Barnard, 1972: 200, Figs 119-121. Holotype, ♀ 6.8 mm WAM 172-70. Locality: Middleton Beach, Albany, WA, intertidal; wash of sandy rocks, coralline algae.

*Tethygeneia nalgo* Barnard, 1972: 205, Fig. 122. Holotype, ♂ 6.1 mm WAM 171-70. Locality: Middleton Beach, Albany, WA, intertidal; wash of sandy rocks, coralline algae.

*Tethygeneia tulkara* Barnard, 1972: 208, Fig. 123. Holotype, ♀ 4.5 mm WAM 169-70. Locality: Sugarloaf Rock, Cape Naturaliste, WA, intertidal; wash of common seaweeds.

*Tethygeneia waminda* Barnard, 1972: 210, Figs 124-126. Holotype, ♀ 6.6 mm WAM 170-70. Locality: Sugarloaf Rock, Cape Naturaliste, WA, intertidal; wash of algae — mainly green *Caulerpa* species.

Family Gammaridae Leach, 1813

*Ceradocoides chiltoni* Nicholls, 1938: 123, Fig. 63a-c. Holotype, WAM 256-64. Locality: Commonwealth Bay, Australian Antarctic Territory, Stn 4, 549 m. Remarks: Specimens now located in AM (P18710).

*Cottesloe berringar* Barnard, 1974: 29, Figs 19-21. Holotype, ♂ 13.3 mm WAM 136-71. Locality: Cottesloe, WA.  
Remarks: Lowry and Fenwick (1983: 228) transferred this species to the genus *Gammarella* Bate, 1862 in the family Melitidae Bousfield, 1973, 1977 (emend.).

*Elasmopus memurte* Barnard, 1974: 21, Figs 14-15. Holotype, ♂ 10.2 mm WAM 129-71. Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae and rocks.

*Elasmopus yunde* Barnard, 1974: 23, Figs 16-18. Holotype, ♂ 4.8 mm WAM 130-71. Locality: Point Peron, WA; weed washing.

*Hurleya kalamundae* Straskraba, 1966: 291, Pls 56(1)-57(2). Holotype, ♀ WAM 404/6-54. Locality: Kalamunda, WA.

Remarks: ♀ with oostegites.

*Mallacoota carteta* Barnard, 1972: 252, Fig. 147 (part). Holotype, ♂ 8.8 mm WAM 196-70. Locality: Cheyne Beach, E of Albany, WA, intertidal; weedy rocks.

Remarks: Lowry and Fenwick (1983: 228) transferred this species to the genus *Hoho* in the family Melitidae Bousfield, 1973, 1977 (emend.).

*Melita matilda* Barnard, 1972: 231, Figs 136, 137 (part). Holotype, ♂ 8.9 mm WAM 225-68. Locality: Matilda Bay, Swan R., WA; in dead clam.

*Melita oba* Barnard, 1972: 231, Fig. 137 (part). Holotype, ♂ 7.2 mm WAM 213-68. Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; on seaweed.

*Melita zeylanica* Stebbing *kauerti* *subsp. nov.* Barnard, 1972: 235, Figs 139-141. Holotype, ♂ 8.0 mm WAM 189-70. Locality: Middle Swan Bridge, Swan R., WA.

*Neoniphargus branchialis* Nicholls, 1924b: 105, Pls X-XI. Syntypes, 4 WAM 249-64, 1 WAM 11781. Locality: King River district, Albany, WA.

Remarks: WAM 249-64, 3 whole specimens, 1 specimen in two halves. Straskraba (1964: 133, Fig. 7) transferred this species to the genus *Perthia*.

*Neoniphargus nichollsi* Straskraba, 1964: 128, Fig. 3. Holotype, ♂ 5 mm WAM 11781. Locality: Cannington, WA.

Remarks: Lot consists of 6 specimens of *N. nichollsi* together with 2 specimens of *Perthia acutitelson*. Holotype of *N. nichollsi* is specimen No. 1.

*Parelasmpopus echo* Barnard, 1972: 255, Figs 148-149. Holotype, ♂ 14.0 mm WAM 41-69. Locality: SW of Bunbury, WA, 20 m.

*Parelasmpopus ya* Barnard, 1972: 258, Figs 150-152 (part). Holotype, ♂ 12.3 mm WAM 10-69. Locality: Cockburn Sound, WA.

*Perthia acutitelson* Straskraba, 1964: 134, Figs 8-9. Holotype, ♂ WAM 11781. Locality: Cannington, WA.

Remarks: Lot consists of 2 specimens (1♂ holotype and 1♀) together with 6 specimens of *Neoniphargus nichollsi*.

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Family Hyalidae Bulycheva, 1957

*Hyale loorea* Barnard, 1974: 59, Figs 38-40. Holotype, ♂ 3.5 mm WAM 141-71.  
Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae and rocks.

*Hyale yake* Barnard, 1974: 76, Figs 49-50. Holotype, ♂ 7.2 mm, WAM 140-71.  
Locality: Cheyne Beach, WA.

Family Leucothoidae Dana, 1852

*Leucothoe gooweera* Barnard, 1974: 94, Fig. 58. Holotype, ♀ WAM 9-69. Locality: NW of Bluff Pt, Geraldton, WA.  
Remarks: ♀ ovigerous.

Family Lysianassidae Dana, 1849

*Ambasiopsis tumicornis* Nicholls, 1938: 21, Fig. 7a-j. Syntypes, several WAM 315-64, 2 WAM 316-64, several WAM 317-64 (?1, WAM 318-64). Locality: Commonwealth Bay, Australian Antarctic Territory, all at 640-732 m except WAM 318-64, 110 m.

Remarks: A note written in register for WAM 318-64 is as follows 'not designated as *tumicornis* but agrees with locality etc.'. Specimens now in AM (P18705-07).

*Lepidepcrella emarginata* Nicholls, 1938: 31, Fig. 13a-p. Holotype, ♀ WAM 312-64. Locality: Commonwealth Bay, Australian Antarctic Territory, 527-549 m.

Remarks: Specimens now located in AM (P18717).

*Parawaldeckia dilkeri* Barnard, 1972: 269, Fig. 159. Holotype, '♀-like' 3.9 mm WAM 216-68. Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae and rocks.

*Tryphosella orana* Barnard, 1972: 276, Figs 164-165. Holotype, ♂ 4.2 mm WAM 223-68. Locality: Middleton Beach, Albany, WA, intertidal; wash of sandy rocks, coralline algae.

Family Metopidae Stebbing, 1906

*Pseudothaumatelson cyproides* Nicholls, 1938: 53, Fig. 28a-k. Syntypes, 1♂ + 1♀ WAM 250-64. Locality: Commonwealth Bay, Australian Antarctic Territory, 46 m.

Remarks: Specimens now located in AM (P18730).

Family Nihotungidae Barnard, 1972

*Nihotunga iluka* Barnard, 1972: 279, Figs 166-167. Holotype, ? sex 1.0 mm WAM 217-68. Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae and rocks.

Family Oedicerotidae Lilljeborg, 1865

*Oediceroides emarginatus* Nicholls, 1938: 88, Fig. 47a-d. Holotype, WAM 314-64. Locality: Commonwealth Bay, Australian Antarctic Territory.  
Remarks: Specimen now located in AM (P18718).

*Oediceroides similis* Nicholls, 1938: 89, Fig. 48a-g. Holotype, ♀ WAM 313-64. Locality: Commonwealth Bay, Australian Antarctic Territory.  
Remarks: Specimen now located in AM (P18719).

Family Phliantidae Stebbing, 1899

*Cylindrylloides mawsoni* Nicholls, 1938: 59, Figs 30a-o, 31p-w. Syntypes, 2 WAM 303-64, 1 WAM 304-64, 1 WAM 305-64, 3 WAM 306-64. Locality: Macquarie I., shore collection.  
Remarks: Specimens now located in AM (P18711-14).

Family Phoxocephalidae Sars, 1891

*Birubius eake* Barnard and Drummond, 1978: 357, Figs 179-181. Holotype, ♀ 'a' 3.11 mm WAM 68-81. Locality: Sugarloaf Rock, Cape Naturaliste, WA, intertidal; wash of common seaweeds.

*Birubius gambodeni* Barnard and Drummond, 1978: 292, Figs 139-143. Holotype, ♀ 'c' 10.6 mm WAM 67-81. Locality: Middleton Beach, Albany, WA, intertidal; wash of sandy rock, coralline algae.

*Birubius nammuldus* Barnard and Drummond, 1978: 212, Figs 91-92. Holotype, ♂ 'a' 4.98 mm WAM 71-81. Locality: Barrow I., WA.

*Ganba pellati* Barnard and Drummond, 1978: 125, Figs 48-49. Holotype, ♀ 'a' 5.25 mm WAM 62-81. Locality: Cheyne Beach, Albany, WA, intertidal; on weedy rocks.

*Kuritus nacoonus* Barnard and Drummond, 1978: 130, Figs 50-51. Holotype, ♂ 'a' 4.16 mm WAM 414-73. Locality: Barrow I., WA.

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- Limnoporeia wakkin* Barnard and Drummond, 1978: 511, Figs 261-263. Holotype, ♂ 'h' 4.72 mm WAM 59-81. Locality: Off Jibbon Pt, NSW; trawl stn 6; dredged, 40 m.
- Tipimegus dinjerrus* Barnard and Drummond, 1978: 55, Fig. 15. Holotype, ♀ 'w' 8.13 mm WAM 39-81. Locality: Off Jibbon Pt, NSW; trawl stn 6; dredged, 40 m.
- Wildus thambaroo* Barnard and Drummond, 1978: 134, Figs 52-54. Holotype, ♀ 'a' 2.43 mm WAM 61-81. Locality: Off Jibbon Pt, NSW; trawl stn 6.
- Yan tiendi* Barnard and Drummond, 1978: 390, Figs 199-200. Holotype, ♀ 'a' 2.47 mm WAM 64-81. Locality: Middleton Beach, Albany, WA, intertidal; wash of algae and rocks.

Family Platyschnopidae Barnard and Drummond, 1979

- Platyschnopus mam* Barnard and Drummond, 1979: 11, Figs 6-8. Holotype, ♂ 6.10 mm WAM 58-81. Locality: Off Jibbon Pt, NSW; trawl stn 6.

Family Podoceridae Stebbing, 1906

- Podocerus capillimanus* Nicholls, 1938: 129, Fig. 67a-d. Syntypes, 2 WAM 310-64, 4 WAM 311-64. Locality: Macquarie I.  
Remarks: Specimens now located in AM (P31683-89, P18729).

Family Pontogeneiidae Stebbing, 1906

- Paramoera hamiltoni* Nicholls, 1938: 117, Figs 52h, n; 60a-h. Syntypes, 2 WAM 259-60, several WAM 260-64, 2 WAM 261-64, 2 WAM 262-64, 1 WAM 263-64. Locality: WAM 259 to 262-64, Macquarie I.; WAM 260-64 SE of Harbour, from roots of kelp; WAM 262-64 N end of Macquarie I.; WAM 263-16 Antarctica or Macquarie I., from stomach of *Notothenia macrocephala*, only part of specimen present.  
Remarks: Specimens now located in AM (P18724-28).
- Paramoera macquariae* Nicholls, 1938: 119, Figs 52j, 61a-g. Holotype, ?♂ WAM 258-64. Locality: Macquarie I.  
Remarks: Specimen now located in AM (P18722).
- Paramoera schellenbergi* Nicholls, 1938: 120, Figs 52k, 62a-k. ? Syntypes, several WAM 251-64. Locality: Macquarie I.  
Remarks: Specimens now located in AM (P18723) labelled holotypes, may be syntypes (J.K. Lowry, pers. comm.).



*Pontogeneia chosroides* Nicholls, 1938: 101, Figs 52b, 53a-o. Syntypes, several WAM 297-64, several WAM 298-64, several WAM 299-64, several WAM 300-64, several WAM 301-64. Locality: Macquarie I. — WAM 300-64 N end; WAM 301-64 SE of Harbour, roots of kelp.

Remarks: Specimens now located in AM (P18734-39).

*Pontogeneia chosroides* var. *denticulata* nov. Nicholls, 1938: 104, Fig. 54a-d. Syntypes, several WAM 255-64. Locality: Macquarie I.

Remarks: Specimens now located in AM (P18740).

*Pontogenoides abyssii* Nicholls, 1938: 106, Fig. 55a-o. Holotype, ♀ WAM 252-64. Locality: Adelie I., Antarctic, trawl, 1463 m.

Remarks: Specimen now located in AM (P18733).

Family Stenothoidae Boeck, 1871

*Ausatelson ule* Barnard, 1972: 312, Figs 189-190. Holotype, ♀ 2.2 mm WAM 212-68. Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae and rocks.

*Chucullba alla* Barnard, 1974: 108, Figs 65-66. Holotype, ♀ WAM 134-71. Locality: Middleton Beach, Albany, WA, intertidal; wash of sand, rocks and coralline algae.

*Chucullba warea* Barnard, 1974: 110, Figs 67-68. Holotype, ♀ WAM 135-71. Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae and rocks.

*Goratelson waroo* Barnard, 1972: 315, Figs 191-192. Holotype, ♀ 2.6 mm WAM 215-68. Locality: W of Bunker Bay, Cape Naturaliste, WA, intertidal; wash of algae and rocks.

*Raumahara dertoo* Barnard, 1972: 318, Figs 193-194. Holotype, ♀ 1.55 mm WAM 224-68. Locality: Sugarloaf Rock, Cape Naturaliste, WA, intertidal; wash of common seaweeds.

*Stenothoe allinga* Barnard, 1974: 118, Figs 73-74. Holotype, ♀ 3.8 mm WAM 128-71. Locality: Middleton Beach, Albany, WA, intertidal; wash of algae and rocks.

Remarks: ♀ ovigerous.

*Stenothoe nonedia* Barnard, 1974: 124, Figs 77-78. Holotype, ♀ 2.7 mm WAM 132-71. Locality: Sugarloaf Rock, Cape Naturaliste, WA, intertidal; wash of algae, mainly green *Caulerpa* sp.

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*Stenothoe quabara* Barnard, 1974: 126, Fig. 79. Holotype, ♀ WAM 131-71.  
Locality: Middleton Beach, Albany, WA, intertidal; wash of algae and rocks.

*Stenothoe woka* Barnard, 1974: 129, Figs 80-81. Holotype, ♀ 2.7 mm WAM 133-71. Locality: Middleton Beach, Albany, WA, intertidal; wash of algae and rocks.

Remarks: ♀ ovigerous.

Family Talitridae Rafinesque, 1815

*Austrotroides occidentalis* Friend, 1982: 468, Figs 4-6.

Paratypes, WAM 107-80. Locality: No. 4. Gleneagle B068 WA, Mr Havel's plot 171, black swamp soil, Bullich (*Eucalyptus megacarpa*).

*Austrotroides pectinalis* Friend, 1982: 463, Figs 1-3.

Paratypes, WAM 92-81. Locality: Pemberton, WA, site 21 HU61, Karri mixed forest, scattered *Casuarina*, grasses, bracken, brown-red gravel, 34° 30'S, 116° 00'E.

*Talorchestia terrae-reginae* Haswell, 1880/81: 98, Pl. V, Fig. 4. ? Syntypes, WAM 254-64. Locality: Sandy Beach, Port Dennison, Qld.

Remarks: From Prof. Nicholls' collection. Depository of type species not mentioned by Haswell.

Order Isopoda Latreille, 1817

Suborder Anthuridea Leach, 1814

Family Paranthuridae Menzies and Glynn, 1968

*Aenigmathura lactanea* Thomson, 1948: 5, Fig. 4a-k. Syntypes, ♂ + ♀ WAM 147-62. Locality: Bathurst Pt, Rottneest I., WA.

Suborder Flabellifera Sars, 1882

Family Cirolanidae Dana, 1853

*Cirolana concinna* Hale, 1925: 152, Fig. 12a-i. Holotype, ♀ WAM 10789. Locality: Cottesloe, WA.

Paratypes, 1 WAM 7706, 8 WAM 10988, 16 WAM 10790, 1 WAM 10161, 1 WAM 10581. Locality: As in holotype; WAM 10161 from seaweed, floating; WAM 10581 from a rock pool.

Remarks: WAM 10789 spirit and 3 slides, WAM 10790 spirit and 4 slides.

Family Corallanidae Hansen, 1890

- Corallana kulai* Bruce, 1982: 243, Figs 2-3. Holotype, ♂ WAM 18-81. Locality: Between Rottnest I. and Fremantle, WA, triangle dredge.  
Paratypes, ♂ + ♀ WAM 58-80 between Rottnest I. and Fremantle, WA, triangle dredge; WAM 59-80 NW of Bluff Pt, WA, Stn 204, 99 m, triangle dredge, 27° 18'S, 112° 16'E; 2 WAM 60-80 SW of Dongara, WA, Stn 214, 128-132 m, 29° 49'S, 114° 24'E.  
Remarks: WAM 58-80 specimens damaged, WAM 59-80 spirit and 1 slide (broken), WAM 60-80 donated to the AM.

Family Cymothoidae Dana, 1852

- Livoneca turgidula* Hale, 1926: 217, Fig. 11a-i. Holotype, ♀ WAM 10034. Locality: Fremantle, WA.  
Allotype, ♂ WAM 11126. Locality: Cottesloe, WA.  
Remarks: Parasitic, WAM 10034 spirit and 5 slides, WAM 11126 1 slide. Correct spelling of this genus is *Lironeca* Leach, 1818 although it is often misspelt as *Livoneca*.

Family Sphaeromatidae Milne Edwards, 1840

- Cilicaeopsis sculpta* Baker, 1928: 54, Pl. iii Figs 5-7. Holotype, WAM 10850. Locality: Cottesloe, WA, in rock pools.  
Paratypes, WAM 10672, WAM 10496 to 10501. Locality: As in holotype; WAM 10672 from a sponge; WAM 10496 to 10501 from a sponge, slide.
- Cymodoce multidentis* Richardson var. *australis* nov. Baker, 1928: 52, Pl. i Figs 4-6. Syntypes, ♂ WAM 10385, ♀ WAM 10484. Locality: Cottesloe, WA.  
Remarks: ♀ ovigerous; both syntypes from a sponge; 2 slides.
- Exosphaeroma serventii* Baker, 1928: 49, Pl. i Figs 1-2. Syntypes, 1♂ + 1♀ WAM 11625a, 4 WAM 11625b, 20 WAM 11625c. Locality: Pallinup Estuary, WA.  
Remarks: WAM 11625a slide.
- Haswellia glauerti* Baker, 1928: 59, Pl. v Figs 1-5. Syntypes, 4 WAM 11754 to 11759. Locality: Cottesloe, WA, in sponge.  
Remarks: 1 slide and 4 specimens in spirit. In Baker's (1928) paper the WAM numbers are misprinted as 11795-11759.
- Haswellia intermedia* Baker, 1926: 274, Pl. liii Figs 1-5. Syntypes, 6 WAM 10383. Locality: Cottesloe, WA, from a sponge.  
Remarks: Specimens dissected; 2 slides and spirit.

- Isocladus excavatus* Baker, 1928: 50, Pl. i Fig. 3. Syntype, WAM 10607. Locality: ? Cottesloe, WA.  
Remarks: Specimen has not been located.
- Moruloida tumida* Harrison, 1984: 271, Fig. 5. Holotype, ♂ WAM 69-80. Locality: Bathurst Pt, Rottnest I., WA.  
Paratypes, ♀ WAM 258-82 (ex WAM 69-80), ♀ WAM 259-82 (ex WAM 70-80).  
Locality: As in holotype.  
Remarks: WAM 69-80 3 slides, WAM 259-82 ♀ ovigerous.
- Paracilicsea flexilis* Baker, 1928: 55, Pl. iv Figs 1-4. Syntypes, 10 WAM 10608 to 10617. Locality: Cottesloe, WA.  
Remarks: 3 glass slides, 1 wooden slide.
- Paracilicsea gigas* Baker, 1928: 54, Pl. iii Figs 1-4. Syntypes, WAM 11043, ♂ WAM 11044, ♂ WAM 132-62. Locality: Cottesloe, WA.  
Remarks: WAM 11043 absent; note in register reads 'in S. Aust. Mus.'. WAM 132-62, locality WA but exact locality unknown; 3 slides, young ♂.
- Syncassidina aestuaria* Baker, 1928: 60, Pl. v Figs 6-10. Holotype, ♀ WAM 11180a. Locality: Rocky Bay, Swan R., WA, under stones.  
Paratypes, ♀♀ WAM 11180b. Locality: As in holotype.  
Remarks: WAM 11180a, 4 slides.
- Waiteolana gibbera* Harrison, 1984: 265, Figs 2a-o, 3a-i. Holotype, ♂ WAM 257-82 (ex WAM 60-80). Locality: S end Garden I., WA.  
Paratypes, 7♂♂ + 1♀ + 4 immature individuals WAM 68-80. Locality: As in holotype.  
Remarks: WAM 68-80, on gorgonians, ♀ ovigerous, 3 slides.

Suborder Asellota Latreille, 1803

Superfamily Stenetrioidea Hansen, 1905

Family Stenetriidae Hansen, 1905

- Stenetrium glauerti* Nicholls, 1929: 373, Figs 15-22. Syntypes, ♂ WAM 13927, 2♂♂ WAM 106-61 (ex WAM 13927/8), ♀ WAM 13928, 2 WAM 272-64 (ex WAM 13929/40), ♂ + ♀ WAM 273-64 (ex WAM 13929/40). Locality: Bathurst Pt, Rottnest I., WA.  
Remarks: WAM 106-61 slide, WAM 13927 slide, WAM 13928 slide.
- Stenetrium macrochirium* Nicholls, 1929: 363, Figs 1-10. Syntypes, 2 WAM 270-64, 2 WAM 16024/25, 2 WAM 269-64, 2 WAM 267-64, 5 WAM 268-64. Locality: Dongara Pier, WA, crawling on seaweed growing on piles. WAM 16024/25 has no collection data, but locality is probably Dongara Pier. Note

on labels of WAM 267-64 and 268-64 reads 'not designated as types but in bottle with others'.

*Stenetrium spinirostrum* Nicholls, 1929: 369, Figs 23-25. Syntypes, 8 WAM 12795 to 12806, ♂ WAM 105-61 (ex WAM 12795), 3 WAM 271-64. Locality: Bathurst Pt, Rottnest I., WA, reef, under stones and broken fragments. Remarks: WAM 12796 ♀ 1 slide; WAM 105-61 ♂ 2 slides. Also one unregistered slide labelled by Nicholls 'S. ? *macrochaerus*, ? *spinirostrum*'.

*Stenetrium truncatum* Nicholls, 1929: 371, Figs 11-14. Syntypes, WAM 107-61 (ex WAM 12807). Locality: Bathurst Pt, Rottnest I., WA, reef. Remarks: 2 slides.

Suborder Phreatoicoidea Stebbing, 1893  
Family Amphisopodidae Nicholls, 1943

*Amphisopus annectans* Nicholls, 1942: 82, Figs 20-21. Syntypes, WAM 244-74. Locality: Warron, WA.

*Amphisopus lintoni* (Nicholls) Nicholls, 1942: 75, Figs 18-19. Syntypes, WAM 218-74. Locality: ?Albany area, WA. Remarks: 10 slides, material originally labelled by G.E. Nicholls as *P. lintoni* (see Nicholls, 1926a: 182, 1924: 93, Pls 8-9, as *Phreatoicus lintoni*).

*Eophreatoicus kershawi* Nicholls, 1926a: 190, Figs 17-39. Syntypes, WAM 223-74, WAM 224-74, WAM 225-74, WAM 245-74. Locality: Sandstone Bluff, NT, taken in a small pool. Remarks: From notes made by the collector locality was on or near the Wellington Hills, 122°30'E, 12°00'S, a 'fine rock hole of clear, cool water'. WAM 223-74, 6 slides of ♂; WAM 224-74, 7 slides of ♂; WAM 225-74, 6 slides of ♂.

*Hyperoedesipus plumosus* Nicholls and Milner, 1923: 24, Figs 1-2, Pls II-V. Syntypes, 2 WAM 10665/6, WAM 229-74. Locality: Lesmurdie Falls, Kalamunda, WA. Remarks: WAM 229-74, 3 slides. See Nicholls 1942: 49, Figs 12, 13 for a more correct description of this species.

*Paramphisopus palustris* (Glauert, 1924) Nicholls, 1942: 58, Figs 14-15. Syntypes, WAM 10249, WAM 10250, WAM 10251 to 10273, WAM 217-74, WAM 221-74. Locality: Chinamens' Garden, N end of Smith's Lake, North Perth, WA (WAM 10249 to 10273, 221-74) and Welshpool, WA (WAM 221-74). Remarks: WAM 10250, 6 slides; WAM 217-74, 13 slides; WAM 221-74, 2 slides. All WAM material was originally identified by G.E. Nicholls and is labelled *Phreatoicus palustris*. *Paramphisopus palustris* was previously described as

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*Phreatoicus palustris* by Glauert, 1924: 51, Figs 1-6, and by Nicholls, 1924: 92, Pl. 8, Figs 2 and 2a, and as *Amphisopus palustris* by Nicholls, 1926: 182.

*Phreatoicoides longicollis* Nicholls, 1942: 136, Figs 32-33. Syntypes, WAM 227-74. Locality: No data in register, ?Tasmania.

Remarks: 4 slides.

Family Phreatoicidae Chilton, 1891

*Crenoicus harrisoni* Nicholls, 1943: 28, Fig. 40. Syntypes, WAM 10277 to 10280. Locality: Barrington Tops, NSW.

Remarks: Specimens have not been located.

*Phreatoicus joyneri* Nicholls, 1926a: 183, Pls XXV, XXVI, XXIX, Figs 40-44. ?Possibly syntype, WAM 104-61. Locality: ? Probably Mt Buffalo Plateau, Victoria.

Remarks: Labelled by G.E. Nicholls but no type designated [= *Uramphisopus australis* (Chilton, 1891)]. 8 slides.

Suborder Oniscidea Latreille, 1803

Infraorder Ligiamorpha Vandel, 1943

Section Synocheta Legrand, 1946

Superfamily Styloniscoidea Vandel, 1952

Family Styloniscidae Vandel, 1952

*Notoniscus chiltoni* Green, 1971: 72, Fig. 37.

Paratypes, ♂ WAM 207-70, ♀ WAM 210-70. Locality: Near Collinsvale, Tasmania, in debris in a Myrtle (Southern Beech) forest. Altitude 730 m.

Remarks: See Green, 1971: 73 for designation of plesiotype.

*Notoniscus tasmanicus* (Chilton) Green, 1961: 289, Figs 57-72. Plesiotypes, ♂ WAM 209-70, ♀ WAM 210-70. Locality: Near Collinsvale, Tasmania, in debris in a Myrtle (Southern Beech) forest. Altitude 730 m.

Remarks: See Green, 1971: 73 for designation of plesiotype.

*Styloniscus hirsutus* Green, 1971: 64, Figs 14-20.

Paratypes, ♂ WAM 203-70, ♀ WAM 204-70. Locality: Shoobridge Track, Mt Wellington, Tasmania; in debris beside track. Altitude 580 m.

*Styloniscus maculosus* Green, 1961: 276, Figs 23-31.

Paratypes, ♂ WAM 548-85, ♀ WAM 549-85. Locality: Tarraleah, Tasmania; in debris on ground, in forest of eucalypts and tree ferns.

*Styloniscus planus* Green, 1971: 67, Figs 21-28.

Paratypes, ♂ WAM 205-70, ♀ WAM 206-70. Locality: Wombat Moore, Mt Field National Park, Tasmania; under stones on damp ground. Altitude 1070 m.

*Styloniscus squarrosus* Green, 1961: 281, Figs 42-51.

Paratypes, ♂ WAM 550-85, ♀ WAM 551-85. Locality: Mt Wellington, Tasmania; in debris or under wood on ground. Altitude 457-914 m.

*Styloniscus sylvestris* Green, 1971: 61, Figs 5-9.

Paratypes, ♂ WAM 201-70, ♀ WAM 202-70. Locality: Shoobridge Track, Mt Wellington, Tasmania; in debris beside track. Altitude 580 m.

Section Crinocheta Legrand, 1946

Superfamily Oniscoidea Dana, 1852 (pro Atracheata)

Family Oniscidae Brandt, 1851

*Phalloniscus (Hanoniscus) monodi* Bowley, 1934: 63, Pl. VIII, Figs 13-18. Syntypes, several WAM 281-64, 4 WAM 282-64, 3 WAM 283-64, several WAM 284-64, several WAM 287a-64, several WAM 287b-64, WAM 285-64, WAM 286-64, WAM 296-64. Locality: WAM 281-64 — Near creek near Northam Rd, in . . . paddock, Wooroloo, WA. WAM 282 to 287a-64, 296-64, Wooroloo, WA. WAM 287b-64 under bark of a tree.

Remarks: Type series was originally in the Zoology Dept, University of Western Australia. At present the WAM holds specimens of the type series from Wooroloo, WA, but a single specimen from Moora, from the type series has not been located. The remaining specimens in the type series are housed in the Stockholm Museum and are from Moora, WA.

*Phalloniscus (Hanoniscus) nichollsi* Bowley, 1934: 60, Pl. VII, Figs 1-27. Syntypes, WAM 292-64 Deep R., Nornalup Estuary, WA; WAM 293-64 Frankland R., Nornalup, WA; 4 WAM 291-64 Swarbrick's Beach, Nornalup, WA; WAM 288-64, WAM 289-64, WAM 290-64 probably Warpole (?Walpole) Inlet, Nornalup, WA.

Remarks: Type series was originally in the Zoology Dept, University of Western Australia. Now the WAM holds specimens of the type series from Nornalup, WA. The remaining specimens in the type series are housed in the ZIZM Hamburg and are from Bunbury, WA.

*Phalloniscus (Hanoniscus) tuberculatus* (Budde-Lund) Bowley, 1934: 57, Pl. VIII, Figs 1-12. Syntype, WAM 7166. Locality: York, WA.

Remarks: = *Hanoniscus tuberculatus* Budde-Lund, 1912: 42, Pl. I, Figs 14-20, Text Fig. 26. The specimen has not been located.

*Plymophiloscia notleyensis* Green, 1961: 316, Figs 125-131.

Paratypes, ♂ WAM 552-85, ♀ WAM 553-85. Locality: Notley Gorge, Tasmania; under stones or among fallen leaves of eucalyptus and dogwood, on damp hillside.

*Plymnophiloscia tasmaniensis* Green, 1961: 314, Figs 119-124.

Paratypes, ♂ WAM 554-85, ♀ WAM 555-85. Locality: Tinder Box, Tasmania; in debris on ledge of a cliff above the shore.

*Plymnophiloscia thomsoni* Green, 1961: 308, Figs 101-109.

Paratypes, ♂ WAM 556-85, ♀ WAM 557-85. Locality: Mt Wellington, Tasmania; in debris or under wood or stones on ground. Altitude 723-1250 m.

*Plymnophiloscia ulverstonensis* Green, 1961: 319, Figs 132-139.

Paratypes, ♂ WAM 558-85, ♀ WAM 559-85. Locality: West Ulverstone, Tasmania; under stones or in debris on ground immediately inland from beach.

Superfamily Armadilloidea (pro Pseudotracheata Verhoeff)  
Family Actaeciidae Vandel, 1952

*Actaecia thomsoni* Green, 1966: 67.

Paratypes, ♂ WAM 570-85, ♀ WAM 571-85. Locality: Pirates' Bay, Eagle-Hawk Neck, Tasmania; in burrows in sand under seaweed, or walking on beach. Remarks: Also see Green, 1961: 295-301, Figs 75-90.

Family Armadillidae Verhoeff, 1917

*Armadillo flavus* Budde-Lund, 1912: 37, Pl. I Figs 59-60, Text Figs XXIII and XXIV. Syntype, WAM 7144. Locality: Mundaring Weir, WA, Stn 101.

Remarks: Syntypes also in ZIZM Hamburg.

*Armadillo integer* Budde-Lund, 1912: 35, Pl. I Figs 39-41, Text Fig. XX. Syntype, WAM 7189. Locality: Torbay, WA, Stn 162.

Remarks: Syntypes also in ZIZM Hamburg.

*Armadillo (Buddelundia) albomaculatus* Budde-Lund, 1912: 33, Pl. I Figs 61-63, Text Fig. XVIII. Syntype, WAM 7190. Locality: Broomehill, WA, Stn 158.

Remarks: Syntypes also in ZIZM Hamburg.

*Armadillo (Buddelundia) binotatus* Budde-Lund, 1912: 24, Pl. I Fig. 46, Text Fig. VII. Syntype, WAM 7175. Locality: Boorabbin, WA, Stn 95.

Remarks: Syntypes also in ZIZM Hamburg.

*Armadillo (Buddelundia) bipartitus* Budde-Lund, 1912: 24, Pl. I Figs 25-29, Text Fig. VIII. Syntypes, 2 WAM 7187. Locality: Baba Head, Edel-Land, Stn 69, 26° 36'S, 113° 41'E.

Remarks: Syntypes also in ZIZM Hamburg.



- Armadillo (Buddehunia) callosus* Budde-Lund, 1912: 27, Pl. I Figs 23-24, Text Fig. XI. Syntype, WAM 7191. Locality: Northampton, WA, Stn 71.  
Remarks: Syntypes also in ZIZM Hamburg.
- Armadillo (Buddehunia) cinerascens* Budde-Lund, 1912: 26, Text Fig. IX. Syntype, WAM 7154. Locality: Rottnest I., WA, Stn 121.  
Remarks: Syntypes also in ZIZM Hamburg.
- Armadillo (Buddehunia) inaequalis* Budde-Lund, 1912: 27, Pl. I Figs 21-22, Text Fig. X. Syntype, WAM 7159. Locality: Fremantle, WA.  
Remarks: Syntypes also in ZIZM Hamburg.
- Armadillo (Buddehunia) laevigatus* Budde-Lund, 1912: 23, Pl. I Figs 6-9, Text Fig. VI. Syntype, WAM 7174. Locality: Day Dawn, WA, Stn 76, 27°28'S, 117°52'E.  
Remarks: Syntypes also in ZIZM Hamburg.
- Armadillo (Buddehunia) nigripes* Budde-Lund, 1912: 33, Pl. I Figs 54-55, Text Fig. XVII. Syntype, WAM 7192. Locality: Bunbury, WA, Stn 142.  
Remarks: Syntypes also in ZIZM Hamburg.
- Armadillo (Buddehunia) opacus* Budde-Lund, 1912: 29, Pl. I Figs 47-48, Text Fig. XIII. Syntype, WAM 7165. Locality: Gooseberry Hill, WA, Stn 152.  
Remarks: Syntypes also in ZIZM Hamburg.
- Armadillo (Buddehunia) subinermis* Budde-Lund, 1912: 31, Pl. I Figs 33-34, Text Fig. XV. Syntype, WAM 7168. Locality: Eradu, WA, Stn 80, 28°42'S, 115°02'E.  
Remarks: Specimen present but note in register says 'presumed lost RWG 11.11.58'. Syntypes also in ZIZM Hamburg.
- Armadillo (Buddehunia) sulcatus* Budde-Lund, 1912: 22, Pl. I Figs 11-13, Text Figs III-V. Syntype, WAM 7194. Locality: Eradu, WA, Stn 80, 28°42'S, 115°02'E.  
Remarks: Syntypes also in ZIZM Hamburg.
- Cubaris hickmani* Green, 1961: 336, Figs 147-161.  
Paratypes, ♂ WAM 560-85, ♀ WAM 561-85. Locality: Tarraleah, Tasmania; in debris or under logs in forest of eucalypts and tree ferns.
- Cubaris sulcifrons* Green, 1961: 344, Figs 172-180.  
Paratypes, ♂ WAM 562-85, ♀ WAM 563-85. Locality: Roaring Beach, South Arm, Tasmania; enrolled and buried in moist sandy soil at base of cliff, above the shore.

***Cubaris tamarensis*** Green, 1961: 348, Figs 181-192.

Paratypes, ♂ WAM 564-85, ♀ WAM 565-85. Locality: Swan Point, West Tamar, Tasmania; in debris under grass tussocks growing immediately inland from shore of R. Tamar.

***Cubaris tasmaniensis*** Green, 1961: 341, Figs 162-171.

Paratypes, ♂ WAM 566-85, ♀ WAM 567-85. Locality: Tinder Box, Tasmania; in debris on ledge of a cliff above the shore.

***Echinodillo cavaticus*** Green, 1963: 77, Figs 1-12.

Paratypes, ♂ WAM 565-85, ♀ WAM 569-85. Locality: Near Whitemark, Flinders I. (Furneaux Gp), Bass Strait; in limestone cave.

Superorder Eucarida Calman, 1904

Order Decapoda Latreille, 1803

Family Atyidae De Haan, 1849

***Stygiocaris lancifera*** Holthuis, 1960: 48, Figs 1-2.

Paratypes, 3 WAM 16-59, 27 WAM 12-59, 54 WAM 13-59. Locality: WAM 16-59, Milyering Well, North West Cape Peninsula, WA. Milyering Well lies under a windmill, bored into coral and limestone. Fresh water, 27°C. WAM 12 and 13-59, Kuddumurra Well, Yardie Creek Station, North West Cape Peninsula, WA. Cemented well with *Melyeringa*. Temp. 29-30°C. Water tidally influenced.

***Stygiocaris stylifera*** Holthuis, 1960: 54, Fig. 3.

Paratypes, 2 WAM 14-59, 7 WAM 15-59. Locality: Kuddumurra Well, Yardie Creek Station, North West Cape Peninsula, WA.

Family Palaemonidae Rafinesque, 1815

***Palaemonetes atrinubes*** Bray, 1976: 76, Figs 23-42. Holotype, ♀ 34 mm WAM 106-75. Locality: Lower Swan River, WA.

Paratypes, 57♂♂ + 60♀♀ + 6 juvs — WAM 456-73 Gladstone, Shark Bay, WA; WAM 515-73 Wapet Ck, Exmouth Gulf, WA; WAM 519-73 Cockatoo I., WA, common in rock pools; WAM 94-75♂ 35 mm Lower Swan R., WA; WAM 95-75♀ 35 mm Lower Swan R., WA; WAM 98-75♂♂ 12-20 mm Bay of Rest, Exmouth Gulf, WA; WAM 104-75 Alfred Cove, Lower Swan R., WA; WAM 105-75 Canning Bridge, Lower Swan R., WA.

Remarks: WAM 94-75 slides, figured.

***Palaemonetes australis*** Dakin. Bray, 1976: 67, Figs 2-22. Neotype, ♀ WAM 108-75. Locality: Upper Swan R., WA.

Remarks: ♀ ovigerous. Depository of type species not given in Dakin's (1915) description and his specimens could not be located in the WAM or the AM. Bray (1976) designated and described the neotype.

Paratypes, numerous — WAM 36-74 Junction Hill R. and Coomaloo Ck, WA; ♂ 26 mm WAM 92-75 Upper Swan R., WA; ♀ 25 mm WAM 93-75 Upper Swan R., WA; ♂♂ 12-45 mm + ♀♀ 19-39 mm WAM 96-75 Moore R. (bridge), WA; ♂♂ 10-26 mm + ♀♀ 12-23 mm WAM 97-75 27 km W of Esperance, WA, small stream; ♂♂ 20-30 mm + ♀♀ 20-36 mm WAM 100-75 Avon (Swan) R., York, WA; ♂♂ 25-32 mm + ♀♀ 31-37 mm WAM 101-75 Swan R., Middle Swan Bridge, WA; ♂♂ 18-33 mm + ♀♀ 17-37 mm WAM 102-75 Nedlands Baths, Swan R., WA; ♂♂ 15-27 mm + ♀♀ 16-33 mm WAM 103-75 Deadwater, Hardy Inlet, WA; ♂♂ 21-29 mm + ♀♀ 27-34 mm WAM 107-75 Upper Swan R., WA; ♂♂ 14-22 mm + ♀♀ 20-26 mm WAM 109-75 Murray R., WA off deep bank, reeds; ♂♂ 18-22 mm + ♀♀ 20-30 mm WAM 110-75 Taylor Inlet, Nanarup, WA.

Remarks: WAM 36-76 type of pool, probably permanent, thick growth, aquatic vegetation, fresh water, 24°C; WAM 92-75, 93-75 and 96-75 slides; WAM 92-75, 93-75 figured.

#### Family Alpheidae Rafinesque, 1815

*Alpheus astrinx* Banner and Banner, 1982: 35, Fig. 5. Holotype, ♀ WAM 365-65.

Locality: Garden I., WA; in old coral rock 91 m off shore.

Paratypes, 2♂♂ + 2♀♀ (ex WAM 265-65). Locality: As in holotype.

*Alpheus balaenodigitus* Banner and Banner, 1982: 223, Fig. 70. Holotype, ♀ WAM 172-65. Locality: Port Walcott, WA, 15 m, sand and occasional sponges and coral.

Remarks: ♀ ovigerous.

*Alpheus bunburius* Banner and Banner, 1982: 213, Fig. 66. Holotype, ♀ WAM 271-65. Locality: Bunbury, WA.

*Alpheus georgei* Banner and Banner, 1982: 200, Fig. 61. Holotype, ♂ WAM 226-65. Locality: 64 km W of Cape Jaubert, WA, 40 m.

*Alpheus papillosus* Banner and Banner, 1982: 260, Fig. 80.

Paratypes, WAM 34-65 Exmouth Gulf or Shark Bay, WA, trawled; WAM 49-65 Decres Bay, SA; WAM 205-65 Cockburn Sound, WA, inshore, 2 m; WAM 239-65 Cockburn Sound, WA; WAM 334-79, 335-79, ? locality.

Remarks: WAM 334-79, 335-79, note in register reads 'returned Nov. 79 by Banner and Banner as an unregistered specimen lot from WAM'.

*Alpheus parasocialis* Banner and Banner, 1982: 72, Fig. 17. Holotype, ♀ WAM 288-65. Locality: Palm Beach, Rockingham, WA, jetty piles; in sponges. Allotype, ♂ ex WAM 288-65. Locality: As in holotype. Paratypes, numerous — WAM 23-65 Carnarvon area, WA, trawled; WAM 29-65 Pelsart Gp, Abrolhos Is, WA; WAM 38-65 11 km SW of Bunbury, WA, 20 m; WAM 42-65 Lancelin, WA; WAM 58-65 NE of Garden I., WA, in old boom piles; WAM 87-65 Kwinana, Cockburn Sound, WA, 181-271 m NW of No. 2 Light Buoy; WAM 95-65 near bar of South Passage, Shark Bay, WA, Honolulu dredge, 11 m, sand and weed; WAM 97-65 Emu Pt channel, Albany, WA, 6-12 m, from gorgonians, sponges, stones etc.; WAM 103-65 Busselton, WA; WAM 108-65 near bar of South Passage, Shark Bay, WA, Honolulu dredge, 11 m, sand and mud; WAM 109-65 Trigg I., WA; WAM 111-65 1-3 km W of Seal I., King George Sound, WA; WAM 112-65 Esperance Bay, WA, jetty piles; WAM 113-65 Rockingham, WA, from rocks, near old piles; WAM 117-65 Fremantle, WA, jetty piles; WAM 120-65 Pidgeon I., Wallabi Gp, Abrolhos Is, WA, jet black, in green crinoid; WAM 121-65 Busselton, WA; WAM 130-65 Port Gregory, WA, reef, under stones at low tide on reef flat; WAM 135-65 Eagle Bay, Cape Naturaliste, WA, under intertidal granite boulders; WAM 143-65 Lancelin I., WA; WAM 159-65 Owen Anchorage, off South Fremantle Power House, WA, trawled; WAM 182-65 8 km E of North I., Abrolhos Is, WA, Honolulu dredge, some weed, coral, sponge; WAM 198-65 3 km E of E end of Rottnest I., WA, 17 m; WAM 200-65 W side, Good Friday Bay, Abrolhos Is, WA, dredged, 18-27 m; WAM 201-65 approx. 5 km NW of Ledge Pt, WA, 14-16 m, craypots; WAM 202-65 Beagle I., WA, 10 m, from craypot or cray ropes; WAM 203-65 near bar of South Passage, Shark Bay, WA, Honolulu dredge, 11 m, sand and weed; WAM 228-65 near bar of South Passage, Shark Bay, WA, Honolulu dredge, 11 m, sand and weed; WAM 240-65 Point Peron, WA, among worm rock; WAM 248-65 16-32 km W of Lagrange Bay, WA, 22-46 m; WAM 257-65 Jervoise Groyne, Cockburn Sound, WA, in crevices of old dead coral, 4 m; WAM 266-65 Careening Bay, Garden I., WA, from sponge, under naval jetty; WAM 267-65 Careening Bay, Garden I., WA, beam trawl, 4 m; WAM 269-65 W of West End, Rottnest I., WA, dredged, 135-144 m; WAM 288-65 Palm Beach, Rockingham, WA, jetty piles; WAM 336-79 N of Rat I., Easter Gp, Abrolhos Is, WA, Scallop trawl, 37 m, sand bottom; WAM 337-79 1.6 km N of Jubilee I., Abrolhos Is, WA, Scallop trawl, 32 m, found in small cavities in corals and sponges; WAM 338-79, 339-79, 340-79 Cockburn Sound, near Perth, WA, 18-20 m, trawled, from sponges; WAM 153-31 to 173-31 reef at Bathurst Pt, Rottnest I., WA; WAM 4985 ?FIS *Endeavour*, between Fremantle and Geraldton, WA; WAM 10011 Cottesloe, WA, from *Posidonia*; WAM 11100, 11101 Cottesloe, WA; WAM 10381 Cottesloe, WA, from a sponge; WAM 10467 Craigie Lake, Wanneroo, WA; WAM 10571, 10572 Cottesloe, WA, from a sponge; WAM 251-32 to 278-32 Cottesloe, WA, from a sponge.

Remarks: WAM 10467 locality erroneous, correct locality is possibly Cottesloe, WA, from a sponge.

*Alpheus strenuus cremnus* Banner and Banner, 1982: 229, Fig. 72.

Paratypes, 3 WAM 89-65, 3 WAM 131-65, 9 WAM 185-65, 5 WAM 221-65, 11 WAM 278-65, 2 WAM 299-65. Locality: Yampi Sound, WA, low tide, reef.

*Athanas locincertus* Banner and Banner, 1973: 311, Fig. 5. Holotype, ♂ WAM 61-65. Locality: Banner and Banner, 1973 state locality as 'Panchoran Buoy [Western Australia?]', Correct locality is Panchoran Bay, Christmas I., Indian Ocean.

Allotype, ♀ ex WAM 61-65. Locality: As in holotype.

*Synalpheus echinus* Banner and Banner, 1975: 374, Fig. 27. Holotype, ♀ WAM 92-65. Locality: Trigg I., Perth, WA.

Paratypes, ♀ ex WAM 92-65 Trigg I., Perth, WA; ♀ WAM 51-65 Carnac I., WA; WAM 409-73 Trigg I., Perth, WA; ♂ + ♀ WAM 12822, 12823 reef at Bathurst Pt, Rottnest I., WA.

Remarks: WAM 51-65 ♀ ovigerous; WAM 12822, 12823, specimens damaged.

*Synalpheus harpagastrus* Banner and Banner, 1975: 311, Fig. 9. Holotype, ♀ WAM 86-65. Locality: 8 km W of North Beach, Perth, W.A. Allotype, ♂ WAM 11129/30. Locality: Cottesloe, WA.

Paratypes, ♀ ex WAM 11129 Cottesloe, WA; ♂ + ♀ ex WAM 10380 Cottesloe, WA, from sponge; ♀ ex WAM 4985 between Fremantle and Geraldton, WA, FIS *Endeavour*; WAM 583-31 Thomson's Bay, Rottnest I., WA.

*Synalpheus neptunus germanicus* Banner and Banner, 1975: 321, Fig. 12. Holotype, ♂ WAM 9991. Locality: Cottesloe, WA, from sponge.

Paratypes, 16♂♂ WAM 410-73 (?ex WAM 9991) Cottesloe, WA, from sponge; 18♂♂ WAM 32-65 Rottnest I., WA, from sponge.

Remarks: All specimens immature.

*Synalpheus sciro* Banner and Banner, 1975: 304, Fig. 7. Holotype, ♀ WAM 64-65. Locality: NW of Bluff Pt, WA, 131 m, beam trawl, sponge and bryozoa; 27°40'S, 113°20'E.

*Synalpheus tropidodactylus* Banner and Banner, 1975: 286, Fig. 2. Holotype, ♂ WAM 90-65. Locality: W of Geraldton, WA, 110 m, beam trawl, bryozoa; 28°14'S, 113°28'E.

Paratype, ♀ ex WAM 90-65. Locality: As in holotype.

Family Nephropidae Dana, 1852

- Nephrops australiensis* Bruce, 1966: 245, Pls XXV-XXVII. Holotype, ♂ WAM 11-64. Locality: NE of Port Hedland, WA, 402 m, 17°05'S, 119°48'E. Allotype, ♀ WAM 12-64. Locality: As in holotype. Paratypes, ♀ WAM 16-64, ♀ WAM 17-64. Locality: As in holotype. Remarks: WAM 12-64 ♀ ovigerous; WAM 16-64 ♀ ovigerous, specimen donated to the BM, Reg. No. 1964.9.28.14; WAM 17-64, specimen donated to the Rijksmuseum van Natuurlijke Historie, Reg. No. Crust. D21151.

Family Parastacidae Huxley, 1879

- Cherax crassimanus* Riek, 1967: 119, Fig. 5d, Pl. 3B. Holotype, ♂ WAM 38-66. Allotype, ♀ WAM 39-66. Locality: Beedelup Falls (Pemberton area), WA. Paratypes, 13 WAM 62-66 to 76-66. Locality: As in holotype. Remarks: Paratypes also deposited in the AM.
- Cherax glaber* Riek, 1967: 120, Fig. 5f, Pl. 4B. Holotype, ♂ WAM 40-66. Allotype, ♀ WAM 41-66. Locality: 19 km N of Augusta, WA. Paratypes, 5 WAM 75-66 to 79-66. Locality: As in holotype. Remarks: Paratypes also deposited in the AM.
- Cherax glabrimanus* Riek, 1967: 117, Fig. 5c, Pl. 3A. Holotype, ♂ WAM 34-66. Allotype, ♀ WAM 35-66. Locality: 16 km S of Yallingup, WA. Paratypes, 8 WAM 42-66 to 49-66. Locality: As in holotype. Remarks: Paratypes also deposited in the AM.
- Cherax neocarinatus* Riek, 1967: 118. Holotype, ♂ WAM 36-66. Allotype, ♀ WAM 37-66. Locality: 16 km E of Blackwood R., WA. Paratypes, 11 WAM 50-66 to 60-66. Locality: As in holotype. Remarks: Paratypes also deposited in the AM.
- Engaewa reducta* Riek, 1967: 108, Fig. 3. Holotype, ♂ WAM 643-65. Locality: Dunsborough, WA. Allotype, ♀ WAM 644-65. Locality: As in holotype. Paratypes, 7 WAM 84-66 to 90-66. Block 1041, 800 m N of Quindalup Common, near Dunsborough, WA. Remarks: Paratypes also deposited in the AM.
- Engaewa similis* Riek, 1967: 110, Fig. 4. Holotype, ♀ WAM 645-65. Locality: Augusta, WA.
- Engaewa subcoerulea* Riek, 1967: 107, Fig. 2, Pl. 1. Holotype, ♀ WAM 33-66. Locality: Inlet R., 24 km NW of Walpole, WA. Paratypes, 4 WAM 80-66 to 83-66. Locality: As in holotype.

Remarks: WAM 33-66 is misprinted in Riek (1965: 107) as WAM 33-36. WAM register and bottle label both record registration number as WAM 33-66. Paratypes also deposited in the AM.

Family Axiidae Huxley, 1879

*Axius (Neaxius) waroona* Poore and Griffin, 1979: 240, Fig. 10. Holotype, ♀ WAM 20-75. Locality: N side of Cape Naturaliste, WA, below lighthouse, building mud tubes under intertidal stones. Remarks: ♀ ovigerous.

Paratypes, many — WAM 174-31 Bathurst Pt, Rottnest I., WA, reef; WAM 432-73 Harding Rock, E side of Garden I., Cockburn Sound, WA; 2 WAM 9-75 Cowaramup Bay, WA, under intertidal rocks; WAM 73-75 Mannarup Beach, WA; WAM 130-75 near Bathurst Pt, Rottnest I., WA; 2 WAM 151-76 mouth of Big Horse Ck into Victoria R., NT.

Remarks: WAM 73-75 label reads 'In bottle (half buried) in tide pool. Two specimens moving together in tunnels in bottle. When placed in larger pool "they sought refuge always together"'.

Family Callianassidae Dana, 1852

*Gourettia coolibah* Poore and Griffin, 1979: 278, Figs 38-39. Holotype, ♀ WAM 66-75. Locality: 346 km ENE Troughton I., WA, 58 m, mud.

Family Upogebiidae Borradaile, 1903

*Upogebia (Upogebia) giralia* Poore and Griffin, 1979: 297, Fig. 49. Holotype, ♂ WAM 123-75. Locality: Learmonth, WA, mangroves.

Paratype, WAM 124-75. Locality: As in holotype.

Family Palinuridae Latreille, 1803

*Panulirus cygnus* George, 1962: 100, Pls I-II, Figs 1-4. Holotype, ♂ WAM 90-62. Locality: Radar Reef, Rottnest I., WA, reef flat, in eastern pool.

Paratypes, numerous — 4 WAM 9319 Dongara, WA; WAM 257-37 off Fremantle, WA; 3 WAM 258 to 260-37 off Fremantle, WA; juveniles WAM 64/5-53 off Cervantes, WA; juveniles WAM 40-50 9 m bank, W of Garden I., WA, caught in craypot; 5 juveniles WAM 41-58 off Beagle I., WA, in craypot; ♀ WAM 51-58 Pt Cloates, WA, approx. 1.8 m, also seen in shallow reef S of Whaling Station, hand speared; 1♂ + 1♀ WAM 53-58 N end of Garden I., WA; 2 juveniles WAM 54-58 W of Herald Heights, Dirk Hartog I., WA, 51 m; 4 juveniles WAM

Type specimens of Crustacea

69-58 Southern Gp, Abrolhos Is, WA, taken in craypots in west reef shallows; WAM 91-62 Radar Reef, Rottneest I., WA, reef flat in eastern pool; 3 WAM 92-62 Yanchep, WA; 7 WAM 93-62 Lighthouse Reef, North West Cape; WA; WAM 94-62 Ningaloo Stn, Pt Cloates, WA, 0.6 m; WAM 95-62 N end of Garden I., WA; ♀ WAM 96-62 Rottneest I., WA; WAM 97-62 Houtman Abrolhos Is, WA, WAM 98-62 Beagle I., WA, 60 m in craypot; WAM 99-62 5 km SE Hummock I., Pelsart Gp, Abrolhos Is, WA, 55 m in craypot; WAM 100-62, 101-62 Pelsart Gp, Abrolhos Is, WA; WAM 102-62 Lancelin I., WA; WAM 103-62 Pelsart Gp, Abrolhos Is, WA, shallows; WAM 104-62 Lancelin I., WA; 2 WAM 105-62 Geraldton, WA, 18-26 m; WAM 106-62 Dirk Hartog I., WA, 18-37 m; WAM 107-62 Sandy Cove (N Jurien Bay), WA, in Jewfish stomach; WAM 108-62 Pelsart Gp, Abrolhos Is, WA, shallows; WAM 109-62 Dongara, WA; WAM 110-62 Dirk Hartog I., WA, 18-37 m; WAM 111-62 South Passage, Shark Bay, WA; WAM 112-62 Wallabi I., Abrolhos Gp, WA; WAM 113-62 Pelsart Gp, Abrolhos Is, WA; 8 WAM 114-62 Fremantle area, WA; 4 WAM 115-62 Fremantle, WA; 6 WAM 116-62 Pt Moore reef, Geraldton, WA; 2 WAM 117-62 NE Pelsart Is, Southern Gp, Abrolhos Is, WA; WAM 118-62 Quinns Rock, WA; WAM 119-62 Pt Peron, WA, warm pool, 1 m water; WAM 120-62 Geraldton, WA; WAM 121-62 Entrance Rock, N end Garden I., Cockburn Sound, WA; ♂ WAM 122-62 Geraldton, WA; WAM 123-62 Strickland Bay, Rottneest I., WA, hand caught; WAM 124-62 Green I., near Cervantes, WA; WAM 125-62 North West Cape, WA, 0.6 m, beneath rocks (below lighthouse). Remarks: WAM 9319, 1 donated to Dr Kubo, Japan, 9.xii.60; WAM 257-37 1♂ sent to Dr Garth, University of Southern California, on exchange; WAM 53-58, 5 cm c.l.; WAM 95-62, premoult and very recently moulted; WAM 96-62 ♀ ovigerous; WAM 118-62, unusual colour pattern, white carapace; WAM 121-62, note with specimen reads 'This white has only 2 small spines on antennular plate behind the principal 2. Usual number is 4-8 I have seen one with 10 and another with 9', signed R.W. George; WAM 122-62, abnormal ♂ pleopod; WAM 124-82, white moulting to red.

*Projasus bahamondei* George, 1976: 27, Fig. 1 Pl. I. Holotype, ♀ WAM 104-72. Locality: San Ambrosio I., SE Pacific, 26°21'S, 79°47'W; 175 m. Remarks: ♀ ovigerous, 71 mm c.l.

Family Porcellanidae Haworth, 1825

*Pachycheles johnsonii* Haig, 1965: 102, Fig. 1. Holotype, ♂ WAM 197a-60. Locality: Pt Gregory, NW side of Peron Peninsula, Shark Bay, WA, under stones on limestone reef flat at low tide. Paratypes, ♀ WAM 197b-60 Pt Gregory, NW side of Peron Peninsula, Shark Bay, WA; ♂ WAM 227-30, ♀ WAM 228-30 Cape Leeuwin, WA; ♂ WAM 33-62 Port



Hedland, WA; ♀ WAM 324-62 5 km W of Carnac I., WA, dredged, 29 m, on sponge.

Remarks: WAM 1976-60 ♀ ovigerous.

*Polygonx maccullochi* Haig, 1965: 114, Fig. 3.

Paratypes, ♂♂ WAM 334c-62. Locality: Shark Bay, WA.

*Porcellana furcillata* Haig, 1965: 110, Fig. 2. Holotype, ♀ WAM 344-62. Locality: 97 km NW of Bedout I., WA, dredged 46 m. Remarks: ♀ ovigerous. Paratypes, ♂ WAM 128c-60 3 km off Legendre I., Dampier Arch., WA, sponge and rubble; ♂ WAM 357-62 116 km NW of Bedout I., WA, dredged, 46 m. Remarks: WAM 357-62 bottle appears empty.

#### Family Albuneidae Stimpson, 1858

*Albunea mariellae* Seréne 1973: 261, Pl. I. Holotype, WAM 125-71. Locality: N of Ode Rowa, N of Nuhu Rowa, Kai; 27-37 m, sand and rubble, 5°32'S, 132°41'E.

Paratype, WAM 126-71. Locality: As in holotype.

*Austrolepidopa trigonops* Efford and Haig, 1968: 904, Figs 5-7. Holotype, ♀ WAM 62-62. Locality: 8 km N end of Rottnest I., WA, 36 m, sponge and sand.

Paratype, WAM 72-62. Locality: Near bar of South Passage, Shark Bay, WA, Honolulu dredge, 11 m, sand and silt.

*Stemonopa insignis* Efford and Haig, 1968: 908, Figs 8-10. Holotype, ♀ WAM 61-62. Locality: 8 km offshore, N of Maud Landing, WA, Honolulu dredge, 57 m, coral rubble.

#### Family Leucosiidae Samouelle, 1819

*Leucosia levigena* George and Clark, 1976: 306, Figs 5-7. Holotype, ♀ WAM 253-62. Locality: Yanchep Reef, WA, on shallow side of reef, 1 m.

*Leucosia magna* Tyndale-Biscoe and George, 1962: 86, Pl. I 4 and 5, Pl. II 4 and 5. Holotype, ♂ WAM 198-60. Locality: 48 km N of Dampier Arch., WA, 5 m, sand, Honolulu dredge.

Paratypes, WAM 199-60 11 km NNW of Anchor I., off Onslow, WA, 84 m, mud and gravel; juvenile WAM 200-60 11-13 km N of Long I., N of Onslow, WA, 51 m, sand and sponge.

*Leucosia thysanotus* George and Clarke, 1976: 304, Figs 1-4. Holotype, ♂ WAM 79-75. Locality: Norbill Bay, Rosemary I., WA, dredged 3 m, some weed. Remarks: Specimens in two bottles.

Type specimens of Crustacea

Paratypes, 4♂♂ + 2♀♀ + 2 juveniles WAM 16-63 Broome, WA, sand flats opposite jetty; ♂ WAM 124-64 1.6 km S of Delambre I., Dampier Arch., WA, dredged, 11 m; 3♂♂ WAM 80-75 near Rosemary I., Dampier Arch., WA.

*Ixa acuta* Tyndale-Biscoe and George, 1962: 72, Pl. ii, Pl. Iii. Holotype, ♂ WAM 201-60. Locality: W side, Exmouth Gulf, WA, trawled.

Family Majidae Samouelle, 1819

*Achaeus podocheloides* Griffin, 1970b: 109, Figs 7a, 8, 14e-f. Holotype, ♂ WAM 95-67. Locality: NW of Jurien Bay, WA, beam trawl, 128-137 m, sponges and bryozoa, 30°00'S, 114°22'E.

Paratypes, ♀ WAM 331-67. Locality: SW of Pt Cloates, WA, beam trawl, 133 m, echinoids, starfish, molluscs, 23°39'S, 113°11'E.

*Chlorinoides occidentalis* Griffin, 1970a: 70, Figs 1b, 3, 4a, 4d-e. Holotype, ♂ WAM 319-67. Locality: NW of Rottneest I., WA, dredged, 155 m, some sponges.

Paratypes, many — ♀ WAM 17-67 W of Rottneest I., WA, beam trawl, 137-143 m, few fish and shells, no sponges, 32°00'S, 115°16'E; ♂ WAM 204-67 NW of Bluff Pt, Geraldton, WA, 128 m, MWT, bumped bottom, sponge and bryozoa, 27°40'S, 113°03'E; ♀ WAM 280-67 SW of Geraldton, WA, triangle dredge, 130-148 m, sponge and bryozoa, 29°05'S, 113°56'E; ♀ WAM 302-67 NW of Bluff Pt, Geraldton, WA, beam trawl, 131 m, sponge and bryozoa, 27°40'S, 113°20'E; ♂ WAM 318-67 NW of Rottneest I., WA, dredged, 183-188 m, on sponges; WAM 338-67 W of West End, Rottneest I., WA, dredged, 146 m, sandy; 17 WAM 339-67 W of Rottneest I., WA, beam trawl, 137-143 m, fish and shells, 32°00'S, 115°16'E; WAM 340-67 W of Lancelin I., WA, beam trawl, 113-122 m, bryozoa, 31°05'S, 114°55'E; WAM 341-67 NW of Rottneest I., WA, dredged, 183-188 m, on sponges; WAM 342-67 W of West End, Rottneest I., WA, dredged, 155-174 m; WAM 343-67 NW of Rottneest I., WA, dredged, 155 m, on sponges; WAM 344-67 WNW of Rottneest I., WA, 146-165 m.

Remarks: WAM 17-67, ♀ ovigerous; WAM 339-67, 3♂♂ + 1♀ ovigerous donated to the AM Reg. No. P16822.

*Phalangipus trachysternus* Griffin, 1973: 192, Figs 2d, 4g-h, 7h, 9g-h.

Paratypes, ♂ WAM 63-71 Stn 1540, collected by R.W. George on *Rama*, 1964; ♂ WAM 64-71 Broome, WA, sand bar opposite jetty; ♂ WAM 65-71 32 km, 320°, Darwin, NT; 1♂ + 2 juveniles WAM 66-71 Perry Harbour, Admiralty Gulf, WA, fry net, 9-11 m; 2♀♀ + 1 juvenile WAM 67-71 Ashburton area, Onslow, WA, trawled; ♀ WAM 70-71 23 km WNW of Darwin, WA, 24-26 m.

Remarks: WAM 70-71 ♀ ovigerous.

Family Atelecyclidae Ortmann, 1893

*Kraussia bongensis* Seréne, 1972: 56, Figs 19, 20, 23J, 24. Holotype, ♂ WAM 263-70A. Locality: 14 km and 130° from Bongas Light, Tawitawi Bay, Sulu Arch., dredged, 16-31 m, sandy.

Paratypes, ♂ WAM 36-71 (ex WAM 263-70B); ♂ WAM 37-71 (ex WAM 263-70C). Locality: As in holotype.

*Kraussia marquesa* Seréne, 1972: 53, Figs 14, 15, 23G-H. Holotype, ♂ WAM 264-70. Locality: Anaa Atoll, Marquesas I., depth 9-18 m.

*Kraussia pelsartensis* Seréne, 1972: 49, Figs 7, 8, 23D. Holotype, ♂ WAM 365-70. Locality: 5 km W of Hummock I., Pelsart Gp, Abrolhos Is, WA, Honolulu dredge, 37 m, coarse sand.

Paratypes, 2♂♂ WAM 268-70 Cape Vlaming, Rottneest I., WA; WAM 270-70 SW of Pt Cloates, WA, 113°39'30''E, 22°43'30''S; 2♂♂ WAM 274-70 11 km NW of Rat I., Abrolhos Gp, WA, Honolulu dredge, 46 m, coralline boulders.

*Kraussia roycei* Seréne, 1972: 50, Figs 9, 10, 23E. Holotype, ♂ WAM 269-70. Locality: Flying Foam Passage, Dampier Arch., WA; Honolulu dredge, 18 m, coral, sand and shell rubble.

*Kraussia wilsoni* Seréne, 1972: 46, Figs 5, 6, 23c. Holotype, ♂ WAM 278-70. Locality: N of Siasi I., Sulu Arch., 37-40 m, sponge, coral, sand.

Paratypes, WAM 143-71 N of Siasi I., Sulu Arch., 37-40 m, sponge, coral, sand; WAM 144-71 near Panglas I., off Bohol Is, Philippines, 82-128 m, mud and shells; 8 WAM 145-71 W of North West Cape, WA, beam trawl, 122-128 m, fish and crustacea, 21°48'S, 113°56'E; 2 WAM 146-71 Coronada Bay, Mindamao, Sulu Sea, 46-128 m, sand and mud.

Family Portunidae Rafinesque, 1815

*Nectocarcinus spinifrons* Stephenson, 1961: 92, Figs 1A, 2G, Pl. I Fig. 1, Pl. 4A. Holotype, ♂ WAM 47-60. Locality: NE side of Dirk Hartog I., Shark Bay, WA, dip net, night.

Allotype, ♀ WAM 47a-60. Locality: As in holotype.

*Ovalipes georgei* Stephenson and Rees, 1968: 234, Pls 36C, 39E, 39F, 40C, 42F, Figs 1F, 2E, 3E, 4E. Holotype, ♂ WAM 120-61. Locality: 9 km NW of Rottneest I. Main Light, WA, between 0000 and 0030 hrs, at surface, in N. 70 plankton net over 37 m.

Remarks: Colour pale grey anteriorly, five orange spots posteriorly. Dactyl of fifth leg with blood red spot.

Paratype, ♂ WAM 121-61. Locality: Off Cottesloe, WA, in prawn trawl.

*Portunus curvipenis* Stephenson, 1961: 106, Figs 1G, 3E, Pl. 2 Fig. 3, Pls 4E, 5B. Holotype, ♂ WAM 6-60. Locality: Exmouth Gulf, WA, trawled.

*Portunus pseudoargentatus* Stephenson, 1961: 109, Figs 2A, 3F, Pl. 2 Fig. 4, Pls 4F, 5D. Holotype, ♂ WAM 50-60. Locality: 8 km NW of Green I., South Group, Abrolhos Is, WA, Honolulu dredge, 57-64 m, coral rubble.

*Portunus tenuicaudatus* Stephenson, 1961: 114, Figs 2C, 3H, Pl. 3 Fig. 2, Pls 4H, 5C. Holotype, ♂ WAM 62(b)-60. Locality: 48 km N of Dampier Arch., WA, Honolulu dredge, 57 m, sand. Remarks: L and R pleopods ♂ tubed. Allotype, ♀ WAM 75(b)-60. Locality: 11-13 km N of Long I., near Onslow, WA, Honolulu dredge, 51 m, sand and sponge.

Family Parathelphusidae Alcock, 1910

*Parathelphusa wasselli* Bishop, 1963: 229, Figs 1A, 2D, 4, Pl. 1 Fig. 1.

Paratypes, ♂ + ♀ WAM 574-85. Locality: Port Stewart district, Cape York, Qld, under leaves on temporary freshwater lagoon hard bottom.

Remarks: Bott (1970) transferred this species to the genus *Holthuisana*, subgenus *Austrothelphusa*.

Family Ocypodidae Rafinseque, 1815

*Ocypode mortoni* George, 1980: 187, Figs 1c, 2c, Pl. 3 Fig. 3, Pl. 4. Holotype, ♂ WAM 2-81. Locality: Sai Wan, TaiLong Wan, E New Territories, Hong Kong.

Paratypes, 2♂♂ + 1♀ + 2 juveniles WAM 230-80, 1 juvenile WAM 2-82. Locality: As in holotype.

Paratype, ♀ WAM 1-82. Locality: Tong Fuk, Lantau I., Hong Kong.

Remarks: WAM 230-80, 1 (? juv.) damaged.

*Uca elegans* George and Jones, 1982: 22, Figs 14a, 15a, 16a, 17a-b, 18a, 37a-i, 55b. Holotype, ♂ WAM 52-76. Locality: Derby, WA, town jetty, 150 m landward of sea cliff. Remarks: Bottle 13, V174006; c.w. 2.17 cm.

Paratypes, numerous — 4 WAM 172-62 Broome, WA; ♂ WAM 182-62 Mundanbullengara, 64 km S of Port Hedland, WA, on edge of creek running into saltmarsh country, in sand or mud, in burrows; 2 WAM 655-65 Denham Hummock, Shark Bay, WA, from burrows near mangrove creek; WAM 659-65 Quarantine Pt, Broome, WA; 6 WAM 118-68 Fauré I., Shark Bay, WA; 3 WAM 124-68 Point Quobba, WA; WAM 44-76 Derby, King Sound, WA, V174008, Upper E flat, small boat jetty; WAM 49-76 Derby, King Sound, WA, near Blue Lagoon, W bank of Stokes Bay, HWS; 2♂♂ claws WAM 50-76 Derby, King Sound, WA, V174001; WAM 51-76 Derby, King Sound, WA, between V174005

and V174006, Bottle 2; WAM 53-76 Derby, King Sound, WA, V174006, Bottle 10; WAM 54-76 Derby, King Sound, WA, V174001, #5a Bottle 33; WAM 55-76 Derby, King Sound, WA, V174031 (or 011); WAM 56-76 Derby, King Sound, WA, V174011, #56 Bottle 34; WAM 57-76 Derby, King Sound, WA; WAM 58-76 Derby tidal flats, WA, washed into V174001; WAM 59-76 Derby tidal flats, WA, V174005, Bottle 24; WAM 126-76 Derby, WA, V 174005; ♂ WAM 18-77 Port Warrender, Admiralty Gulf, WA, on mudflat landward of mangroves; 8♂♂ claws WAM 22-77, 3♀♀ WAM 23-77, Vendoo Ck, S of Carnarvon, WA; 1♂ major chela WAM 1-78 Derby, King Sound, WA, mud flats; 3♂♂ major chelae WAM 12-78 Derby, WA, lagoon surface, tidal flats; WAM 90-78 Learmonth Barge, WA, creek mangroves; 1♂ major chela WAM 91-78 Derby, WA, V174008, Upper E flat; 3♂♂ WAM 92-78 Cascade Bay, Kimbolton, WA, 16°34'S, 123°38'E; 3♂♂ + 1♀ WAM 93-78 Port Warrender, Admiralty Gulf, WA, mangroves; 2♂♂ + 2♀♀ WAM 114-78 Rapid Ck, Nightcliff, Darwin, NT; 4♂♂ + 1♀ WAM 115-78 Ludmilla Ck, Darwin, NT, soft mud (overflow of main creek); 5♂♂ WAM 153-78 Buffalo Ck, Nhulunbuy, Gove, NT; ♀ WAM 181-78 Shark Bay or Exmouth Gulf, WA; 5♂♂ + 7♀♀ WAM 263-79 Rapid Ck, Nightcliff, Darwin, NT, ♂♂ c.w. 2.32-1.66 cm, ♀♀ c.w. 2.06-0.85 cm; 2♂♂ WAM 264-79 Ludmilla Ck, Darwin, NT, c.w. 1.52, 1.08 cm, muddy creek bed; 2♂♂ major chelae + 1♂ major dactyl WAM 278-79 MKO Beach, Cape Lambert, WA, 1 left and 1 right-handed chela, major ♂ dactyl left-handed; 3♂♂ + 4♀♀ WAM 280-79 Sams Ck, Cape Lambert, WA, ♂♂ c.w. 2.36-1.97 cm, all left-handed, ♀♀ c.w. 1.35-1.21 cm; 4♂♂ chelae + 2♂♂ WAM 282-79, mouth of Bittern's drain, Nickol Bay, Dampier, WA, 4♂♂ chelae, 2 left: 2 right-handed, ♂♂ c.w. 1.35, 0.90 cm, both left-handed; 4♂♂ WAM 289-79 Causeway, Finucane I., Port Hedland, WA, ♂♂ c.w. 1.40-0.75 cm, 2 right: 2 left-handed; 1♂ + 1♀ + 2♂♂ chelae WAM 293-79 Sting Ray Ck, Port Hedland, WA, ♂ c.w. 1.84 cm right-handed, 2♂♂ chelae right-handed, ♀ c.w. 1.49 cm; 3♂♂ + 4♀♀ WAM 295-79 Nickol Ck, Dampier, WA, ♂♂ c.w. 1.25-0.84 cm, 2 right: 1 left-handed, ♀♀ c.w. 1.24-1.05 cm; ♀ WAM 300-79 Sam's Ck, Cape Lambert, WA, middle sandbank, c.w. 1.86 cm; 2♂♂ + 1♀ WAM 316-79 SW Ck, Bay of Rest, Exmouth Gulf, WA, ♂♂ c.w. 1.35, 1.25 cm, 2 left-handed, ♀ c.w. 1.58 cm; 5♂♂ + 1♀ WAM 323-79 Bay of Rest, Exmouth Gulf, WA, ♂♂ c.w. 2.18-0.95 cm, 4 right: 1 left-handed, ♀ c.w. 1.07 cm; WAM 325-79 Bay of Rest, Exmouth Gulf, WA, c.w. 1.64 cm; 7♂♂ chelae WAM 330-79 Bay of Rest, Exmouth Gulf, WA, 4 right: 3 left-handed, clayey area landward of *Avicennia*; 7♂♂ + 5♀♀ WAM 332-79 Wapet Ck, Learmonth, Exmouth Gulf, WA, ♂♂ c.w. 1.45-0.62 cm, 3 right: 4 left-handed, ♀♀ c.w. 1.70-0.77 cm; 12♂♂ + 5♀♀ WAM 77-80 New Mangrove Bay, Bay of Rest, Exmouth Gulf, WA, ♂♂ c.w. 2.20-1.23 cm, 8 left-handed: 4 right-handed, ♀♀ c.w. 1.73-1.35 cm; 3♂♂ WAM 153-80 1.3 km N of Tourist Bureau, Broome, WA, ♂♂ c.w. 1.88-1.72 cm, 1 right: 1 left-handed; 5♂♂ WAM 154-80 Crab Ck, Broome, WA, ♂♂ c.w. 1.31-0.75 cm, 1 left: 4 right-handed; 8♂♂ WAM 158-80 Crab Ck,

Type specimens of Crustacea

Broome, WA, landward saltmarsh, ♂♂ c.w. 1.41-0.95 cm, 6 left: 2 right-handed; 3♂♂ + 4♀♀ WAM 196-80 N end of mangal, Broome, WA, saltmarsh, ♂♂ c.w. 1.79-1.01 cm, 1 left: 2 right-handed, ♀♀ c.w. 1.49-0.84 cm.

Remarks: WAM 50-76 dry material, skeletons on surface, washed into V 174001, one claw broken; WAM 55-76 dry material; WAM 57-76 dry material; WAM 58-76 regenerated claw; WAM 59-76 regenerated claw; WAM 23-77 ♂♂ claws broken; WAM 1-78 dry material; WAM 12-78 dry material; WAM 181-78 label reads 'on *Peron*, trawled.'; WAM 278-79 dry material; WAM 282-79 ♂♂ chelae broken; WAM 289-79 one regenerated claw; WAM 300-79 dry material.

*Uca hirsutimanus* George and Jones, 1982: 49, Figs 24c, 30b, 44a-g. Holotype, ♂ WAM 190-78. Locality: Derby, WA. Remarks: c.w. 1.30 cm, V174008, Zone 1.

Paratypes, numerous – WAM 61-76 Derby, WA, Zone 1, mangal, V174008A, south jetty, Bottle 17; WAM 69-76 Derby, WA, V174008 Upper E, small boat jetty, Bottle 36; WAM 76-76 Derby, WA, 30 m NW of V174006, Bottle 14; WAM 77-76 Derby, WA, V174008, Upper E, small boat jetty, Bottle 41; WAM 78-76 Derby, WA, V174008, Upper E flat, lower banks of tidal creek, Bottle 50; WAM 79-76 Derby, WA, V174008, Upper E, small boat jetty, Bottle 38; WAM 80-76 Derby, King Sound, WA, tidal flats, Bottles 12, 14, 16, 17, 19, 26; WAM 81-76 Derby, King Sound, WA, V174008, small boat jetty, Bottle 42; WAM 82-76 Derby, King Sound, WA, V174008, small boat jetty, Bottle 40; WAM 83-76 Derby, King Sound, WA, Upper E flat, small boat jetty; WAM 84-76 Derby, King Sound, WA, S jetty, Zone 1, Bottle 17; WAM 85-76 Derby, King Sound, WA, V174008A, Bottle 25; WAM 86-76 Derby, King Sound, WA, V174008, Upper E, small boat jetty, Bottle 38; WAM 87-76 Derby, King Sound, WA, V174008, S jetty, Zone 1, Bottle 19; WAM 88-76 Derby, King Sound, WA, sea cliff, V174008, Bottle 52; WAM 90-76 Derby, King Sound, WA, V174008, Zone 1, Bottle 18; WAM 91-76 Derby, King Sound, WA, V174011, #4 Bottle 32; WAM 124-76 Black Rocks, N of Derby, WA, Zone 2 mangal; WAM 125-76 Black Rocks, N of Derby, WA, Zone 3 mangal; 8♂♂ + 1♂ chela + 3♀♀ + 1 ovigerous ♀ WAM 33-77 Black Rocks area, N of Derby, WA, Zone 3 mangal; 3♂♂ + 1 ovigerous ♀ WAM 35-77 Black Rocks area, N of Derby, WA, front of mangal; 4♂♂ + 1♂ chela + 2 ovigerous ♀♀ WAM 36-77 Black Rocks area, N of Derby, WA, front of mangal; ♂ WAM 4-78 8 km S of Learmonth, Exmouth Gulf, WA; 7♂♂ + 7♀♀ + 1 ovigerous ♀ WAM 6-78 Derby, WA, Zone 1, S jetty, between Zone 3 and 4 Black Rocks and Zone 3 Black Rocks; 1♂ + 3♀♀ + 1 ovigerous ♀ WAM 74-78 Buffalo Ck, Darwin, NT, grey mud creek; WAM 81-78 Derby, WA, V174011, #3; 2♂♂ WAM 88-78 Derby, WA, V174011, #3; 7♂♂ + 4♀♀ WAM 135-78 Ludmilla Ck, Darwin, NT; ♂ WAM 136-78 Rapid Ck, Nightcliff, Darwin, NT; 2♂♂ WAM

137-78 Ludmilla Ck, Golf Course Rd, Darwin, NT; 5♂♂ + 6♀♀ WAM 138-78 boat ramp, Buffalo Ck, Darwin, NT; 2♂♂ + 1♀ WAM 139-78 boat ramp, near Hotel, Wyndham, WA; 16♂♂ + 8♀♀ WAM 140-78 boat ramp, near Hotel, Wyndham, WA; 13♂♂ + 3♀♀ WAM 141-78 Wyndham, WA, street opposite Hotel; 23♂♂ + 13♀♀ WAM 142-78 boat ramp, near Hotel, Wyndham, WA; 11♂♂ + 5♀♀ WAM 143-78 Wyndham, WA, level swamp between Meatworks Rd and creek; 10♂♂ WAM 144-78 Wyndham boat ramp, near Hotel, WA; 7♂♂ + 9♀♀ WAM 145-78 Crab Ck, Broome, WA; 1♂ + 1♀ + 1♂ chela WAM 163-78 Barred Ck, 30 km NW of Broome, WA; 7♂♂ + 3♀♀ WAM 164-78 Barred Ck, 30 km NW of Broome, WA, mangroves; 9♀♀ WAM 175-78 Barred Ck, 30 km NW of Broome, WA; 4♂♂ + 5♀♀ WAM 271-79 Saville St, Broome, WA, mangroves, ♂♂ c.w. 1.68-0.89 cm, ♀♀ c.w. 1.78-1.38 cm; 2♂♂ WAM 290-79 Sting Ray Ck, Port Hedland, WA, c.w. 1.14, 1.15 cm, 1 left and 1 right-handed; ♂ WAM 169-80 Broome Pearls Ck, Broome, WA, seaward end, c.w. 0.77 cm, right-handed; 1♂ + 1♀ WAM 174-80 Saville St, Broome, WA ♂ c.w. 1.28 cm, right-handed, ♀ c.w. 1.03 cm; ♀ WAM 184-80 Main Channel, Broome, WA, between Broome Pearls Ck and Roebuck Hotel Ck c.w. 1.27 cm; ♂ WAM 213-80 edge of Main Channel, Broome, WA, out from Streeter's jetty, c.w. 1.83 cm, right-handed; 2♂♂ WAM 226-80 Roebuck Hotel Ck, Broome, WA, landward edge, c.w. 1.80, 1.61 cm, 1 left: 1 right-handed; 1♂ + 1♀ WAM 123-81 Dampier Channel, Broome, WA, ♂ c.w. 1.42 cm, right-handed, ♀ c.w. 1.19 cm. Remarks: WAM 81-78 regenerated major chela; WAM 123-81 regenerated ♂ chela.

*Uca pavo* George and Jones, 1982: 25, Figs 19b, 20b, 38a-i, 55c, 55d. Holotype, ♂ WAM 189-78. Locality: Napier Terrace, Broome, WA.

Paratypes, numerous — 1♂ + 1♂ chela + 1♀ WAM 55-77 8 km S of Learmonth, Exmouth Gulf, WA, middle to seaward of mangrove; 10♂♂ + 2♀♀ WAM 56-77 Bay of Rest, Exmouth Gulf, WA; 1♂ + 1♀ WAM 60-77 Bay of Rest, Exmouth Gulf, WA, seaward of mangroves; 2♂♂ WAM 61-77 Ck N of Exmouth Station, Bay of Rest, Exmouth Gulf, WA; 2♂♂ + 4♀♀ WAM 121-78 Ludmilla Ck, Darwin, NT; 7♂♂ + 3♀♀ WAM 122-78 Ludmilla Ck, Darwin, NT; 2♀♀ WAM 123-78 Crab Ck, Broome, WA; 21♂♂ + 7♀♀ WAM 168-78 Napier Terr., Broome, WA, in mangroves; ♂ WAM 172-78 Saville St, Broome, WA, in mangroves; 12♂♂ + 2♀♀ WAM 261-79 Barred Ck, 30 km NW of Broome, WA, ♂♂ c.w. 2.92-1.53 cm, ♀♀ c.w. 1.75, 1.73 cm; 3♂♂ + 1 ovigerous ♀ WAM 312-79 SW Ck, Bay of Rest, Exmouth Gulf, WA, ♂♂ c.w. 2.67-1.75 cm, 2 right: 1 left-handed, ♀ c.w. 2.45 cm; ♂ WAM 314-79 Bay of Rest, Exmouth Gulf, WA, freshwater inlet, inner end, c.w. 3.04 cm, left-handed; ♂ WAM 163-80 edge of Main Channel, Broome, WA, out from Streeter's jetty, c.w. 2.07 cm, left-handed; ♂ WAM 170-80 Broome Pearls Ck, Broome, WA, seaward end, c.w. 2.32 cm, left-handed; 2♂♂ WAM 177-80 Saville St, Broome, WA, c.w. 1.77, 1.12 cm, both right-handed; ♂ WAM 180-80 Main Channel, Broome, WA, between

Broome Pearls Ck and Roebuck Hotel Ck, c.w. 2.67 cm, left-handed; ♂ WAM 194-80 Roebuck Ck, Broome, WA, landward end, c.w. 1.82 cm, left-handed; 4♂♂ + 3♀♀ WAM 205-80 Fisherman's Bend, Broome, WA, ♂♂ c.w. 2.0-1.54 cm, 4 left-handed, ♀♀ c.w. 1.94-1.65 cm; ♂ WAM 222-80 Fisherman's Bend, Broome, WA, c.w. 1.53 cm, left-handed.

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### Appendix

#### Professor Nicholls' collection

*Uroctena affinis* Nicholls, 1926b: 109, Pl. XIII Figs 10-15. ?Types (unregistered).  
Locality: Probably around Darlington and Mundaring, WA.  
Remarks: Note on slide box reads '*Uroctena* spp. ?Types? R.W. George'. One labelled slide plus 3 unlabelled. Straskraba (1964: 133) synonymised this species with *Uroctena westralis* (Chilton, 1925).

*Uroctena setosa* Nicholls, 1926b: 107, Pl. XII Figs 1-6, Pl. XIII Figs 7-9. ?Types (unregistered). Locality: ? Reservoir at Katanning, WA.  
Remarks: Note on slide box reads '*Uroctena* spp. ?Types? R.W. George'. One slide, unlabelled. Loose paper label says '*U. setosa* ♂ 1 slide only'. Three slides, unlabelled. Loose paper label says '*U. setosa* ♀ 3 slides'.

*Uroctena yellandi* Nicholls, 1926c: 113, Pl. XIV Figs 1-10, Text Fig. 1. ? Type (unregistered). Locality: ? a creek, some miles south of Armadale, WA.  
Remarks: Note on slide box reads '*Uroctena* spp. ?Types? R.W. George'. Two slides, unlabelled. Loose paper label says '*U. yellandi*'. One box containing 8 slides, unregistered — a note in the box says "'in bundle of *Stenetrium* types — prob. part of the 3 species of Nicholls,'" R.W. George, 8.viii.61'.



*Phreatoicus decipious* Det. by G.E. Nicholls. ? Types, 4 WAM 278-64. Locality: Great Lake, Tasmania.

Remarks: Nicholls (1943) did publish *Mesacanthotelson decipiens* from the Great Lake, Tasmania, for which there was no type designated. It is possible that the WAM material is syntypic (G. Poore, pers. comm.).

### J.L. Barnard material

*Allorchestes murna morilla* n. subsp. Det. by J.L. Barnard. Holotype, ♂ 8.5 mm WAM 138-71. Locality: Australia, 7. (i.e. W of Bunker Bay, Cape Naturaliste, WA); intertidal.

Remarks: Label says 'Figured'. The material was published as *Allorchestes compressa* subspecies W (Barnard, 1974: 48) and the figures referred to are on p. 46. WAM specimen is not a valid holotype, as Barnard did not publish a name for the subspecies. However, it is important that this material be identifiable as that figured and called 'subsp. W' by Barnard (H. Stoddart, pers. comm.).

*Hyale crassicornis* (Haswell) subsp. W (not yet named). Det. by J.L. Barnard. Holotype, ♂ 7.7 mm WAM 142-71. Locality: Australia 5, W of Bunker Bay, Cape Naturaliste, WA; intertidal.

Remarks: Label in bottle states that this material was originally determined by Barnard to be *Hyale iole arkoula* n. subsp. Material figured by Barnard, 1974 (Figs 33-35) as *Hyale crassicornis* (Haswell).

*Mallacoota marilla* Barnard, 1972: 249, Figs 146, 147 (part). Holotype, (Phenotype PS) ♂ 3 mm WAM 182-70. Locality: Pt Peron, WA; rock sand and seaweed washings.

Remarks: Label in bottle states that this material was originally determined by Barnard as *Maera marilla* n. sp. Barnard (1972: 249) published *Mallacoota marilla* with 2 'phenotypes', and used material of the 'PP' phenotype for the holotype of the species. He did not designate any type material for the 'PS' phenotype in the paper, although he did label the specimen WAM 182-70 as holotype. Lowry and Fenwick (1983: 228) recognised the 'PS' phenotype as a separate species (and at the same time put it into a different genus and family) and published *Hoho hirtipalma* (in the family Melitidae Bousfield, 1973, 1977 [emend.]) but did not use Barnard's material for the holotype. Although the WAM material is not type material it is important that it is recognised as the material Barnard used to represent his 'PS' phenotype (H. Stoddart, pers. comm.).

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