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An annotated checklist of brachyuran crabs from Taiwan (Crustacea: Decapoda)

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Contents

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黃襖麟　王嘉祥　何平合　施習德　臺灣產短尾蟹類之註解名錄(甲殼類：十足目) 國立臺灣博物館專題論著，第 11 輯, 86 pp., April 2001

摘　要

本報告整理截至目前爲止臺灣已知短尾蟹類的註解名錄與引用文獻。目前臺灣的短尾類相共有 36 科 548 種，本文亦增加 20 種新記錄。最多樣性的科爲扇蟹科，研究最透徹的則是沙蟹科。絕大多數的記錄是近十年內所增加的，其中多屬於深海性的種類。再者，金門地區目前已知有 47 種，其中有 7 種是臺灣本島所沒有的；東沙群島則記錄有 10 種，其中有 5 種未記錄於臺灣本島。本文亦簡要討論臺灣的特有種類，以及金門、東沙群島的蟹類相。經由持續的採集，預期臺灣短尾蟹類的種數仍會大量的增加。本文也做了許多命名上的更動，特別是蜘蛛蟹類的屬 *Thacanophrys* Griffin and Transter, 1986，爲 *Prismatopus* Ward, 1933 的次異名；酋婦蟹類的屬 *Globopilumnus* Balss, 1933，爲 *Eupilumnus* Kossmann, 1877 的次異名；沙蟹類的亞屬 *Mopsocarcinus* Barnes, 1967(*Macrophthalmus* 屬)，爲 *Chaenostoma* Stimpson, 1858 的次異名；毛刺蟹類的 *Galene granulosa* Miers, 1884，爲 *G. bispinosa* (Herbst, 1783)的次異名。

關鍵詞：註解名錄，短尾蟹類，臺灣，新記錄，分類。

Abstract

An annotated checklist of the brachyuran crabs known thus far from Taiwan, together with citations, is compiled. The brachyuran fauna now stands at 548 species, representing 36 families. Twenty new records are added through the present study. The most diverse

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family is the Xanthidae while the best studied is the Ocypodidae. A substantial proportion of the present records were only obtained over the last decade, with a good part of these being deep-water taxa. In addition, 47 species are now known from Kinmen (Quemoy), of which seven are not known from Taiwan proper; and 10 species have been recorded from the Tungsha Islands (Pratas Islands), of which five are not known from the main island thus far. The species endemic to Taiwan and those now known from Kinmen and Tungsha Islands are also briefly discussed. It is expected that with increased sampling, the total number of brachyuran species will still increase substantially over the years. Several nomenclatural actions are also made, notably the majid genus *Thacanophrys* Griffin and Tranter, 1986, is a junior synonym of *Prismatopus* Ward, 1933; the eriphiid genus *Globopilumnus* Balss, 1933, is a junior synonym of *Eupilumnus* Kossmann, 1877; the ocypodid subgenus *Mopsocarcinus* Barnes, 1967 (genus *Macrophthalmus*), is a junior synonym of *Chaenostoma* Stimpson, 1858; and the pilumnid species *Galene granulosa* Miers, 1884, is a junior synonym of *G. bispinosa* (Herbst, 1783).

Key words: Annotated checklist, brachyuran crabs, Taiwan. new records, taxonomy.

Introduction

The brachyuran crabs of Taiwan have been well studied over the years. In particular, the reports by Maki and Tsuchiya (1923), Sakai (1937, 1938a, 1939), Horikawa (1940), Lin (1949), Chang (1963) and Sakai (1976) of the Taiwanese fauna are important. Unfortunately, only a part of their collection is in the National Taiwan Museum, with the whereabouts of much of the rest not known. In addition to these key reports, there have also been many other smaller but nevertheless important papers over the years on various aspects of the Taiwanese crab fauna.

The National Taiwan Museum in Taipei is currently the oldest natural history museum in Taiwan, and has a substantial collection of dried and wet-preserved crab specimens, some of which date back to pre-Second World War days. The museum had also obtained (by purchase) two large lots of dried specimens from a private collector (Mr. Chun-Yang Wei) in the 1970s which had been collected between 1950 and 1970s (see Wang and Chen, 1981). The second and third authors, as well as many of their colleagues, have also been collecting extensively in Taiwan over the last 10 years, and these specimens have been the basis of many reports (e. g. Fukui, Wada and Wang, 1989). Although much of the recent collections as well as those by Mr. Wei had been obtained from fishermen and trawlers, most are from inshore fish ports and are probably from near Taiwanese waters. It cannot be discounted, however, that some of the older Taiwanese records may in fact have been based on specimens originally collected from China, Japan, Philippines or even Southeast Asia ~~collected~~ by these boats. The present compilation also does not consider the fossil record, even for relatively recent ones (e. g. Hu and Tao, 1996; but see critique in Ng, 1999a).

The present paper lists the known extant species from Taiwan, excluding Kinmen (Quemoy) and Tungsha Islands (Pratas Islands). Because Kinmen and Tungsha Islands are some distance from the main island of Taiwan, their fauna is possibly rather different. For completeness, however, the species known from these areas are treated briefly in the discussion. As regards the brachyuran fauna of the po-

litically sensitive Tiaoyutai Islands (= Diaoyutai Islands, Senkakushato), we have decided not to treat its fauna. The invertebrate fauna of these islands has been documented by Nakasone and Nagahama (1971) with additional land crab (Gecarcinidae) records by Ng, Nakasone and Kosuge (2000).

The present annotated list is intended to help the growing number of scientists in and outside Taiwan who are interested in crab biology, keeping them up to date as to what species are known, their current scientific names and the major publications reporting on them. As such, we have tried to keep the data within as current as possible.

Material and methods

Citations for each of the Taiwanese records are provided as far as possible. The literature cited is only for the Taiwanese records and author citations for individual taxa have been omitted due to space constraints. We had an enormous problem selecting the publications to be listed here. We had originally hoped to list all the papers which mention Taiwanese crabs, but this eventually proved impractical. Because of Taiwan's long history, there have been many small papers reporting on its fauna, particularly by Japanese workers (Taiwan was under Japanese rule from 1895-1945). While we have tracked down many of them, we have not been able to find all. Most of these papers, however, are small reports which are not significant. There is also an enormous amount of "grey" literature circulating in Taiwan - in-house journal reports, department reports, magazine articles, booklets, pamphlets, natural history guides etc., and these often deal with its crab fauna directly or in passing. We found many of these but we are sure a good number have been missed. Considering the popularity of crabs for seafood, fishing, aquarium, divers and photographic buffs, it would have been impossible to search for all the "grey" literature written by these enthusiasts. We are confident we have found (and listed) those few which contain useful scientific information. Papers or articles in which only the Chinese or Japanese names are cited (i. e. no scientific names provided) have been excluded.

For the included literature, we have tried to ensure the taxonomic ones have all been listed. Papers on other biological aspects (e. g. ecology, ethology or toxicology) are listed only when the species they treat include new records. The same methodology is followed when popular articles, book chapters and general guidebooks are concerned. All books on crustaceans, however, have been included as we feel these contain a useful amount of scientific information. Some of the older records cannot be substantiated and we have used our best judgement in determining if they are accurate. In a few instances, the identifications are clearly incorrect but we do not know what the original authors were referring to as their specimens are no longer extant, and as such, we have no choice but to omit them. Although we have tried to identify the old records as far as possible, in cases where only generic names were provided, we have chosen to omit these records. This is especially the case for Lin's (1949) paper, although we have made one exception for his record of "*Asthenognathus* sp." (Pinnotheridae), it being the only report of this genus from Taiwan.

The authors also follow the general guidelines established by the International Code of Zoological Nomenclature (1999) as to what constitutes a publication (e. g. printed using conventional presses and distributed to a wide audience) and in many cases, these also have ISBN or ISSN numbers. On these criteria, some special reports (e. g. Jeng, Jan, Tzeng, Feng and Yang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1996; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998) have been included. In any case, these have been prepared or aided by competent carcinologists so the names in-

cluded are very likely to be accurate. However, we have decided to omit some of these reports because they have been superceded by equivalent updated ones (e. g. Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997). Mention should, however, be made of the compilation by Hu and Tao (1996) of the fossil crustacean fauna of Taiwan, in which these authors endeavour to show what extant species are also present. However, they do not always indicate where their extant specimens were collected from; and many of their identifications are very suspicious (see Ng, 1999a). As such, we have decided, albeit reluctantly, to omit the records from this book for fear of causing unnecessary confusion. In any case, there are no obvious new records in this book.

Another problem faced in this study is with regards to records of species from the Taiwan Straits. Unless the paper makes it clear from which part of the straits the specimens were collected from (i. e. if it is within Taiwanese waters), we have opted to exclude these records. In a few cases (e. g. some records in Fang, 1991), the precise collection point is stated and a clear decision can be made. In other cases (e. g. Huang, 1994), no precise information is provided, so we have chosen to not to include them under Taiwan's fauna. Nevertheless, these taxa are still listed (under the discussion for the family) so that the reader is aware of them. In cases when the species is already known from Taiwan via another study; we have, for convenience, included references like Huang (1994) in the main list.

The term "aut." is utilised when an incorrect name had been used earlier but the taxa concerned are not synonyms. When names are subjective or objective synonyms, the authorship and year of the junior synonym is provided. In this instance, we have only included junior synonyms which have been used widely or for the Taiwanese fauna in the past; the synonymy of some species being far too long to list exhaustively. When no indication is provided for the species in question, it means that the name has been used in other common taxonomic combinations in the past, or that the previous spelling used by others are incorrect. All species citations in the text are cited in full and arranged in chronological and alphabetical order respectively. The nominal subfamily for each family is always listed first, with the rest arranged in alphabetical order. Within each subfamily, the genera and species are listed in alphabetical order. When species are recorded from Taiwan for the first time, additional information on the specimens used is listed in Appendix 1. For the convenience of Taiwanese carcinologists, we have provided Chinese translations for key localities (Appendix 2); and the original Chinese journal titles which we had translated into English in the references (Appendix 3). We have also provided photographs of all new records, species whose live colours are not yet known or for taxa which we feel are interesting. Some of the records are based on old specimens whose original colours have faded and to show the readers what the fresh colours are, we have used photographs of specimens collected from other areas.

The following institutional abbreviations are used – TMCD: National Taiwan Museum, Taipei; NTOU: National Taiwan Ocean University, Keelung; NKMT: National Kaohsiung Institute of Marine Technology, Kaohsiung; and ZRC: Zoological Reference Collection of the Raffles Museum, Singapore.

General notes on classification used

The family classification essentially follows that proposed by Ng (1998), with several amendments. The families Dairidae Ng and Rodriguez, 1986, and Matutidae De Haan, 1835, are recognised as separate families (Ng and Rodriguez, 1986; Bellwood, 1996). Since Ng (1998), several other families have also been recognised, although none are known from Taiwan thus far. Bellwood (1996) also recognises

the Hepatidae Stimpson, 1871, as a good family, which is reasonable, considering the comments of Guinot (1977, 1978) about *Hepatus* and its allies. For the Raninidae, Goeke (1981) had recognised a third subfamily, Symethinae, but Tucker (1998) argued that it should be regarded as a distinct family, the Symethidae Goeke, 1981. We prefer instead, however, to follow the classification of Guinot (1993) who recognised more subfamilies of Raninidae and regarded the Symethinae only as a subfamily. In a reappraisal of some unusual genera (e. g. *Phyllotymolinum* and *Genkaia*) previously placed in the Cyclodorippidae, Tavares (1998) established that they were sufficiently different to warrant the recognition of a distinct family, the Phyllotymolinidae Tavares, 1998. Recent developments specific to each family or subfamily are discussed under the respective taxa. The family Eumedonidae Dana, 1852, is here regarded as a subfamily of the Pilumnidae Samouelle, 1819, following the reappraisal by Ng and Clark (2001).

We have decided against using subgenera in this treatment as this taxonomic unit is not often poorly defined and its use is often far too subjective. While subgeneric names are nomenclaturally valid, we have omitted them for practical purposes. When there is sufficient basis to recognise these subgenera as distinct genera (e. g. in the Sesarminae), and we have followed the consensus. In many cases, however, subgenera are simply regarded as full genera for convenience. For some families, the use of subgenera is very common (especially in the Portunidae, Grapsidae and Ocypodidae), but in most cases, the subgeneric limits are not well defined, and their use is difficult. As such, we have preferred not to use these subgeneric names for the moment. The same philosophy is followed for subspecies (see discussion for *Uca*, Ocypodidae).

For the authorities and years for most of the suprageneric taxa, we mainly follow Manning and Holthuis (1981) and Ng (1998). The date of a key paper by Rathbun (1931), often incorrectly cited as "1929", has been discussed in depth by Ng and Liu (1999). We also follow Ng and Ahyong (2001) in literature pertaining to MacLeay. There have been some confusion with the correct authorships and dates of publication of many of the species described by Jacquinot, Adams and White. The authors and dates used here are based on the historical work done by P. Clark (personal communication) (see also Clark and Presswell, 2001).

Checklist

Family Dromiidae De Haan, 1833

Conchoecetes artificiosus (Fabricius, 1798) — Chang, 1963; Ng, Chan and Wang, 2000

Conchoecetes intermedius Lewinsohn, 1984 — Ng, Chan and Wang, 2000

Cryptodromia tumida Stimpson, 1858 (= *Cryptodromia fallax* aut.) — Ng, Chan and Wang, 2000; McLay, Chan and Jeng, in press [This species was reported as *C. fallax* (Lamarck, 1818) by Ng, Chan and Wang (2000) but a recent reappraisal indicates that it should be referred to *C. tumida* instead .]

Cryptodromia fukuii (Sakai, 1936) (= *Petalomera fukuii*) — Jeng, Jan, Tzang, Feng and Yang, 1994, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Dromia dormia (Linnaeus, 1763) — Ng, 1998; Ng, Chan and Wang, 2000

Dromia wilsoni (Fulton and Grant, 1902) — Ng, Chan and Wang, 2000

Lauridromia dehaani (Rathbun, 1923) (= *Dromia dehaani)* — Chang, 1963; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Ng, 1998; Ng, Chan and Wang, 2000

Lauridromia intermedia (Laurie, 1906) — Lin, 1949; Huang, 1994; Ng, Chan and Wang, 2000

Petalomera granulata Stimpson, 1858 — Ng, Chan and Wang, 2000; McLay, Chan and Jeng, in press

Sphaerodromia ducoussoi McLay, 1991 — McLay, Chan and Jeng, in press

Sphaerodromia kendalli (Alcock and Anderson, 1894) — Jeng, 1997; Ng, Chan and Wang, 2000

Takedromia cristatipes (Sakai, 1969) — Ng, Chan and Wang, 2000

Family Dynomenidae Ortmann, 1892

Dynomene hispida Guérin-Méneville, 1832 — Horikawa, 1940; Lin, 1949; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; McLay, 1999

Metadynomene tanensis (Yokoya, 1933) (= *Dynomene praedator* aut.) — Miyake, 1938; Lin, 1949; McLay, 1999; McLay, Chan and Jeng, in press

Family Homolidae De Haan, 1839

Homola mieensis Sakai, 1979 — present record [Fig. 1a]

Homola orientalis Henderson, 1888 — Jeng, Shao, Tzeng, Feng and Wu, 1998; Tan, Huang and Ng, 2000

Homolochunia gadaletae Guinot and Richer de Forges, 1995 — Huang and Hsueh, 1998; Tan, Huang and Ng, 2000

Homolomannia occlusa Guinot and Richer de Forges, 1981 — Tan, Huang and Ng, 2000

Homolomannia sibogae Ihle, 1912 — Tan, Huang and Ng, 2000

Lamoha murotoensis (Sakai, 1979) — Guinot and Richer de Forges, 1995; Tan, Huang and Ng, 2000

Latreillopsis bispinosa Henderson, 1888 — Ng and Huang, 1997; Tan, Huang and Ng, 2000

Moloha majora (Kubo, 1936) — Tan, Huang and Ng, 2000

Paromola japonica Parisi, 1915 — Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Jeng, Jan, Tzeng and Feng, 1997; Ng and Huang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Tan, Huang and Ng, 2000

Paromola macrochira Sakai, 1961 — Ng and Huang, 1997; Tan, Huang and Ng, 2000

Family Latreilliidae Stimpson, 1858

Eplumula phalangium (De Haan, 1839) (= *Latreillia phalangium*) — Tan, Huang and Ng, 2000

Latreillia valida De Haan, 1839 — Tan, Huang and Ng, 2000

Family Raninidae De Haan, 1839

Subfamily Ranininae De Haan, 1839

Ranina ranina (Linnaeus, 1758) — Oshima, 1921b; Balss, 1922b; Maki and Tsuchiya, 1923; Sakai, 1937; Lin, 1949; Chang, 1965; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Ng, Chan and Wang, 2000

Subfamily Lyreidinae Guinot, 1993

Lyreidus stenops Wood-Mason, 1887 (= *Lyreidus politus* Parisi, 1914) — Chang, 1963; Ng, Chan and Wang, 2000

Lyreidus tridentatus De Haan, 1841 — Ng, Chan and Wang, 2000

Subfamily Notopodinae Serène and Umali, 1972

Cosmonotus grayi White, 1848 — Sakai, 1937; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Ng, Chan and Wang, 2000

Notopus dorsipes (Fabricius, 1798) — Ng, Chan and Wang, 2000

Ranilia orientalis Sakai, 1963 — Ng, Chan and Wang, 2000

Subfamily Raninoidinae Lörenthey and Beurlen, 1929

Notosceles serratifrons (Henderson, 1893) (= *Raninoides serratifrons*) — present record [Fig. 1c] [This species was originally described from the genus *Raninoides*, but is now clasified in *Notosceles* (see Guinot, 1993).]

Family Dorippidae MacLeay, 1838

Subfamily Dorippinae MacLeay, 1838

Dorippe quadridens (Fabricius, 1793) (= *Dorippe dorsipes* Miers, 1884, *Dorippe frascone* aut. partim) — Maki and Tsuchiya, 1923; Lin, 1949; Chang, 1963; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Holthuis and Manning, 1990; Dai and Yang, 1991; Huang, 1994; Lai, Huang and Fang, 1997; Chou, Lai and Fang, 1999 [Holthuis and Manning (1990: 18) include Lin's (1949) record of "*D. dorsipes*" under *D. quadridens* but in their discussion of *D. sinica* Chen, 1980, they list Lin's (1949) record from Taiwan under the distribution for this species. They did not discuss their reasons for placing Lin's record under one or the other species. Holthuis and Manning (1990: 29) comment that the distribution of the two species overlap in southern China (see discussion for *D. sinica)*. We have examined specimens from Tahsi in northeastern Taiwan in the TMCD, NTOU and ZRC, and they are clearly *D. quadridens* as defined by Holthuis and Manning (1990) so it seems that the range of *D. quadridens* does extend into northern Taiwan and possibly into southern Japan as well. In fact, Holthuis and Manning (1990: 32) had included records of Maki and Tsuchiya (1923) from Keelung in northern Taiwan. Although *D. sinica* has yet to be formally reported from Taiwan, its presence there is almost certain, being present in Japan and southern China. As such, it would appear that the ranges of *D. quadridens* and *D. sinica* overlap over most of southern China and probably Taiwan.]

Dorippe sinica Chen, 1980 (= *Dorippe frascone* aut. partim) — Holthuis and Manning, 1990 [Fig. 1d] [*Dorippe sinica* is a very distinct species and can easily be separated from *D. quadridens* by the characters enumerated by Holthuis and Manning (1990), and in the ZRC, there are specimens from southern China which are clearly referrable to this species. Holthuis and Manning included Lin's (1949) record of "*D. dorsipes*" under *D. sinica* as well without comment (see discussion for *D. quadridens*) and it is on the basis of this that *D. sinica* is included here for the Taiwan

fauna. It would not be surprising, however, as *D. sinica* has wide distribution in southern China and Japan (Chen, 1980; Holthuis and Manning, 1990). As such, we accept this record for the time being.]

Heikea arachnoides (Manning and Holthuis, 1986) — Ng and Huang, 1997

Heikea japonicum (Von Siebold, 1824) (= *Dorippe japonica; Neodorippe* (*Neodorippe*) *japonica* var. *taiwanensis* Serène and Rohmimohtarto, 1969) — Maki and Tsuchiya, 1923; Lin, 1949; Chang, 1963; Serène and Rohmimohtarto, 1969; Sakai, 1976; Yang, 1979; Dai, Yang, Song and Chen, 1986; Holthuis and Manning, 1990; Dai and Yang, 1991; Lai, Huang and Fang, 1997; Ng and Huang, 1997; Chou, Lai and Fang, 1999 + Miyake, 1983

Paradorippe granulata (De Haan, 1841) (= *Dorippe granulata*) — Sakai, 1937, 1940; Lin, 1949; Chang, 1963; Takeda and Miyake, 1970; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Holthuis and Manning, 1990; Dai and Yang, 1991; Huang, 1994

Subfamily Ethusinae Guinot, 1977

Fang (1991) reported *Ethusa izuensis* Sakai, 1937, from an unspecified location in the Taiwan Straits. Until this record can be substantiated, we prefer not to include it for Taiwan for the moment.

Ethusa sexdentata (Stimpson, 1858) — Ng and Huang, 1997

Family Cyclodorippidae Ortmann, 1892

Tymolus hirtipes Tan and Huang, 2000 — Tan and Huang, 2000

Family Leucosiidae Samouelle, 1819

Fang (1991) reported numerous leucosiids from various unspecified locations in the Taiwan Straits. Of these, three have not been reported from Taiwan before, viz. *Pseudophilyra woodmasoni* Alcock, 1896, *Nursilia tonsor* Alcock, 1896, and *Arcania globata* Stimpson, 1858 (all Philyrinae). Huang (1994) also reported *Arcania erinacea* (Fabricius, 1787) from somewhere in the Taiwan Straits. Until these records can be substantiated, we prefer not to include them for Taiwan for the moment.

Subfamily Leucosiinae Samouelle, 1819

Leucosia anatum (Herbst, 1783) (= *Leucosia longifrons* De Haan, 1841) — Chang, 1963; Huang, 1994; Jeng, Shao, Tzeng, Feng and Wu, 1998 [Fig. 1h] Miyake, 1983;

Leucosia craniolaris (Linnaeus, 1758) — Lin, 1949; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Leucosia formosensis Sakai, 1937 — Sakai, 1937; Horikawa, 1940; Lin, 1949; Chang, 1963; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Leucosia haematosticta Adams and White, 1849 — Huang, 1994; Jeng, Shao, Tzeng, Feng and Wu, 1998 [Fig. 1e]

Leucosia rhomboidalis De Haan, 1850 — Huang, 1994; present record [Fig. 1f] [Huang (1994) reported this species from the Taiwan Straits without indicating which side of the strait it was collected from. The present specimens are all from Taiwan proper.]

Leucosia unidentata De Haan, 1841 — Chang, 1963; Huang, 1994; Jeng, Shao, Tzeng, Feng and Wu, 1998

Leucosia vittata Stimpson, 1858 — Lin, 1949; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994 [Fig. 1g]

Subfamily Ebaliinae Stimpson, 1871

Heteronucia laminata (Doflein, 1904) — Ng and Huang, 1997

Subfamily Philyrinae Rathbun, 1937

Arcania elongata (Yokoya, 1933) — Ng and Huang, 1997

Arcania heptacantha (De Haan, 1861) (= *Arcania siamensis* Rathbun, 1909) — Lin, 1949 ; Chang, 1963; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Arcania quinquespinosa Alcock and Anderson, 1894 — Lin, 1949; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Arcania septemspinosa (Fabricius, 1787) — present record [Figs. 2a, b]

Arcania undecimspinosa De Haan, 1841 (= *Arcania granulosa* Miers, 1877) — Sakai, 1937; Lin, 1949; Chang, 1963; Sakai, 1976; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Iphiculus spongiosus Adams and White, 1849 — Lin, 1949

Ixa cylindrus (Fabricius, 1777) — Lin, 1949; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994 [Fig. 2c]

Ixa edwardsii Lucas, 1858 — present record [Figs. 2d, e] [Dai, Yang, Song and Chen (1986) and Dai and Yang (1991) regard this species as synonymous with *I. inermis* but the available evidence suggests that both species should be recognised, at least for the time being (P. K. L. Ng and H. -L. Chen, unpublished data).]

Ixa inermis Leach, 1817 — Lin, 1949

Ixoides cornutus MacGilchrist, 1905 — Lin, 1949; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994 [We recently obtained a female specimen of this species (TMCD) from Tungkang in southern Taiwan. In life, the animal is a uniform orange on all its dorsal surfaces.]

Myra affinis Bell, 1855 — Chang, 1963

Myra biconica Ihle, 1918 — present record [Fig. 2f]

Myra fugax (Fabricius, 1798) — Lin, 1949; Chang, 1963; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Shao, Tzeng, Feng and Wu, 1998

Nursia plicata (Herbst, 1803) — present record [Fig. 2g]

Parilia major Sakai, 1961 — Jeng, Shao, Tzeng, Feng and Wu, 1998; Tan, Wu and Huang, 2000

Pariphiculus mariannae (Herklots, 1852) — present record [Fig. 2h]

Philyra heterograna Ortmann, 1892 — present record [Fig. 3a]

Philyra pisum De Haan, 1841 — Maki and Tsuchiya, 1923; Sakai, 1937, 1940; Lin, 1949; Chang, 1963; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000

Philyra platycheir De Haan, 1841 — Lin, 1949; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Philyra tuberculosa Stimpson, 1858— Sakai, 1937, 1940; Lin, 1949; Chang, 1963; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Randallia eburnea Alcock, 1896 — Chang, 1963

Randallia pustuloides Sakai, 1961 — Jeng, Shao, Tzeng, Feng and Wu, 1998; Tan, Wu and Huang, 2000

Randallia pustulosa Wood - Mason and Alcock, 1891 — Tan, Wu and Huang, 2000

Family Calappidae De Haan, 1833

Calappa bicornis Miers, 1884 — present record [Fig. 3b] [See record of *Calappa capellonis* below.]

Calappa calappa (Linnaeus, 1758) — Jeng, 1997, 1998; Ng, 1998 [There are two well known "colour morphs" (one plain coloured, another spotted) [Figs. 3c, d] of this species (see Galil, 1997), both of which occur in Taiwan. Morphological and genetic studies by P. K. L. Ng and T. -Y. Chan, however, have shown that these "morphs" are in fact distinct species, with the "spotted morph" belonging to a new taxon. This study is now in the final stages of completion.]

Calappa capellonis (Laurie, 1906) — Galil, 1997 [Figs. 3e, f] [Wang and Chen (1981) had listed *Calappa bicornis* from Taiwan; we have re-examined the specimen on which this record was based (a male (TMCD 212) from Taitung collected by C. -Y. Wei on 21 February 1961). The specimen in question is *C. capellonis*. In addition, we have also examined a recently collected male specimen (ZRC 2000. 2393) of *C. capellonis* collected from Tahsi on 10 April 2000. *Calappa bicornis*, however, is also present in Taiwan on the basis of present records.]

Calappa gallus (Herbst, 1803) — Lin, 1949; Chang, 1963; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, 1997, 1998

Calappa hepatica (Linnaeus, 1758) (= *Cancer tuberculata* Herbst, 1785) — Terasaki, 1902; Balss, 1922b; Maki and Tsuchiya, 1923; Sakai, 1937; Lin, 1949; Chang, 1963; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Galil, 1997; Jeng, 1997, 1998; Ng, 1998; Wang and Liu, 1998; Jeng, 2000

Calappa japonica Ortmann, 1892 (= *Calappa flammea* aut., incorrectly spelled "*C. frammea*" sometimes) — Horikawa, 1940; Ho, 1996; Galil, 1997 [This is the largest species of *Calappa* in Taiwan. Although *C. calappa* is supposed to grow to larger sizes than *C. japonica*, we have, as yet, not found such large specimens of *C. calappa* in Taiwan. In Taiwan, *C. japonica* seems to be more common in the southern part (e. g. Tungkang), regularly appearing in the markets for sale.]

Calappa lophos (Herbst, 1782) — Balss, 1922b; Lin, 1949; Chang, 1963; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Ho, 1996; Galil, 1997; Ng, 1998; Chou, Lai and Fang, 1999; Ng, Chen and Chan, 1999

Calappa philargius (Linnaeus, 1758) — Terasaki, 1902; Oshima, 1921a; Balss, 1922b; Maki and Tsuchiya, 1923; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Galil, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Huang and

Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Chou, Lai and Fang, 1999

Calappa pustulosa Alcock, 1896 — Galil, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Calappa quadrimaculata Takeda and Shikatani, 1990 — Takeda and Shikatani, 1990; Jeng, 1997, 1998; Huang and Lützen, 1998; Ng, Chen and Chan, 1999

Cycloes granulosa De Haan, 1837 (= *Cryptosoma granulosa*) — Lin, 1949; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Galil and Clark, 1996; Jeng, 1997, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998

Mursia armata De Haan, 1837 — Jeng, Shao, Tzeng, Feng and Wu, 1998 [Fig. 3g]

Mursia danigoi Galil, 1993 — Tan, Wu and Huang, 2000

Mursia microspina Davie and Short, 1989 — Tan, Wu and Huang, 2000

Paracyclois milneedwardsii Miers, 1886 — Tan, Wu and Huang, 2000

Family Matutidae De Haan, 1833

Ashtoret maculata (Miers, 1877) (= *Matuta banksii* aut., *Matuta lunaris* aut., part, *Ashtoret lunaris* aut.) — Balss, 1922b; Maki and Tsuchiya, 1923; Sato, 1936d; Sakai, 1937; Lin, 1949; Chang, 1963; Wang, 1984; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994 (part); Hsueh, 1996 (part); Jeng, Jan, Tzeng, Feng and Yang, 1996 (part); Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997 (part); Ng and Huang, 1997; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Lin, 1998 [The first author examined material sent to him by P. -W. Hsueh and this contains members of both *A. maculata* and *M. victor*]

Izanami curtispina (Sakai, 1961) (= *Matuta curtispina* aut.) — Ng and Huang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Matuta planipes Fabricius, 1798 — Lin, 1949; Chang, 1963; Chang, 1965; Jeng, 1997; Ng, 1998

Matuta victor (Fabricius, 1781) (= *Matuta banksii* Leach, 1817, *Matuta lunaris* aut. ?) — Oshima, 1921a; Balss, 1922b; Maki and Tsuchiya, 1923; Sakai, 1937; Lin, 1949; Chang, 1963; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Chang and Chen, 1992; Tzeng and Chen, 1992; Huang, 1994 (part); Galil and Clark, 1994; Ho, 1996; Hsueh, 1996 (part); Jeng, Jan, Tzeng, Feng and Yang, 1996 (part); Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997 (part); Lai, Huang and Fang, 1997; Ng and Huang, 1997; Jeng, 1998; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Feng, Tzeng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Chou, Lai and Fang, 1999; Jeng and Wang, 2000; Lee and Tung, 2000

Family Majidae Samouelle, 1819

The subfamilial system of the Majidae remains unsettled. While some subfamilies seem discrete, most are not clearly defined and many have problematic genera. We nevertheless follow Griffin and Tranter's (1986) system for the time being for want of anything better.

Griffin and Tranter (1986) records several species from the Formosa Straits (= Taiwan Straits), but none are included here under the Taiwanese fauna. For five species, *Achaeus lacertosus* Stimpson, 1857, *Pugettia intermedia* Sakai, 1938 (Epialtinae), *Hyastenus convexus* Miers, 1884, *H. diacanthus* (De Haan, 1839) and *H. hilgendorfi* De Man, 1887 (Pisinae), co-ordinates were provided and they were clearly collected from parts of the straits which are outside Taiwanese jurisdiction. The data

for two species, *Pugettia incisa* (De Haan, 1839) and *P. marissinica* Takeda and Miyake, 1972 (both Epialtinae), were not sufficiently specific, but were probably collected in areas outside Taiwan as defined here. As such, they are also excluded for the moment. The presence of all four species in Taiwan, however, can be expected as they are relatively widespread taxa. Fang (1991) reported numerous majids from various unspecified locations in the Taiwan Straits. Of these, three have not been reported from Taiwan before, viz. *Maja compressipes* (Miers, 1879) (= *M. brevispinosus* Dai, 1981, see Chen and Ng, 1999) (Majinae), *Hyastenus kyusyuensis* (Yokoya, 1933) (Pisinae) and *Achaeus tuberculatus* Miers, 1879 (Inachinae). Until these records can be substantiated, we prefer not to include these records for Taiwan for the moment. The same is true for the records of *Doclea rissoni* Leach, 1815 (as *D. gracilipes* Stimpson, 1857) (Pisinae), *Maja miersii* Walker, 1887 (Majinae), and *Micippa thalia* (Herbst, 1803) (Mithracinae) by Huang (1994).

A note on the valid name for the majine genus *Thacanophrys* Griffin and Tranter, 1986, is necessary. Griffin and Tranter (1986) established *Thacanophrys* for many species previously placed in the genera *Chlorinoides* Haswell, 1880, or *Acanthophrys* A. Milne Edwards, 1865; designating *Chlorinus aculeata* H. Milne Edwards, 1834, as its type species. These authors, however, appear to have forgotten the name *Prismatopus* Ward, 1933 (type species *Prismatopus albanyensis* Ward, 1933, by monotypy). Since *Chlorinus aculeata* H. Milne Edwards, 1834, and *Prismatopus albanyensis* Ward, 1933, are currently regarded as congeneric, *Prismatopus* Ward, 1933, has clear priority over *Thacanophrys* Griffin and Tranter, 1986, and must be used instead.

Subfamily Majinae Samouelle, 1819

Cyclax suborbicularis (Stimpson, 1858) —Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Maja japonica Rathbun, 1932 (= *Maja nipponensis* Sakai, 1934) — Lin, 1949; Chang, 1963; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Maja kominatoensis Kubo, 1936 — Chou, Lai and Fang, 1999

Maja spinigera De Haan, 1839 — Sakai, 1938a; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Prismatopus longispinus (De Haan, 1839) (= *Chlorinoides longispinosus, Thacanophrys longispinus*) — Suzuki, 1985

Schizophroida hilensis (Rathbun, 1906) (= *Schizophroida manazuruana* Sakai, 1933) — Chang, 1963

Schizophrys aspera (H. Milne Edwards, 1834) — Miyake, 1938; Chang, 1963; Hwang and Yu, 1980; Jeng, 1997

Subfamily Epialtinae MacLeay, 1838

Acanthonyx formosa Wu, Yu and Ng, 1999 (= *Pugettia* sp. aut. ?) — Horikawa, 1940; Wu, Yu and Ng, 1999

Huenia heraldica (De Haan, 1837) (= *Huenia proteus* (De Haan, 1839), following Holthuis, 1987) — Jeng, 1997

Menaethius monoceros (Latreille, 1825) — Sakai, 1938a; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998

Xenocarcinus tuberculatus White, 1847 — Jeng, 1994b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998

Subfamily Inachinae MacLeay, 1838

Camposcia retusa Latreille, 1892 — Chang, 1963; Hwang and Yu, 1980; Tzeng and Chen, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998

Cyrtomaia curviceros Bouvier, 1915 — present record [Fig. 3h] [Ng and Huang (1997) reported this species from the Tungsha Islands, and its preserce on the main island is not at all surprising.]

Cyrtomaia murrayi Miers, 1886 — Ng and Huang, 1997

Dumeia taiwanicus (Loh and Wu, 1998) (= *Paratymolus taiwanicus*) — Loh and Wu, 1998; Loh and Ng, 1999

Macrocheira kaempferi (Temminck, 1836) — Huang, Yu and Takeda, 1990

Platymaia bartschi Rathbun, 1916 — present record [Fig. 4a] [This species was reported from the Tungsha Islands by Ng and Huang (1997) but this is its first record from the main islands.]

Platymaia remifera Rathbun, 1916 (= *Platymaia alcocki* aut.) — Ng and Huang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Pleistacanthaoryx Ortmann, 1893—Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Pleistacantha sanctijohannis Miers, 1879 — present record [Fig. 4c] [We have also recently examined recent specimens of this species (ZRC, NTOU) collected from Tungkang in southern Taiwan from depths of 200-300 m (now being studied by S. -H. Wu.) In life, the species is bright orange on all its dorsal surfaces.]

Subfamily Mithracinae MacLeay, 1838

Cyclocoeloma tuberculata Miers, 1880 — Jeng, 1997, 1998 [Fig. 4d] [This species is typically associated with coral reefs, covering itself with small anemones in life.]

Tiarinia cornigera (Latreille, 1825) — Tzeng and Chen, 1992

Tiarinia depressa Stimpson, 1857 (= ? *Tiarinia gracilis* Dana, 1852, following Griifin and Tranter, 1986) — Miyake, 1938; Chang, 1963; Suzuki, 1985; Huang, 1994; Jeng, 1997

Tiarinia spinigera Stimpson, 1857 — Chang, 1963; Jeng, 1997

Subfamily Pisinae Dana, 1851

Doclea canalifera Stimpson, 1857 — Lin, 1949; Huang, 1994; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Doclea japonica Ortmann, 1893 (= *Doclea ovis* aut.) — Lin, 1949; Griffin and Tranter, 1986; Wagner, 1986; Huang, 1994; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Goniopugettia sagamiensis (Gordon, 1931) (= *Rochinia sagamiensis, Pugettia sagamiensis*) — Huang and Hsueh, 1998 [Sakai (1986) transferred this species to its own genus, *Goniopugettia*, but most subsequent authors are not aware of his action or have chosen to disregard it. The differences between this species and typical *Pugettia* species suggests Sakai's action is justified, and as

such, we follow his classification here.]

Hyastenus diacanthus (De Haan, 1839) — Lin, 1949; Wang and Chen, 1981; Huang, 1994

Phalangipus filiformis Rathbun, 1916 (= ? *Loxorhynchus* sp.) — Maki and Tsuchiya, 1923; Griffin, 1973; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Chou, Lai and Fang, 1999

Phalangipus hystrix (Miers, 1886) (= *Naxia hystrix, Naxioides hystrix*) — Sato, 1936c, d; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Phalangipus longipes (Linnaeus, 1758) — Lin, 1949; Griffin, 1973; Huang, 1994; Jeng, Shao, Tzeng, Feng and Wu, 1998 Miyake, 1983

Tylocarcinus styx (Herbst, 1803) — Miyake, 1938; Huang, 1994

Family Parthenopidae MacLeay, 1838

Within the Parthenopidae, there have been several proposals for subfamilies, none of which are well defined. Ng and Rodriguez (1986) followed up on Guinot's (1977, 1978) suggestions and recognised several groupings which can be regarded as equivalent to subfamilies. Notably, the Daldorfiinae Ng and Rodriguez, 1986, and Aethrinae Dana, 1851, stand out. Guinot and Bouchard (1998) recently regarded the Aethridae as a distinct family by itself. We follow their action here. The genus *Cryptopodia* and its allies also stand out in many respects and they are clearly not members of the Aethrinae as some believe (e. g. Serène, 1968; Sakai, 1976). For the time being, we prefer to refer them to their own subfamily, Cryptopodinae Stimpson, 1871. As discussed earlier, one of Ng and Rodriguez's (1986) groups, the Dairinae, is here regarded as a distinct family (see also Guinot and Bouchard, 1998).

Subfamily Parthenopinae MacLeay, 1838

Aulacolambrus curvispinus (Miers, 1879) (= *Aulacolambrus brevibrachiatus* aut.) — Tan, Huang and Ng, 1999a [The record of *A. brevibrachiatus* by Tan, Huang and Ng (1999a) should be corrected. The types of almost all *Aulacolambrus* species have been recently re-examined as part of a revision by S. H. Tan, and the Taiwanese record should be reidentified as *A. curvispinus* instead. *A. brevibrachiatus* (Shen, Dai and Chen, 1982) is actually a junior synonym of *A. granulosus* (Miers, 1879).]

Aulacolambrus hoplonotus (Adams and White, 1849) — Tan, Huang and Ng, 1999a

Garthambrus stellata (Rathbun, 1906) — Tan, Huang and Ng, 1999a

Parthenope longimanus (Linnaeus, 1764) — Balss, 1922b; Sakai, 1938a, 1940; Sakai, 1976; Wang and Chen, 1981; Chou, Lai and Fang, 1999; Tan, Huang and Ng, 1999a

Platylambrus echinatus (Herbst, 1790) (= *Parthenope echinatus; Platylambrus tuberculosus* Stimpson, 1857) — Maki and Tsuchiya, 1923; Sakai, 1938a, 1940; Lin, 1949; Chang, 1963; Huang, 1994; Tan, Huang and Ng, 1999a

Platylambrus validus De Haan, 1839 — Chang, 1963; Tan, Huang and Ng, 1999a

Rhinolambrus contrarius (Herbst, 1804) — Tan, Huang and Ng, 1999a

Rhinolambrus lamellifrons (Adams and White, 1848) (= *Parthenope lamellifrons*) — Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Tan, Huang and Ng, 1999a

Rhinolambrus nummiferus (Rathbun, 1906) — Jeng, Shao, Tzeng, Feng and Wu, 1998

Rhinolambrus pelagicus (Rüppell, 1830) — Balss, 1922b; Sakai, 1938a

Subfamily Cryptopodiinae Stimpson, 1871

Cryptopodia fornicata (Fabricius, 1781) — Lin, 1949; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Chiong and Ng, 1998; Chou, Lai and Fang, 1999; Tan, Huang and Ng, 1999a

Heterocrypta transitans Stimpson, 1858 — Huang, 1994; Tan, Huang and Ng, 1999a

Subfamily Daldorfiinae Ng and Rodriguez, 1986

Daldorfia horrida (Linnaeus, 1758) (= *Parthenope horridus*) — Maki and Tsuchiya, 1923; Sakai, 1938a; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Tan, Huang and Ng, 1999a; McLay, Chan and Jeng, in press

Subfamily Lambrachaeinae Stevcic, 1994

Lambrachaeus ramifer Alcock, 1895 — McLay, Chan and Jeng, in press

Family Aethridae Dana, 1851

Aethra scruposa (Linnaeus, 1764) — Miyake, 1983; Tan, Huang and Ng, 1999a; McLay, Chan and Jeng, in press

Sakaila japonica (Sakai, 1963) — McLay, Chan and Jeng, in press

Family Dairidae Ng and Rodriguez, 1986

Daira perlata (Herbst, 1790) — Sakai, 1939; Lin, 1949; Chang, 1963; Hwang and Yu, 1980; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Wang and Liu, 1998

Family Hymenosomatidae MacLeay, 1838

Elamena truncata (Stimpson, 1858) — Ng and Chuang, 1996; Ng, Chen and Fang, 1999

Halicarcinus coralicola (Rathbun, 1909) (= *Rhynchoplax coralicola*) — Sakai, 1938a, 1976; Miyake, 1983; Ng, Chen and Fang, 1999; Ng and Jeng, 1999a

Halicarcinus hondai (Takeda and Miyake, 1971) (= *Rhynchoplax hondai*) — Suzuki, 1985; Ng, Chen and Fang, 1999; Ng and Jeng, 1999a

Halicarcinus setirostris (Stimpson, 1858) — Ng, Chen and Fang, 1999; Ng and Jeng, 1999a

Trigonoplax unguiformis (De Haan, 1839) — Jeng, 1997, 1998; Ng, Chen and Fang, 1999; Ng and Jeng, 1999a

Family Corystidae Samouelle, 1819

Jonas choprai Serène, 1971 — Serène, 1971; Moosa, 1973; Yang, 1979; Ng, Chan and Wang, 2000

Jonas distincta (De Haan, 1835) — Horikawa, 1940; Lin, 1949; Chang, 1963; Sakai, 1976; Huang, 1994; Ng, Chan and Wang, 2000

Jonas formosae (Balss, 1922) (= *Gomeza distincta formosae, Jonas distincta formosensis* [sic] or *Jonas formosus* [sic]) — Balss, 1922a, c; Horikawa, 1940; Sakai, 1940; Lin, 1949; Sakai, 1976; Yang, 1979; Chen, 1998; Ng, Chan and Wang, 2000 [The name for this species has been mis-spelt in many papers since Balss (1922a, c)]

Family Atelecylidae Ortmann, 1893

Trachycarcinus elegans Guinot and Sakai, 1970 — Ng and Chan, 1997

Family Cancridae Latreille, 1803

Chou, Lai and Fang (1999) reported *Cancer amphioetus* from southwestern Taiwan, but we believe their record is most likely *Cancer japonicus*, which is the most common cancrid in Taiwanese waters.

Cancer japonicus Ortmann, 1893 — Tan, Wu and Huang, 2000
Cancer nadaensis Sakai, 1969 — Ng and Huang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Family Portunidae Rafinesque, 1815

The subfamilial classification for the Portunidae follows that recently modified by Apel and Spiridonov (1998). Fang (1991) reported two species, *Lupocyclus inaequalis* (Walker, 1887) (Portuninae) and *Charybdis vadorum* Alcock, 1899 (Thalamitinae), from various unspecified locations in the Taiwan Straits. Until these records can be substantiated, we prefer not to include them for Taiwan for the moment. On the same rationale, we discount the records of *Lupocyclus tugelae* Barnard, 1950 (Portuninae), *Lissocarcinus polybioides* Adams and White, 1849 (Caphyrinae), *Liocarcinus corrugatus* (Pennant, 1777) (as *Macropipus corrugatus*) (Polybiinae), and *Charybdis vadorum* Alcock, 1899 (Thalamitinae), by Huang (1994) for the time being.

Subfamily Portuninae Rafinesque, 1815

Lupocyclus philippinensis Semper, 1880 — Lin, 1949; Yu, 1979; Wang and Chen, 1981; Huang and Yu, 1997

Lupocyclus rotundatus Adams and White, 1849 — Lin, 1949; Yu, 1979; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Portunus argentatus (White, 1847) — Lin, 1949; Chang, 1963; Yu, 1979; Fang, 1991; Huang, 1994; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Portunus gracilimanus (Stimpson, 1858) — Chang, 1963; Yu, 1979; Wang and Chen, 1981; Fang, 1991; Huang, 1994; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Portunus granulatus (H. Milne Edwards, 1834) — Sakai, 1939; Chang, 1963; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Huang and Yu, 1997; Jeng, 1997, 1998

Portunus haanii Stimpson, 1858 (= *Portunus gladiator* Fabricius, 1798) — Sato, 1936c, d; Lin, 1949; Chang, 1963; Yu, 1979; Wang and Chen, 1981; Ho, 1996; Huang, 1994; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Portunus hastatoides Fabricius, 1798 — Maki and Tsuchiya, 1923; Sato, 1936c, d; Lin, 1949; Chang, 1963; Yu, 1979; Fang, 1991; Tzeng and Chen, 1992; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu,

1998; Chou, Lai and Fang, 1999

Portunus iranjae Crosnier, 1962 — Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997

Portunus orbitosinus Rathbun, 1911 — Lin, 1949; Chang, 1963; Tzeng and Chen, 1992; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Portunus pelagicus (Linnaeus, 1766) — Terasaki, 1903; Oshima, 1921a, b; Maki and Tsuchiya, 1923; Sakai, 1939; Balss, 1922c; Miyake, 1938; Lin, 1949; Chang, 1963; Chang, 1965; Yu, 1979; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Chou, Lai and Fang, 1999

Portunus pubescens (Dana, 1852) — Huang and Yu, 1997; Jeng, 1997

Portunus pulchricristatus Gordon, 1931 — Huang and Yu, 1997

Portunus sanguinolentus (Herbst, 1783) — Terasaki, 1903; Oshima, 1921a; Maki and Tsuchiya, 1923; Sato, 1936c, d; Lin, 1949; Chang, 1963; Chang, 1965; Yu, 1979; Wang and Chen, 1981; Wang, 1984; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Huang and Yu, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Huang and Lützen, 1998; Jeng, 1998; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Fung, Tzeng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Chou, Lai and Fang, 1999; Lee and Tung, 2000

Portunus trituberculatus (Miers, 1876) — Maki and Tsuchiya, 1923; Sakai, 1940; Chang, 1965; Sakai, 1976; Yu, 1979; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Chou, Lai and Fang, 1999 [Chou, Lai and Fang (1999) recorded this species as "*P. tuberculosus*" which is clearly a typographical mistake.] + Miyake,

Scylla olivacea (Herbst, 1796) (= *Scylla serrata* aut. part) — Jeng, Lin, Wang and Jan, 1998; Keenan, Davie and Mann, 1998; Ng, 1998; Jeng and Wang, 2000; Lee and Tung, 2000 [Figs. 5a, b]

Scylla paramamosain Estampador, 1949 (= *Scylla serrata* aut. part) — Oshima, 1921a, b; Jeng, Jan, Tzeng, Feng And Yang, 1994, 1996; Wang and Liu, 1996a, b; Huang and Yu, 1997; Ho and Hung, 1997; Jeng, 1997, 1998; Keenan, Davie and Mann, 1998; Ng, 1998; Wang and Liu, 1998; Chou, Lai and Fang, 1999; Jeng, 2000; Lee and Tung, 2000 [Figs. 5c, d]

Scylla serrata (Forskal, 1775) — Keenan, Davie and Mann, 1998; Ng, 1998; Lee and Tung, 2000 [Figs. 5e, f] [Records supposedly of this species by Terasaki, 1903; Balss, 1922c; Maki and Tsuchiya, 1923; Sato, 1936d; Sakai, 1939; Lin, 1949; Chang, 1963; Chang, 1965; Yu, 1979; Wang and Chen, 1981; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Kuo, 1995; Ho, 1996; Hsueh, 1996; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Lin, 1998 cannot be accurately identified as either no figures were provided, or they were not clear enough to allow an accurate identification; although their samples are probably mixed species lots]

Scylla tranquebarica (Fabricius, 1798) (= *Scylla serrata* aut. part) — Keenan, Davie and Mann, 1998; Ng, 1998; Lee and Tung, 2000 [Figs. 5g, h]

Subfamily Caphyrinae Paulson, 1875

Caphyra rotundifrons (A. Milne Edwards, 1869) — Jeng, 1994a; Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997, 1998

Lissocarcinus arkati Kemp, 1923 — present record [Fig. 4e]

Lissocarcinus laevis Miers, 1886 — Lin, 1949; Chang, 1963; Wang and Chen, 1981; Jeng, Jan, Tzeng and Feng, 1997; Huang and Yu, 1997; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng and Jeng, 1999b

Lissocarcinus orbiculare Dana, 1852 — Ng and Jeng, 1999b

Subfamily Carupinae Paulson, 1875

Catoptrus nitidus A. Milne Edwards, 1870 — Chou, Lai and Fang, 1999

Libystes nitidus A. Milne Edwards, 1867 — Balss, 1922c; Sakai, 1940; Huang and Yu, 1997; Lai, Huang and Fang, 1997

Subfamily Podophthalminae Dana, 1851

Podophthalmus nacreus Alcock, 1899 — Lin, 1949; Huang and Yu, 1997

Podophthalmus vigil (Fabricius, 1798) — Terasaki, 1904; Balss, 1922c; Maki and Tsuchiya, 1923; Lin, 1949; Yu, 1979; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Chou, Lai and Fang, 1999

Miyake, 1983

Subfamily Polybiinae Ortmann, 1893

Ovalipes punctatus (De Haan, 1833) — Yu, 1979; Wang and Chen, 1981; Ho, 1996; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998

Parathranites orientalis Miers, 1886 — Huang and Yu, 1997

Subfamily Thalamitinae Paulson, 1875

Charybdis acuta (A. Milne Edwards, 1869) — Ho, 1996; Hsueh, 1996; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Charybdis acutifrons (De Man, 1879) — Ho, 1996; Huang and Yu, 1997; Lai, Huang and Fang, 1997

Charybdis affinis Dana, 1852 — Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Huang and Yu, 1997; Lai, Huang and Fang, 1997; Ng, 1998; Chou, Lai and Fang, 1999

Charybdis amboinensis Leene, 1938 — Ho, 1996; Huang and Yu, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Charybdis anisodon (De Haan 1850) — Oshima, 1921b; Balss, 1922c; Maki and Tsuchiya, 1923; Sakai, 1939, 1940; Lin, 1949; Chang, 1963; Yu, 1979; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Huang and Yu, 1997; Lai, Huang and Fang, 1997; Ng, 1998; Chou, Lai and Fang, 1999; Lee and Tung, 2000

Charybdis annulata (Fabricius, 1798) — Balss, 1922c; Sakai, 1940, 1976; Tzeng and Chen, 1992; Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997; Lai, Huang and Fang, 1997; Ng, 1998; Lee and Tung, 2000

Charybdis bimaculata (Miers, 1886) — Sakai, 1939; Yu, 1979; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Fang, 1991; Huang, 1994; Huang and Yu, 1997; Lai, Huang and Fang, 1997; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998

Charybdis feriatus (Linnaeus, 1758) (= *Charybdis cruciata* Herbst, 1794) — Sato, 1936c, d; Sakai, 1939; Chang, 1963; Chang, 1965; Yu, 1979; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Ho, 1996; Huang, 1994; Wang and Liu, 1996a, b; Ho and Hung, 1997; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Chou, Lai and Fang, 1999; Lee and Tung, 2000

Charybdis granulata De Haan, 1835 — Ho, 1996; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999

Charybdis hellerii (A. Milne Edwards, 1867) — Ho, 1996; Huang, 1994; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chou, Lai and Fang, 1999; Lee and Tung, 2000

Charybdis hongkongensis Shen, 1934 — Huang, 1994; Huang and Yu, 1997; Chou, Lai and Fang, 1999

Charybdis japonica (A. Milne Edwards, 1861) — Maki and Tsuchiya, 1923; Sakai, 1939; Lin, 1949; Chang, 1963, 1965; Sakai, 1976; Yu, 1979; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang and Yu, 1997; Lai, Huang and Fang, 1997; Jeng, Lin, Wang and Jan, 1998; Ng, 1998; Chou, Lai and Fang, 1999; Jeng and Wang, 2000

Charybdis lucifera (Fabricius, 1798) — Balss, 1922c; Sakai, 1940; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Huang and Yu, 1997; Lai, Huang and Fang, 1997; Chou, Lai and Fang, 1999; Lee and Tung, 2000

Charybdis miles (De Haan, 1835) — Chang, 1963; Yu, 1979; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Ho, 1996; Huang, 1994; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Charybdis natator (Herbst, 1794) — Balss, 1922c; Maki and Tsuchiya, 1923; Lin, 1949; Chang, 1963; Chang, 1965; Sakai, 1976; Yu, 1979; Hwang and Yu, 1980; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Ho, 1996; Huang and Yu, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Chou, Lai and Fang, 1999

Charybdis obtusifrons Leene, 1936 — Huang and Yu, 1997

Charybdis orientalis Dana, 1852 — Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998

Charybdis sagamiensis Parisi, 1916 (= *Charybdis riversandersoni* aut.) — Ho, 1996; Hsueh, 1996; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998 [Takeda and Kubodera (1998) recently reiterated the fact that although Stephenson (1972) and Stephenson and Rees (1968) recognised *C. sagamiensis* Parisi, 1916 (type locality Japan), and *C. riversandersoni* Alcock, 1899 (type locality Indian Ocean), as separate species, most authors followed Sakai (1976) in regarding both as synonyms. Stephenson and Rees (1968) listed 27 characters which distinguish them, and Takeda and Kubodera (1998) concurred in recognising both as separate species. We have compared a specimen of *C. riversandersoni* from the Andaman Sea (male, 71. 6 by 49. 5 mm, ZRC 1999. 149, off Phuket, coll. April 1999) and numerous specimens of *C. sagamiensis* from Taiwan, and while most of the characters enumerated by Stephenson and Rees (1968) are not very reliable by themselves, they are useful when utilised as a suite. In particular, we find that the degree of inflation of the branchial region (distinctly more swollen in *C. riversandersoni*) is a useful character. Another reliable character is the last anterolateral tooth, which is distinctly more triangular and acutely triangular in *C. sagamiensis*, with that of *C. riversandersoni* appearing more truncate.]

Charybdis spiniferum (Miers, 1884) — Miers, 1886; Sakai, 1939 [This species was described from Queensland, Australia, with Miers (1886: 190) commenting that is was also found in "... South Formosa (Coll. Brit. Mus.). This species is perhaps a variety of *Goniosoma variegatum*". Leene (1938: 45-46) states, however, that "I think these two species [*C. spiniferum* and *C. hellerii*] are also identical (as De Man already suggested in 1895). There are, however, some minor differences according to Henderson and De Man: a) the posterior border of the propodus of the natatory leg is not denticulated, b) the wrist has only two spinules on the outer surface instead of three spinules" . Nevertheless, she tentatively synonymised it under *C. hellerii*. Sakai (1939: 400), recognising *C. spiniferum* as a doubtful species, incorrectly attributed the authorship of the species to Fabricius. The synonymy of *C. spiniferum* and *C. hellerii* was followed by Serène (1968) but *C. spiniferum* was not mentioned at all by Stephenson (1972) in his synopsis. In view of the differences between *C. spiniferum* and *C. hellerii* (sensu Miers, 1884; Henderson, 1893; Leene, 1938), it may be better to recognise both as separate taxa for the time being.]

Charybdis truncata (Fabricius, 1798) — Lin, 1949; Chang, 1963; Yu, 1979; Wang and Chen, 1981; Huang, 1994; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Chou, Lai and Fang, 1999

Charybdis variegata (Fabricius, 1798) — Chang, 1963; Yu, 1979; Huang, 1994; Huang and Yu, 1997; Lai, Huang and Fang, 1997; Huang and Lützen, 1998; Chou, Lai and Fang, 1999

Thalamita admete (Herbst, 1803) — Wang, 1984; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997

Thalamita chaptali (Audouin, 1826) — Yu, 1979; Huang and Yu, 1997; Lai, Huang and Fang, 1997; Jeng, 1997

Thalamita crenata (Latreille, 1829) (= *Thalamita prymna* aut.) — Oshima, 1921a; Balss, 1922c; Maki and Tsuchiya, 1923; Lin, 1949; Chang, 1963; Yu, 1979; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Huang and Yu, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng,

+ Miyake 1983

Feng and Wu, 1998; Ng, 1998; Chou, Lai and Fang, 1999; Jeng, 2000; Lee and Tung, 2000

Thalamita danae Stimpson, 1858 (= *Thalamita stimpsoni* A. Milne Edwards, 1861) — Chang, 1963; Yu, 1979; Hwang and Yu, 1980; Wang and Chen, 1981; Suzuki, 1985; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Thalamita demani Nobili, 1905 — Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997

Thalamita edwardsi Borradaile, 1900 — Maki and Tsuchiya, 1923; Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997

Thalamita gloriensis Crosnier, 1962 — Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997; Lai, Huang and Fang, 1997

Thalamita holthuisi Stephenson, 1975 — Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997, 1998

Thalamita integra Dana, 1852 — Huang and Yu, 1997; Lai, Huang and Fang, 1997

Thalamita kagosimensis Sakai, 1939 — Lin, 1949; Huang and Yu, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Thalamita pelsarti Montgomery, 1931 (= *Thalamita prymna* aut.) — Ho, 1996 [Figs. 4g, h]

Thalamita picta Stimpson, 1858 — Balss, 1922c; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997;

Thalamita poissonii (Audouin and Savigny, 1817) — Balss, 1922c; Sakai, 1939, 1976; Huang and Yu, 1997; Chou, Lai and Fang, 1999

Thalamita prymna (Herbst, 1803) (= *Thalamita crenata* aut.) — Sato, 1936d; Sakai, 1939; + Miyake, 1
Hwang and Yu, 1980; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Tzeng and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Thalamita sima H. Milne Edwards, 1834 — Maki and Tsuchiya, 1923; Lin, 1949; Yu, 1979; Dai, + Miyake, 198
Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Huang and Yu, 1997; Lai, Huang and Fang, 1997; Chou, Lai and Fang, 1999

Thalamita spinimana Dana, 1852 — Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998

Thalamita stephensoni Crosnier, 1962 — Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997

Thalamita wakensis Edmondson, 1925 — Yu, Jeng, Chan, Ho and Shy, 1996; Huang and Yu, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Family Carpiliidae Ortmann, 1893

The genus *Liagore* De Haan, 1835, is presently in the family Carpiliidae, but it should not be classified there. Its characters are much closer to the Xanthidae as currently defined and should be

transferred there (P. K. L. Ng, D. Guinot and P. J. F. Davie, ongoing study). For the moment, however, we retain it in this family for convenience.

Carpilius convexus (Forskal, 1775) — Balss, 1922c; Chang, 1963; Hwang and Yu, 1980; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Ng, 1998; Wang and Liu, 1998

Carpilius maculatus (Linnaeus, 1758) — Sakai, 1939; Horikawa, 1940; Hwang and Yu, 1980; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998

Liagore rubromaculata De Haan, 1835 — Lin, 1949; Chang, 1963; Yang, 1979; Wang and Chen, 1981; Huang, 1994; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Family Eriphiidae MacLeay, 1838

The subfamilial system of the Eriphiidae utilised here requires more comment. Crosnier (in Serène, 1984) recognised three subfamilies, Eriphiinae, Oziinae and Dacryopiluminae. The family Eriphiidae can in fact be better split using the structures of the carapace, antenna, orbit and male second pleopod (P. K. L. Ng and S. K. Koh, unpublished data). To this effect, the subfamily Menippinae should also be recognised. Under this revised system, the Eriphiinae (species with orbital margin totally closed; antennae positioned some distance from orbits and antennules, being inserted at external frontal margin; distal part of male second pleopod tapers gradually to tip; distal part of male second pleopod distinctly shorter than subdistal part; right cheliped without special gastropod cutting tooth) contains only the genus *Eriphia* (one aberrant species, *Eriphia norfolcensis* Grant and McCulloch, 1907, was referred by Davie and Ng (2000) to a new genus, *Bountiana*, in the Oziinae). The Oziinae (species with orbital margin not or just closed; antennae positioned near orbits and antennules; distal part of male second pleopod tapers gradually to tip; distal part of male second pleopod subequal or longer than subdistal part; right cheliped of most genera with special gastropod cutting tooth) has the genera *Ozius, Epixanthus, Epixanthoides, Lydia, Baptozius* and *Globopilumnus*. The Menippinae (species with orbital margin not closed; antennae positioned near orbits and antennules; distal part of male second pleopod suddenly becoming very slender along terminal section; distal part of male second pleopod distinctly longer than subdistal part; right cheliped without special gastropod cutting tooth) has the genera *Menippe, Myomenippe, Sphaerozius, Hypothalassia* and *Pseudocarcinus*. Finally, the Dacryopiluminae (species with eyes positioned at lateral edge of trapezoidal carapace; frontal and anterolateral margins entire; orbits orbital margin not closed; antennae positioned some distance from orbits and frontal margin; distal part of male second pleopod suddenly becoming very slender along terminal section; distal part of male second pleopod longer than subdistal part; right cheliped without special gastropod cutting tooth) contains only the peculiar genus *Dacryopilumnus*.

A note on the nomenclature of the genus *Globopilumnus* Balss, 1933, is necessary. While this name is relatively well known, it is in fact not the oldest available one and must be replaced by *Eupilumnus* Kossmann, 1877. Kossmann (1877) first established *Eupilumnus* as a subgenus of *Pilum-*

nus, and listed *P. actumnoides* A. Milne Edwards, 1873, *P. nitidus* A. Milne Edwards, 1873, *P. longipes* A. Milne Edwards, 1873, *P. fissifrons* Stimpson, 1858, *P. dilatipes* Adams and White, 1849, *P. vauquelinii* Audouin, 1826, and *P. savignyi* Heller, 1861, under this name. No type species was designated then. Most workers have since closely associated the name *Eupilumnus* with *Pilumnus* Leach, 1815, and even regard them as synonyms. Rathbun (1930), however, had already selected *Pilumnus actumnoides* A. Milne Edwards, 1873, as the type species and this action is perfectly valid. As the type species of *Globopilumnus* Balss, 1933, is *Pilumnus globosus* Dana, 1852 (by original designation); and *Pilumnus globosus* Dana, 1852, and *Pilumnus actumnoides* A. Milne Edwards, 1873, are both regarded as congeneric; this effectively makes *Pilumnus (Eupilumnus)* Kossmann, 1877, a senior synonym of *Globopilumnus* Balss, 1933. It is also useful to note that *Eupilumnus* Kossmann, 1877, is also a senior homonym of *Eupilumnus* Kingsley, 1880 (type species *Eupilumnus websteri* Kingsley, 1880), the latter which is now regarded as a junior synonym of the trapeziid *Domecia* Eydoux and Souleyet, 1842 (type species *Domecia hispida* Eydoux and Souleyet, 1842).

Subfamily Eriphiinae MacLeay, 1838

Eriphia scabricula Dana, 1852 — Sakai, 1939; Horikawa, 1940; Lin, 1949; Chang, 1963; Hwang and Yu, 1980; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Tzeng and Chen, 1992; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Wang and Liu, 1998

Eriphia sebana (Shaw and Nodder, 1803) (= *Eriphia laevimana* Guèrin-Mèneville, 1829) — Maki and Tsuchiya, 1923; Horikawa, 1940; Lin, 1949; Tzeng and Chen, 1992; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997, 1998; Ng, 1998; Wang and Liu, 1998 + Miyake, 1983

Eriphia smithii MacLeay, 1838 (= *Eriphia laevimana smithii*) — Balss, 1922c; Maki and Tsuchiya, 1923; Lin, 1949; Chang, 1963; Chang and Chen, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998 [S. K. Koh and P. K. L. Ng (unpublished data) have shown that the real *E. smithii* is restricted to the western Indian Ocean, and specimens of "*E. smithii*" from the eastern Indian Ocean, Southeast Asia and eastern Pacific, including Taiwan, actually belong to a new species which is now being described. Until this study is published, we retain the name *E. smithii* for the Taiwanese specimens for convenience.]

Subfamily Dacryopilumninae Serène, 1984

Dacryopilumnus rathbunae Balss, 1932 — Suzuki, 1985

Subfamily Menippinae Ortmann, 1893

Hypothalassia armata (De Haan, 1835) — Jeng, Jan, Tzeng and Feng, 1997; Ng, 1998; Ho, Yu and Ng, 2000; Koh and Ng, 2000

Menippe rumphii (Fabricius, 1798) — Ho and Hung, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Chou, Lai and Fang, 1999; Lee and Tung, 2000

Myomenippe hardwickii (Gray, 1831) (= *Menippe granulosa* De Man, 1888) — Lai, Huang and Fang, 1997

Sphaerozius nitidus Stimpson, 1858 — Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ho, Yu and Ng, 2000

Subfamily Oziinae Dana, 1851

Epixanthus corrosus A. Milne Edwards, 1873 — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ho, Yu and Ng, 2000 Miyake, 1983;

Epixanthus dentatus (White, 1848) — Balss, 1922c; Sakai, 1940, 1976; Ng, 1998

Epixanthus frontalis (H. Milne Edwards, 1834) — Balss, 1922c; Maki and Tsuchiya, 1923; Lin, 1949; Hwang and Yu, 1980; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Chang and Chen, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998

Eupilumnus actumnoides (A. Milne Edwards, 1873) (= *Pilumnus actumnoides*, *Globopilumnus actumnoides*) — Suzuki, 1985

Eupilumnus globosus (Dana, 1852) (= *Globopilumnus globosus*) — Balss, 1922c; Sakai, 1939; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Lydia annulipes (H. Milne Edwards, 1834) — Balss, 1922c; Sakai, 1939; Horikawa, 1940; Hwang and Yu, 1980; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Chang and Chen, 1992; Tzeng and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998 + Miyake, 1983

Ozius guttatus H. Milne Edwards, 1834 — Ng, 1998

Ozius rugulosus Stimpson, 1858 — Parisi, 1916; Maki and Tsuchiya, 1923; Sato, 1936d; Miyake, 1938; Lin, 1949; Chang, 1963; Wang, 1984; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Chang and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998

Ozius tuberculosus H. Milne Edwards, 1834 — Suzuki, 1985; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998

Family Xanthidae Macleay, 1838

The record of *Palapedia nitida* (Stimpson, 1858) (as *Kraussia nitida*) (Kraussiinae) by Huang (1994) from the Taiwan Straits is not included as we are uncertain from which side of the straits it was obtained from. Considering its wide distribution, its presence in Taiwan proper can be expected.

Subfamily Xanthinae MacLeay, 1838

Demania cultripes (Alcock, 1898) — Ho, 1994 [Fig. 6a]

Demania intermedia Guinot, 1969 — Ho, 1994 [Fig. 6b]

Demania japonica Guinot, 1977 (= *Demania rotundata* aut. partim) — Chen and Ng, 1999 [Fig. 6c]

Demania mortenseni (Odhner, 1925) — Ho, Yu and Ng, 2000

Demania reynaudi (H. Milne Edwards, 1834) — Lin, 1949; Ho, 1994 [Fig. 6d]

Demania rotundata Serène, in Guinot, 1969 (= *Demania reynaudi, Demania cultripes* aut.) — Serène, in Guinot, 1969; Takeda and Miyake, 1969; Sakai, 1976; Guinot, 1977; Guinot, 1979; Yang, 1979; Garth and Ng, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Ho, 1994; Huang, 1994; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Chen and Ng, 1999 [Fig. 6e]

Demania scaberrima (Walker, 1887) — Wang and Chen, 1981; Huang, 1994; Ho, 1994 [Fig. 6f]

Demania toxica Garth, 1971 — Ho, 1994 [Fig. 6g]

Euryxanthops orientalis (Sakai, 1939) — Ho, Yu and Ng, 2000

Juxtaxanthias lividus (Lamarck, 1818) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000 [Fig. 6h]

Juxtaxanthias tetraodon (Heller, 1861) — Lin, 1949

Lachnopodus bidentatus (A. Milne Edwards, 1867) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Lachnopodus rodgersi Stimpson, 1858 — Wang and Liu, 1996a; Wang and Liu, 1998

Lachnopodus subacutus (Stimpson, 1858) — Jeng, Jan, Tzeng and Feng, 1997 ; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ho, Yu and Ng, 2000

Lachnopodus tahitensis De Man, 1889 — Ho, Yu and Ng, 2000

Leptodius exaratus (H. Milne Edwards, 1834) — Balss, 1922c; Sakai, 1939; Chang, 1963; Hwang and Yu, 1980; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Chang and Chen, 1992; Tzeng and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998

Leptodius gracilis (Dana, 1852) — Chang and Chen, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Leptodius nudipes (Dana, 1852) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Leptodius sanguineus (H. Milne Edwards, 1834) — Parisi, 1916; Oshima, 1921a; Balss, 1922c; Maki and Tsuchiya, 1923; Lin, 1949; Chang, 1963; Hwang and Yu, 1980; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Chang and Chen, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Lee and Tung, 2000

Macromedaeus crassimanus (A. Milne Edwards, 1867) — Ho, Yu and Ng, 2000

Macromedaeus demani (Odhner, 1925) — Ho, Yu and Ng, 2000

Macromedaeus distinguendus (De Haan, 1835) — Sato, 1936d; Lin, 1949; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Neoxanthias impressus (Lamarck, 1818) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Neoxanthias michelae Serène and Vadon, 1981 — Ho, Yu and Ng, 2000

Neoxanthops lineatus (A. Milne Edwards, 1867) — Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ho, Yu and Ng, 2000

Neoxanthops quadrilobatus (Sakai, 1939) — Yang, 1979; Ho, Yu and Ng, 2000[Fig. 7a]

Paraxanthias notatus (Dana, 1852) — Lin, 1949; Chang, 1963; Suzuki, 1985; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Xanthias elegans (Stimpson, 1858) (= *Paraxanthias elegans*) — Miyake, 1938; Sakai, 1939; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998 → Miyake, 1983;

Xanthias lamarcki (H. Milne Edwards, 1834) — Horikawa, 1940; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Subfamily Actaeinae Alcock, 1898

Actaea bocki Odhner, 1925 (= *Actaea rüppelli* aut.) — Balss, 1922c; Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Actaea savignyi (H. Milne Edwards, 1834) — Lin, 1949

Actaeodes hirsutissimus (Rüppell, 1830) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Actaeodes tomentosus (H. Milne Edwards, 1834) — Sakai, 1939; Horikawa, 1940; Chang, 1963; Sakai, 1976; Wang, 1984; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Chang and Chen, 1992; Tzeng and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998 → Miyake, 1983;

Forestia depressa (White, 1848) — Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ho, Yu and Ng, 2000

Forestia scabra (Odhner, 1925) — Ng and Huang, 1997

Gaillardiellus orientalis (Odhner, 1925) — Sato, 1936d

Novactaea pulchella (A. Milne Edwards, 1865) (= *Actaea pulchella*) — Miyake, 1938; Sakai, 1939, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991

Paractaea rufopunctata (H. Milne Edwards, 1834) — Miyake, 1938; Chang, 1963; Jeng, 1997

Psaumis cavipes (Dana, 1852) — Sakai, 1939; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Pseudoliomera helleri (A. Milne Edwards, 1865) — Ho, Yu and Ng, 2000

Pseudoliomera lata (Borradaile, 1902) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Pseudoliomera remota (Rathbun, 1907) — Lin, 1949

Pseudoliomera speciosa (Dana, 1852) (= *Actaea speciosa*) — Huang, 1994; Jeng, 1994b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998

Subfamily Chlorodiinae Alcock, 1898

Chlorodiella crispipleopa Dai, Yang, Song and Chen, 1986 — Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Chlorodiella cytherea (Dana, 1852) — Sakai, 1976; Suzuki, 1985 + Miyake, 1983;

Chlorodiella laevissima (Dana, 1852) — Miyake, 1938; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Chlorodiella nigra (Forsskal, 1775) — Horikawa, 1940; Chang, 1963; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Phymodius granulosus (De Man, 1888) — Suzuki, 1985; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Phymodius nitidus (Dana, 1852) — Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Wang and Liu, 1998

Pilodius areolatus (H. Milne Edwards, 1834) — Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ho, Yu and Ng, 2000

Pilodius granulatus Stimpson, 1858 — Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ho, Yu and Ng, 2000

Pilodius paumotensis Rathbun, 1907 — Suzuki, 1985

Pilodius pilumnoides (White, 1848) — Suzuki, 1985

Pilodius pugil Dana, 1852 — Lin, 1949

Subfamily Cymoinae Alcock, 1898

Cymo andreossyi (Audouin, 1826) — Jeng, 1994b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Cymo melanodactylus De Haan, 1833 — Lin, 1949; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Cymo quadrilobatus Miers, 1884 — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Subfamily Etisinae Ortmann, 1893

Etisus anaglyptus H. Milne Edwards, 1834 — Miyake, 1938; Lin, 1949; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Etisus bargibanti Crosnier, 1987 — Ho, Yu and Ng, 2000

Etisus dentatus (Herbst, 1785) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ng, 1998; Ho, Yu and Ng, 2000

Etisus electra (Herbst, 1801) — Sakai, 1939; Dai, Yang, Song and Chen, 1986; Dai and Yang,

1991; Huang, 1994; Jeng, 1997

Etisus laevimanus Randall, 1840 — Sato, 1936d; Jeng, 1997; Ng, 1998; Jeng, 2000

Etisus odhneri Takeda, 1971 — Jeng, 1997; Ho, Yu and Ng, 2000

Etisus rhynchophorus A. Milne Edwards, 1873 — Ho, Yu and Ng, 2000

Etisus splendidus Rathbun, 1906 — Ng and Huang, 1997; Ng, 1998

Subfamily Euxanthinae Alcock, 1898

Euxanthus exsculptus (Herbst, 1790) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Hypocolpus abbotti (Rathbun, 1894) — Ho, Yu and Ng, 2000

Paramedaeus noelensis (Ward, 1934) — Suzuki, 1985

Subfamily Kraussiinae Ng, 1993

Kraussia rugulosa (Krauss, 1843) — Sakai, 1939; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Palapedia integra (De Haan, 1835) — Jeng, 1997; Ho, Yu and Ng, 2000

Subfamily Liomerinae Sakai, 1976

Actites erythra (Lanchester, 1901) (= *Liomera erythra*) — Sakai, 1939; Horikawa, 1940; Lin, 1949; Sakai, 1976 [Fig. 7b] [Odhner (1925) reported this species from the Taiwan Straits, but his record is just outside Taiwanese waters so is discounted (see Material and methods). The specimen figured here is from Singapore, the type locality of the species.]

Liomera bella (Dana, 1852) — Suzuki, 1985; Jeng, 1997

Liomera cinctimana (White, 1847) — Lin, 1949; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Liomera laevis (A. Milne Edwards, 1873) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Liomera margaritata (A. Milne Edwards, 1873) — Lin, 1949; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Liomera monticulosa (A. Milne Edwards, 1873) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Liomera rubra (A. Milne Edwards, 1865) — Horikawa, 1940

Liomera rugata (H. Milne Edwards, 1834) — Ho, Yu and Ng, 2000

Liomera venosa (H. Milne Edwards, 1834)— Sato, 1936d

Neoliomera insularis (Adams and White, 1849) — Lin, 1949; Chang, 1963

Subfamily Polydectinae Dana, 1851

Lybia caestifera (Alcock, 1898) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000

Lybia tessellata (Latreille, 1812) — Jeng, 1994b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998

Subfamily Zalasiinae Serène, 1968

Banareia armata A. Milne Edwards, 1869 — Miyake, 1938
Banareia odhneri Sakai, 1974 — Ho, Yu and Ng, 2000
Banareia subglobosa (Stimpson, 1858) — Ho, Yu and Ng, 2000
Calvactaea tumida Ward, 1933 — Lin, 1949
Zalasius dromiaeformis (De Haan, 1841) — Chang, 1963
Zalasius sakaii Balss, 1938 — Ng and Huang, 1997

Subfamily Zosiminae Alcock, 1898

Atergatis dilatatus De Haan, 1835 — Hwang and Yu, 1980
Atergatis floridus (Linnaeus, 1767) (= *Atergatis ocyroe* (Herbst, 1901)) — Maki and Tsuchiya, 1923; Horikawa, 1940; Wang, 1984; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Tzeng and Chen, 1992; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Wang and Liu, 1998
Atergatis integerrimus (Lamarck, 1801) — Balss, 1922c; Jeng, 2000
Atergatis latissimus (H. Milne Edwards, 1834) — Wang and Liu, 1996a; Wang and Liu, 1998
Atergatis reticulatus De Haan, 1835 — Lin, 1949
Atergatis subdentatus De Haan, 1835 — Ho, Yu and Ng, 2000
Atergatopsis amoyensis De Man, 1879 (= *Actaea amoyensis*) — Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Ho, Yu and Ng, 2000
Atergatopsis germaini A. Milne Edwards, 1865 — Tsai, Hwang, Chai and Jeng, 1996
Atergatopsis signatus (Adams and White, 1849) — Ng, 1998; Ho, Yu and Ng, 2000
Lophozozymus incisus (H. Milne Edwards, 1834) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000
Lophozozymus pictor (Fabricius, 1798) — Ng and Chia, 1997
Paratergatis longimanus Sakai, 1965 — Jeng and Ng, 1998
Platypodia granulosa (Rüppell, 1830) — Lin, 1949; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994
Platypodia semigranosa (Heller, 1861) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Ho, Yu and Ng, 2000
Pulchratis reticulatus Ng and Huang, 1997 — Ng and Huang, 1997
Zosimus aeneus (Linnaeus, 1758) — Sakai, 1939; Horikawa, 1940; Hwang and Yu, 1980; Wang, 1984; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Tzeng and Chen, 1992; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998
Zozymodes cavipes (Dana, 1852) —Ho, Yu and Ng, 2000

Family Pilumnidae Samouelle, 1819

The concept of this family has changed substantially since Balss (1933, 1957), and is in fact very similar to the tentative system suggested by Guinot (1978). Ng and Clark (2000, 2001) have discussed this matter in some depth (see also discussion for Goneplacidae later).

Subfamily Pilumninae Samouelle, 1819

Fang (1991) reported *Actumnus forficigerus* (Stimpson, 1858) (Pilumninae), from an unspecified location in the Taiwan Straits. Until this record can be substantiated, we prefer not to include it for Taiwan for the moment. The same is true of the records of *Pilumnus orbitospinis* Rathbun, 1911, *Actumnus dorsipes* (Stimpson, 1858), *A. forficigerus* (Stimpson, 1858) (all three Pilumninae), *Typhlocarcinus nudus* Stimpson, 1858, *Xenophthalmodes moebii* Richters, 1880 (both Rhizopinae), and *Parapanope euagora* De Man, 1895 (in an unspecified subfamily as yet), by Huang (1994).

Actumnus squamosus (De Haan, 1835) — Jeng, Jan, Tzeng and Feng, 1997; Ho, Yu and Ng, 2000

Actumnus sp. — Chou, Lai and Fang, 1999 [The paper describing this new species from southern Taiwan, which is allied to *A. setifer* (De Haan, 1835), by P. -H. Ho, H. -P. Yu and P. K. L. Ng, is now in press (2001)].

Benthopanope indica (De Man, 1887) — Jeng, Jan, Tzeng and Feng, 1997; Ho, Yu and Ng, 2000 [Although *Heteropanope pearsei* Rathbun, 1932, described from Japan, is generally regarded as a junior synonym, unpublished studies (P. K. L. Ng) indicate that both are distinct species]

Glabropilumnus laevis (Dana, 1852) — Suzuki, 1985

Gorgonariana sodalis (Alcock, 1898) — Huang, 1994

Lophopilumnus dilatipes (Adams and White, 1849) — Ho, Yu and Ng, 2000

Pilumnopeus makiana (Rathbun, 1931) (= *Heteropanope makiana*, following Balss, 1933; Davie, 1989b) — Rathbun, 1931; Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994 + Miyake, 1983;

Pilumnus acanthosoma Ng, 2000 — Ng, 2000c [This new species, which is allied to *P. dofleini* Balss, 1933, from Japan, is known from a good series of specimens from southern Taiwan and the South China Sea.]

Pilumnus longicornis Hilgendorf, 1878 — Ho, Yu and Ng, 2000

Pilumnus minutus De Haan, 1835 — Suzuki, 1985; Huang, 1994

Pilumnus murphyi Ng, 1988 — Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Fung, Tzeng and Wu, 1998; Ho, Yu and Ng, 2000

Pilumnus purpureus A. Milne Edwards, 1873 — Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ho, Yu and Ng, 2000

Pilumnus scabriusculus Adams and White, 1849 — Chang, 1963; Suzuki, 1985

Pilumnus vespertilio (Fabricius, 1793) — Chang, 1963; Hwang and Yu, 1980; Tzeng and Chen, 1992; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Wang and Liu, 1998

Subfamily Eumedoninae Dana, 1852

Echinoecus pentagonus (A. Milne Edward, 1879) — Chia, Castro and Ng, 1999; Ng and Jeng, 1999b

Harrovia albolineata Adams and White, 1849 (= *Harrovia elegans* aut.) — Lin, 1949; Wang and Chen, 1981; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Chia and Ng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng

and Jeng, 1999b

Permanotus purpureus (Gordon, 1934) (= *Harrovia purpurea*) — Chia and Ng, 1998; Ng and Jeng, 1999b

Tiaramedon spinosum (Miers, 1879) (= *Ceratocarcinus spinosuum*) — Hwang and Yu, 1980; Ng and Jeng, 1999b

Subfamily Galeninae A. Milne Edwards, 1862

Galene bispinosa (Herbst, 1783) (= *Galene granulata* Miers, 1884) — Sakai, 1939; Lin, 1947, 1949; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng and Feng, 1997; Ng, 1998 [Lin (1947) reported *Galene granulata* as a recent fossil record from Taiwan, but this taxon was originally described as an extant species. *Galene granulosa* Miers, 1884, however, is clearly a junior synonym of *G. bispinosa* (Herbst, 1783). The first author has examined a large series of specimens of this species from various parts of the Indo-West Pacific and *G. granulosa* is nothing more than a juvenile of *G. bispinosa*. Small specimens tend to have more granular carapaces, becoming distinctly smoother with increasing size. As such, both names must be synonymised.]

Subfamily Halimedinae Alcock, 1898

Halimede fragifer (De Haan, 1835) — Lin, 1949; Huang, 1994 [*Halimede tyche* (Herbst, 1801) is often regarded as a junior synonym of *H. fragifer*, but Galil (2000) recently argued that they were two distinct species.]

Subfamily Rhizopinae Stimpson, 1858

Pseudolitochira integra (Miers, 1884) (= *Heteropilumnus integer*) — Jeng, 1997

Typhlocarcinus villosus Stimpson, 1858 — Lin, 1949; Huang, 1994

Subfamily Tanaochelinae Ng and Clark, 2000

Tanaocheles bidentata (Nobili, 1906) (= *Chlorodiella bidentata*) — Suzuki, 1985; Ng and Clark, 2000

Family Trapeziidae Miers, 1886

Subfamily Trapeziinae Miers, 1886

Quadrella maculosa Alcock, 1898 — Shih and Mok, 1996

Tetralia glaberrima (Herbst, 1790) — Miyake, 1938; Horikawa, 1940; Jeng, Jan, Tzeng, Feng and Yang, 1994; 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Trapezia areolata Dana, 1852 — Horikawa, 1940; Lin, 1949; Suzuki, 1985; Tzeng and Chen, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Trapezia cheni Galil, 1983 — Galil, 1983; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Trapezia cymodoce (Herbst, 1799) — Horikawa, 1940; Lin, 1949; Hwang and Yu, 1980; Suzuki, 1985; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Yu, Jeng, Chan, Ho and Shy, 1996;

Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Trapezia digitalis Latreille, 1825 — Horikawa, 1940; Lin, 1949; Suzuki, 1985; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Trapezia formosa Smith, 1869 — Chang, Chen and Chen, 1987; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Trapezia garthi Galil, 1983 — Galil, 1983; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Trapezia guttata Rüppell, 1830 — Jeng, 1994b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998

Trapezia lutea Castro, 1997 (= *Trapezia cymodoce* aut. part) — Jeng, 1994b; Wang and Liu, 1996a; Castro, 1997; Jeng, 1998; Wang and Liu, 1998

Trapezia rufopunctata (Herbst, 1799) — Jeng, 1994b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998

Trapezia septata Dana, 1852 — Galil and Lewinsohn, 1985; Jeng, 1994b; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998

Trapezia serenei Odinetz, 1984 (= *Trapezia ferruginea* aut., *Trapezia dentata* aut.) — Lin, 1949; Hwang and Yu, 1980; Suzuki, 1985; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Wang and Liu, 1998

Trapezia speciosa Dana, 1852 — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Trapezia tigrina Eydoux and Souleyet, 1842 — Galil and Lewinsohn, 1984; Chang, Chen and Chen, 1987; Jeng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Subfamily Domeciinae Ortmann, 1893

Domecia glabra Alcock, 1899 — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Domecia hispida Eydoux and Souleyet, 1842 — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Family Goneplacidae Macleay, 1838

The subfamilial classification of what is now called the Goneplacidae is a major problem as it is clearly a polyphyletic grouping. Guinot (1971) was the last to appraise its composition but much remains unresolved. Ng (1987) formally removed the Rhizopinae s. str. into the Pilumnidae. Ng (1987) rearranged the Rhizopinae and removed many genera from this subfamily which are not pilumnids. He tentatively retained these in the Goneplacidae s. lato. In this paper, for convenience, we refer the non-pilumnid genera previously placed in Rhizopinae to the Chasmocarcininae Serène, 1964. We otherwise follow Guinot's (1971) approximate subfamilial system for most of the Goneplacidae. We, however, concur with Richer de Forges (1996) who suggested that the genus *Platypilumnus* is closer to the Carcinoplacinae (Goneplacidae) than the Geryonidae (following Guinot, 1971). Similarly, Guinot (1971, 1978) regards the genera *Halimede* and *Galene* as pilumnids, an action we agree, and to this effect, we refer them to their respective subfamilies within the Pilumnidae. These subfamily groupings had in fact long been recognised (e. g. see Alcock, 1898, 1900), and there is good evidence that they are monophyletic. In addition, a new pilumnid subfamily (for *Tanaocheles*) has recently been described (Ng and Clark, 2000). Serène (1984) had proposed a classification of

the Pilumnidae which recognises five subfamilies: Pilumninae, Heteropanopeinae, Halimedinae, and for two new subfamilies, Planopilumninae and Heteropilumninae. Ongoing studies by the first author indicate that most of this classification is untenable. For example, there are no clear characters delineating the Pilumninae, Heteropanopeinae and Heteropilumninae, the latter which contains members of the the Pilumninae and Rhizopinae as currently understood. Certainly, as it now stands, many members of the Pilumninae and Heteropanopeinae cannot be effectively distinguished from each other and both are probably synonyms. With regards to the Planopilumninae, the type species of the type genus, *Planopilumnus spongiosus* (Nobili, 1905), is actually not a pilumnid at all but closer to goneplacids like the Pseudoziinae (P. K. L. Ng, unpublished data) instead. The genus *Planopilumnus* as currently understood, is heterogeneous. Additionally, Ng and Clark (2001) regarded the echinoderm-associates of the family Eumedonidae Dana, 1852, only as a subfamily of the Pilumnidae.

The records of *Carcinoplax meridionalis* Rathbun, 1923, *Heteroplax nitida* Miers, 1879, *Heteroplax nagasakiensis* Sakai, 1934, *Ommatocarcinus macgillivrayi* White, 1851, and *Eucrate crenata* (De Haan, 1835) by Huang (1994) are not included for the time being as it was merely stated as from the Taiwan Straits, without making clear from which side of the straits it was collected from. *Carcinoplax suruguensis* Rathbun, 1932, was also reported by Huang (1994) from somewhere in the Taiwan Straits, but we have examined specimens (now with J. -F. Huang) from northern Taiwan, so we include this record in our list. Similarly, Fang's (1991) record of *Eucrate solaris* from an unspecified location in the Taiwan Straits is established in the present study through the first confirmed report of this species from Taiwan proper.

Subfamily Goneplacinae MacLeay, 1838

Ommatocarcinus pulcher (Barnard, 1950) — Ng and Huang, 1997

Subfamily Carcinoplacinae H. Milne Edwards, 1852

Carcinoplax longimana (De Haan, 1835) — Lin, 1949; Wang and Chen, 1981; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Jeng, Jan, Tzeng and Feng, 1997; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998

Carcinoplax indica Doflein, 1904 — Huang, 1994; present record [Fig. 7c] [This species was reported from an unspecified location in the Taiwan Strait, but the present specimens are the first confirmed presence of the taxon from Taiwan proper.]

Carcinoplax suruguensis Rathbun, 1932 — Huang, 1994 [Fig. 7d] [As noted above, Huang (1994) reported this species from an unspecified location in the Taiwan Straits, but we have seen specimens from northern Taiwan and can thus confidently include it for the Taiawanese fauna. The taxonomy of this and other goneplacids, is now being studied by J. -F. Huang and P. -W. Hsueh.]

Carcinoplax tomentosa Sakai, 1969 — present record [Fig. 7e]

Mathildella serrata (Sakai, 1974) — Ng and Chan, 2000

Platypilumnus soelae Garth, 1987 — Ng and Chan, 1998

Psopheticus insignis Alcock, 1900 — Sakai, 1976

Subfamily Chasmocarcininae Serène, 1964

Camatopsis rubida Alcock and Anderson, 1899 — Fang, 1991; Huang, 1994

Scalopidia spinosipes Stimpson, 1858 — Fang, 1991; Huang, 1994 [Fig. 7f.] [The specimen figured is from the Gulf of Thailand, where the species can be very common. The species is normally associated with very soft substrates in relatively shallow waters less than 100 m depth. Smaller specimens tend to have more yellow and orange on the chelipeds.]

Subfamily Euryplacinae Stimpson, 1871

Eucrate alcocki Serène, in Serène and Lohavanijaya, 1973 (= *Eucrate formosensis* Sakai, 1974) — Sakai, 1974, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991 [Sakai (1974: 94) described *E. formosensis* on the basis of one 29.5 by 24.0 mm male from Kaohsiung. Sakai (1976: 536) subsequently synonymised *E. formosensis* with *E. alcocki* Serène, 1971, noting that "... the author found that *E. formosensis* is, save a few points of slight differences, quite identical with *E. alcocki*." For the colour, he noted that "... of *E. formosensis* is similar to *alcocki*, but the central large spot is lacking." Serène (1971: 916) based *Eucrate alcocki* on one male 25 by 20 mm from Nhatrang Bay in Vietnam. In his discussion for the species, he writes "Selon Sakai (1939), *Heteroplax* Stimpson, 1858, est un genre différent d'*Eucrate* de Haan, 1835. Le type de la nouvelle espèce correspond aux spécimens indentifiès *Eucrate crenata* var. *dentata* par Alcock (1900) et Chhapar (1957) et par erreur indentifiés avec l'espèce *Heteroplax dentata* Stimpson, 1858, qui est différente. La nouvelle espèce *alcocki* remplace done dans la clé de Campbell (1969) la forme mentionnée sous le nom de *Eucrate dentata* (Stimpson, 1858)." However, no description, diagnosis or figure was provided. Under the current zoological code, Serène's (1971) name "*Eucrate alcocki*" must be regarded as a nomen nudum. Serène and Lohavanijaya (1973) subsequently discussed this species, with a detailed comparison, statement of characters used and provision of figures. As such, the correct author citation and date of publication for this species must be *Eucrate alcocki* Serène, in Serène and Lohavanijaya, 1973. The authors are uncertain if the synonymy of *E. alcocki* and *E. formosensis* is correct. This is the only species in the region in which the anterolateral margin has only three teeth (including external orbital tooth) with the last being spiniform; and according to Dai and Yang (1991: 403), *E. maculata* Yang and Sun, 1979 (type locality China) is also a synonym. Sakai (1976: pl. 192 fig. 2) depicts an animal covered with numerous small spots, like the present specimens [Fig. 7g]. *Eucrate alcocki*, on the other hand, has a large median red gastric spot with a smaller spot on each side (Serène and Lohavanijaya, 1973). In any case, the genus *Eucrate* needs to be revised. For the moment, we retain Sakai's (1976) synonymy of the two species for lack of more conclusive evidence.]

Eucrate solaris Yang and Sun, 1979 — present record [Fig. 7h]

Subfamily Pseudoziinae Alcock, 1898

Pseudozius caystrus (Adams and White, 1849) — Hwang and Yu, 1980; Ng and Wang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Shao,

Tzeng, Feng and Wu, 1998; Wang and Liu, 1998

Family Geryonidae Colosi, 1923

Chaceon granulatus (Sakai, 1978) — Ng, 1998; Ng, Chan and Ng, 1998; Ng and Manning, 1998 [Fig. 8a] [This large species is usually beige-brown in colour but is often very dark to almost black in parts, possibly because of their foraging near hydrothermal vents. We have observed and/or examined numerous specimens of various sizes from off northern Taiwan and Tiaoyutai Islands in the Peikuan Crab Museum; and smaller specimens may be maroon to almost white in colour.]

Chaceon manningi Ng, Lee and Yu, 1994 — Ng, Lee and Yu, 1994; Ng, Chan and Ng, 1998; Ng and Manning, 1998 [The first author has examined a dried mounted specimen of this species supposedly collected from southern Taiwan in the home of a fishermen in the port of Tungkang near Kaohsiung. There is also at least one large dried male specimen of *C. manningi* obtained from off Tahsi in the Peikuan Crab Museum. Its presence in Taiwan, however, is not unexpected as the species was originally described from the Tungsha Islands in the South China Sea and is known from southern Japan as well (Ng and Manning, 1998).]

Family Ocypodidae Rafinesque, 1815

With regards to the crabs of the genus *Uca* in this family, the standard reference remains Crane's (1975) masterpiece. Unfortunately, a good number of her new subgeneric, species and subspecies names are synonymous with those proposed by Bott (1973a, b). Bott's descriptions and discussions, however, are very brief and present a number of taxonomic problems. Because Crane's book was in press for many years, Bott's taxa were not included (or perhaps were not known to her) at the time her book went to press. Von Hagen (1976), in his review of Crane's book, commented that because of this confusion, it might be better just to use the broad genus name *Uca* for convenience. This has been followed by most workers since. Despite the nomenclatural and taxonomic problems associated with Crane's and Bott's taxa, there has been no concerted attempt to resolve them as yet. In any case, most workers have tended to follow Crane's scheme (and names) for these crabs, with Bott's works usually ignored. A second aspect of *Uca* taxonomy needs a brief comment, and that is with regards to Crane's concept of subspecies, which differs from modern ideas of what these taxa are. Nevertheless, we prefer not to use the subspecies concept here in the present compilation, partially for convenience, and mainly because even modern definitions of subspecies are still a matter of some debate.

A note on the nomenclature of the macrophthalmine subgenus *Macrophthalmus* (*Mopsocarcinus*) Barnes, 1967, is necessary. Barnes (1967), in naming a new subgenus, *Macrophthalmus* (*Mopsocarcinus*) (type species *Macrophthalmus boscii* Audouin, 1826), was apparently unaware that there was an earlier name, *Chaenostoma* Stimpson, 1858 (type species *Chaenostoma orientale* Stimpson, 1858). Since *Chaenostoma orientale* Stimpson, 1858, is now regarded as a junior synonym of *Macrophthalmus boscii* Audouin, 1826, the name *Chaenostoma* Stimpson, 1858, must have priority. Although the name *Chaenostoma* has been used several times, but the use by Stimpson (1858) is the first we know of.

Subfamily Ocypodinae Rafinesque, 1815

Ocypode ceratophthalmus (Pallas, 1772) — Parisi, 1918; Oshima, 1921a; Balss, 1922c; Maki and

Tsuchiya, 1923; Takahasi, 1934a, b, 1935; Sakai, 1939; Horikawa, 1940; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Huang, Yu and Takeda, 1992; Wu, 1992; Huang, 1994; Kuo, 1995; Hsueh, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997, 1998; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Lin, 1998; Ng, 1998; Wang and Liu, 1998; Jeng, 2000; Jeng and Wang, 2000; Lee and Tung, 2000

Ocypode cordimana Desmarest, 1825 — Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994 [Huang, Yang and Ng (1998) had shown that the Taiwanese records of "*O. cordimana*" they could check or assess all invariably belonged to *O. sinensis* instead. But since the real *O. cordimana* has a very wide Indo-West Pacific distribution, its presence in Taiwan is to be expected. The records of *O. cordimana* by Dai, Yang, Song and Chen (1986) and Dai and Yang (1991) from Taiwan are significant as some of these authors were the ones who described *O. sinensis* originally, and in their books, also clearly differentiate between the two species. In any case, we have on hand, one male specimen (33.4 by 31.5 mm, coll. 2 September 2000, TMCD) recently obtained from Kenting in southern Taiwan which confirms that *O. cordimana* s. str. is actually present in Taiwan.]

Ocypode sinensis Dai, Song and Yang, 1985 (= *Ocypode cordimana* aut., *Ocypode stimpsoni* aut.) — Maki and Tsuchiya, 1923; Takahasi, 1934a, b, 1935; Sakai, 1939; Horikawa, 1940; Lin, 1949; Chang, 1963; Sakai, 1976; Wang and Chen, 1981; Wang, 1984; Shih, Lue and Wang, 1991; Chang and Chen, 1992; Huang, Yu and Takeda, 1992; Wu, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Huang, Yang and Ng, 1998; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Lin, 1998; Ng, 1998 (part); Wang and Liu, 1998; Liu, 1999; Jeng, 2000; Lee and Tung, 2000

Ocypode stimpsoni Ortmann, 1897 — Sakai, 1939, 1940; Chang, 1963; Sakai, 1976; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Chang and Chen, 1992; Huang, Yu and Takeda, 1992; Tzeng and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Kuo, 1995; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Kitaura, Wada and Nishida, 1998; Lin, 1998; Wang and Liu, 1998; Jeng and Wang, 2000

Uca arcuata (De Haan, 1835) — Parisi, 1918; Maki and Tsuchiya, 1923; Takahasi, 1934a, b, 1935; Sato, 1936b, c; d; Sakai, 1939; Horikawa, 1940; Lin, 1949; Chang, 1963; Crane, 1975; Sakai, 1976; Su and Lue, 1984; Wang, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Huang, Yu and Takeda, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Wu, 1992; Huang, 1994; Shih, 1994; Hsueh, 1995; Kuo, 1995; Hsueh, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997, 1998; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000; Shih, 2000a [The record of "*U. formosensis*" by Wu, Ling, Shieh and Wang (1962) from Tanshui is most likely *U. arcuata*. They describe this female specimen as having a very broad merus which is characteristic of *U. arcuata* and not *U. formosensis*.

In any case, *U. arcuata* is the most common fiddler crab in Tanshui.]

Uca borealis Crane, 1975 (= *Uca vocans* aut., *Uca nitidus* aut., *Uca marionis* aut., *Uca vocans borealis*) — Balss, 1922c; Maki and Tsuchiya, 1923; Takahasi, 1934a, b, 1935; Sakai, 1939; Crane, 1975; Sakai, 1976; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Huang, Yu and Takeda, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Tzeng and Chen, 1992; Wu, 1992; Huang, 1994; Shih, 1994; Kuo, 1995; Hsueh, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997, 1998; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000; Shih, 2000a

Uca coarctata (H. Milne Edwards, 1852) — Fukui, Wada and Wang, 1989; Huang, Yu and Takeda, 1989; Shih, 1994; Wang and Liu, 1996b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Lee and Tung, 2000; Shih, 2000a

Uca crassipes (White, 1847) (= *Uca gaimardi* H. Milne Edwards, 1852; *Uca chlorophthalmus crassipes*) — Sakai, 1939; Horikawa, 1940; Lin, 1949; Wang, 1984; Huang, Yu and Takeda, 1989; Tzeng and Chen, 1992; Shih, 1994; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997, 1998; Wang and Liu, 1998; Jeng, 2000; Lee and Tung, 2000; Shih, 2000a

Uca dussumieri (H. Milne Edwards, 1852) — Huang, Yu and Takeda, 1989; Tzeng and Chen, 1992; Shih, 1994; Wang and Liu, 1996b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Lee and Tung, 2000; Shih, 2000a

Uca formosensis Rathbun, 1921 — Rathbun, 1921; Maki and Tsuchiya, 1923; Takahasi, 1934a, b, 1935; Sato, 1936c, d; Sakai, 1939; Horikawa, 1940; Sakai, 1940; Lin, 1949; Crane, 1975; Sakai, 1976; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Huang, Yu and Takeda, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Wu, 1992; Huang, 1994; Shih, 1994; Kuo, 1995; Wang and Liu, 1996a, b; Ho and Hung, 1997; Shih, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Wang and Liu, 1998; Shih, Mok, Chang and Lee, 1999; Lee and Tung, 2000; Shih, 2000a

Uca lactea (De Haan, 1835) — Parisi, 1918; Balss, 1922c; Maki and Tsuchiya, 1923; Takahasi, 1934a, b, 1935; Sato, 1936a, c, d; Sakai, 1939; Horikawa, 1940; Lin, 1949; Chang, 1963; Crane, 1975; Sakai, 1976; Su and Lue, 1984; Wang, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Huang, Yu and Takeda, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Wu, 1992; Huang, 1994; Shih, 1994; Hsueh, 1995; Kuo, 1995; Hsueh 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Lin, 1998; Wang and Liu, 1998; Jeng, 2000; Jeng and Wang, 2000; Lee and Tung, 2000; Shih, 2000a

Uca perplexa (H. Milne Edwards, 1837) (= *Uca lactea perplexa*) — Fukui, Wada and Wang, 1989; Tzeng and Chen, 1992; Shih, 1994; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Wang and Liu, 1998; Lee and Tung, 2000; Shih, 2000a

Uca tetragonon (Herbst, 1790) — Ho, Wang, Lin and Yu, 1993; Shih, 1994; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Wang and Liu, 1998; Lee and Tung, 2000; Shih, 2000a

Uca triangularis (A. Milne Edwards, 1873) — Wang, 1984; Dai, Yang, Song and Chen, 1986;

Fukui, Wada and Wang, 1989; Huang, Yu and Takeda, 1989; Dai and Yang, 1991; Huang, 1994; Shih, 1994; Wang and Liu, 1996b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997 , 1998; Lee and Tung, 2000; Shih, 2000a

Subfamily Macrophthalminae Dana, 1851

Macrophthalmus abbreviatus Manning and Holthuis, 1981 (= *Macrophthalmus dilatatus* (De Haan, 1835)) — Maki and Tsuchiya, 1923; Takahasi, 1934a, b, 1935; Sato, 1936b, c, d; Sakai, 1939, 1940; Chang, 1963; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, Yu and Takeda, 1992; Kuo, 1995; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Wang and Liu, 1998

Macrophthalmus banzai Wada and Sakai, 1989 (= *Macrophthalmus japonicus* aut.) — Maki and Tsuchiya, 1923; Takahasi, 1935; Sakai, 1939; Lin, 1949; Wu, Ling, Shieh and Wang, 1962; Chang, 1963; Sakai, 1976; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Wada and Sakai, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Ho, 1995; Kuo, 1995; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000

Macrophthalmus boscii Audouin, 1826 — Sakai, 1939, 1940; Horikawa, 1940; Lin, 1949; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, Yu and Takeda, 1992; Huang, 1994; Jeng, 1997

Macrophthalmus boteltobagoe Sakai, 1939 — Sakai, 1939; Horikawa, 1940; Sakai, 1940; Lin, 1949; Sakai, 1976; Huang, Yu and Takeda, 1992; Huang, 1994

Macrophthalmus ceratophorus Sakai, 1969 — Ho, 1995 [Fig. 8b]

Macrophthalmus convexus Stimpson, 1858 — Maki and Tsuchiya, 1923; Sakai, 1939; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, Yu and Takeda, 1992; Huang, 1994

Macrophthalmus latreillei (Desmarest, 1822) — present record [Fig. 8c]

Macrophthalmus quadratus A. Milne Edwards, 1873 — Jeng, 1997

Macrophthalmus serenei Takeda and Komai, 1991 (= *Macrophthalmus verreauxi* aut.) — Jeng, 1997

Macrophthalmus tomentosus Souleyet, 1841 — Balss, 1922c; Sakai, 1940

Subfamily Scopimerinae Alcock, 1900

Ilyoplax delsmani De Man, 1926 — Takahasi, 1935 [Fig. 8d] [This species has not been collected since Takahasi's (1935) report, and this is rather surprising considering the amount of work on ocypodids which has been conducted in Taiwan over the last decade. Of the various *Ilyoplax* species, *I. delsmani* in particular, is very distinctive, with courting males ivory white in colour (see Ng and Sivasothi, 1999) and it is very unlikely that it could have missed by workers. We retain Takahasi's record for the moment, but with some doubt.]

Ilyoplax formosensis Rathbun, 1921 — Rathbun, 1921; Maki and Tsuchiya, 1923; Takahasi, 1932, 1934a, b; Sakai, 1939, 1940; Wu, Ling, Shieh and Wang, 1962; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Huang, Yu and Takeda, 1992; Huang, 1994; Wang and Liu, 1996a, b; Wang and Liu, 1998 [This species was

believed to be endemic to Taiwan, but Kitaura, Wada and Nishida (1998) recently reported it from northern Vietnam. Takahasi's (1932) record of this species from Taiwan may contain specimens of *I. tansuiensis* as well (Sakai, 1939).]

Ilyoplax integra (Tesch, 1918) — Sakai, 1939, 1940, 1976; Huang, Yu and Takeda, 1992; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Kitaura, Wada and Nishida, 1998; Wang and Liu, 1998

Ilyoplax tansuiensis Sakai, 1939 — Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Huang, Yu and Takeda, 1992; Huang, 1994; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Kitaura, Wada and Nishida, 1998; Wang and Liu, 1998

Scopimera bitympana Shen, 1930 — Takahasi, 1935; Sato, 1936d; Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Huang, Yu and Takeda, 1992; Huang, 1994; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Kitaura, Wada and Nishida, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000

Scopimera globosa De Haan, 1835 — Takahasi, 1934a, b, 1935; Sato, 1936a, b; Sakai, 1939; Chang, 1963; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, Yu and Takeda, 1992; Huang, 1994; Kuo, 1995; Ho and Hung, 1997; Lee and Tung, 2000

Scopimera longidactyla Shen, 1932 — Sakai, 1940, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Huang, Yu and Takeda, 1992; Hsueh, 1996; Wang and Liu, 1996b; Ho and Hung, 1997; Lee and Tung, 2000

Tmethypocoelis ceratophora (Koelbel, 1897) — Takahasi, 1935; Sakai, 1940, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, Yu and Takeda, 1992; Wu, 1992; Huang, 1994; Kuo, 1995; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, 1997; Jeng, Lin, Wang and Jan, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000

Family Camptandriidae Stimpson, 1858

Baruna sinensis Tan and Huang, 1995 (= *Leipocten sordidulum* aut.) — Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Huang, Yu and Takeda, 1992; Huang, 1994; Tan and Huang, 1995; Hsueh, 1996

Paracleistostoma depressum De Man, 1895 — Fukui, Wada and Wang, 1989; Huang, Yu and Takeda, 1992; Kitaura, Wada and Nishida, 1998

Family Mictyridae Dana, 1852

Mictyris brevidactylus Stimpson, 1858 (= *Mictyris longicarpus* aut.) — Parisi, 1918; Balss, 1922c; Maki and Tsuchiya, 1923; Takahasi, 1934a, 1934b, 1935; Sato, 1936a, b, c, d; Sakai, 1939; Horikawa, 1940; Lin, 1949; Chang, 1963; Sakai, 1976; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, Yu and Takeda, 1992; Wu, 1992; Huang, 1994; Kuo, 1995; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 1998;

Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000

Family Grapsidae MacLeay, 1838

Subfamily Grapsinae MacLeay, 1838

Geograpsus crinipes (Dana, 1851) — Wang and Liu, 1996a; Ho, 1997; Wang and Liu, 1998; Liu, 1999

Geograpsus grayi (H. Milne Edwards, 1853) — Sakai, 1939; Horikawa, 1940; Lin, 1949; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Ho, 1997; Jeng, 1997; Wang and Liu, 1998; Liu, 1999

Geograpsus stormi De Man, 1895 — Jeng, Jan, Tzeng, Feng and Yang, 1996; Ho, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Liu, 1999

Grapsus albolineatus Lamarck, 1818 (= *Grapsus strigosus* aut.) — Oshima, 1921a; Balss, 1922c; Maki and Tsuchiya, 1923; Sakai, 1939; Hwang and Yu, 1980; Wang, 1984; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Chang and Chen, 1992; Tzeng and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Lee and Tung, 2000

Grapsus longitarsis Dana, 1851 — Sakai, 1939; Horikawa, 1940; Lin, 1949

Grapsus tenuicrustatus (Herbst, 1783) — Maki and Tsuchiya, 1923; Sakai, 1939; Hwang and Yu, 1980; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Tzeng and Chen, 1992; Chang and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Lee and Tung, 2000

Metopograpsus messor (Forskal, 1775) — Balss, 1922c; Hiro, 1939; Sakai, 1939; Wu, Ling, Shieh and Wang, 1962; Chang, 1963; Sakai, 1976; Hwang and Yu, 1980; Wang, 1984; Fukui, Wada and Wang, 1989; Chang and Chen, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1996; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998

Metopograpsus thukuhar (Owen, 1839) — Fukui, Wada and Wang, 1989; Chang and Chen, 1992; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Huang and Lützen, 1998; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000

Pachygrapsus crassipes Randall, 1839 — Sato, 1936c, d; Tzeng and Chen, 1992

Pachygrapsus fakaravensis Rathbun, 1907 — Hwang and Yu, 1980 [Fig. 8e] [The species is apparently not common in East Asia, being more common in the central Pacific. The specimen figured is from Hawaii, where it was also only recently reported. Although superficially similar to *P. plicatus* in general morphology, their live colours are very different, with *P. fakaravensis* much darker overall.]

Pachygrapsus minutus A. Milne Edwards, 1873 — Sakai, 1939; Suzuki, 1985; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Chang and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Huang and Lützen, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998

Pachygrapsus plicatus (H. Milne Edwards, 1873) — Huang, 1994; Wang and Liu, 1996a; Lai, Huang and Fang, 1997; Wang and Liu, 1998

Planes cyaneus Dana, 1851 (= *Planes minutus* aut.) — Sakai, 1939; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991 ← Ng & Ahyong 2004 : new *Planes major* Mackay 1838

Subfamily Sesarminae Dana, 1851

The generic classification for the Sesarminae (Grapsidae) essentially follows that proposed by Serène and Soh (1970), with nomenclatural modifications by Holthuis (1977, 1978). Although Manning and Holthuis (1981) conservatively use the "catch-all" genus name *Sesarma*, they make it clear that it is used in the broad sense. Current workers of the Sesarminae, however, have begun to use Serène and Soh's system as their genera become better defined (e.g. Davie, 1993, 1994; Tan and Ng, 1994; Ng and Liu, 1999). Also, in view of a recent study by Schubart, Cuesta, Diesel and Felder (2000) who suggest that *Helice*, *Chasmagnathus*, *Cyclograpsus* and *Metaplax* are not sesarmines but closer to varunines based on molecular data, we refer these genera to the subfamily Varuninae instead, at least for the moment. We differ, however, with regards to the proposals by Schubart, Cuesta, Diesel and Felder (1998) in regarding the Sesarminae and Varuninae as separate families, at least for the time being. Until the generic composition of these subfamilies can be reappraised, we prefer to be more conservative for the time being and keep them in the Grapsidae until the morphological studies are completed. As things stand, there appear to be intermediate genera which make the delimitation of these two separate families rather difficult. We, however, accept their suggestion that the Plagusiinae be recognised as a separate family (Plagusiidae) as there is good adult, larval and molecular data to support this (see also Schubart and Ng, 2000).

Chiromantes dehaani (H. Milne Edwards, 1853) (= *Sesarma* (*Holometopus*) *dehaani*, *Sesarma neglectum* De Man, 1887) — Terao, 1916; Balss, 1922c; Maki and Tsuchiya, 1923; Sakai, 1939, 1940; Wu, Ling, Shieh and Wang, 1962; Sakai, 1976; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Wu, 1992; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Lin, 1998; Wang and Liu, 1998; Jeng and Wang, 2000 [Ongoing studies by P. K. L. Ng and C. D. Schubart indicate that *Sesarma neglectum* De Man, 1887 (type locality Shanghai, China) is a separate species, distinct from *C. dehaani* s. str. These studies suggest that the Taiwanese specimens agree best with those from Shanghai.] + Miyake, 1983

Chiromantes haematocheir (De Haan, 1833) (= *Sesarma* (*Holometopus*) *haematocheir*) — Balss, 1922c; Maki and Tsuchiya, 1923; Takahasi, 1935; Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, + Miyake, 1983

1991; Wu, 1992; Huang, 1994; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996b; Ho and Hung, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998 [Ng and Liu (1998) has suggested that the genus *Chiromantes* be restricted to the type species, *C. haematocheir*, and the other species, including *C. dehaani*, should be referred to other genera. Studies by P. K. L. Ng and C. D. Schubart are now ongoing to revise the genus *Chiromantes*.]

Clistocoeloma sinense Shen, 1933 (= *Cleistocoeloma merguiense* aut.) — Sakai, 1939; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Hsueh, 1995; Hsueh, 1996; Hsueh and Huang, 1996a

Episesarma lafondii (Jacquinot, in Hombron and Jacquinot, 1843) (= *Episesarma mederi* aut.) — Ng, 1998 [Ng (1998), who examined a female specimen collected by H. -C. Liu from southern Taiwan identified it as *Episesarma mederi* (H. Milne Edwards, 1854). The first author recently examined specimens of *E. lafondii* from Japan and the Taiwanese specimen should be referred to *E. lafondii* instead]

Labuanium rotundatum (Hess, 1865) — Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Liu, 1999 [This interesting species was originally reported from Tanshui in northern Taiwan by Sakai (1939) but we have been unable to find the species there, probably because the area has been extensively developed over the last 50 years. Instead, we have since found this very agile species in southern Taiwan, in Kenting, living in tree-holes filled with water (phytotelms). They spend almost all their time on trees, and have been observed several metres from the ground. Females come to the ground more frequently on their way to spawn in the sea which may be some distance away. Adult specimens are coffee-brown to dirty yellow with younger specimens more mottled.]

Metasesarma aubryi A. Milne Edwards, 1869 — Maki and Tsuchiya, 1923; Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994; Liu, 1999

Metasesarma rousseauxi H. Milne Edwards, 1853 (= *Measesarma granularis* Heller, 1862) — Balss, 1922c; Liu, 1999 [This supralittoral species (see Ng and Davie, 1995) has surprisingly not been reported from Taiwan since Balss, but there are a good number of specimens in the TMCD and ZRC from the islands of Lanyu and Lutao as well as Kenting National Park]

Nanosesarma gordoni (Shen, 1935) — Fukui, Wada and Wang, 1989; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997 [This species may well be a junior synonym of *N. minutum* (De Man, 1887) as has been suggested (P. J. F. Davie, personal communication) but until both taxa are formally synonymised, we prefer to keep them species separate for the time being.]

Nanosesarma minutum (De Man, 1887) — Hsueh, 1996; Lai, Huang and Fang, 1997

Neosarmatium fourmanoiri Serène, 1973 — Ng, Liu and Wang, 1997

Neosarmatium indicum (A. Milne Edwards, 1868) - Ng, Liu and Wang, 1997

Neosarmatium meinerti (De Man, 1887) — Horikawa, 1940; Sakai, 1941; Lin, 1949; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Davie, 1994; Ng, Liu and Wang, 1997

Neosarmatium punctatum (A. Milne Edwards, 1873) — Ng, Liu and Wang, 1997

Neosarmatium rotundifrons (A. Milne Edwards, 1869) — Ng, Liu and Wang, 1997

Parasesarma acis Davie, 1993 (= *Sesarma erythrodactylum* aut.) — Suzuki, 1985; Fukui, Wada and Wang, 1989 [This species is almost certainly synonymous with *Parasesarma tripectinis*

(Shen, 1940) (Dai, A. -Y. personal communication) and will be dealt with shortly by her in a paper on the Hong Kong fauna. Until this is formally done, we retain the use of this name.]

Parasesarma pictum (De Haan, 1835) (= *Sesarma pictum*) — Balss, 1922c; Maki and Tsuchiya, 1923; Sato, 1936c, d; Sakai, 1939; Chang, 1963; Sakai, 1976; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Chang and Chen, 1992; Tzeng and Chen, 1992; Wu, 1992; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996b; Ho and Hung, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000 + Miyake

Parasesarma plicatum (Latreille, 1806) (= *Ocypode* (*Pachysoma*) *affinis* De Haan, 1837; *Sesarma plicata*) — Maki and Tsuchiya, 1923; Sakai, 1939; Su and Lue, 1984; Wang, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Wu, 1992; Huang, 1994; Hsueh, 1995; Kuo, 1995; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996b; Ho and Hung, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Lin, 1998; Wang and Liu, 1998; Lee and Tung, 2000 [Ongoing studies by P. K. L. Ng and A. -Y. Dai indicate that *Ocypode* (*Pachysoma*) *affinis* De Haan, 1837 (type locality Japan) is a separate species from *Parasesarma plicatum* (Latreille, 1806) (type locality East India) and should be regarded as distinct. These studies indicate that the Taiwanese specimens which have been referred to " *Parasesarma plicatum*" clearly belong to *P. affinis* instead. For the time being, and until these results are published, we use the name *Parasesarma plicatum* solely for convenience]

Parasesarma tripectinis (Shen, 1940) — Hsueh, 1995, 1996 [See comments for *Parasesarma acis* above]

Perisesarma bidens (De Haan, 1835) (= *Sesarma bidens*) — Oshima, 1921a; Maki and Tsuchiya, 1923; Sato, 1936d; Sakai, 1939; Wu, Ling, Shieh and Wang, 1962; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, 1994; Hsueh, 1995, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Lee and Tung, 2000 + Miyake,

Sesarmops impressum (H. Milne Edwards, 1837) (= *Sesarma impressum*) — Sakai, 1939, 1940, 1976; Wang, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Liu, 1999

Sesarmops intermedium (De Han, 1835) — Terao, 1916; Balss, 1922c; Sakai, 1939; Sakai, 1976; Hwang and Yu, 1980; Wang, 1984; Fukui, Wada and Wang, 1989; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Wang and Liu, 1998; Liu, 1999 + Miyake,

Stelgistra stormi De Man, 1895 — Ng and Liu, 1999

Subfamily Varuninae H. Milne Edwards, 1853

Acmaeopleura parvula Stimpson, 1858 — Fukui, Wada and Wang, 1989; Jeng, Shao, Tzeng, Feng and Wu, 1998

Chasmagnathus convexus De Haan, 1835 — Terao, 1916; Maki and Tsuchiya, 1923; Sato, 1936a, d; Sakai, 1939; Wu, Ling, Shieh and Wang, 1962; Sakai, 1976; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Wu, 1992; Huang, 1994; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Wang and Liu, 1998; Lee and Tung, 2000

Cyclograpsus integer H. Milne Edwards, 1837 — Fukui, Wada and Wang, 1989

Cyclograpsus intermedius Ortmann, 1894 — Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994 [In the TMCD are specimens of this species - 1 male, 1 female (TMCD 2362), Hsiaoliuchiu Island, Pingtung County, coll. J. -T. Lin, 17 May 1988; 1 female (TMCD 2478), Keelung, coll. L. -C. Sun, 2 January 1989; 3 males, 4 females (TMCD 2557), Hsiaohsianglan, Fulung, Taipei County, coll. C. -H. Wang, 21 April 1989; 1 female (TMCD 2565), Keelung, coll. L. -C. Sun, 7 May 1989.]

Eriocheir japonica De Haan, 1835 (= *Eriocheir rectus* Stimpson, 1858, following Chan, Hung and Yu, 1995) — Terao, 1915a; Oshima, 1921a; Balss, 1922c; Maki and Tsuchiya, 1923; Sato, 1936c, d; Sakai, 1939; Wu, Ling, Shieh and Wang, 1962; Chang, 1963; Chang, 1965; Sakai, 1976; Wang and Chen, 1981; Su and Lue, 1984; Dai, Yang, Song and Chen, 1986; Lai, Shy and Yu, 1986; Yu and Ho, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Chang and Chen, 1992; Hung, Ho and Yu, 1992; Wu, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996b; Guo, Ng, Dai and Ng, 1997; Ho and Hung, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Shy and Yu, 1999; Chan, 2000 [Nakagawa (1915a, b) used a new name *Eriocheir formosa* for a species from Taiwan but this name is a nomen nudum (see discusssion for *Platyeriocheir formosa*). Nakagawa (1915a, b), however, did note that this was only a provsional nomenclature. Koba (1936) indicates that Nakagawa's name is actually a synonym of *Eriocheir japonica.*]

yale, 1983

Gaetice depressus (De Haan, 1833) — Maki and Tsuchiya, 1923; Sato, 1936c, d; Sakai, 1939, 1940; Lin, 1949; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000

liyalo, 1983

Helice formosensis Rathbun, 1931 (= *Helice tridens* aut. part, *Helice tridens latimera* aut. part) — Rathbun, 1931; Parisi, 1918; Maki and Tsuchiya, 1923; Sakai, 1939; Horikawa, 1940; Saki, 1940; Chang, 1963; Sakai and Yatsuzuka, 1980; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, 1994; Hsueh, 1995; Kuo, 1995; Hsueh, 1996; Wang and Liu, 1996a, b, c; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee

ale, 1983

and Tung, 2000 [Fig. 8f] [The records of *H. tridens* (not *Ocypode* (*Helice*) *tridens* De Haan, 1835) by Terao (1916), Sato (1936c, d), Horikawa (1940), Wu, Ling, Shieh and Wang (1962), Chiu (1964), Sakai (1940, 1976), Su and Lue (1984), Shih, Lue and Wang (1991) and Wu (1992) cannot be accurately ascertained, many probably being mixed species records including *H. formosensis* and/or *Helice* sp. (see later). Similarly, records of *H. latimera* (not *Helice tridens latimera* Parisi, 1918) from Taiwan by Maki and Tsuchiya (1923), Sakai (1939, 1940, 1976), Wu, Ling, Shieh and Wang (1962) and Wang and Liu (1996c, from Kinmen) are probably also *H. formosensis* (M. Türkay, personal communication to P. K. L. Ng). See also comments for *Helice* sp. later on]

Helice subquadrata (Dana, 1851) (= *Helice leachii* Hess, 1865) — Sakai, 1939; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, 1994; Hsueh, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Lee and Tung, 2000 [Fig. 8g.] [The old records of *H. leachii* from many parts of the Indo-West Pacific are actually *H. subquadrata* according to M. Türkay (personal communication to P. K. L. Ng), and this species will also be referred to a new genus when the revision of this group is completed, see comments for *Helice* sp. later on]

***Helice* sp.** (= *Helice tridens* aut. part; *Helice wuana* aut. part) — Sakai, 1939, 1940, 1976; Sakai and Yatsuzuka, 1980; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang, 1991; Huang, 1994; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Lin, 19988; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000 [Fig. 8h] [The specimens reported by various authors as *Helice wuana* (not *Helice tridens wuana* Rathbun, 1931) from Taiwan will be referred to a new species in a soon to be finished revision of the genera *Chasmagnathus* and *Helice* by K. Sakai, M. Türkay and S. -L. Yang (M. Türkay, personal communication to P. K. L. Ng). He also comments that the records of *H. sheni* Sakai, 1939, by Sakai (1939, 1976) (including records from Taiwan) are also *H. wuana* s. str., the two names being subjective synonyms. Dai and Yang's (1991) and Hsueh's (1995, 1996) records of *H. japonica* (not *Helice* (*Helicana*) *japonica* K. Sakai and Yatsuzuka, 1980) are also likely to belong to the present new species. *Helice wuana* (and the present new species) was referred to the subgenus *Helicana* Sakai and Yatsuzuka, 1980, by these authors and in the upcoming revision, *Helicana* will be regarded as a distinct genus.]

Hemigrapsus penicillatus (De Haan, 1835) — Sakai, 1939, 1940; Wu, Ling, Shieh and Wang, 1962; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Shih, Lue and Wang. 1991; Hsueh, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Chou, Lai and Fang, 1999; Jeng and Wang, 2000; Lee and Tung, 2000 + Miyake, 1983

Hemigrapsus sanguineus (De Haan, 1835) — Balss, 1922c; Sakai, 1939; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Hsueh, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Lin, Wang and Jan, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Jeng and Wang, 2000 + Miyake, 1983

Metaplax elegans De Man, 1888 — Fukui, Wada and Wang, 1989; Shih, Lue and Wang, 1991;

Kuo, 1995; Wang and Liu, 1996a, b; Ho and Hung, 1997; Jeng, Lin, Wang and Jan, 1998; Wang and Liu, 1998; Jeng and Wang, 2000; Lee and Tung, 2000

Metaplax takahashii Sakai, 1939 — Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991

Parapyxidognathus deianira (De Man, 1888) — Fukui, Wada and Wang, 1989

Platyeriocheir formosa (Chan, Hung and Yu, 1995) (= *Eriocheir rectus* aut., *Eriocheir formosa*) — Sakai, 1938b; Sakai, 1939, 1940; Lin, 1949; Sakai, 1976; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Yu and Ho, 1986; Dai and Yang, 1991; Hung, Ho and Yu, 1992; Shy and Yu, 1992; Huang, 1994; Chan, Hung and Yu, 1995; Ho, 1996; Hung and Yu, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Ng, Guo and Ng, 1999; Shy and Yu, 1999; Chan, 2000 [The name *Eriocheir formósa*, as used by Chan, Hung and Yu (1995), has actually been used much earlier by Nakagawa (1915a, b), but this name is a nomen nudum as there was no accompanying description, figure or any indication. As such, this name is not nomenclaturally available. Koba (1936) indicates that *Eriocheir formosa* Nakagawa, 1915a, is actually conspecific with *Eriocheir japonica*.]

Pseudograpsus albus Stimpson, 1858 — Suzuki, 1985

Pseudograpsus setosus (Fabricius, 1778) — Ng, Jeng and Ng, in press

Ptychognathus barbatus (A. Milne Edwards, 1873) — Maki and Tsuchiya, 1923; Fukui, Wada and Wang, 1989; Chang and Chen, 1992; Huang, 1994; Jeng, Jan, Tzeung, Feng and Yang, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998

Ptychognathus hachijyoensis Sakai, 1955 — Fukui, Wada and Wang, 1989

Ptychognathus ishii Sakai, 1939 — Sakai, 1939, 1940, 1976

Ptychognathus takahasii Sakai, 1939 — Sakai, 1939, 1940, 1976

Thalassograpsus harpax (Hilgendorf, 1892) — Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991

Utica borneensis De Man, 1895 — Maki and Tsuchiya, 1923; Horikawa, 1940; Lin, 1949; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Huang, 1994

Varuna litterata (Fabricius, 1798) — Balss, 1922c; Maki and Tsuchiya, 1923; Sakai, 1939; Wu, Ling, Shieh and Wang, 1962; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Hwang and Takeda, 1986; Fukui, Wada and Wang, 1989; Dai and Yang, 1991; Tzeng and Chen, 1992; Huang, 1994; Ho, 1996; Hsueh, 1996; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997; Lai, Huang and Fang, 1997; Jeng, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Shy and Yu, 1999; Lee and Tung, 2000 [Many of the older records of this species should be rechecked as some might have been mistaken identifications for the very closely related *V. yui* (see Ng, 1998). *Varuna litterata*, however, does seem to be the more common species in Taiwan.]

Varuna yui Hwang and Takeda, 1986 — Hwang and Takeda, 1986; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1996; Jeng, Jan, Tzeng and Feng, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998

Xenograpsus testudinatus Ng, Huang and Ho, 2000 — Ng, Huang and Ho, 2000 [Through the courtesy of M. -S. Jeng, the first author and N. K. Ng examined a very large series of this species,

including very small individuals. The differences between this taxon and the closely allied *X. novaeinsularis* (from a different arc of volcanic islands) noted by the original authors remain valid, except perhaps for the convexity of the carapare which may be difficult to discern in small specimens. Ongoing studies also indicate that *Xenograpsus* occupies a very isolated position in the Varuninae (and Grapsidae) and its systematic position must be reappraised.]

Family Plagusiidae Dana, 1851

Percnon abbreviatum (Dana, 1851) — Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997

Percnon planissimum (Herbst, 1804) (= *Percnon tenuifrons* aut.) — Balss, 1922c; Maki and Tsuchiya, 1923; Sato, 1936d; Sakai, 1939; Hwang and Yu, 1980; Wang, 1984; Chang and Chen, 1992; Tzeng and Chen, 1992; Jeng, Jan, Tzeng, Feng and Yang, 1994, 1996; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997; Jeng, Jan, Tzeng and Feng, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Wang and Liu, 1998; Lee and Tung, 2000

Plagusia dentipes De Haan, 1835 (= *Plagusia chabrus* aut.) — Sakai, 1939, 1976; Dai, Yang, Song and Chen, 1986; Dawson, 1987; Dai and Yang, 1991; Huang, 1994 [Maki and Tsuchiya (1923) reported *Plagusia chabrus* (Linnaeus, 1758) from Taiwan but his figure clearly shows *P. dentipes* instead. *Plagusia chabrus* is not yet known from the northern hemisphere (Dawson, 1987). In the National Taiwan Museum are two dried specimens (male, 57.6 by 49.5 mm (TMCD 1572), female, 51.0 by 46.8 mm (TMCD 1571), Hopingtao, Keelung, coll. S.-H. Wu, August 1996). Unlike other *Plagusia* species in Taiwan, *P. dentipes* is sublittoral, living at depths up to 30 m deep and as such, not often seem (S. -H. Wu, personal communication).]

Plagusia immaculata Lamarck, 1818 — present record [The presence of this species in Taiwan was only recently confirmed (see Schubart and Ng, 2000). It bears a very close resemblance to *P. squamosa* but adults can most easily be separated by the degree of setatation on the carapace and chelipeds.]

Plagusia speciosa Dana, 1852 — Ng, Liu and Ho, 2001 ~~in press~~ [This interesting species was only recently reported from southern Taiwan.]

Plagusia squamosa (Herbst, 1790) (= *Plagusia tuberculata* Lamarck, 1818; *Plagusia depressa* aut.) — Oshima, 1921a; Balss, 1922c; Maki and Tsuchiya, 1923; Sato, 1936d; Takahasi, 1936c; Sakai, 1939; Hwang and Yu, 1980; Dai, Yang, Song and Chen, 1986; Dawson, 1987; Dai and Yang, 1991; Huang, 1994; Jeng, Jan, Tzeng, Feng and Yang, 1994; Ho, 1996; Jeng, Jan, Tzeng, Feng and Yang, 1996; Wang and Liu, 1996a; Ho and Hung, 1997; Lai, Huang and Fang, 1997; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Lee and Tung, 2000 [This species is best known in the literature as *P. tuberculata* or *P. depressa tuberculata* but a recent study by Schubart, Gonzalez-Gordillo, Reyns, Liu and Cuesta (2001) provides evidence that it should be regarded as a distinct species; and *P. squamosa* (Hersbt, 1790) is the most senior name (Schubart and Ng, 2000). Another name, *Plagusia orientalis* Stimpson, 1858 (type locality Hong Kong), is also a junior snynonym (Schubart and Ng, 2000).]

Family Pinnotheridae De Haan, 1833

Subfamily Pinnotherinae De Haan, 1833

Pinnotheres boninensis Stimpson, 1858 — Ho and Hung, 1997; Lee and Tung, 2000

Pinnotheres parvulus Stimpson, 1858 — Maki, 1931: Horikawa, 1940

Pinnotheres taichungae Sakai, 2000 (= *Pinnotheres bidentatus* aut.) — Hsueh and Huang, 1996b; Sakai, 2000 [Sakai (2000) felt taht *Pinnotheres bidentatus* reported by Hsueh and Hung (1996) from Taiwan was a misidentification and recently created a new name for them, *Pinnotheres taichungae*.

Pinnotheres tsingtaoensis Shen, 1932 — Soong, 1997

Subfamily Asthenognathinae Stimpson, 1858

***Asthenognathus* sp.** — Lin, 1949 [The identity of this species is a problem as Lin's specimen(s) are no longer extant. According to Sakai (1976: 588), the only species in East Asian waters is the supposed Japanese endemic *Asthenognathus inaequipes* Stimpson, 1858. Serène and Soh (1976) added a third species from the Indo-West Pacific and recorded *A. hexagonum* Rathbun, 1909, from the Philippines. In view of the proximity of Taiwan to Japan and the Philippines, Lin's specimen(s) might well belong to either *A. inaequipes* or *A. hexagonum.*]

Subfamily Xenophthalminae Alcock, 1900

Neoxenophthalmus obscurus (Henderson, 1893) — Fang, 1991; Huang, 1994

Family Cryptochiridae Paulson, 1875

Hapalocarcinus marsupialis Stimpson, 1858 — Utinomi, 1944; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998

Pseudocryptochirus viridis Hiro, 1938 — Utinomi, 1944

Family Palicidae Rathbun, 1898

Subfamily Palicinae Rathbun, 1898

Pseudopalicus oahuensis (Rathbun, 1906) — Castro, 2000

Subfamily Crossotonotinae Moosa and Serène, 1981

Crossotonotus spinipes (De Man, 1888) — Ng, Chan and Wang, 2000; Castro, 2000

Family Gecarcinidae MacLeay, 1838

Cardisoma carnifex (Herbst, 1794) — Oshima, 1921a; Balss, 1922c; Maki and Tsuchiya, 1923; Sakai, 1939; Lin, 1949; Türkay, 1974; Sakai, 1976; Wang and Chen, 1981; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Ho, Shy and Yu, 1992; Huang, 1994; Kuo, 1995; Wang and Liu, 1996a, b; Yu, Jeng, Chan, Ho and Shy, 1996; Ho and Hung, 1997; Jeng, 1997, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Lin, 1998; Ng, 1998; Wang and Liu, 1998; Liu, 1999; Lee and Tung, 2000

Discoplax hirtipes (Dana, 1851) (= *Cardisoma hirtipes*) — Sakai, 1939; Türkay, 1974; Sakai, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Ho, Shy and Yu, 1992; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Ho, 1997d; Ho and Hung,

1997; Jeng, 1997, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Liu, 1999 [The generic placement of this species and *D. rotundum* follows Türkay (1987) who noted that the genus *Discoplax* A. Milne Edwards, 1867 (not 1873 as often cited), was valid, see also Ng, Nakasone and Kosuge (2000). A reappraisal of this genus and its differences with *Cardisoma* sensu stricto is now being undertaken by D. Guinot and P. K. L. Ng, with molecular studies of the family by C. D. Schubart and his associates.]

Discoplax rotundum (Quoy and Gaimard, 1824) (= *Cardisoma rotundum)* — Ho, Shy and Yu, 1992; Ng, 1998; Liu, 1999

Epigrapsus notatus (Heller, 1865) — Ng, Liu and Wang, 1999; Liu, 1999

Gecarcoidea lalandii H. Milne Edwards, 1837 — Sakai, 1939, 1940, 1976; Dai, Yang, Song and Chen, 1986; Dai and Yang, 1991; Ho, Shy and Yu, 1992; Huang, 1994; Wang and Liu, 1996a; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Ng, 1998; Wang and Liu, 1998; Liu, 1999

Family Potamidae Ortmann, 1896

The Sinopotamidae Bott, 1970, and Isolapotamidae Bott, 1970, are now regarded as junior synonyms of the Potamidae (Ng and Dudgeon, 1992; Ng and Trontelj, 1996; Dai, 1997; Ng and Tan, 1998).

Candidiopotamon rathbunae (De Man, 1914) (= *Candidiopotamon rathbuni*) — De Man, 1914; Oshima, 1921a; Balss, 1922c; Maki and Tsuchiya, 1923; Balss, 1937; Sakai, 1939, 1940; Pretzmann, 1963; Bott, 1967; Bott, 1970; Sakai, 1976; Wang, 1984; Hwang and Mizue, 1985; Ng, 1996b; Shy, Lai and Yu, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1998; Jeng, Lin, Wang and Jan, 1998; Dai, 1999; Ng, 1999b; Shy and Yu, 1999; Lee and Tung, 2000; Shih, 2000b [Most authors spell the specific epithet "*rathbuni*", which is incorrect. Although De Man (1914) named this species "*Potamon* (*Potamon*) *rathbuni*", he also wrote that "Cette jolie espèce que j'ai l'honneur de dédier au savant auteur de la belle Monographie des Crabes d'eau douce, parue il y a quelques anneés dans les "Nouvelles Archives du Muséum . . . " (De Man, 1914: 128). The author of this important book, of course, was Mary Rathbun, a lady. In the manner De Man originally spelled the name, however, it implied that the species is named after a man, which is clearly not the case here. Article 32c(ii) of the current International Code of Zoological Nomenclature (1999), states that if ". . . in the original publication itself, without recourse to any external source of information, clear evidence of an inadvertent error . . . ", then the name can be emended. As this is clearly the situation in this case, the species name of De Man's taxon should be corrected to *Candidiopotamon rathbunae* instead (see also Ng, 2000a). There is also an additional nomenclatural matter with regards to a long forgotten name. Nakagawa (1915a, b) used a new scientific name "*Thelphusa rubra*" for a Taiwanese crab for which he also applied a Taiwanese vernacular name. There was no description, figure or indication and such, the name *Thelphusa rubra* Nakagawa, 1915a, is clearly a nomen nudum. In any case, from the Taiwanese vernacular name used, we have little doubt that *Thelphusa rubra* Nakagawa, 1915a, is actually *Candidiopotamon rathbunae*. This species is also often coloured dark to almost bright red, easily explaining the specific name ("*rubra*") chosen by Nakagawa (1915a, b).]

Geothelphusa albogilva Shy, Ng and Yu, 1994 (= *Nanhaipotamon formosanum* aut.) — Suzuki, 1985; Shy, Ng and Yu, 1994; Shy, Lai and Yu, 1996; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Dai, 1999; Liu, 1999; Shy and Yu, 1999; Shih, 2000b

Geothelphusa ancylophallus Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Shy, Lai and Yu, 1996; Dai, 1999; Shy and Yu, 1999; Lee and Tung, 2000

Geothelphusa bicolor Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa caesia Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Liu, 1999; Shy and Yu, 1999

Geothelphusa candidiensis Bott, 1967 (= *Geothelphusa dehaani* aut.) — Bott, 1967; Bott, 1970; Minei, 1974; Hwang and Mizue, 1985; Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999; Shih, 2000b [Oshima (1921a) reported "*Potamon* (*Geothelphusa*) *dehaanii candidiensis* Rathbun" from Taiwan. This name, however, has never been formally published by Rathbun as far as we known. This name as appears in Oshima (1921a) must thus be regarded as nomen nudum, as there was no acccompanying description. Records supposedly of this species from the Ryukyus in Japan (see Sakai, 1939, 1976) almost certainly belong to other species (Shy, Ng and Yu, 1994), with the record from Ishigaki recently referred to a new species (Shy and Ng, 1998).]

Geothelphusa chiui Minei, 1974 — Minei, 1974; Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999 [Records by Hwang and Mizue (1985) of this species must be regarded as doubtful and should be rechecked (see Shy, Ng and Yu, 1994). See also discussion for *G. olea*.]

Geothelphusa cinerea Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa dolichopodes Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa eucrinodonta Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa eurysoma Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa ferruginea Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Yu, Jeng, Chan, Ho and Shy, 1996; Jeng, 1997, 1998; Jeng, Shao, Tzeng, Feng and Wu, 1998; Dai, 1999; Shy and Yu, 1999

Geothelphusa gracilipes Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa hirsuta Tan and Liu, 1998 — Tan and Liu, 1998; Shy and Yu, 1999

Geothelphusa ilan Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa lanyu Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa lutao Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa miyazakii (Miyake and Chiu, 1965) (= *Geothelphusa dehaani* aut.) — Miyake and Chiu, 1965; Minei, 1974; Hwang and Mizue, 1985; Shy, Ng and Yu, 1994; Dai, 1999; Shy

and Yu, 1999 [Records of this species from the Ryukyus in Japan (see Sakai, 1976) almost certainly belong to other species (Shy, Ng and Yu, 1994).]

Geothelphusa monticola Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa nanao Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa nanhsi Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Shy, Lai and Yu, 1996; Dai, 1999; Shy and Yu, 1999; Lee and Tung, 2000

Geothelphusa neipu Chen, Cheng and Shy, 1998 — Chen, Cheng and Shy, 1998; Ng, 1999b; Shy and Yu, 1999; Shih. 2000b; Shy, Chen and Cheng, 2000 [This species is very close to *G. pingtung* and may be synonymous. The colour differences observed between these two species (Shy, Chen and Cheng, 2000) are not always reliable as both colour form, supposedly diagnostic for each of these two species, have recently been collected together. In any case, the type localities of both species are very close to each other]

Geothelphusa olea Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Shy, Lai and Yu, 1996; Dai, 1999; Liu, 1999; Shy and Yu, 1999; Lee and Tung, 2000 [*Geothelphusa olea* has a very wide distribution in western Taiwan, and its presently known range actually includes the type locality of *G. chiui* Minei, 1974, a species whose identity has been the subject of some discussion (see Shy, Ng and Yu, 1994). *Geothelphusa chiui* has not been found from its type locality in Nanpu (Hsinchu County) despite numerous efforts (H. -C. Liu and J. -Y. Shy, personal communication) and despite a recent search, the male holotype cannot be found in the Kitakyushu Museum in Japan where the rest of Minei's material now resides (D. C. J. Yeo, personal communication). Shy, Ng and Yu (1994) chose to recognise *G. olea* and *G. chiui* as separate taxa because they discerned some differences in the form of the male first pleopods between the specimens of *G. olea* they had on hand and of *G. chiui* using the figures in Minei's original 1974 paper. The extent of recent collections of Taiwanese freshwater crabs, which covers a very wide area, suggests that these differences may not be valid. The absence of any *Geothelphusa* species resembling *G. chiui* or *G. olea* from the type locality of *G. chiui* may just be because the area has been too extensively developed and the population there has become extinct. It seems rather unlikely that two closely related species (i.e. *G. olea* and *G. chiui*) are living in close proximity or even sympatric with each other; more likely both are synonyms. However, we retain the use of both names until this can be confirmed.]

← may be 2 spp. after all

Geothelphusa pingtung Tan and Liu, 1998— Tan and Liu, 1998; Shy and Yu, 1999

Geothelphusa takuan Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa tali Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa taroko Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa tawu Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa tsayae Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999; Shih, 2000b

Geothelphusa wangi Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

+ G. shokitai Shy & Ng : Senkaken = Senkaku = Diaoyutai !

Geothelphusa wutai Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Geothelphusa yangmingshan Shy, Ng and Yu, 1994 — Shy, Ng and Yu, 1994; Dai, 1999; Shy and Yu, 1999

Nanhaipotamon formosanum (Parisi 1916) — Parisi, 1916; Balss, 1922c, 1937; Sakai, 1939, 1940; Bott, 1968a, 1970; Sakai, 1976; Hwang and Mizue, 1985; Dai, 1997; Dai, 1999; Shy and Yu, 1999; Lee and Tung, 2000

NB. Records of *Geothelphusa dehaani* by Terao (1915a), Balss (1922c), Maki and Tsuchiya (1923), Balss (1937), Sakai (1939, 1940), Lin (1949), Wu, Ling, Shieh and Wang (1962) and Wang and Chen (1981), cannot be determined; most likely all their records are mixed and belong to one of the above *Geothelphusa* species instead. The real *G. dehaani* is endemic to the Japanese main island.

Family Parathelphusidae Alcock, 1910

Somanniathelphusa taiwanensis Bott, 1968 (= *Parathelphusa sinensis* aut.) — Terao, 1915b; Balss, 1922c; Maki and Tsuchiya, 1923; Sakai, 1939, 1940; Bott, 1968b; Bott, 1970; Hwang and Mizue, 1985; Shy, Lai and Yu, 1996; Dai, 1999; Shy and Yu, 1999; Lee and Tung, 2000

Endemic taxa

From the conservation perspective, there are a number of species which are endemic to Taiwan. Foremost in consideration (and concern) must surely be the true freshwater crabs, notably *Candidiopotamon rathbunae, Geothelphusa albogilva, G. ancylophallus, G. bicolor, G. caesia, G. candidiensis, G. chiui, G. cinerea, G. dolichopodes, G. eucrinodonta, G. eurysoma, G. ferruginea, G. gracilipes, G. hirsuta, G. ilan, G. lanyu, G. lutao, G. miyazakii, G. monticola, G. nanao, G. nanhsi, G. neipu, G. olea, G. pingtung, G. takuan, G. tali, G. taroko, G. tawu, G. tsayae, G. wangi, G. wutai, G. yangmingshan, Nanhaipotamon formosanum* (Potamidae), and *Somanniathelphusa taiwanensis* (Parathelphusidae) (Ho, 1998a-e). All 34 species are endemic to Taiwan. Records of *G. candidiensis* and *G. miyazakii* from the Ryukyus actually belong to other species (see Shy and Ng, 1998). Of these, the widespread *Candidiopotamon rathbunae* is not seriously threatened by extinction, but most of the other species have very narrow distributions and easily be exterminated by large scale developments (Shih, 2000b).

The Taiwanese or green hairy crab (*Platyeriocheir formosa,* Grapsidae) is known only from eastern Taiwan, and *Platyeriocheir* is the only known endemic Taiwanese brachyuran genus. Although generally regarded as a freshwater species, the species has larvae which develop in the open sea, and is a very vulnerable species as its adult habitat requirements are very specific (Hung and Yu, 1996; Chan, 2000). Requiring clean montane streams, the species is extremely vulnerable to pollution and/or over-exploitation by collectors – female crabs are much sought after in the breeding season because of their ovaries.

The large marine Taiwanese fiddler crab (*Uca formosensis,* Ocypodidae) interestingly, has been found only in Taiwan so far (including Penghu), and has not been reported from nearby China, Philippines or Ryukyus, and may well be Taiwan's only marine endemic crab. Its conservation is now a mat-

ter of some concern (Shih, 1997; Shih, Mok, Chang and Lee, 1999; Shih, 2000a). The overgrowth of mangroves and development projects are serious threats to the long term survival of this species.

Two other wholly marine species, *Dumeia taiwanicus* and *Acanthonyx formosa* (Majidae), *Tymolus hirtipes* Tan and Huang, 2000 (Cyclodorippidae), *Helice formosensis* Rathbun, 1931, *Xenograpsus testudinatus* Ng, Huang and Ho, 2000 (Grapsidae), and *Pinnotheres taichungae* Sakai, 2000 (Pinnotheridae, see discussion for this species) now known only from Taiwan, but are probably more widespread than they are now once more intensive surveys are carried out. One other species, *Jonas choprai* (Corystidae), is formally known only from Taiwan, but it has been found in the Indian Ocean (P. K. L. Ng, unpublished data).

In addition to the above-mentioned taxa, the following species ~~have been~~ were described from Taiwan, but have been found in other parts of the world, viz. *Leucosia formosensis* Sakai, 1937 (Leucosiidae), *Calappa quadrimaculata* Takeda and Shikatani, 1990 (Calappidae), *Jonas formosae* (Balss, 1922) (Corystidae), *Demania rotundata* Serène, in Guinot, 1969 (Xanthidae), *Pilumnus acanthosoma* Ng, 2000 (Pilumnidae), *Trapezia cheni* Galil, 1983, *Trapezia garthi* Galil, 1983 (Trapeziidae), *Chaceon manningi* Ng, Lee and Yu, 1994 (Geryonidae), *Macrophthalmus boteltobagoe* Sakai, 1939, *Ilyoplax formosensis* Rathbun, 1921, *Ilyoplax tansuiensis* Sakai, 1939 (Ocypodidae), *Baruna sinensis* Tan and Huang, 1995 (Camptandriidae), and *Ptychognathus ishii* Sakai, 1939, *Ptychognathus takahasii* Sakai, 1939, *Varuna yui* Hwang and Takeda, 1986 (Grapsidae). One described species, *Eurcrate formosensis* Sakai, 1974, is now regarded as a junior synonym of *E. alcocki* Serène, in Serène and Lohavanijaya, 1973, although it may be resurrected as a valid taxon in the future (see discussion for this species). One species, *Elamena truncata* (Stimpson, 1858) (Hymenosomatidae), originally described from the Ryukyus in southern Japan, had its type locality changed to northern Taiwan when Ng and Chuang (1996) designated a neotype from there to stabilise the taxonomy of this and allied species.

On the fauna from Kinmen

The brachyurans of Kinmen have been most recently reported on by Yang and Chang (1996) and Wang and Liu (1996c). Between them, they record a total of 47 species, viz. Dromiidae: *Lauridromia dehaani;* Dorippidae: *Paradorippe granulata*; Leucosiidae: *Philyra pisum;* Calappidae: *Calappa lophos, C. philargius;* Matutidae: *Matuta planipes, M. victor* (as *M. lunaris*); Orithyiidae: *Orithyia sinica;* Majidae: *Doclea japonica, Hyastenus diacanthus;* Parthenopidae: *Platylambrus validus, Cryptopodia fornicata;* Corystidae: *Jonas distincta;* Portunidae: *Portunus gracilimanus, Portunus haanii, P. pelagicus, P. sanguinolentus, P. trituberculatus, Scylla paramamosain* (as *S. serrata*), *Charybdis feriatus, C. japonica, C. natator, Thalamita crenata*; Xanthidae: *Leptodius nigromaculatus, Atergatis reticulatus*; Pilumnidae: *Heteropanope glabra*; Goneplacidae: *Carcinoplax longimana;* Ocypodidae: *Ocypode ceratophthalmus, O. sinensis* (as *O. cordimana*), *Uca arcuata, U. borealis, U. lactea, Scopimera tuberculata, S. longidactyla, Macrophthalmus abbreviatus* (as *M. dilatatus*), *M. banzai* (as *M. japonicus*), *M. convexus, M. erato;* Mictyridae: *Mictyris brevidactylus;* and Grapsidae: *Metopograpsus quadridentatus, Hemigrapsus penicillatus, Varuna litterata, Helice* sp. (as *Helice wuana*), *Metaplax longipes, Parasesarma pictum, P. plicatum* and *Perisesarma bidens.*

Of these species, only the following are unique to this area and not yet reported from the main island of Taiwan itself, viz. *Orithyia sinica* (Linnaeus, 1771) (Orithyiidae), *Leptodius nigromaculatus*

Serène, 1962 (Xanthidae), *Heteropanope glabra* Stimpson, 1858 (Pilumnidae), *Macrophthalmus erato* De Man, 1888, *Scopimera tuberculata* Stimpson, 1858 (Ocypodidae), *Metopograpsus quadridentatus* De Man, 1858, and *Metaplax longipes* Stimpson, 1858 (Grapsidae). Of these, notable is also that the family Orithyiidae is only known from Kinmen as far as Taiwanese territory is concerned.

On the fauna from Tungsha Islands

Ng, Lee and Yu (1994) described *Chaceon manningi* (Geryonidae) from the Tungsha Islands. Ng and Huang (1997) subsequently recorded *Paromola japonica* Parisi, 1915, *P. macrochira* Sakai, 1961 (Homolidae) and *Platymaia bartschi* Rathbun, 1916, and *Cyrtomaia curviceros* Bouvier, 1915 (Majidae) from these islands. Most recently, Ho and Ng (1999), Ng and Chen (1999) and Ng (2000b) recorded *Homolodromia kai* Guinot, 1993 (Homolodromiidae), *Lamoha longirostris* (Chen, 1986) (Homolidae) and *Benthochascon hemingi* Alcock and Anderson, 1899 [Fig. 4f] (Portunidae), respectively from Tungsha. We here add two more species from deep waters off these islands, viz. *Paromolopsis boasi* Wood-Mason and Alcock, 1891 (Homolidae) [Fig. 1b] and *Platymaia fimbriata* Rathbun, 1916 (Majidae) [Fig. 4b]. Of these species *Homolodromia kai, Lamoha longirostris, Paromolopsis boasi, Cyrtomaia curviceros, Platymaia fimbriata* and *Benthochascon hemingi* are known only from Tungsha thus far and have not been recorded in Taiwan itself. Their presence in Taiwan proper, however, must be expected as all of them have wide distributions which bracket the island.

General discussion

A total of 548 species from 36 families are now known from the main island of Taiwan as defined here. This figure compares very favourably with the number now known from neighbouring China and Japan (cf. Dai and Yang, 1991; Sakai, 1976), especially considering the small size of the island.

Some families, notably the Leucosiidae, Majidae, Xanthidae, Pilumnidae, Goneplacidae, Pinnotheridae and Cryptochiridae, are still poorly represented for the Taiwanese fauna. Not surprisingly, many are small taxa with cryptic habits (e.g. Cryptochiridae) and/or their taxonomy is very difficult (e. g. Leucosiidae, Pilumnidae). For example, only six and two species of Pinnotheridae and Cryptochiridae respectively are known from the island, a ridiculously small number. For a very speciose group like the Xanthidae, many more new records can be expected once the deeper waters and the coral reefs are more intensely explored. Even for the well studied swimming crabs (Portunidae), we know of a good number of unpublished new records, including species of *Carupa, Charybdis* and *Ovalipes* (P. -H. Ho and H. -C. Liu, personal communication). We are also aware of substantial numbers of new records of Goneplacidae (J. -F. Huang and P. -W. Hsueh, personal communication) and Majidae (S. -H. Wu and T. -Y. Chan, personal communication) which are now being studied or written up. Even in the intertidal area, where a great deal of work has been done, there are still many surprises. In the Grapsidae, there is at least one new genus and several new species now being studied by the first author, C. D. Schubart and H. -C. Liu. In addition, there are new records of *Grapsus, Chiromantes,* (Grapsidae) and *Epigrapsus* (Gecarcinidae) (C. D. Schubart and H. -C. Liu, personal communication).

Several families are still conspicuously absent from the Taiwanese brachyuran fauna thus far, viz. Homolodromiidae, Cymonomidae, Phyllotymolinidae, Orithyiidae, Retroplumidae and Hexapodidae. We believe that these will probably be discovered in Taiwan once the proper in depth surveys are

conducted. Hexapodids are small crabs which can be easily missed in collections and are often mistaken for damaged goneplacids. In fact, Huang (1994) reports *Hexapus anfractus* (Rathbun, 1910) from an unspecified site in the Taiwan Straits without stating from which side if the strait it was from, but its presence in Taiwan itself must be expected. Cymonomids, phyllotymolinids and retroplumids are deep-water crabs and are difficult to collect, but should be present in the deep waters off eastern and southern Taiwan.

The Orithyiidae Dana, 1852, is a peculiar group normally found in shallow waters along continental China and Korea, and for Taiwan, it is only known from Kinmen, near China (Yang and Chang, 1996) thus far. Its absence from the main island of Taiwan itself is striking, although it is possible it may just be very rare there. The Homolodromiidae Alcock, 1899, only known from deep waters off the Tungsha Islands thus far (Ho and Ng, 1999), is also certainly present near the main island of Taiwan as well.

From what we now know being studied by ourselves and various associates, the crab fauna for Taiwan will easily reach 600 species. We believe that once most of the surveys and studies have been completed, the total brachyuran fauna for Taiwan and its associated islands will probably approach 700. These figures compare very well with the total brachyuran fauna of the world which now stands at over 6000 species. Considering that Taiwan's relatively small size and the fact that it has some 10% of the world's crab species, this is a very impressive fauna indeed. All in all, the future for carcinological discoveries in Taiwan is excellent, and there is still some way to go before its fauna can be considered to be well known!

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Appendix 1

New records from Taiwan and Tungsha Islands

1. ***Homola mieensis*** Sakai, 1979 [Fig. 1a]

Material examined — 1 female, 36. 0 by 42. 6 mm (TMCD), Tahsi, Ilan County, 400 m, coll. S. -H. Wu, 20 April 1995; 1 female, 37. 2 by 41. 4 mm (NTOU 9003-02-29), Tungsha Islands, 600 m, coll. D. -A. Lee, 22 February 1990

2. ***Paromolopsis boasi*** Wood-Mason and Alcock, 1891 [Fig. 1b]

Material examined — 1 female, 32. 5 by 33. 1 mm (NTOU), Tungsha Islands, coll. P. -H. Ho, 21 April 1995

3. ***Notosceles serratifrons*** (Henderson, 1893) [Fig. 1c]

Material examined — 1 dried female, 15. 4 by 29. 8 mm (TMCD 394), Fangliao, Pingtung County, coll. C. -Y. Wei, 7 December 1969

4. ***Leucosia rhomboidalis*** De Haan, 1850 [Fig. 1f]

Material examined — 1 male, 15. 4 by 17. 8 mm (TMCD 259), Tainan, coll. C. -Y. Wei, 20 October 1963; 1 dried male, 16. 1 by 19. 0 mm (TMCD 232), Kaohsiung, coll. C. -Y. Wei, 1 November 1968; 1 male (TMCD 2812), Yungan, Kaohsiung County, coll. K. -C. Hsia

5. ***Arcania septemspinosa*** (Fabricius, 1787) [Figs. 2a, b]

Material examined — 1 male, 38. 4 by 22. 8 mm (TMCD 408), Anping fish market, Tainan City, coll. C. -Y. Wei, 10 December 1964

6. ***Ixa edwardsii*** Lucas, 1858 [Figs. 2d, e]

Material examined — 1 dried female, 69. 6 by 33. 4 mm (TMCD 363), Taiwan, coll. C. -Y. Wei, 14 October 1971; 1 dried female, 74. 8 by 39. 1 mm (TMCD 284), Pingtung, coll. C. -Y. Wei, 25 January 1968

7. ***Myra biconica*** Ihle, 1918 [Fig. 2f]

Material examined — 1 dried female, 24. 3 by 32. 1 mm (TMCD 419), Tainan, coll. C. -Y. Wei, 18 December 1967

8. ***Nursia plicata*** (Herbst, 1803) [Fig. 2g]

Material examined — 1 dried female, 21. 7 by 16. 5 mm (TMCD 406), Anping Harbour, Tainan City, coll. C. -Y. Wei, 10 December 1975; 1 dried female, 20. 9 by 16. 3 mm (TMCD 407), Anping Harbour, Tainan City, coll. C. -Y. Wei, 10 December 1975

9. ***Pariphiculus mariannae*** (Herklots, 1852) [Fig. 2h]

Material examined — 1 dried male, 25. 4 by 29. 7 mm (TMCD 220), Fangliao, Pingtung County, coll. C. -Y. Wei, 16 February 1962; 1 dried male, 27. 5 by 32. 2 mm (TMCD 436), Hengchun,

Pingtung County, coll. C. -Y. Wei, 20 August 1970

10. ***Philyra heterograna*** Ortmann, 1892 [Fig. 3a]
Material examined — 1 dried male, 17. 6 by 18. 1 mm (TMCD 427), Kaohsiung, coll. C. -Y. Wei, 2 July 1983

11. ***Calappa bicornis*** Miers, 1884 [Fig. 3b]
Material examined — 1 dried female, 32. 0 by 24. 6 mm (TMCD 419), Tainan, coll. C. -Y. Wei, 18 December 1967; 1 female, 99. 7 by 75. 8 mm (NTOU), Hopingtao, Keelung City, coll. S. -H. Wu, May 1998; 1 male (ZRC), Makang, Ilan County, coll. 1996

12. ***Cyrtomaia curviceros*** Bouvier, 1915 [Fig. 3h]
Material examined — 1 dried female, 45. 1 by 47. 5 mm (spines inclusive) (Peikuan Crab Museum), Tahsi, Ilan County, coll. Peikuan Museum, 2000.

13. ***Platymaia bartschi*** Rathbun, 1916 [Fig. 4a]
Material examined — 1 male specimen (TMCD 2226), Tahsi, Ilan County, coll. J. -T. Lin, 22 January 1987

14. ***Platymaia fimbriata*** Rathbun, 1916 [Fig. 4b]
Material examined — 1 female (ZRC), Tungsha Islands, coll. P. -H. Ho, 14 January 1995

15. ***Pleistacantha sanctijohannis*** Miers, 1879 [Fig. 4c]
Material examined — 1 dried male, 14. 8 by 19. 3 mm (TMCD 454), Taitung, coll. C. -Y. Wei, 15 October 1964; 1 dried female (15. 6 by 22. 9 mm) (TMCD 455), Taitung, coll. C. -Y. Wei, 15 October 1964

16. ***Lissocarcinus arkati*** Kemp, 1923 [Fig. 4e]
Material examined — 1 dried male, 35. 4 by 21. 6 mm (TMCD 479), Keelung fish market, Keelung City, coll. C. -Y. Wei, 12 March 1974; 1 dried female, 20. 9 by 17. 5 mm (TMCD 480), Keelung fish market, Keelung City, coll. C. -Y. Wei, 12 March 1974; 1 dried female, 25. 3 by 21. 1 mm (TMCD 200), Kaohsiung, coll. C. -Y. Wei, 20 January 1971

17. ***Carcinoplax indica*** Doflein, 1904 [Fig. 7c]
Material examined — 1 male, 30. 1 by 23. 0 mm (ZRC 1998. 216), Tahsi, Ilan County, coll. P. K. L. Ng, August 1996; 1 male, 30. 9 by 24. 8 mm, 1 female. 35. 0 by 27. 3 mm (ZRC 1999. 773), Tahsi, Ilan County, coll. P. K. L. Ng and K. Lim, May 1999

18. ***Carcinoplax tomentosa*** Sakai, 1969 [Fig. 7e]
Material examined — 1 male, 45. 7 by 34. 9 mm (TMCD 1587), Tahsi, Ilan County, coll. S. -H. Wu, 27 December 1995; 1 male, 45. 6 by 34. 3 mm (TMCD 1653), Tahsi, Ilan County, coll. S. -H. Wu, March 1996; 1 female (TMCD 2228), Tahsi, Ilan County, coll. J. -T. Lin, 22 January 1987; 1

male, 53. 5 by 40. 7 mm, 1 female, 46. 3 by 35. 3 mm (ZRC 1998. 43Mater4), Nangfangao, Ilan County, coll. S. H. Tan, 28 May 1998; 1 male, 29. 3 by 22. 9 mm (ZRC 1999. 720), Tungkang, Pingtung County, coll. P. K. L. Ng and K. Lim, May 1999; 1 female (ZRC 1997. 748), coll. P. K. L. Ng, 3 September 1996

19. ***Eucrate solaris*** Yang and Sun, 1979 [Fig. 7h]

Material examined — 1 female, 26. 2 by 21. 1 mm (ZRC 1997. 752), Tungkang, Pingtung County, coll. P. K. L. Ng, 5 August 1996

20. ***Macrophthalmus latreillei*** (Desmarest, 1822) [Fig. 8c]

Material examined — 1 male, 38. 8 by 28. 6 mm, (TMCD), Szutsao, Tainan City, coll. J. -H. Lee, May 1998; 1 female, 45. 7 by 33. 1 mm (TMCD), Szutsao, Tainan City, coll. J. -H. Lee, April 16, 2000

Appendix 2

Taiwanese localities (Chinese) and their romanizations as used in the text

Romanization	Chinese
Anping	安平 (in Tainan City)
Changhua County	彰化縣
Diaoyutai	釣魚臺 (= Tiaoyutai)
Fangliao	枋寮 (in Pingtung County)
Fulung	福隆 (in Taipei County)
Hengchun	恆春 (in Pingtung County)
Homei	和美 (in Taipei County)
Hopingtao	和平島 (in Keelung City)
Hsiangshan	香山 (in Hsinchu City)
Hsiaohsianglan	小香蘭 (in Taipei County)
Hsiaoliuchiu	小琉球 (in Pingtung County)
Hsinchu City	新竹市
Ilan County	宜蘭縣
Kaohsiung City	高雄市
Kaohsiung County	高雄縣
Keelung City	基隆市
Kenting National Park	墾丁國家公園 (in Pingtung County)
Lanyu	蘭嶼 (in Taitung County)
Lukang	鹿港 (in Changhua County)
Lutao	綠島 (in Taitung County)
Makang	馬崗 (in Ilan County)
Nangfangao	南方澳 (in Ilan County)
Nanliao	南寮 (in Kaohsiung County)
Penghu	澎湖
Pingtung County	屏東縣
Pratas Islands	東沙群島 (= Tungsha Islands, in Kaohsiung City)
Suao	蘇澳 (in Ilan County)
Szutsao	四草 (in Tainan City)
Tahsi	大溪 (in Ilan County)
Tainan City	臺南市
Taipei County	臺北縣
Taitung County	臺東縣
Tanshui	淡水 (in Taipei County)
Tiaoyutai	釣魚臺 (= Diaoyutai)
Toucheng	頭城 (in Ilan County)
Tungkang	東港 (in Pingtung County)
Tungsha Islands	東沙群島 (= Pratas Islands, in Kaohsiung City)
Yungan	永安 (in Kaohsiung County)

Appendix 3

Journal names in Chinese or Japanese and their English translations as used in the text

English	Chinese
Annuals of Taiwan Museum	臺灣省立博物館年刊
Aquiculture	水產養殖
Biological Bulletin of National Taiwan Normal University	師大生物學報
Biological Bulletin of the Tunghai University	東海生物學報
Botany and Zoology	植物及動物
CHYUGAIIZISHINPOU	中外醫事新報
Fisheries Extension, Taipei	漁業推廣
Journal of Fisheries Society of Taiwan	臺灣水產學會會刊
Journal of Oceanography in Taiwan Strait	臺灣海峽
Oceanologia et Limnologia Sinica	海洋與湖沼
Quarterly Journal of Natural Conservation	自然保育季刊
Scientific Taiwan	科學の臺灣
Taiwan Natural Science	臺灣博物
Transactions of the Natural History Society of Formosa	臺灣博物學會會報
Zoological Magazine	動物學雜誌
ZYUZENKAIZASHI	十全會雜誌

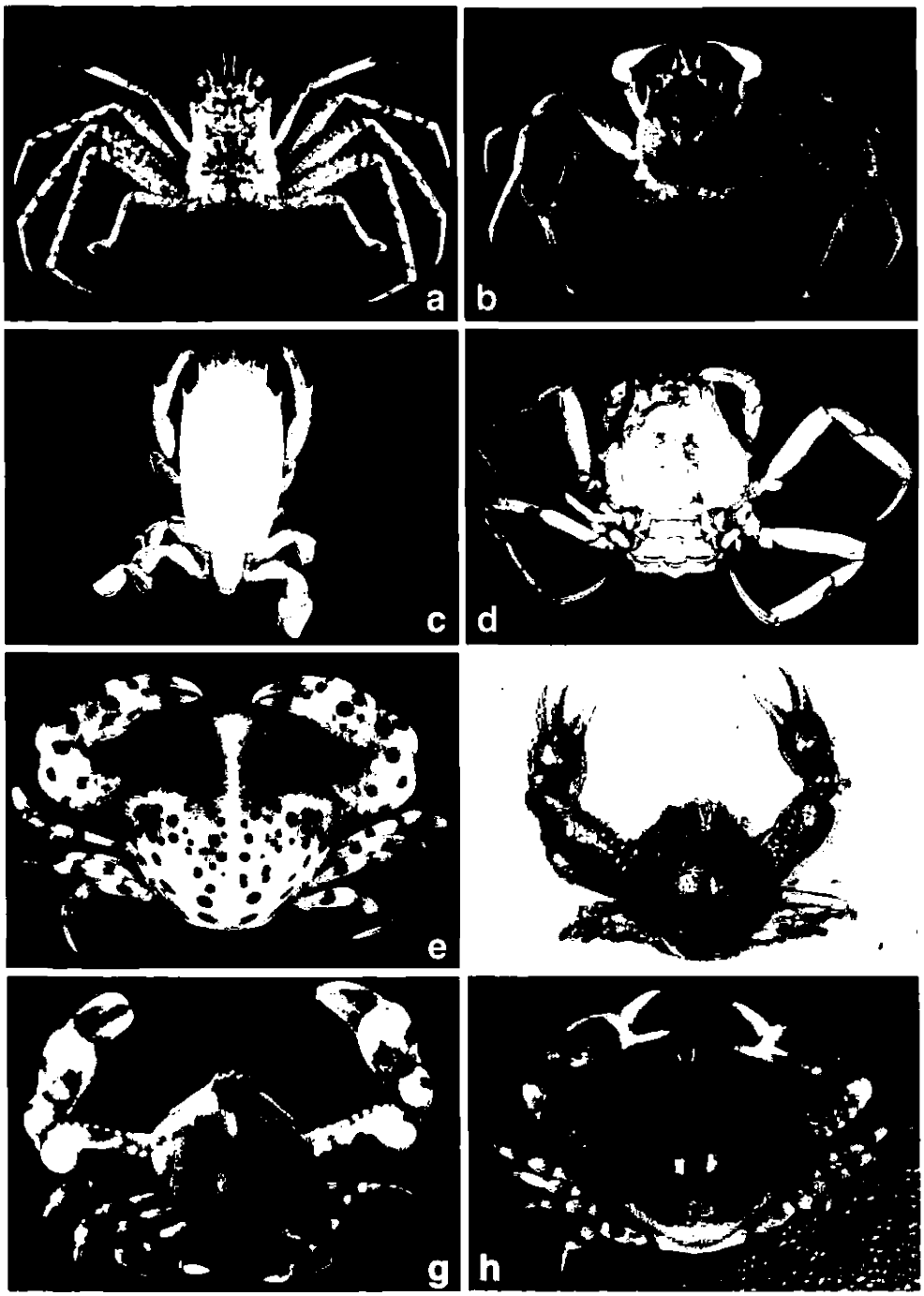

Fig. 1. a. *Homola mieensis*, female (NTOU), Tungsha; b. *Paromolopsis boasi*, female (NTOU), Tungsha; c. *Notosceles serratifrons*, dried female (TMCD 394), Fangliao [preserved coloration]; d. *Dorippe sinica*, female (ZRC 1999. 470), Guangdong, southern China [freshly preserved coloration]; e. *Leucosia haematosticta*, male (ZRC), Singapore; f. *Leucosia rhomboidalis*, dried male (TMCD 259), Tainan [preserved coloration]; g, *Leucosia vittata*, male (ZRC), Thailand; h, *Leucosia anatum*, male (ZRC), Singapore.

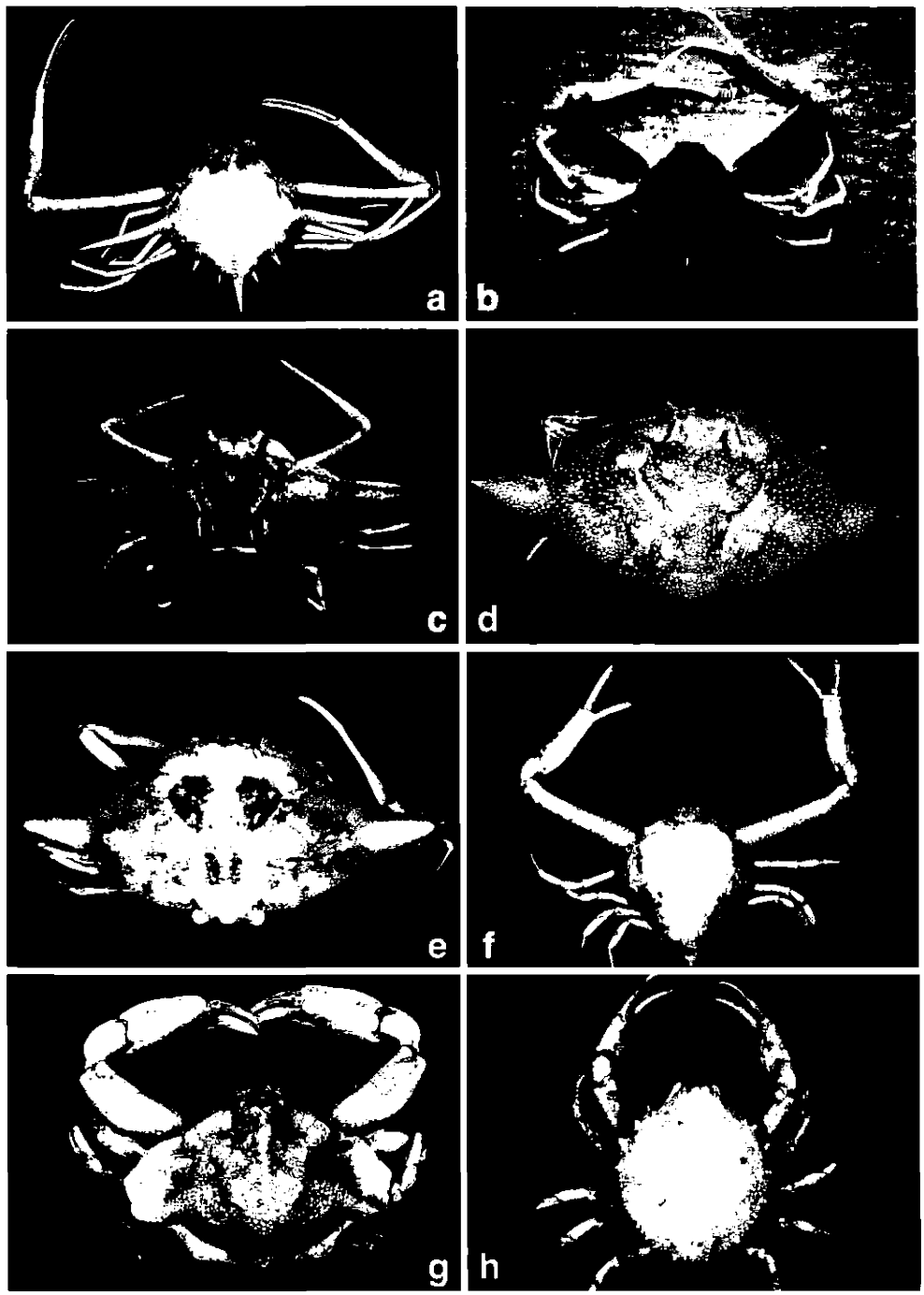

Fig. 2. a, *Arcania septemspinosa*, dried male (TMCD 408), Tainan [preserved coloration]; b, *Arcania septemspinosa*, male (ZRC), Thailand; c, *Ixa cylindrus*, female (ZRC), Thailand; d, *Ixa edwardsii*, dried female (TMCD 363), Pingtung [preserved coloration]; e, *Ixa edwardsii*, female (ZRC), Thailand; f, *Myra biconica*, dried female (TMCD 419), Tainan [preserved coloration]; g, *Nursia plicata*, dried female (TMCD 406), Anping [preserved coloration]; h, *Pariphiculus mariannae*, dried male (TMCD 436), Hengchun [preserved coloration].

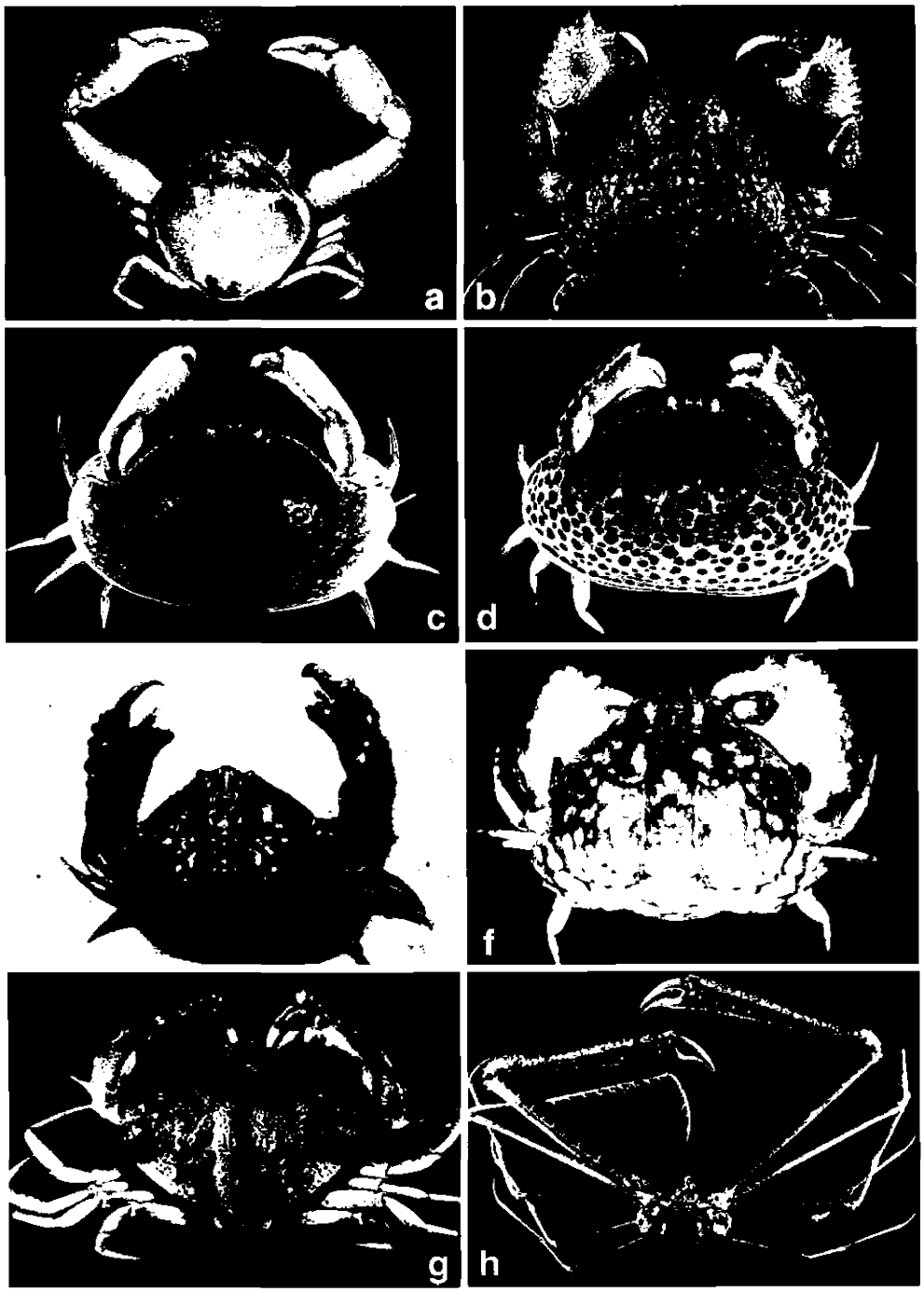

Fig. 3. a, *Philyra heterograna*, dried male (TMCD 427), Kaohsiung [preserved coloration]; b, *Calappa bicornis*, female (NTOU), Keelung; c, *Calappa calappa*, uniform coloured form, male (TMCD), Keelung; d, *Calappa calappa*, spotted form, male (TMCD), Keelung; e, *Calappa capellonis*, dried male (TMCD 212), Taitung [preserved coloration]; f, *Calappa capellonis*, male (ZRC), Thailand; g, *Mursia armata*, male (ZRC 1999. 360), Nangfangao; h, *Cyrtomaia curviceros*, male (NTOU), Tungsha.

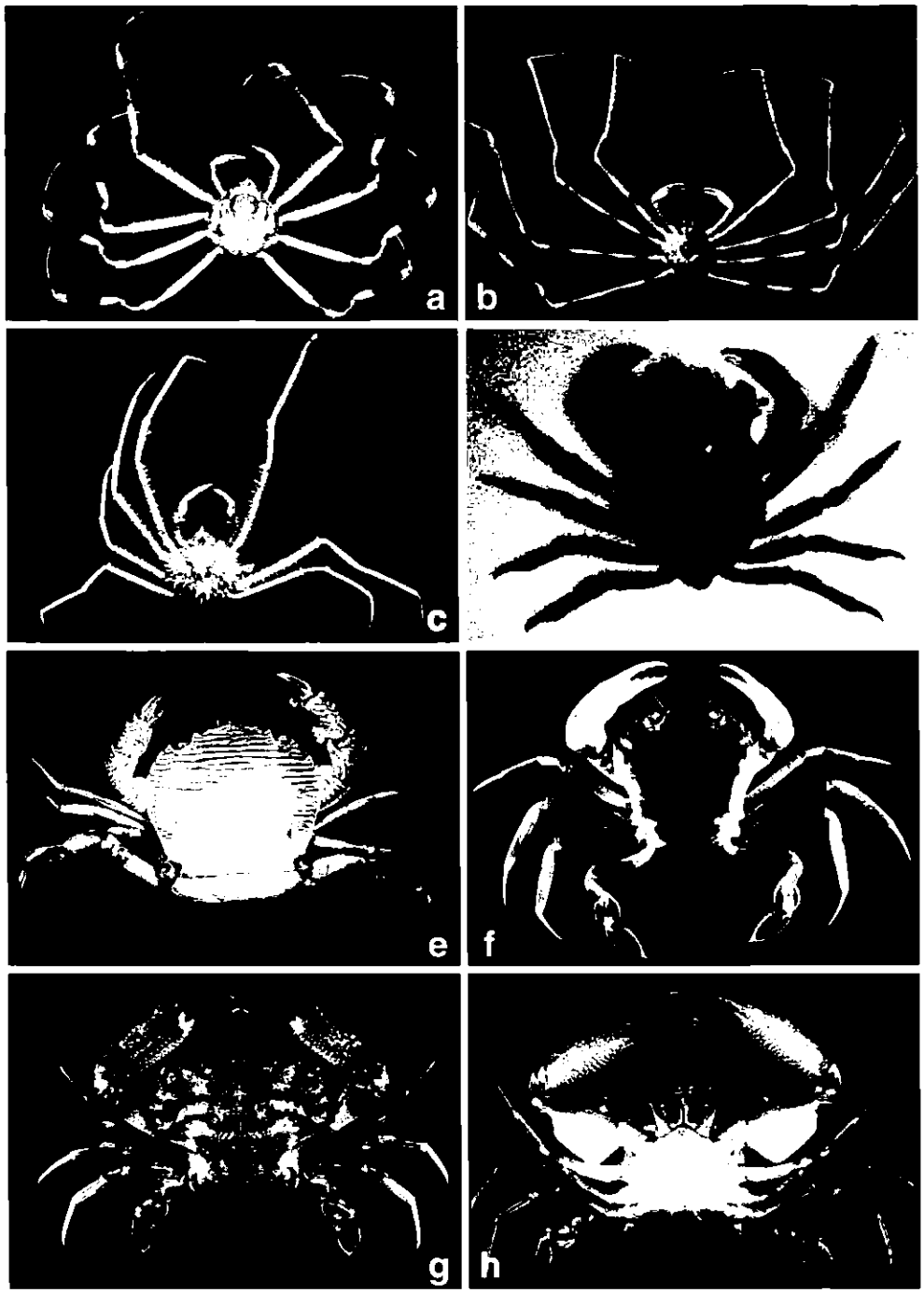

Fig. 4. a, *Platymaia bartschi*, female (specimen in The Taiwan Fisheries Research Institute, Keelung), Tungsha (courtesy of D. -A. Lee); b, *Platymaia fimbriata*, female (ZRC), Tungsha (courtesy of D. -A. Lee); c, *Pleistacantha sanctijohannis*, dried female (TMCD 455), Taitung [preserved coloration]; d, *Cyclocoeloma tuberculata*, dried male (TMCD 1659), Kenting; e, *Lissocarcinus arkati*, dried female (TMCD 480), Keelung fish market [preserved coloration]; f, *Benthochascon hemingi*, male (TMCD), Tungsha; g, h, *Thalamita pelsarti*, male (NTOU), Kaohsiung.

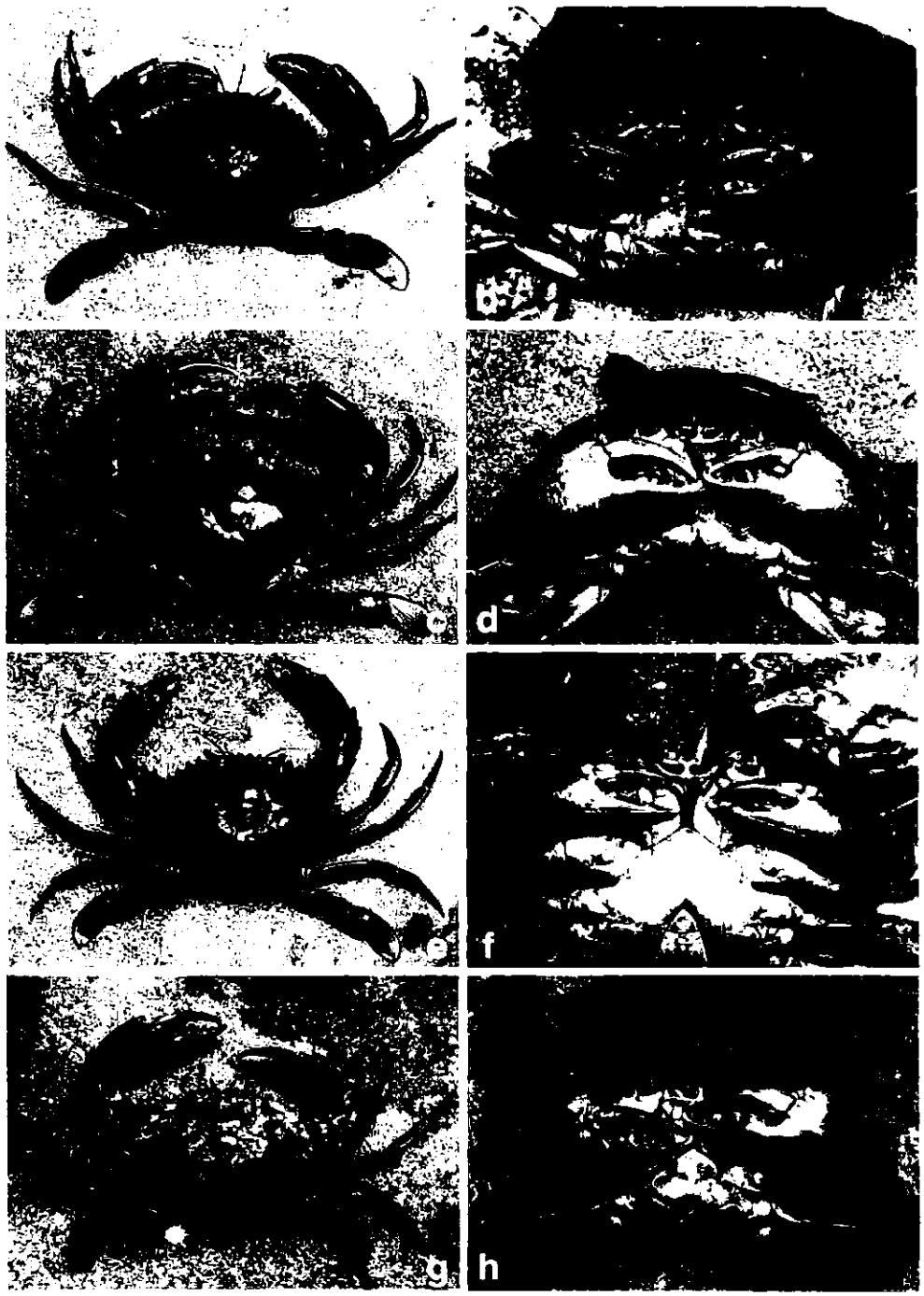

Fig. 5. a, b. *Scylla olivacea*, male (ZRC), Tungkang; c, d, *Scylla paramamosain*, male (ZRC), Tungkang; e, f. *Scylla serrata*, male (ZRC), Tungkang; g, h, *Scylla tranquebarica*, male (ZRC), Tungkang.

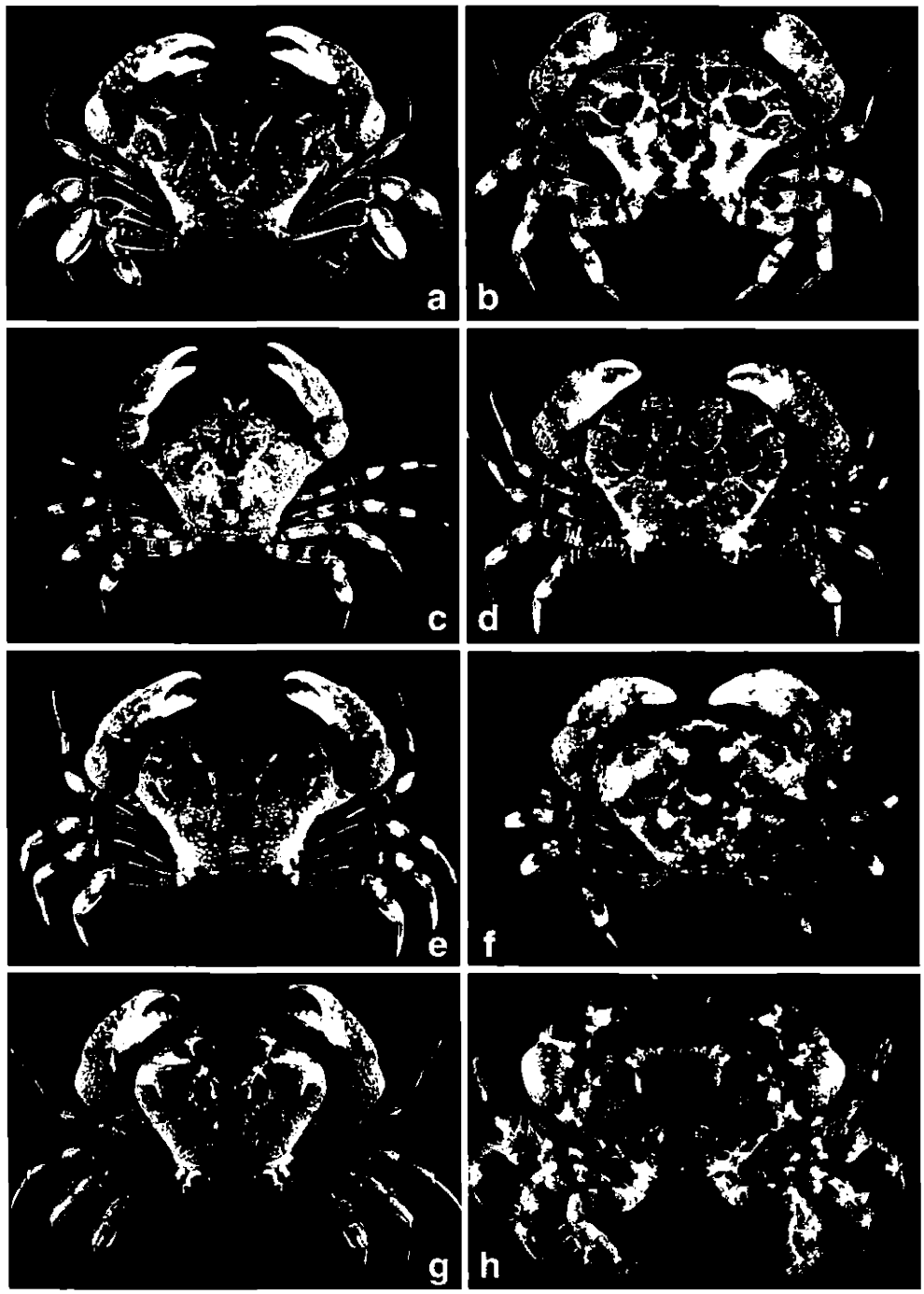

Fig. 6. a, *Demania cultripes*, male (NTOU), Hopingtao, Keelung; b, *Demania intermedia*, female (NTOU), Hopingtao, Keelung; c, *Demania japonica*, male (ZRC), Tahsi; d, *Demania reynaudi*, male (NTOU), Hopingtao, Keelung; e, *Demania rotundata*, female (NTOU), Tahsi; f, *Demania scaberrima*, male (ZRC), Thailand; g, *Demania toxica*, male (NTOU), Nanhao, Kaohsiung; h, *Juxtaxanthias lividus*, male (NTOU), Lanyu.

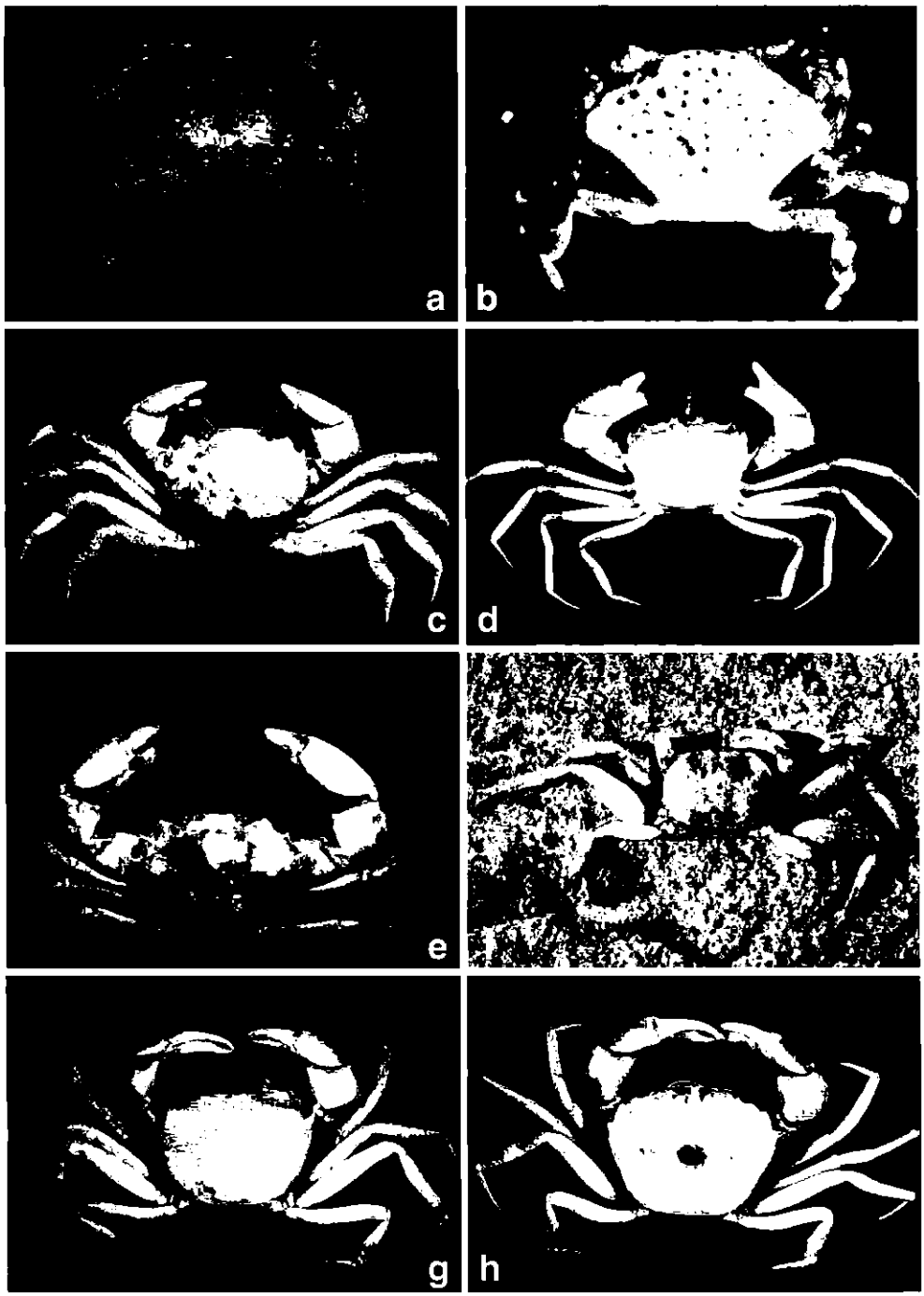

Fig. 7. a, *Neoxanthops quadrilobatus*, female (ZRC 1970. 3. 9. 2), Keelung [preserved coloration]; b, *Actites erythra*, male (ZRC), Singapore; c, *Carcinoplax indica*, male (ZRC 1998. 216), Tahsi; d, *Carcinoplax suruguensis*, male, Nangfangao (courtesy of T. -Y. Chan); e, *Carcinoplax tomentosa*, male (ZRC 1998. 434), Nangfangao; f, *Scalopidia spinosipes*, male (ZRC), Thailand; g, *Eucrate alcocki*, female (ZRC), Taiwan; h, *Eucrate solaris*, female (ZRC), Taiwan.

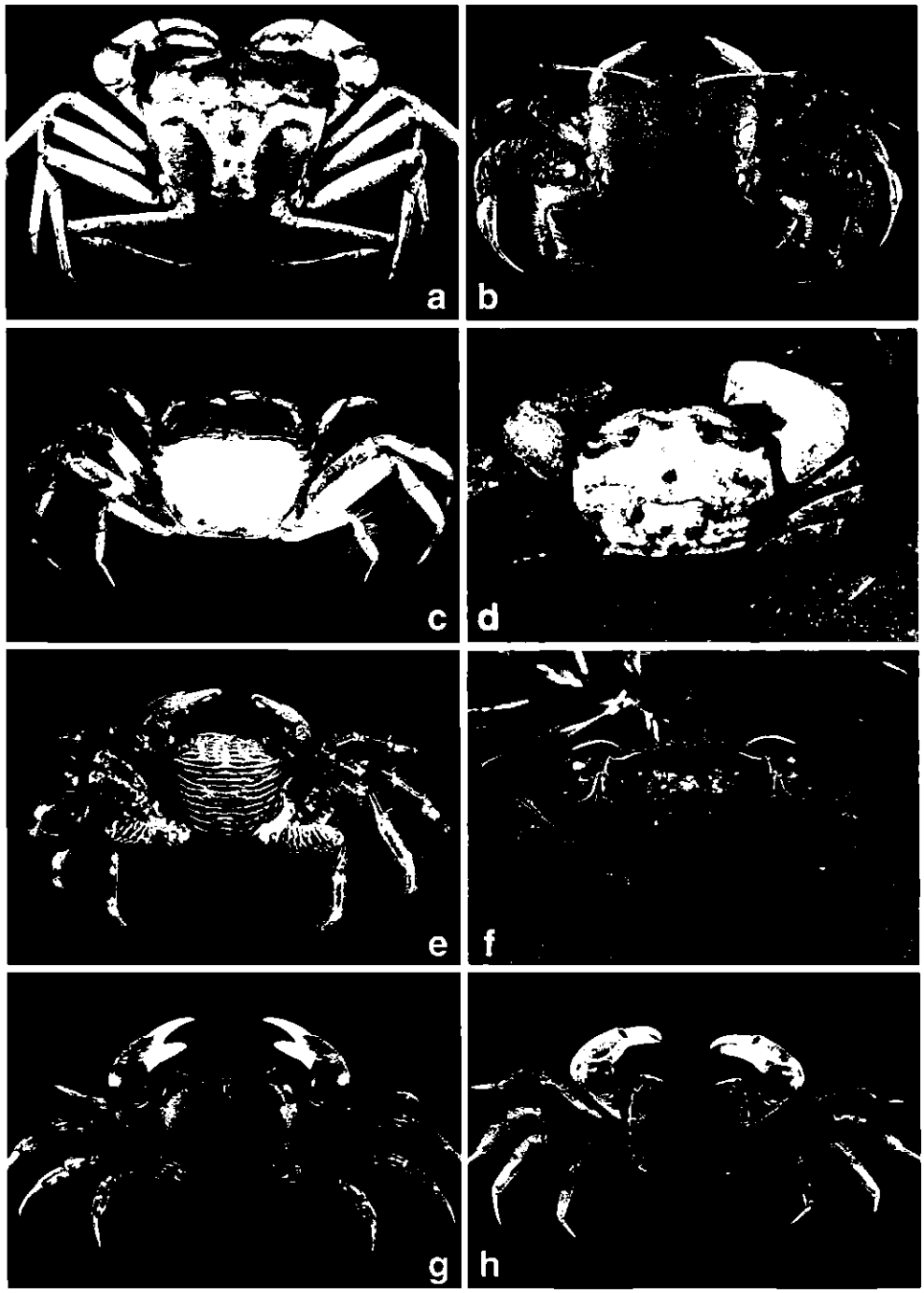

Fig. 8. a, *Chaceon granulatus*, male (NTOU), Tahsi (courtesy of T.-Y. Chan); b, *Macrophthalmus ceratophorus*, female (NTOU), Tahsi; c, *Macrophthalmus latreillei*, male (TMCD), Tainan; d, *Ilyoplax delsmani*, male (ZRC), Singapore; e, *Pachygrapsus fakaravensis*, male (ZRC), Hawaii; f, *Helice formosensis*, male (NTOU), Hsiangshan, Hsinchu; g, *Helice subquadrata*, female (NTOU), Homei, Taipei; h, *Helice* sp., male (NTOU), Lu kang, Changhua.