

An index of names of recent Asteroidea - Part 4: Forcipulatida and Brisingida

AILS M. CLARK¹ AND CHRISTOPHER MAH²

¹Formerly of Department of Zoology, The Natural History Museum, (London, UK).
Present address: Gyllyngdune, Wivelsfield Green, Sussex, UK.

²Department of Invertebrate Zoology, California Academy of Sciences, Golden Gate Park, San Francisco, USA

KEYWORDS: Taxonomy, geographical range, Bathymetry, Asteroidea, Echinodermata.

INTRODUCTION

Treatment of nearly all the Forcipulatida is by Ailsa Clark, as before, but that of the Labidiasteridae and the Brisingida is by Christopher Mah, whose timely researches have enabled him to take over this specialized order.

Explanation of the procedure followed in this index was given in part 1. However, the type conventions followed are briefly repeated here: Valid names for genera and species are given in bold type when in their definitive position alphabetically but in italics in cross references where either genus-group names have been altered in rank or species-group names have been transferred to other genera; names in ordinary type are synonyms or otherwise invalid. Asterisks before names signify doubtful or threatened names needing further attention, while asterisks under 'Range' indicate the type localities where noted during compilation.

The classification of the Forcipulatida followed here is largely that initiated by Downey in Clark and Downey (1992: 401). Apart from the long-established Zoroasteridae, Fisher's subfamilies Neomorphasteridae, Pedicellasterinae and Labidiasterinae (1928)'s were raised to the rank of families apart from the Asteriidae, with which A.M.C. had previously (1962a) merged the Coscinasteriinae for want of a character to distinguish all the genera, despite considerable divergence in general facies. The long-established family Heliasteridae and the small subfamily Pycnopodiinae of the Asteriidae being absent from the Atlantic were not covered in 1992. Pending further assessment, it seems best to treat the Pycnopodiinae in this index on a par with the similarly multibrachiate Labidiasteridae as another family. (C.M. concurs with this ranking). [A.M.C.]

As for the Brisingida, the classification is based on preliminary data published in Mah (1998a). A full revision is in preparation. Phylogenetic data support a valid Freyellidae Downey, 1986 but show the Brisingidae (sensu Downey in Clark & Downey, 1992) to be a paraphyletic assemblage. Some genera formerly included in the Brisingidae have been assigned to three families: the Odinellidae, the Brisingidae and the Hymenodiscidae. Range and bathymétrie data given here for brisingidans differ slightly from the rest of the list in that they show full bathymétrie ranges as currently known rather than type localities. [C.M.]

Order FORCIPULATIDA Perrier

Family ZOROASTERIDAE Sladen

Zoroasteridae Sladen 1889:416; Fisher 1919a:470; 1919b:387; H.L. Clark 1920:94; Fisher 1928a:32; Downey 1970a:1-18; McKnight 1977b:159; Maluf 1988:124; Downey in Clark & Downey 1992:401.

Genus-group names: **Bythiophorus**, **Cnemidaster**, **Doraster**, **Mammaster**, **Myxoderma**, **Pholidaster**, Prognaster, **Zoroaster**.

BYTHIOPHUS Fisher, 1916

Fisher 1916b:31; 1919a:484; 1919b:389.

Type species: *Bythiophorus acanthinus* Fisher, 1916.

acanthinus Fisher, 1916

Fisher 1916b:31; 1919a:485.

Range: Celebes (Sulawesi), Indonesia, 1020 m.

macracanthus (H.L. Clark, 1916)

H.L. Clark 1916:68; 1920:101 (in key) (as *Zoroaster*).

Rowe in Rowe & Gates 1995:115 (as *Bythiophorus*).

Range: South Australia, 457-820 m.

Possibly a synonym of *Zoroaster spinulosus* Fisher, 1906 (type locality off the Hawaiian Is but also recorded from New Zealand) according to Fell (1958) but having a very different facies according to Rowe (1995).

CNEMIDASTER Sladen, 1889

Sladen 1889:423; Fisher 1919a:480; 1919b:389.

Type species: *Cnemidaster wyvilli* Sladen, 1889.

nudus (Ludwig, 1905)

Ludwig 1905:164 (as *Zoroaster*).

Downey 1970a:14; Maluf 1988:43,124 (as *Cnemidaster*).

Range: Off Lower California, 1366-2600 m.

squamatus (Alcock, 1893)

Alcock 1893a:109 (as *Zoroaster*). 

Fisher 1919a:481; Macan 1938:415 (as *Cnemidaster*). 

Range: Laccadive Sea and off Aden, 1900-2000 m.

wyvilli Sladen, 1889

Sladen 1889:424; Fisher 1919a:480.

Range: Arafura Sea to Borneo, 1390-1990 m.

DORASTER Downey, 1970

Downey 1970a:5; Moyana & Larrain Prat 1976:103. 

Type species: *Doroaster constellatus* Downey, 1970.

constellatus Jangoux 1978:98. Lapsus for ö. *constellatus*.

constellatus Downey, 1970

Downey 1970a:5; Moyana & Larrain Prat 1976:103; Downey in Clark & Downey 1992:402.

Range: Gulf of Mexico, atlantic Panama, Surinam, 350-640 m.

qawashqari Moyana & Larrain Prat, 1976

Moyana & Larrain Prat 1976:105.

Range: S Chile, 300 m.

MAMMASTER Perrier, 1894

Perrier 1894:114 (in key); Fisher 1919b:389; Downey 1970a:12; Downey in Clark & Downey 1992:403.

Type species: *Zoroaster sigsbeei* Perrier, 1880.

sigsbeei Perrier, 1880:436. Lapsus for *sigsbeei* (Perrier, 1881)

Perrier 1881a:5; 1884:195 (as *Zoroaster*).

Perrier 1894:125; H.L. Clark 1920:73; 1941:67; Downey 1970a:12; Downey in Clark & Downey 1992:403 (as *Mammaster*).

Range: Leeward Is, S Florida, Trinidad, 310-640 m.

MYXODERMA Fisher, 1905

Fisher 1905:316 (as subgenus of *Zoroaster*).

Fisher 1919b:389,391; 1928:44; Aziz & Jangoux 1984b:193 (as genus).

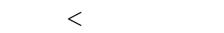
Type species: *Zoroaster (Myxoderma) sacculatus* Fisher, 1905.

acutibrachia Aziz & Jangoux, 1984

Aziz & Jangoux 1984b:192. 

Range: Macassar Strait, 715-800 m. 

derjugini Djakonov, 1950

Djakonov 1950a:104; 1950b:32. 

Range: Okhotsk Sea, 590-665 m.

ectenes Fisher, 1919b:392. A subspecies of *M. sacculatum* Fisher, 1905.

longispinum: Fisher, 1928:51, see *Zoroaster*

platycanthum (H.L. Clark, 1913) (with subsp. *rhomaleum* Fisher, 1919)

platycanthum platycanthum H.L. Clark, 1913

H.L. Clark 1913:199 (as *Zoroaster*).

Fisher 1919b:392; 1928:52; Aziz & Jangoux 1984b:193; Maluf

- 1988:44,124 (as *Myxoderma*).
 Range: Southern to Lower California, 256-768 m.
- platycanthum rhomaleum** Fisher, 1919
 Fisher 1919b:393.
 Range: Oregon and mid-California, 500-540 m.
- rhomaleum* Fisher, 1919. A subspecies of *M. platycanthum* H.L. Clark, 1913
- sacculatum** (Fisher, 1905) (with subspecies *ectenes* Fisher, 1919)
sacculatum sacculatum Fisher, 1905
 Fisher 1905:316 (as *Zoroaster (Myxoderma)*).
 Fisher 1919b:392; 1928:45; Baranova 1957:175; Maluf 1988:44,125 (as *Myxoderma*).
 Range: Bering Sea and mid-California, 1000-1400 m.
- sacculatum ectenes** Fisher, 1919
 Fisher 1919b:392; 1928:49.
 Range: Southern California, 520-1940 m.
- PHOLIDASTER** Sladen, 1889 [?1885:616]
 Sladen 1889:426; Fisher 1919a:471,484; 1919b:388.
 Type species: *Pholadaster squamatus* Sladen, 1889 (designated by Fisher, 1919).
- distinctus** Sladen, 1889
 Sladen 1889:429.
 Range: Indonesia, 256 m.
- squamatus** Sladen, 1889
 Sladen 1889:427; Fisher 1919a:484; H.L. Clark 1920:98; Marsh 1976:221; Jangoux 1981:475.
 Range: Philippines, W and NW Australia, 164-246 m.
- PROGNASTER** Perrier, 1891
 Perrier 1891c:1226; 1896:22 (Probably not Perrier, 1894 according to Fisher (1928a:32); Fisher 1919b:388).
 Type species: *Prognaster grimaldii* Perrier, 1891.
 Listed as a doubtful genus by Downey (1970) and type species cited as a synonym of type species of *Zoroaster* Thomson, 1873 by Downey in Clark & Downey (1992).
- grimaldii* Perrier, 1891c:1226; 1896:22; Fisher 1928:32. Probably a synonym of *Zoroaster fulgens* Thomson, 1873 according to Downey (1970a) and cited as a synonym by Downey in Clark & Downey (1992).
- **longicauda* Perrier, 1894:120 (cited as sp. nov. of *Prognaster* gen. nov., so probably non *Zoroaster longicauda* Perrier, 1885 according to Fisher 1928a:32). Presumably also referable to *Zoroaster*.
- ZOROASTER** Thomson, 1873 (with synonym *Prognaster* Perrier, 1891)
 Thomson 1873:154; Sladen 1889:416; Fisher 1919:472; H.L. Clark 1920:100; Fisher 1928:33; Downey 1970a:14; Downey in Clark &
- Downey 1992:403.
 Type species: *Zoroaster fulgens* Thomson, 1873.
**ackleyi* Perrier, 1880:436 (but barely validated); 1881:6; 1884: 191; 1894:117; H.L. Clark 1920:102; 1941:66. A synonym of *Z. fulgens* Thomson, 1873 according to Downey (1970) but inferred as having varietal status following Farran (1913) by Harvey et al. (1988).
- actinocles** Fisher, 1919
 Fisher 1919b:390; 1928:37.
 Range: Aleutian Is, 2220 m.
- adami** Koehler, 1909
 Koehler 1909b:108; H.L. Clark 1920:101 (in key).
 Range: Andaman Sea, 1040 m.
- alfredi** Alcock, 1893
 Alcock 1893a:102; 1893b:173; H.L. Clark 1920:101 (in key); Macan 1938:415.
 Range: Bay of Bengal and Arabian Sea, 2380-3350 m.
- angulatus** Alcock, 1893
 Alcock 1893a:105; H.L. Clark 1920:101 (in key); Macan 1938:415.
 Range: Gulf of Mannar, Maldives-Laccidive area, 910-1460 m.
- barathri** Alcock, 1893
 Alcock 1893a:103; 1893b:173[?]; H.L. Clark 1920:101 (in key).
 Range: Bay of Bengal, 2780 m.
- bispinosus** Koehler, 1909a:316. Lapsus for *Z. trispinosus* Koehler, 1895. A synonym of *Z. fulgens* Thomson, 1873 according to Downey (1970a).
- carinatus** Alcock, 1893 (with synonym *philippensis* Fisher, 1916 (as subsp.))
 Alcock 1893a:107; H.L. Clark 1920:102 (in key); Jangoux 1981:459; Jangoux & Aziz 1988: ; Rowe in Rowe & Gates 1995:116; Liao & A.M. Clark 1995 [1996]: 140 (as *Z. carinatus philippensis*).
 Range: Andaman Sea, off Reunion L, S China Sea, Borneo, 180-1120 m.
- diomedae** Verrill, 1884:217; H.L. Clark 1920:101 (in key). A synonym of *Z. fulgens* Thomson, 1873 according to Downey (1970a).
- evermanni** Fisher, 1905 (with subsp. *mordax* Fisher, 1919)
- evermanni evermanni** Fisher, 1905
 Fisher 1905:317 (as *Zoroaster (Myxoderma)*).
 Fisher 1919b:390; 1928:40; Maluf 1988:44,125.
 Range: S California, 395-930 m.
- evermanni mordax** Fisher, 1919
 Fisher 1919b:391.
 Range: Washington to S California, 437-1390 m.
- evermanni*: H.L. Clark, 1913:198, non *Z. evermanni* Fisher, 1905, = *Myxoderma sacculatum* (Fisher, 1905) according to Fisher (1928).

fulgens Thomson, 1873 (with synonyms *Zoroaster ackleyi* Perrier, 1880, *Z. bispinosus* (lapsus) Koehler, 1909, *Z. diomedae* Verrill, 1884, *Prognaster grimaldii* Perrier, 1891, *Zoroaster longicauda* Perrier, 1885 and *Z. trispinosus* Koehler, 1895 but *ackleyi* possibly recognisable as a long-armed form or variety)

Thomson 1873:154; Sladen 1883b:160; Perrier 1885c:16; Sladen 1889:418; Perrier 1894:116; Koehler 1895:442; Grieg [1921]1932:24; Downey 1970a:15; Gage et al. 1983:286; Harvey et al. 1988:167; Downey in Clark & Downey 1992:403.

Range: Faeroe Channel and entire Atlantic Ocean, 900-4810 m.
gilesi Alcock, 1893

Alcock, 1893a:108; H.L. Clark 1920:101 (in key).

Range: Andaman Sea, c.900 m.

hirsutus Ludwig, 1905

Ludwig 1905:172; H.L. Clark 1920:101 (in key); Fisher 1928:37.

Range: Off Acapulco, Mexico, 3440 m.

longicauda Perrier, 1885b:885; 1885c:19. A probable synonym of *Z. fulgens* Thomson, 1873 according to Downey (1970a) and cited as a synonym by Downey in Clark & Downey (1992).

longispinus Ludwig, 1905

Ludwig 1905:180; Downey 1970:13 (listed without comment on generic position); Maluf 1988:45,255.

Fisher 1928:51 (as *Myxoderma*).

Range: Gulf of California S to Panama and the Galapagos, 1430-2420 m.

macracantha H.L. Clark, 1916, see *Bythiophorus*

magnificus Ludwig, 1905

Ludwig 1905:159; H.L. Clark 1920:104; Fisher 1928:37; Maluf 1988:44,125.

Range: Panama to N Peru, 3060-3670 m.

microporus Fisher, 1916

Fisher 1916b:30; 1919a:475; H.L. Clark 1920:101 (in key).

Range: Molucca Is, 1280 m.

nudus Ludwig, 1905, see *Cnemidaster*

ophiactis Fisher, 1916

Fisher 1916b:29; 1919a:473; H.L. Clark 1920:101 (in key); Hayashi 1073a:94 (R only 18 mm).

Range: Philippines and Celebes (Suluwesi), also Sagami Bay, Japan (?), 1020-1630 (?500) m.

ophiurus Fisher, 1905

Fisher 1905:315; H.L. Clark 1920:102 (in key); Fisher 1928:34; Baranova 1957:175; Maluf 1988:45, 125.

Range: Bering Sea S to N Peru, 695-2230 m.

orientalis Hayashi, 1950

Hayashi 1950:

Range: Japan, 192-870 m.

perarmatus H.L. Clark, 1920

H.L. Clark 1920:102; Maluf 1988:45, 125.

Range: Off N Peru, 980 m.

philippensis Fisher, 1916b:30 (as subsp. of *Z. carinatus* Alcock, 1893). A synonym of *Z. carinatus* according to Jangoux & Aziz (1988) and Rowe in Rowe & Gates (1995). Retained as subspecies by Liao in Liao & Clark (1996).

planus Alcock, 1893

Alcock 1893:104; H.L. Clark 1920:101 (in key).

Range: Laccadive Sea, 2200 m.

platyacanthus H.L. Clark, 1913, see *Myxoderma*

sacculatus Fisher, 1905, see *Myxoderma*

sigsbeci (lapsus) Perrier, 1880:436, = *sigbee* Perrier, 1881:5, see *Mam-*
master

spinulosus Fisher, 1906

Fisher 1906a:1102; H.L. Clark 1920:101 (in key); Fell 1958:19; 1960:65;
McKnight 1967a:302; Rowe in Rowe & Gates 1995:116.

Range: Hawaiian Is, S Australia and N of Chatham Is, New Zealand,
371-1020 m.

squamatus Alcock, 1893, see *Cnemidaster*

tenuis Sladen, 1889

Sladen 1889:421; Koehler 1907a:141; 1908a:566.

Range: N of New Guinea and Southern Ocean between Gough and
Bouvet Islands, 3190 and 1960 m.

trispinosus Koehler, 1895b:442; 1896:42; 1909a:108. A synonym of *Z. ful-*
gens Thomson, 1873 according to Downey (1970).

zea Alcock, 1893

Alcock 1893:110.

Range: S India, 1090 m.

Family NEOMORPHASTERIDAE Fisher

Asteriidae: Neomorphasterinae Fisher 1923:250; 1928a:56; 1930:211;

Spencer & Wright 1966:U77.

Neomorphasteridae: Downey in A.M. Clark & Downey 1992:401,404.

Genus-group names: Calycaster, Glyptaster, Gastraster, **Neomorphaster**

CALYCASTER Perrier, 1891

Perrier 1891c:1226; 1891b:258,262; 1896:27.

Type species: *Calycaster monoecus* Perrier, 1891

A synonym of *Neomorphaster* Sladen, 1889 according to Fisher (1930).
monoecus Perrier, 1891b:262. A synonym of *Neomorphaster talismani* Sladen, 1889 according Mortensen (1927), Fisher (1930).
monoecus: Grieg 1921[1932]:44 (from S of Newfoundland). More likely = *N. forcipatus* Verrill, 1894 from locality but R only 4 mm. [New observation.]

GASTRASTER Perrier, 1894

Perrier 1894:103; Fisher 1918:103; Mortensen 1927:103; Fisher 1930:206.

Type species: *Pedicellaster margaritaceus* Perrier in Milne Edwards, 1882. A synonym of *Neomorphaster* Sladen, 1889 according to Downey in Clark & Downey (1992).

margaritaceus Perrier in Milne Edwards, 1882, see *Neomorphaster*

***studei** de Loriol, 1904

de Loriol 1904:34.

Range: Port San Antonio, Argentina.

Not congeneric with *Gastraster margaritaceus* Perrier, 1882, according to Downey in Clark & Downey (1992) but generic position not clarified.

GLYPTASTER Sladen in Thomson & Murray, 1885:612. A NOMEN NUDUM, no type species named; also invalidated by *Glyptaster* Hall, 1852. Replaced by

NEOMORPHASTER Sladen, 1889 (with synonyms *Glyptaster* Sladen, 1885, *Calycaster* Perrier, 1891 and *Gastraster* Perrier, 1894)
Sladen 1889:436; Fisher 1923:596; 1930:211; Downey in Clark & Downey 1992:405.

Type species: *Neomorphaster eustichus* Sladen, 1889, a synonym of *Pedicellaster margaritaceus* Perrier in Milne Edwards, 1882.
eustichus Sladen, 1889:438. A synonym of *Pedicellaster*
margaritaceus Perrier in Milne Edwards, 1882, according to Perrier (1894), Mortensen (1927).

forcipatus Verrill, 1894

Verrill 1894:269; 1895:206; Downey in Clark & Downey 1992:405.

Range: S of Nantucket to Hudson Canyon, USA, 1400-2000 m.

margaritaceus (Perrier in Milne Edwards, 1882) (with synonyms
Stichaster talismani Perrier, 1885, *N. eustichus* Sladen, 1889, *Calycaster monoecus* Perrier, 1891 and *N. parfaicti* Koehler, 1896 [lapsus]).
Perrier in Milne Edwards 1882:46 (as *Pedicellaster*).

Perrier 1894:103; Mortensen 1927:137; Fisher 1930:207 (as *Gastraster*).

Downey in Clark & Downey 1992:406 (as *Neomorphaster*).

Range: Bay of Biscay*, Azores, Rockall Trough, SW Ireland and Morocco, 400-5410 m.

parfaicti Koehler 1895:443; 1896:44. Misprint [surely lapsus since repeated]

for *N. talismani* according to Mortensen (1927).

talismani: Perrier 1894:134; 1896:30; Koehler 1909a:107; Mortensen 1927:134; Harvey et al. 1988:167.

A synonym of *Pedicellaster margaritaceus* Perrier in Milne Edwards, 1882 according to Downey in Clark & Downey (1992) (though merited retention by submission to ICZN because of greater familiarity and the immaturity of holotype of *margaritaceus* A.M.C.).

Family PEDICELLASTERIDAE Perrier

Pedicellasteridae Perrier 1884:154,167,194; Sladen 1889:556; Perrier 1891c:76; 1894:90; Mortensen 1927:129; Djakonov 1950a:102 [88], 105[91]; Downey in Clark & Downey 1992:406.

Asteriidae: *Pedicellasterinae*: Fisher 1918:108; 1923:249; 1928a:57; Spencer & Wright 1966:U76.

Genus-group names: **Ampheraster**, **Anteliaster**, **Hydrasterias**, **Pedicelaster**, **Peranaster**, **Tarsaster**. [*Plazaster* see family Labidiasteridae]

AMPERASTER Fisher, 1923

Fisher 1923:253; Downey 1971c:51; 1973:90; Downey in Clark & Downey 1992:407.

Type species: *Sporasterias mariana* Ludwig, 1905.

alaminos Downey, 1971

Downey 1971c:52; Downey in Clark & Downey 1992:408.

Range: Gulf of Mexico and Great Bahama Bank, 256-2650 (3200) m.

atactus Fisher, 1928

Fisher 1928a:86. i

Range: Southern California, 490-590 m.

chiroplus Fisher, 1928

Fisher 1928a:86.

Range: Southern California, 820-930 m.

distichopus (Fisher, 1917)

Fisher 1917b:92; 1919a:420 (as *Tarsaster*). , .

Fisher 1928a:81 (as *Ampheraster*; in key). , *

Range: Macassar Strait, 730 m. * S «

hyperonchus (H.L. Clark, 1913)

H.L. Clark 1913:201 (as *Pedicellaster*). , ,

Fisher 1928:81,84 (as *Ampheraster*, in key). , :

Range: Lower California, 520 m. , :

marianus (Ludwig, 1905)

Ludwig 1905:231 (as *Sporasterias*). , :

Fisher 1923:253; 1928a:81 (as *Ampheraster*).
Range: W Mexico N to Washington, 510-1240 m.

ANTELIASTER Fisher, 1923

Fisher 1923:252; 1928a:69.

Type species: *Anteliaster coscinactis* Fisher, 1923.

australis Fisher, 1940

Fisher 1940:215; A.M. Clark 1962:72.

Range: Falkland Is, Shag Rocks, South Georgia, ? Marion I, 79-341 m.

coscinactis Fisher, 1923 (with subspecies *megatretus* Fisher, 1928)

coscinactis coscinactis Fisher, 1923

Fisher 1923:252; 1928a:70.

Range: Southern California, 820-930 m.

coscinactis megatretus Fisher, 1928

Fisher 1928a:71.

Range: Lower California, 520 m.

microgenis Fisher, 1928 (with subspecies *nannodes* Fisher, 1928)

microgenys microgenys Fisher, 1928

Fisher 1928a:73.

Range: Southern California, 88 m.

microgenys nannodes Fisher, 1928

Fisher 1928a:74; Baranova 1957:176.

Range: Bering Sea, 450 m.

megatretus Fisher, 1928. A subspecies of *A. coscinactis* Fisher, 1923.

nannodes Fisher, 1928. A subspecies of *A. microgenys* Fisher, 1928.

scaber (E.A. Smith, 1876)

E.A. Smith 1876:107: 1879:274; Sladen 1889:558; Perrier 1894:100;
Doederlein 1928:295 (as *Pedicellaster*).

Fisher 1940:217 (as *Anteliaster* but see below); A.M. Clark 1962a:72.

Range: Kerguelen, ?Tierra del Fuego (Perrier), ?Marion Island

(Fisher), 0-46 (?-113) m.

scaber. Fisher, 1940:217, non *Pedicellaster scaber* E.A. Smith, 1876,

?= *Anteliaster australis* Fisher, 1940 according to A.M. Clark (1962a).

HYDRASTERIAS Sladen, 1889

Sladen 1889:563 (in key), 581 (as subgenus of *Asterias*.

Fisher 1923:251; 1928a:68 (as genus).

Type species: *Asterias (Hydrasterias) ophidion* Sladen, 1889.

diomediae Ludwig, 1905:242. A juvenile and synonym of *Sclerasterias*

alexandri (Ludwig, 1905) according to Fisher (1928).

improvisus (Ludwig, 1905)

Ludwig 1905:216 (as *Pedicellaster*).

Fisher 1928a:69 (as *Hydrasterias*).

Range: Cocos Island, SW of Panama and Galapagos Is, 1620-2420 m.

ophidion (Sladen, 1889)

Sladen 1889:581 (as *Asterias (Hydrasterias)*).

Verrill 1894:279; 1895:211; Perrier 1896:32; Fisher 1928a:69; A.H.

Clark 1949:375; Downey in Clark & Downey 1992:409.

Range: S of Nova Scotia and mid-Atlantic seamounts N of Azores,
2290-3190 m.

ophidion: A.M.C. in Herring 1974:405; non *H. ophidion* (Sladen, 1889),

= *H. sexradiata* (Perrier, 1882) according to Downey in Clark &

Downey (1992).

**richardii* (Perrier in Milne Edwards, 1882:20) 1894:109. See A.M.C.
in Clark & Downey 1992:448,451,511. Proposed for suppression by the
ICZN.

sexradiata (Perrier, 1882)

Perrier in Milne-Edwards 1882:46,50; Perrier 1885c:15; 1894:100

Koehler 1909a:110 (as *Pedicellaster*).

Fisher 1928a:69 (possibly only racially distinct from *H. ophidion* <
(Sladen, 1889)); Gage et al. 1983:285; Downey in Clark & Downey
1992:410 (as *Hydrasterias*).

Range: Azores*, Rockall Trough S to Cape Verde Is, 600-4269 m.

verrilli Fisher, 1906:1106, see *Tarsastrocles* (Asteriidae).

HYDRASTERIAS: Perrier 1893:848; 1896:32, non *Hydrasterias* Sladen,
1889,

= *Sclerasterias* Perrier, 1891. 5

PEDICELLASTER M. Sars, 1861

Sars 1861:77; Perrier 1884:194; Sladen 1889:557; Perrier 1894:99;

Fisher 1923:251; 1928a:58; Downey in Clark & Downey 1992:410.

Type species: *Pedicellaster typicus* M. Sars, 1861.

antarcticus Ludwig, 1903:35. A subspecies of *P. hypernotius*.

antarcticus: Döderlein 1928: , non *antarcticus* Ludwig,

= *P. hypernotius formatus* Koehler, 1920, according to A.M. Clark
(1962a).

atratus Alcock, 1893

Alcock 1893:114; Fisher 1928a:59.

Range: Andaman Sea, Bay of Bengal, 400-530 m.

chirophorus Fisher 1917b, see *Peranaster*

eximius Djakonov, 1949 (cited as 1948 by Djakonov (1950a))

Djakonov 1949:33 (in key; short description, probably enough to validate
though not given as 'sp.nov.'): 1950a:109; 1950c:68.

Range: Okhotsk Sea, 120-180 m.

formatus Koehler, 1920. A subspecies of *P. hypernotius* Sladen, 1889.

hypernotius Sladen, 1889 (with subspecies *antarcticus* Ludwig, 1903

and *formatus* Koehler, 1920)

hypernotius hypernotius Sladen, 1889

Sladen 1889:558; Fisher 1940:214; A.M. Clark 1962a:70; H.E.S. Clark

1963b:66; McKnight 1976:29.

Range: Marion Island*, South Georgia and Shag Rocks, 37-450 m.

hypernotius antarcticus Ludwig, 1903

Ludwig 1903:35 (as species).

Fisher 1940:214 (as synonym of *P. hypernotius*).

A.M. Clark 1962a:71; Jangoux & Massin 1986:89 (as subspecies of *P. hypernotius*).

Range: Bellingshausen Sea*, Ross Sea[?], 93-450 m.

hypernotius formatus Koehler, 1920

Koehler 1920:106 (as species).

A.M. Clark 1962a:71 (as subspecies of *P. hypernotius*).

Range: Antarctica, Enderby Land - Queen Mary Land, 220 m.

hyperoncus H.L. Clark, 1913, see *Ampheraster*

improvisus Ludwig, 1905, see *Hydrasterias*

improvisus: H.L. Clark, 1913:202, non *P. improvisus* Ludwig, 1905,

= *Anteliaster coscinactis megatretus* Fisher, 1928, according to Fisher.

indistinctus Djakonov, 1950

Djakonov 1950a:107; 1950c:66.

Range: Okhotsk Sea, 128 m.

magister Fisher, 1923 (with subspecies *megalabis* Fisher, 1928, *ochotensis* Djakonov, 1950a and *sagaminus* Hayashi, 1973a)

magister magister Fisher, 1923

Fisher 1923:251; 1928:59; Baranova 1957:176.

Range: S Bering Sea to Alaska, 77-220 m.

magister megalabis Fisher, 1928

Fisher 1928:64.

Range: S California to Washington, 520-970 m.

magister ochotensis Djakonov, 1950

Djakonov 1950a:107.

Range: Okhotsk Sea, 100-645 m.

magister sagaminus Hayashi, 1973

Hayashi 1973a:11; 1973b:96.

Range: SE Japan, 300-450 m.

margaritaceus Perrier in Milne Edwards, 1882, see *Neomorphaster* • > (Neomorphasteridae).

megalabis Fisher, 1928, a subspecies of *P. magister* Fisher, 1923, also *ochotensis* Djakonov, 1950

orientalis Fisher, 1928

Fisher 1928:66 (as subspecies of *P. magister*).

Djakonov 1950a:108; 1950c:64 (as species).

Range: Japan Sea, 112-670m.

palaeocrystallus: Duncan & Sladen, 1881:455; Mortensen 1912:264.

Lectotype selected: Rowe 1974:216. A synonym of *P. typicus* M. Sars, 1861, according to Fisher (1928).

**parvulus* Perrier, 1891b:258; 1896:21. A young *Sclerasterias* according to Fisher (1928a:59) under *Pedicellaster* only.
Not mentioned by Downey in Clark & Downey (1992).

pourtalesi Perrier, 1881

Perrier 1881:7; 1884:194; Fisher 1928:59 ("possibly a true *Pedicellaster*"; H.L. Clark 1941:67; Downey in Clark & Downey 1992:411.

Range: Grenada, St Kitts, Cayman Is, E Florida and Nicaragua, 232-560 m.

reticulatus H.L. Clark, 1916, see *Styasterias* (Asteriidae).

sagaminus Hayashi, 1973a. A subspecies of *P. magister* Fisher, 1923.

**sarsi* Studer, 1885:151. A *Pedicellaster* according to Koehler (1920) but four rows of tube feet so probably not a pedicellasterid according to A.M.C. (1962a:73). South Georgia.

scaber E.A. Smith, 1876, see *Anteliaster*

sexradiatus Perrier in Milne Edwards, 1882, see *Hydrasterias*

typicus M. Sars, 1861 (with synonym *Asteracanthion palaeocrystallus*

Duncan & Sladen, 1877)

M. Sars 1861:77; Danielssen & Koren 1884b:37; Verrill 1895:205; Mortensen 1927:130; 1932:18; Djakonov 1933:60; 1950a:106; Rowe 1974:216; Downey in Clark & Downey 1992:411,

Range: Norway*, Arctic Atlantic, S to c. 40°N, New Jersey, in west, c. 60°N, Bergen, in east, 100-223 m (Downey), 91-1130 m (Sladen).

PERANASTER Fisher, 1923

Fisher 1923:252; 1928a:67.

Type species: *Pedicellaster chirophorus* Fisher, 1917c.

PLAZASTER Fisher, 1941, see *Labidiasteridae*

chirophorus (Fisher, 1917)

Fisher 1917c:93; 1919a:499 (as *Pedicellaster*).

Fisher 1923:252; 1928a:67 (as *Peranaster*).

Range: Sulawesi, 885 m.

TARSASTER Sladen, 1889

Sladen 1889:439; Fisher 1928a:75.

Type species: *Tarsaster stoichodes* Sladen, 1889.

alaskanus Fisher, 1928

Fisher 1928a:78.

Range: S. Alaska, 198-440 m.

cocosanus (Ludwig, 1905)

Ludwig 1905:235 (as *Sporasterias*).

Fisher 1928a:77; Maluf 1988:48,128 (as *Tarsaster*). ?

Range: Cocos I (SW from Panama), S California, 245-412>m.

distichopus Fisher, 1917b:92, see *Ampheraster*

fascicularis (Perrier, 1881)

Perrier 1881:1; 1884:200 (as *Asterias*)

Verrill 1915:22 (as *Leptasterias*)

Fisher 1923:252; 1928a:77; Downey in Clark & Downey 1992:412 (as *Tarsaster*). >

Range: Guadeloupe, Lesser Antilles, 0-100 m. , , M

galapagensis (Ludwig, 1905)

Ludwig 1905:240 (as *Sporasterias*).

Fisher 1928:77; Maluf 1988:48,128 (as *Tarsaster*).

Range: Galapagos Ridge*, S. California, 457-700 m.

neozelanica Farquhar, 1894:207. A synonym of *Allostichaster polyplax* (Müller & Troschel, 1844) according to Koehler (1920), Mortensen (1925).

stoichodes Sladen, 1889

Sladen 1889:440; Fisher 1928a:77 (in key).

Range: N of Admiralty Is, Papua New Guinea, 274 m.

Family ASTERIIDAE Gray, 1840

Asteriidae Gray 1840:178.

Stichasteridae (part): Perrier 1885b:885; Sladen 1889:450; Mortensen 1927:133.

Asteriidae: Sladen 1889:560 (restricted); Perrier 1894:105,128; Verrill 1914a:27-45; Fisher 1923:247-250; 1928a:65 (emended); Djakonov 1950a: 109-112 [1968:95-98]; Spencer & Wright 1966:U75; A.M. Clark & Courtman-Stock 1976:91; A.M. Clark & Downey 1992:413 (restricted to former Asteriinae).

Asteriidae: Asteriinae: Verrill 1914a:42; Fisher 1923:250; 1930:2-5, 217-220.

Asteriidae: Coscinasteriinae: Fisher 1923:249; 1928a:93.

Asteriidae: Notasteriinae Fisher 1923:249; 1928a:93.

Genus group names: **Adelasterias**, Allasterias, **Allostichaster**, **Anasterias**, **Aphanasterias**, Aphelasterias, Asteracanthion, **Asterias**, Asteroderma, **Asteroderma**, Astrometis, Astrostole, **Australiaster**, Autasterias, Bathyasterias, **Caimanaster**, Calasterias, Calliasterias, Carlasterias, Coelasterias, Comasterias, Coscinasterias, **Cosmasterias**, **Cryptasterias**, Ctenasterias, **Diplasterias**, **Distolasterias**, Endogenasterias, **Eoleptasterias**, Eremasterias, Eustolasterias, Evasterias}, Gastraster, **Granaster**, Hemiasterias, **Icasterias**, Kalyptasterias, **Kenrickaster**, Koehleraster, **Leptasterias**, **Lethasterias**, **Lysasterias**, Lytaster, Margaraster, **Marthasterias**, Meyenaster, Mortensenia, Nanaster, **Nesasterias**, Neosmilaster, Notasterias, **Orthasterias**, Paedasterias, Parasterias,

Parastichaster, **Perissasterias**, Pisaster, Podasterias, **Psalidaster**, **Pseudochinaster**, Quadraster, Saliasterias, Sclerasterias, Smilasterias, Sporasterias. Stellonia, Stenasterias, Stephanasterias, Stichaster, Stichorella, **Stichastrella**, Stolasterias, Styloasterias, **Taranuiaster**, **Tarsastrocles**, Tonia, Triplasterias, Uniophora, Uraster, **Urasterias**

ADELASTERIAS Verrill, 1914

Verrill 1914a:360; Fisher 1930:220.

Type species: *Diplasterias papillosa* Koehler, 1906.

papillosa (Koehler, 1906)

Koehler 1906:21 (as *Diplasterias*).

Verrill 1914a:360; Fisher 1930:220 (as *Adelasterias*).

Range: Graham Land (Antarctic Peninsula).

ALLASTERIAS Verrill, 1909

Verrill 1909:65.

Type species: *Allasterias rathbuni* Verrill, 1909.

A synonym of *Asterias* Linnaeus, 1758 according to Fisher (1923, 1930).

anomala Verrill, 1909:66 (as variety of *A. rathbuni*; 1914a:193 (as species).

A synonym of *Asterias rathbuni* (Verrill, 1909) according to Djakonov (1950a,c).

forficulosa Verrill, 1914a:194. A synonym of *Asterias rollestoni* Bell, 1881 according to Djakonov (1950a,c).

migrata (Sladen, 1879:432, as var. of *Asteracanthion rubens*) Verrill, 1914:373. A variety or forma of *Asterias amurensis* Lütken, 1871, or possibly young *A. versicolor* Sladen, 1899, according to Fisher (1930). *nortonensis* Verrill, 1909 (variety of *A. rathbuni*), see *Asterias rathbuni* Verrill, 1909, see *Asterias*

ALLOSTICHASTER Verrill, 1914

Verrill 1914a:363; Fisher 1930:220; H.L. Clark 1946:157; A.M. Clark & Downey 1992:415.

Type species: *Asteracanthion polyplax* Müller & Troschel, 1844.

capensis (Perrier, 1875) (with synonyms *Stephanasterias hebes* Verrill, 1915 and *Allostichaster inaequalis* Koehler, 1923) ;

Perrier 1875:73 [337]; [1*A. capensis* Bell, 1905]; H.L. Clark 1923a:306 (as *Asterias*).

Fisher 1926:198; Mortensen 1933a:276 (as *Cosmasterias*).

Mortensen 1941:4; Madsen 1956a:44; A.M. Clark & Courtman-Stock 1976:91; A.M. Clark in Clark & Downey 1992:417 (as *Allostichaster*).

Range: South Africa*, S Chile to 41.5°S, ?Juan Fernandez, Falkland-Magellan area, Argentina, Tristan da Cunha and the W coast of South Africa, intertidal - c. 100 m. • •

hartti (Rathbun, 1879)

Rathbun 1879:145; Verrill 1915:23; Madsen 1956a:44 (as *Leptasterias*).

Fisher 1930:221; Tommasi 1966:244; 1970:20; [?Carrera-Rodriguez & Tommasi 1977:107] A.M. Clark in Clark & Downey 1992:417.

Range: Cape Frio/Rio de Janeiro area, Brazil, ?S to c.34°S off Rio Grande do Sul, 113 and ?166-338 m.

hebes (Verrill, 1915) Fisher 1930:221; Madsen 1950:44. A synonym of *A. capensis* (Perrier, 1875), possibly according to Madsen (1956a), confirmed A.M. Clark in Clark & Downey (1992).

inaequalis Koehler, 1923:50. A synonym of *A. capensis* (Perrier, 1875) according to Madsen (1956a).

insignis (Farquhar, 1895) (with variety *gymnoplax* Fell, 1953)

Farquhar 1895:203; 1898b:313; Benham 1909:97 (as *Stichaster*).

Koehler 1920:85; Mortensen 1925a:316; Farquhar 1927:238; Fell 1953:94 and 1958:19 (var. *gymnoplax*); Pawson 1965:254; McKnight 1967:303; H.E.S. Clark 1970:22.

Range: E and S from Cook Strait, New Zealand, to Chatham and Auckland Is, 0-222 m.

peleensis Marsh, 1974

Marsh 1974:96.

Range: Pitcairn I, Polynesia.

polyplax (Müller & Troschel, 1844)

Müller & Troschel 1844:178 (as *Asteracanthion*).

Perrier 1875:63 (as *Asterias*). . »

Sladen 1889:432 (as *Stichaster*).

Verrill 1914a:363; H.L. Clark 1916:70; Mortensen 1925a:315;

Farquhar 1927:238; H.L. Clark 1928:399; 1946:157; Shepherd 1968:752;

H.E.S. Clark 1970:23 (as *Allostichaster*).

Range: S Australia, New Zealand and Chatham Is, 0-238 m.

regularis H.L. Clark, 1928

H.L. Clark 1928:400; 1946:158.

Range: Spencer and St Vincent Gulfs, South Australia.

ANASTERIAS Perrier, 1875 (with synonyms *Asteroderma* Perrier, 1888 (nom. nud.), *Sporasterias* Perrier, 1894, *Parastichaster* Koehler, 1920, *Kalypasterias* Koehler, 1923 and *Eremasterias* Fisher, 1930)

Perrier 1875:81[345]; 1891c:K91; Fisher 1908a:52; 1923:592; 1930:221; 1940:231; A.M. Clark 1962a:93; A.M. Clark in Clark & Downey 1992:418.

Type species: *Anasterias minuta* Perrier, 1875, possibly a synonym of *Anasterias antarctica* (Lütken, 1857).

Anasterias: Studer, 1885, Ludwig, 1903, non Perrier, 1875, = *Lysasterias* Fisher, 1908.

adeliae Koehler, 1920, see *Lysasterias*

antarctica (Lütken, 1857) (with synonyms *Asterias rugispina* Stimpson, 1862, *A. cunninghami* Perrier, 1875 and *A. hyadesi* Perrier, 1886)

Lütken 1857a:108 (as *Asteracanthion*, possibly also *A. minuta* Perrier, 1875, see below).

Studer 1884:7; Meissner 1896:105 (as *Asterias*). Ludwig 1903:39; Tortonese 1934b:4 (as *Sporasterias*).

Fisher 1940:233; Madsen 1956a:38; Bernasconi 1964b:270; 1973a:315; Codoceo & Andrade 1979:159; Hernandez & Tablado 1985:9; A.M. Clark in Clark & Downey 1992:419.

Range: Southern Chile and Argentina N to Buenos Aires Province, (?Falkland Is), 1-185 m.

belgicae Ludwig, 1903, see *Lysasterias*

chirophora Ludwig, 1903, see *Lysasterias*

conferta (Koehler, 1923) Fisher 1931:9; 1940:239. A synonym of *Anasterias spirabilis* (Bell, 1881) according to A.M. Clark (1962a).

cupulifera Koehler, 1908:566. A synonym of *Lysasterias perrieri*} (Studer, 1885) according to Fisher (1940).

directa (Koehler, 1920)

Koehler 1920:97 (as *Parastichaster*).

Fisher 1930:241 (as *Sporasterias*).

Fisher 1940:75 (by inference to *Anasterias*, with other species of *Parastichaster* though not named individually).

A.M. Clark 1962a:76,97 (as *Anasterias*).

Range: Macquarie I, Southern Ocean.

**haswelli* Koehler, 1920:15. Listed; no other mention. ?A a mistake for *Notasterias haswelli* or a NOMEN NUDUM.

lactea Ludwig, 1903, see *Lysasterias*

lysasteria Verrill, 1914:354. An unnecessary substitute name and a synonym of *Lysasterias perrieri* Studer, 1885 according to Fisher (1922).

mawsoni (Koehler, 1920)

Koehler 1920:91 (as *Parastichaster*).

Fisher 1930:241 (as *Sporasterias*).

Fisher 1940:232 (by inference to *Anasterias*, being type species of *Parastichaster*, synonymized).

A.M. Clark 1962a:96 (as *Anasterias*).

Range: Macquarie I, Southern Ocean, 'littoral'.

**minuta* Perrier, 1875:81. Possibly a synonym of *Anasterias antarctica* Lütken, 1857 according to A.M. Clark (1962a and in Clark & Downey 1992:419), though treated as valid by Hernandez & Tablado (1985).

Holotype with R only 12 mm.

multicostata (Hamann) Verrill, 1899:717. A mistake for *Brisinga multicostata* (Verrill, 1894) according to Ludwig (1903).

nuda Perrier, 1878:44,75. A NOMEN NUDUM, undescribed; see Ludwig (1903:42 footnote).

octoradiata Koehler, 1914, see *Diplasterias*

**pedicellaris* (Koehler, 1923)

Koehler 1923:18 (as *Sporasterias*)

Fisher 1930:225; 1940:236; Bernasconi 1973:287 (as *Anasterias*).

Possibly a synonym of *Anasterias* now (*Lysasterias*) *studerri*

Perrier, 1891, according to A.M. Clark (1962a).

Range: Rio de la Plata, Argentina to Falkland-Magellan area, 0-120 m.

perrieri (E.A. Smith, 1876) (with synonyms *Othilia sexradiata* Studer, 1876 and *Pisaster antarcticus* Koehler, 1917)

E.A. Smith 1876:106 (as *Asterias*).

Döderlein 1928:294; Fisher 1930:241 (as *Sporasterias*).

Fisher 1940:234 (by inference to *Anasterias* from synonymy of *Sporasterias*).

Madsen 1955:15; A.M. Clark 1962a:94; Guille 1974:39 (as *Anasterias*).

Liable to confusion with *Anasterias perrieri* Studer, 1885, transferred by Fisher (1930) to *Lysasterias*, but not contemporaneously in *Anasterias*.

Range: Kerguelen, 0-200 m.

perrieri Studer, 1885, see *Lysasterias*

rupicola (Verrill, 1876)

Verrill 1876:71; Koehler 1917:9 (as *Asterias*).

Ludwig 1903:40 (as var. of *Sporasterias antarctica*).

Döderlein 1928:294 (as *Sporasterias*).

Fisher 1940:234; Madsen 1955:15; A.M. Clark 1962:9; Guille 1974:40 (as *Anasterias*).

Range: Kerguelen, Marion and Crozet Is, Southern Ocean, 0-11 m.

sphaerulata (Koehler, 1920)

Koehler 1920:101 (as *Parastichaster*).

Fisher 1930:241 (as *Sporasterias*).

Fisher 1940:75 (by inference to *Anasterias* with synonymy of *Parastichaster*).

A.M. Clark 1962a:96 (as *Anasterias*).

Range: Macquarie I, Heard I, Southern Ocean.

spirabilis (Bell, 1881) (with synonym *Kalyptasterias conferta*

(Koehler, 1923))

Bell 1881b:513 (as *Asterias*).

A.M. Clark 1962a:76 (a valid species, not a synonym of *Anasterias antarctica* Lütken, as suggested by Fisher (1940:233)).

Range: Falkland Is.

stolidota (Sladen, 1889:590 (as *Calvasterias*). 'May be the same species' as *conferta* (Koehler, 1923) according to Fisher (1940:239 but a synonym of *A. varium* (Philippi, 1870) according to Madsen (1956), probably so

according to A.M. Clark (1962a).

studerri Perrier, 1891

Perrier 1891a:99; Fisher 1940:234; Bernasconi 1973:317. ,

Fisher 1930:236 (as *Lysasterias*).

Range: Magellan area, Santa Cruz Province, Argentina to Falkland Is, 51-320 m.

studerri: Koehler, 1914b:61, non *Anasterias studeri* Perrier, 1891, ? = *Lysasterias perrieri* (Studer, 1885) according to Fisher (1940).

tenera Koehler, 1906:12. A synonym of *Lysasterias perrieri* (Studer, 1885) according to Fisher (1940).

varia (Philippi, 1870) (with synonyms *Anasterias fulgens* (Philippi, 1870) and *A. stolidota* (Sladen, 1889))

Philippi, 1870:272 (as *Asteracanthion*).

Madsen 1956:40; A.M. Clark 1962a:76 (as *Anasterias*).

Range: Southern Chile.

verrilli: Koehler, 1920:14, non *Asterias verrilli* Bell, 1881, = *Anasterias antarctica* (Lütken, 1857) according to Fisher (1940).

victoriae Koehler, 1920:17; 1923:12. A synonym of *Lysasterias perrieri* (Studer, 1885) according to Fisher (1940).

APHANASTERIAS Fisher, 1923

Fisher 1923:601; 1930:159.

Type species: *Aphanasterias pycnopodia* Fisher, 1923.

pycnopodia Fisher, 1923

Fisher 1923:601; 1930:160.

Range: Shumagin Is, Alaska.

pycnopodia: Caso, 1943, non Fisher, 1923, = *Astrometis sertulifera* (Xantus, 1860) according to Maluf (1988) < •

APHELAESTERIAS Fisher, 1923 <

Fisher 1923:602 (in key); 1930:205.

Type species: *Asterias japonica* Bell, 1881.

changfengyingi Baranova & Wu, 1962

Baranova & Wu 1962:110 (Chinese), 114 (Russian); Chang & Liao 1964:7.

Range: Yellow Sea, China, 50-65 m.

japonica (Bell, 1881) (with synonym *Asterias torquata* Sladen, 1889)

Bell 1881b:515; Uchida 1928:799 (as *Asterias*).

Fisher 1930:205; Hayashi 1938a:117; Djakonov 1950a:120; Baranova & Wu 1962:109,114; Chang & Liao 1964:72; Baranova 1971:258 (as *Aphelasterias*).

Range: Tatar Strait, Yellow Sea, Japan Sea, 0-80 m.

ASTERACANTHION Müller & Troschel, 1840 Müller & Troschel 1840a:102; 1840b:320; 1842:14.

A synonym of *Asterias* Linnaeus, 1758 according to Perrier (1875).

africanus Müller & Troschel, 1842. A forma of *Marthasterias glacialis* (Linnaeus, 1758).
albulus Stimpson, 1853, see *Stephanasterias*
antarcticus Lütken, 1857, see *Anasterias*
aurantiacus: Müller & Troschel, 1842. An invalid homonym and = *Stichaster striatus* Müller & Troschel, 1840.
australis Valenciennes (MS) in Perrier, 1875 = *Coscinasterias calamaria* (Gray, 1840) [?or *muricata* Verrill if from Australia]
berylinus A. Agassiz, 1866:106; 1877:94. A synonym of *Asterias forbesi* (Desor, 1848) according to Perrier (1875).
**bootes* Müller & Troschel, 1842. ? Identity; omitted from Clark & Downey (1992).
calamaria: Dujardin & Hupé, 1862, see *Coscinasterias*
clavatum Philippi, 1870:269. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Leipoldt (1895).
distichum Brandt, 1851. Could be identical with *Asterias* [i.e. *Leptasterias*] *groenlandica* (Steenstrup, 1857) according to Döderlein, 1900 but a synonym of *Asterias rubens* Linnaeus, 1758 according to Fisher (1930).
flaccida A. Agassiz, [1863] 1866. A synonym of *Leptasterias tenera* (Stimpson, 1862) according to Fisher (1930).
forbesi Desor, 1848, see *Asterias*
fulgens Philippi, 1870:274. A synonym of *Anasterias varia* (Philippi, 1870) according to Madsen (1956).
fulvum Philippi, 1870:270. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Leipoldt (1895).
gelatinosus: Müller & Troschel, 1842, see *Meyenaster*
**gemmifer* Valenciennes (MS) in Perrier, 1869:237. A probable synonym of *Coscinasterias echinata* (Gray, 1840) according to Fisher (1928), after H.L. Clark (1916) but alternatively conspecific with *Astrostole* (or *Coscinasterias*) *platei* (Meissner, 1896) (from Pacific islands west of Chile), which would then be a junior synonym, according to Madsen (1956).
germaini Philippi, 1858:265. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Madsen (1956).
glacialis: Müller & Troschel, 1842, see *Marthasterias*
graniferus Müller & Troschel, 1842, see *Uniophora* t
groenlandica Steenstrup, 1857, see *Leptasterias*
helianthus: Müller & Troschel, 1842, see *Heliaster*
katherinae: Müller & Troschel, 1842. A subspecies of *Leptasterias polaris* (Müller & Troschel, 1842, according to Fisher (1930)).
lacazei Perrier, 1869:51. A synonym of *Asterias arenicola* Stimpson, 1862, according to Perrier (1875), which is a synonym of *Asterias forbesi* (Desor, 1848) according to Fisher (1930).
lincki Müller & Troschel, 1842, see *Urasterias*

littoralis Stimpson, 1853, see *Leptasterias*
luridum Philippi, 1858, see *Cosmasterias*
margaritifer Müller & Troschel, 1842:20. A synonym of *Pisaster ochraceus* (Brandt, 1835) according to Fisher (1930).
mexicanum Lütken, 1859, see *Leptasterias*
migratum Sladen, 1878:432, as variety of A. [i.e. *Asterias*] *rubens* Linnaeus, 1758, but from Korean Strait so presumably rather *A. amurensis* Lütken, 1871.
mite Philippi, 1870:272. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Leipoldt (1895).
muelleri M. Sars, 1846, see *Leptasterias*
novaeboracensis Perrier, 1869:41[413]. A synonym of *Asterias forbesi* (Desor, 1848) according to Fisher (1930).
ochotense Brandt, 1851, see *Leptasterias*
pallidus A. Agassiz, [1863] 1866. A NOMEN NUDUM (undescribed?) and = *Asterias vulgaris* Verrill, 1866 [i.e. *A. rubens* Linnaeus, 1758] according to Fisher (1930).
polaris Müller & Troschel, 1842, see *Leptasterias*
polyplax Müller & Troschel, 1842, see *Allostichaster*
problema Steenstrup, 1854:240 [1855:240, acc. M.]. A synonym of *Stephanasterias albula* (Stimpson, 1853) according to Sladen (1889).
rosea: Müller & Troschel, 1842, see *Stichastrella* <
rubens: Müller & Troschel, 1842, see *Asterias*
rubens: Müller & Troschel, 1843:113, non *Asterias rubens* Linnaeus, 1758. Probably = *Anasterias varium* (Philippi, 1870) according to Madsen (1956).
spectabile Philippi, 1870:271. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Leipoldt (1895).
stellionura Perrier, 1869:48[420]. A synonym of *Urasterias lincki* (Müller & Troschel, 1842) according to Fisher (1930)[?Perr. '75].
striatus: Müller & Troschel, 1842, see *Valvaster* (Asteropeidae, pt. 2).
sulcifer Perrier, 1869:235. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Fisher (1930).
tenuispinum: Müller & Troschel, 1842, see *Coscinasterias*
varium Philippi, 1870, see *Anasterias*
violaceus: Müller & Troschel, 1842:16. A synonym of *Asterias rubens* Linnaeus, 1758.
webbianum: Dujardin & Hupé, 1862:340. A synonym of *Asterias* [i.e. *Marthasterias*] *glacialis* Linnaeus, 1758, according to Sladen (1889).
ASTERIAS Linnaeus, 1758 (with synonyms *Stellonia* Nardo, 1834, *Uraster* L. Agassiz, 1836, *Asteracanthion* Müller & Troschel, 1840, [*Asteracanthium* Brandt, 1851], *Allasterias* Verrill, 1909 and *Parasterias* Verrill, 1914)

Linnaeus, 1758:661; Sladen 1889:560; Ludwig 1897:303; Verrill 1914a:101; Fisher 1930:5; Djakonov 1950a:188; 1950c:92; Tortonese 1963a:212; Downey in A.M. Clark & Downey 1992:420.
 Type species: *Asterias rubens* Linnaeus, 1758.
acanthostoma Verrill, 1909. A forma of *Easterias troscheli* (Stimpson, 1862) according to Djakonov (1950c).
acervata Stimpson, 1862. A subspecies of *Leptasterias polaris* (Müller & Troschel, 1842) according to Fisher (1930).
acervispinis Djakonov, 1950a. A forma of *A. amurensis* Lütken, 1871.
aculeata O.F. Müller, 1776. An OPHIUROID (*Ophiopholis aculeata*).
acutispina Stimpson, 1862, see *Coscinasterias*
aqualis Stimpson, 1862, see *Leptasterias*
affinis Brandt, 1835:71. A synonym of *Crossaster papposus* (Linnaeus, 1758) according to Fisher (1911c) (Solasteridae, see part 3).
africana: Perrier, 1875. A variety of *Marthasterias glacialis* (Linnaeus, 1758) according to Mortensen (1933a).
alba Bell, 1881a:92. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Madsen (1956).
alboverrucosa Brandt, 1835:71. A synonym of *Solaster endeca* (Linnaeus, 1771) according to Fisher (1911c) (Solasteridae, see part 3).
albula: Stimpson, 1864, see {*Stephanasterias*
alta Quijada, 1911. A NOMEN NUDUM according to Madsen (1956).
alternata Say, 1825, see *Luidia* (Luidiidae, see part 1).
alta Philippi (MS) in Quijada, 1911 [Not seen]. A NOMEN NUDUM according to Madsen (1956).
alveolata Djakonov, 1950a, as a forma of *A. rathbuni* (Verrill, 1909)
amurensis Lütken, 1871 (with synonym *Parasterias albertainis* Verrill, 1914, probably also *Asterias migratum* Sladen, 1878 [new obs.] also forms *acervispinis*, *flabellifera*, *gracilispinis*, *latissima* and *robusta*, all of Djakonov, 1950)
 Lütken 1871:296; Fisher 1930:6; Hayashi 1936:1-20; 1938a:117; Djakonov 1950a:125; 1950c:107; 1958:324; Baranova & Wu 1962:112,118; Rho & Kirn 1966:281; Baranova 1971:259; Byrne, Morrice & Wolf 1997:673.
 Range: Yellow Sea, Japan Sea, Tatar Strait S to Sagami Bay, also Tasmania, 0-106 m.
angulosa Abildgaard in O.F. Müller, 1789:1. A synonym of *Asterias* [i.e. *Marthasterias glacialis* Linnaeus, 1758, according to Sladen (1889)].
angulosa: Perrier, 1881:3; 1884:202, non *A. angulosa* Abildgaard in O.F. Müller, 1789, = *Sclerasterias contorta* Perrier, 1881 according to Downey (1973).
anomala Verrill, 1909:66. A forma of *Asterias rathbuni* (Verrill, 1909), according to Djakonov (1950a).

***antarctica:** Studer, 1884:7; de Loriol 1904:36. A synonym [and homonym] of *Anasterias antarctica* Lütken, 1857 according to Downey in Clark & Downey (1992).
antarctica (*Sporasterias*):Meissner, 1896, see *Anasterias*
 arancia Dewhurst, 1834:283. A synonym of *Ctenodiscus corniculatus* [i.e. *C. crispatus* (Retzius, 1805)] according to Sladen (1889) (see Gonipectinidae: Ctenodiscinae, see part 1).
aranciaca Linnaeus, 1758, see *Astropecten*
aranciaca: O.F. Müller, 1776:234, non *aranciaca* Linnaeus, 1758,
 = *Astropecten irregularis* (Pennant, 1777) according to Sladen (1889).
aranciaca: Audouin, 1826:10, non *aranciaca* Linnaeus, 1758,
 = *Astropecten polyacanthus* Müller & Troschel, 1842, according to Döderlein (1917).
aranciaca: Johnston, 1836:289, non *aranciaca* Linnaeus, 1758,
 = *Astropecten pentacanthus* [i.e. *A. irregularis pentacanthus*] (Delle Chiaje, 1827) according to Perrier (1875).
aranciaca: Gould, 1841, non *aranciaca* Linnaeus, 1758, = *Astropecten articulatus* (Say, 1825) according to Perrier (1875).
aranciata Parelius, 1768. ?lapsus for *aranciaca* Linnaeus, 1758,
 = *Psilaster andromeda* (Müller & Troschel, 1842) according to Sladen (1889).
arctica Murdoch, 1885, see *Leptasterias*
**arenata* Lamarck, 1816:566; Dujardin & Hupé, 1862 (as *Ophidiaster*), unidentifiable according to H.L. Clark (1921).
arenicola Stimpson, 1862:268. A synonym of *Asterias forbesi* (Desor, 1848) according to Verrill (1895).
argonauta Djakonov, 1950
 Djakonov 1950a:124; 1950c:103; Baranova & Wu 1962:111,117; Chang & Liao 1964:69.
 Range: Peter the Great Bay, Japan Sea, Yellow Sea, 1-32 m.
articulata Say, 1825, see *Astropecten* (pt. I).
articulata Linnaeus, 1753:114. Invalid (pre-1758).
aspera O.F. Müller 1776:234. A synonym of *Solaster endeca* (Linnaeus, 1771) according to Sladen (1889).
***aster** Gray, 1840
 Gray 1840:178.
 Range: Unknown.
 Types with 12,13 rays; lost. ? *Coscinasterias* according to Verrill 1870:248; 1914:46. Should be suppressed by ICZN.
atlantica Verrill, 1868:368; Rathbun 1879:145. A synonym of *Asterias* (i.e. *Coscinasterias*) *tenuispina* Lamarck, 1816 according to Sladen (1889).

attenuata Bell, 1891, as var. of *A. rubens* Linnaeus, 1758, subsequently ignored or overlooked.
aurantiaca Tiedemann, 1816:33. A synonym of *Astropecten aranciaca* (Linnaeus, 1758) according to Döderlein (1917).
aurantiacus: Meyen, 1834:222, non *aurantiaca* Tiedemann, 1816, = *Stichaster striatus* Müller & Troschel, 1840 according to Fisher (1930).
austera Verrill, 1895, see *Leptasterias*
belli Studer, 1884:12. A synonym of *Diplasterias brandti* (Bell, 1881) according to Bell (1908).
**bicolor* Lamarck, 1816
 Lamarck 1816:566. [Range unknown.]
 Referred to *Ophidiaster* (Ophidiasteridae, see part 2) by Dujardin et Hupé (1862) but unidentifiable according to H.L. Clark (1921).
bispinosa Otto, 1823, see *Astropecten* (part 1).
**bootes* (Müller & Troschel, 1842). Cited by Bell 1881:493 (footnote).
**borbonica* Perrier, 1875:61. Probably a young *Sporasterias* i.e. (*Anasterias*) according to Fisher (1930) but the locality Réunion Island (if correct) makes this unlikely [new obs.].
borealis Perrier, 1875:59 [323]. A synonym of *Leptasterias polaris* (Müller & Troschel, 1842) according to Verrill (1895), or a race according to Fisher (1930).
**brachiata* Linnaeus (date ? but not 1758): Fisher, 1930:140, distinct from *brachiata* Perrier, 1875:329, which is a synonym of *Evesterias troscheli* (Stimpson, 1862) according to Verrill (1914a) and Fisher (1930). .
brandti Bell, 1881a, see *Diplasterias*
brasiliensis Cuvier, 1829:485 (listed only). A NOMEN NUDUM.
brevispina Stimpson, 1857, see *Pisaster*
briareus Verrill, 1882, see *Coronaster*
brislingoides Perrier, 1885b:885. Barely enough indication to validate.
 Intermediate between *Coronaster* and *Asterias tenuispina* but no locality given. Presumably = *Coronaster brisingoides* Perrier 1884:272, no more adequately described, so better treated as a NOMEN NUDUM.
calamaria Gray, 1840, see *Coscinasterias*
calamaria var. *japonica* Döderlein, 1902:352, = *Coscinasterias acutispina* (Stimpson, 1862) according to Liao in Liao & Clark (1995).
calcar Lamarck, 1816, and var. *c octagona*, see *Patiriella* (Asterinidae, pt. 2).
**calcar* var. *a quinqueangula* Lamarck, 1816 = *Asterina* (i.e. *Patiriella regularis* Verrill, 1870, according to Perrier (1875) but strictly has priority and needs rejection by the ICZN).
**calcar* var. *b hexagona* Lamarck, 1816 = *Asterina* (i.e. (*Patiriella*) *gunni* Gray, 1840, according to Perrier (1875) but strictly has priority and needs rejection by the ICZN.

calcar var. *a* :Audouin, 1826, non Lamarck, 1816, = *Asterina cephea* (*A. burtoni cepheus* according to A.M.C., Asterinidae, part 2)
 Müller & Troschel, 1842 according to Perrier (1875).
camtschatica Brandt, 1835, see *Leptasterias*
canariensis d'Orbigny, 1839, see *Narcissia* (Ophidiasteridae, part 2).
capensis Cuvier, 1829:485 (listed only). A NOMEN NUDUM.
capensis Perrier, 1875, see *Allostichaster*
capitata Stimpson, 1862:264. A subspecies of *Pisaster gigantem* (Stimpson, 1857) according to Fisher (1930).
caput medusae Linnaeus, 1758:663. An ophiuroid.
carinifera Lamarck, 1816, see *Asteropsis* (Asteropectinidae, part 2).
cartilaginea Fleming, 1828:485. A synonym of *Palmipes membranaceus* (Retzius, 1783), itself a synonym of *Anseropoda placenta* (Pennant, 1777), Asterinidae, see part 2).
cayennensis Cuvier, 1829:485 (listed only). A NOMEN NUDUM.
ciliaris Philippi, 1837, see *Luidia* (Luidiidae, part 1).
ciliata O.F. Müller, 1776:235. AN OPHIUROID.
**cilia*: Comptre, 1886:764.
**clathrata* Pennant, 1777:61. A synonym of *Asterias rubens* Linnaeus, 1758 according to Sladen (1889) but proposed by A.M.C. (1982) for suppression by the ICZN as a senior homonym of
clathrata Say, 1825, see *Luidia* (Luidiidae, see part 1).
clavigera Lamarck, 1816:562, see *Mithroodia* (Mithrodiidae, part 2)
compta Stimpson, 1852, see *Leptasterias*
conceptionis Cuvier, 1829:485 (only listed). A NOMEN NUDUM.
conferta Stimpson, 1862:263, a forma of *Pisaster ochraceus* (Brandt, 1835) according to Fisher (1930).
contorta Perrier, 1881a:1, see *Sclerasterias*
**coriacea* Grube, 1840:22. Treated as a synonym of *Haelia attenuata* Gray, 1840 since Ludwig (1897) but if published earlier than December, 1840, then should have priority, so better suppressed.
crassispina H.L. Clark, 1941:68. A synonym of *A. forbesi* (Desor, 1848) according to Downey in Clark & Downey (1992).
crassispinis Djakonov, 1950a as a subspecies of *A. rathbuni* (Verrill, 1909)
cribraria Stimpson, 1862:270. A synonym of *Leptasterias groenlandica* (Steenstrup, 1857) according to Fisher (1930) and Djakonov (1950).
crispata Retzius, 1805, see *Ctenodiscus* (Gonipectinidae, part 1)
cumingii Gray, 1840, see *Heliaester* (Helasteridae)
cumpullis Philippi (MS) in Quijada, 1911. A NOMEN NUDUM according to Madsen (1956).
cunninghami Perrier, 1875:75; Bell 1881a:93. A synonym of *Anasterias antarctica* (Lütken, 1857) according to Fisher (1940).
cuspidata Lamarck, 1816:553, Goniodiscus according to Sladen (1889)

(Oreasteridae, pt.2)

- cylindricus* Lamarck, 1816, see *Dactylosaster* (Ophidiasteridae, see part 2) *decemradiatus* Brandt, 1835:271, undescribed. A NOMEN NUDUM according to Fisher (1911c) = *Solaster stimpsoni* (see part 3).
- discoidea* Lamarck, 1816. A synonym of *Culcita schmideliana* (Retzius, 1805) according to Sladen (1889).
- disticha*: Sladen, 1889:820. Could be identical with A. [*Leptasterias*] *groenlandica* (Steenstrup, 1857) according to Döderlein (1900) (from locality White Sea) but a synonym of *Asterias rubens* Linnaeus, 1758 according to Fisher (1930).
- dorsatus* Linnaeus, 1753:114. Invalid, = A. [i.e. *Protoreaster*] *nodosus* Linnaeus, 1758:661 (Oreasteridae, pt. 2). See A.M. Clark (1962b:175).
- douglasi* Perrier, 1875:69. A synonym of *Leptasterias polaris katherinae* (Gray, 1840) according to Fisher (1930).
- dubia* Verrill, 1909:545. A synonym of *L. polaris katherinae* (Gray, 1840) according to Fisher (1930).
- echinata* Gray, 1840:179. (Locality Valparaiso, Chile.) Probably *Coscinasterias* according to Fisher (1928) but might be *Meyenaster gelatinosus* (Meyen, 1834) or *Astrostoile platei* (Meissner, 1896) according to Madsen (1956). Type not found.
- echinata* Philippi in Quijada, 1911. A NOMEN NUDUM according to Madsen (1956).
- echinites* Ellis & Solander, 1786, pls 60-62. A synonym of *Acanthaster planci* (Linnaeus, 1758) according to Verrill (1914b[AJS]). (Acanthasteridae, see part 2)
- echinophora* Lamarck, 1816, see *Othilia* and *Echinaster* (Echinasteridae, pt. 3)
- echinophora*: Delle Chiaje, 1825:356, non *echinophora* Lamarck, 1816, = *Asterias* [i.e. *Marthasterias*] *glacialis* Linnaeus, 1758 according to Sladen (1889).
- '*echinus* Ellis' in Verrill 1914c:484, cited as synonym of *A. planci* [i.e. *Acanthaster*] but Ellis & Solander (1786) used 'echinites' in plate captions.
- edmondi* Benham, 1911:151 (*Asterias* (*Stolasterias*)), presumably lapsus for *edmundi* Ludwig, 1897.
- edmundi* Ludwig, 1897:395, nom. nov. for *Asterias* (*Stolasterias*) *neglecta* Perrier, 1891, non *Asterias neglecta* Bell, 1881 but homonymy not contemporaneous since Bell's name already referred to synonymy of A. [*Diplasterias*] *brandti* Bell, 1881 by Perrier (1891) so *edmundi* - *Sclerasterias neglecta* (Perrier, 1891).
- endeca* Linnaeus, 1771, see *Solaster* (Solasteridae, p. 3)
- endeca* var. *decemradiata* Brandt, 1835:71. A NOMEN NUDUM according to Fisher (1911c).

enopla Verrill, 1895, see *Urasterias*

epichlora Brandt, 1835:270. Has been used for *Leptasterias* but types were probably *Evasterias troscheli* forma *alveolata* (Verrill, 1914) according to Fisher (1930:91). A. (*Diplasterias*) *epichlora* : de Loriol, 1897:19 doubtfully = *E. troscheli* according to Djakonov (1950c).

epichlora: Verrill, 1909b:544, non *epichlora* Brandt, 1835, =

Leptasterias hexactis (Stimpson, 1862) according to Fisher (1930). *epichlora* var. *alaskensis* Verrill, 1909:549, raised to rank of species of *Leptasterias* by Fisher (1930).

**equestris* Linnaeus, 1758:662, needs suppression by the ICZN as a threat to *Hippasteria phrygiana* (Parelius, 1768); see under *Stellaster* (Goniasteridae, part 2).

equestris Retzius, 1895:12. Invalid and = *Stellaster childreni* Gray, 1840, according to A.M.C. (1993, p.2, p. 285).

eustyla Sladen, 1889, see *Sclerasterias*

exigua Lamarck, 1816, see *Patriella* (Asterinidae, see part 2)

exigua Delle Chiaje, 1825:353, non A. *exigua* Lamarck, 1816, = *Asterina gibbosa* Pennant, 1777 according to Ludwig (1897) (Asterinidae, see part 2).

exquisita de Loriol, 1888:403. A synonym of *Pisaster giganteus* (Stimpson, 1857) according to Fisher (1926a, 1930).

fabricii Perrier, 1875:56. A synonym of *Asterias vulgaris* [i.e. *A. rubens* Linnaeus, 1758] according to Verrill (1895).

fascicularis Perrier, 1881, see *Tarsaster* (Pedicellasteridae).

**fernandensis* Meissner, 1896:104 (subgenus *Polyasterias*). 'Almost certainly the young of *Astrostoile platei*' (Meissner, 1896) according to Fisher (1930).

fernandensis: de Loriol, 1904:41 (subgenus *Polyasterias*), non A. *fernandensis* Meissner, 1896, = *Allostichaster capensis* Perrier, 1875) according to Madsen (1956). ? A. *fernandensis*: Lieberkind, 1924:387 from Mas a Fuera, SE Pacific, also.

**fernandezianus* Philippi in Quijada, 1911 [not seen] mentioned by Madsen (1956). ?MS.

filiformis O. F. Müller, 1776, an OPHIUROID.

fissispina Stimpson, 1862:264. A synonym of *Pisaster ochraceus* (Brandt, 1835) according to Fisher (1926a, 1930).

flabellifera Djakonov, 1950a, a forma of *Asterias amurensis* Lütken, 1871.

forbesi (Desor, 1848) (with synonyms A. *arenicola* Stimpson, 1862, *Asteracanthion berylinus* A. Agassiz, 1866, A. *lacazii* Perrier, 1869:51 [243], A. *novae boracensis* Perrier, 1869:41[233] and *Asterias crassispsina* H.L. Clark, 1941)

Desor 1848:67 (as *Asteracanthion*).

Verrill 1866:345; 1895:206; H.L. Clark 1904:552; Fisher 1930:205; Toronese 1937:109; Galtsoff & Loosanov 1943:76; Engel & Schroyers

- 1960:8; Gray et al. 1968:156; Downey 1973:93; Franz et al. 1981:397; Downey in Clark & Downey 1992:421 (as *Asterias*).
 Range: Maine to Cuba [to Gulf of Mexico according to Gray et al. 1968], 0-92 [?613] m.
- forcipulata* Verrill, 1909:67. A synonym of *Stylasterias forreri* (de Loriol, 1887) according to Fisher (1928).
- forreri* de Loriol, 1887, see *Stylasterias*
- forreri*: H.L. Clark 1913:203, non *forreri* de Loriol, 1887, = *Astrometis ser-tulifera* (Xantus, 1860) according to Fisher (1928).
- **fragilis* Studer, 1884:11 (E of New Zealand). Types juvenile. See Fisher (1930:217).
- fulgens*: Sladen, 1889:566. A synonym of *Anasterias varia* (Philippi, 1870 according to Madsen (1956).
- fulva*: Sladen, 1889:566. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Leipoldt (1895) but not endorsed by Fisher (1940).
- fungifera* Perrier, 1875:73[338]. A synonym of *Uniophora granifera* (Lamarck, 1816) according to Shepherd (1967).
- gelatinosa* Meyen, 1834, see *Meyenaster*
- georgiana* Studer, 1885, see *Neosmilaster*
- gemmifera* (Perrier, 1869) Perrier, 1875:46. A possible synonym of *Cosci-nasterias*? *echinata* (Gray, 1840) according to Fisher (1928) since also from Chile.
- germaini*: Perrier, 1875. Probably a forma of *Cosmasterias lurida* (Philippi, 1858) according to Fisher (1940).
- gibbosa* Pennant, 1777, see *Asterina* (Asterinidae, part 2)
- gibbosa* Leach, 1817 in Gray, 1840:288 (cited as type species of *Porani*). ?MS name. A NOMEN NUDUM according to Sladen (1889) and = *Porani pulvillus* (O.F. Müller, 1776) (Poraniidae, part 2).
- gigantea* Stimpson, 1857, see *Pisaster*, with homonym ;
- gigantea* Bell, 1891, as var. of *A. rubens* Linnaeus, 1758. ;
- gigas* Linnaeus, 1753 [invalidated by date], see *Oreaster gigas* Lütken, 1858 (Oreasteridae, part 2) ;
- glacialis* Linnaeus, 1758, see *Marthasterias*
- glacialis*: Pennant, 1777, non *A. glacialis* Linnaeus, 1758, - *A. rubens* Linnaeus, 1758 according to Sladen (1889).
- glacialis*: Grube, 1840, non *A. glacialis* Linnaeus, 1758, = *A. [i.e. Coscinasterias] tenuispina* Lamarck, 1816 according to Sladen (1889).
- glomerata* Sladen, 1889:571. A synonym of *Diplasterias brandti* forma *neglecta* (Bell) according to Fisher (1940).
- gracilis* Perrier, 1881, see *Stephanasterias*
- **grandis* Brandt, 1835. [Not found] ; ,
- granifera* Lamarck, 1816, see *Uniophora*
- gracilispinis* Djakonov, 1950. A forma of *A. amurensis* Lütken, 1871.
- granularis* Retzius, 1783, see *Ceramaster* (Goniasteridae, see part 2).
- groenlandica*: Stimpson, 1862, see *Leptasterias*
- gunneri* Danielssen & Koren, 1884:7. A synonym of *Urasterias lincki* (Müller & Troschel, 1842) according to Döderlein (1900).
- hartii* Rathbun, 1879, see *Allostichaster*
- helianthemoides* Pennant, 1777:56. A synonym of *Crossaster papposus* (Linnaeus, 1766) according to Sladen (1889).
- helianthoides* Brandt, 1835, see *Pycnopodia*
- helianthus* Lamarck, 1816, see *Heliaster* (Heliasteridae)
- hexactis* Stimpson, 1862, see *Leptasterias*
- hirtum* Philippi in Quijada, 1911. A NOMEN NUDUM, undescribed, according to Madsen (1956).
- hispida* Pennant, 1777: pl. 30, fig. 28. Said to be synonymous with *Leptasterias muelleri* (M. Sars, 1844 but proposed for suppression by Brun, 1970:238; Opinion 984, 1972:115, suppressed under the plenary powers.
- holistica* Retzius, 1805:22. A synonym of *A. rubens* Linneaus, 1758 according to Sladen (1889).
- hyadesi* Perrier, 1886:1146. A synonym of *Anasterias antarctica* Lütken, 1857 according to Fisher (1940) but a NOMEN NUDUM in 1886, only the habit of incubation described.
- hyperborea* Danielssen & Koren, 1882, see *Leptasterias*
- hyperborea*: Kalischewsky, 1907, non *hyperborea* Danielssen & Koren, 1882, = *Leptasterias groenlandica* (Steenstrup, 1857) according to Djakonov in Fisher (1930).
- hyperborea*: Verrill, 1909:553, non *hyperborea* Danielssen & Koren, 1882, = *Leptasterias arctica* (Murdoch, 1885) according to Fisher (1930).
- ianthina* Brandt, 1835:774[?], alternative spelling of *janthina* Brandt, 1835:69 and a synonym of *Pisaster ochraceus* (Brandt, 1835) according to Fisher (1930).
- imperati* Delle Chiaje, 1841:57. A synonym of *Luidia ciliaris* (Philippi, 1837) (Luidiidae, see part 1) according to Sladen (1889).
- inermis* Bell, 1881:512. A synonym of *Leptasterias groenlandica* (Steenstrup, 1857) according to Fisher (1930).
- irregularis* Pennant, 1777, see *Astropecten* (Astropectinidae, part 1)
- jacksonensis* Cuvier, 1929:485 (listed). A NOMEN NUDUM, undescribed.
- janthina* Brandt, 1835:69. A synonym of *Pisaster ochraceus* (Brandt, 1835) according to Fisher (1930).
- japonica* Bell, 1881, see *Aphelasterias*
- japonica* Stimpson, 1862, non *A. japonica* Bell, 1881. A NOMEN NUDUM according to Fisher (1930).
- jehennesii* Cuvier in Perrier, 1875:47 [311]. By inference, probably con-

specific with *Coscinasterias calamaria* (Gray, 1840) according to Perrier.

johnstoni Gray in Johnston, 1836:146. A synonym of *Hippasteria plana* [i.e. *H. phrygiana* (Parelius, 1768)] according to Sladen (1889) (Goniasteridae, part 2).

jonstoni Delle Chiaje, 1827, see *Astropecten* (Astropectinidae, part 1).

katherinae Gray, 1840. A subspecies of *Leptasterias polaris* (Müller & Troschel, 1842) according to Djakonov (1950a).

katherinae: Perrier, 1875:67[331], non *A. katherinae* Gray, 1840, = *Pisaster grayi* Verrill, 1914, nom. nov., but that is also synonymous with *Leptasterias polaris katherinae* (Gray, 1840) according to Fisher (1930).

koehleri de Loriol, 1897, see *Orthasterias*

lacazei: Perrier, 1875:52, a variety of *Asterias arenicola* Stimpson, 1862, which is a synonym of *Asterias forbesi* (Desor, 1848) according to Fisher (1930).

laevigata Linnaeus, 1758, see *Linckia* (Ophidiasteridae, part 2)

latissima Djakonov, 1950a. A forma of *A. amurensis* Lütken, 1871.

lincki de Blainville, 1830, see *Protoreaster* (Oreasteridae, part 2)

linckii: Danielssen & Koren, 1884b [a secondary but transitory homonym of {*lincki* de Blainville}], see *Urasterias*

**linearis* Perrier, 1881 ? *Coscinasterias*

Perrier, 1881:2; A.M. Clark in Clark & Downey 1992:425.

Range: SE Gulf of Mexico, c. 180 m.

To *Coscinasterias* according to Verrill (1915) but only five arms to the holotype [Paris Museum], which needs reexamination.

littoralis Verrill: 1866:349, see *Leptasterias*

longipes Retzius, 1805, see *Chaetaster* (Chaetasteridae, part 2)

**longstaffi* Bell, 1908:7. A NOMEN NUDUM according to Fisher (1940).

luetkeni Stimpson, 1862:265. A synonym of *Pisaster gigantem* Stimpson, 1857, according to Fisher (1926, 1930).

**luna* Linnaeus, 1758:661 [subdivision *intégra* as opposed to *stellatae*, which includes all other asteroids]. = *Anseropoda rosacea* (Lamarck, 1816) without any reasonable doubt' according to Verrill (1914c:484). However, *luna* has priority. (See part 2, p.206.)

macropora Verrill, 1909, see *Stenasterias*

madeirensis Stimpson, 1862:263. A synonym of *Asterias* [i.e. *Marthasterias*] *glacialis* (Linnaeus, 1758) according to Sladen (1889).

mammillatus Audouin, 1827, see *Pentaceraster* (Oreasteridae, see part 2)

margaritifera: Brandt, cited by Fisher (1930:167) from label so possibly MS comb. *Asteracanthion margaritifer* Müller & Troschel, 1842, also from Sitka, Alaska, a synonym of *Pisaster ochraceus* (Brandt, 1835), according to Fisher (1930).

mazophorus Wood-Mason & Alcock, 1891, see *Sclerasterias membranacea* Retzius, 1783:238. A synonym of *Anseropoda placenta* (Pennant, 1777) according to Ludwig (1897)

membranacea: Risso, 1826, non *A. membranacea* Retzius, 1783, = *Asterina gibbosa* Pennant, 1777, according to Ludwig (1897).

meridionalis Perrier, 1875, see *Diplasterias*

mexicana: Verrill, 1870:344, see *Leptasterias*

‡*microdiscus*} Djakonov, 1950a

Djakonov 1950a:127; 1950c:120; Baranova 1957:178.

Range: Kamtchatka, Bering Sea, 3-24 m.

Forma *brandti* Djakonov, 1950 a homonym of *Asterias brandti* Bell, 1881 (*Diplasterias*).

**migratum* Sladen, 1878:432 (as variety of *A. rubens* Linnaeus, 1758), now referred to synonymy of *A. amurensis* Lütken, 1871 on account of 'Korean Seas' locality.

milleporella Lamarck, 1816, see *Fromia* (Ophidiasteridae, part 2)

**migratum* Sladen, 1878:432, as variety of *Asterias rubens* Linnaeus, 1758, but from Korean Strait so presumably = *A. amurensis* Lütken, 1871.

militaris O.F. Müller, 1776, see *Pteraster* (Pterasteridae, part 3)

miniata Brandt, 1835, see *Asterina* (Asterinidae, part 2)

minuta Linnaeus, 1761:512. A synonym of *A. rubens* Linnaeus, 1758 according to Madsen (1987).

minuta: Fabricius, 1780:375, non *A. minuta* Linnaeus, 1761, = *Leptasterias polaris* (Müller & Troschel, 1842) according to Madsen (1987).

minuta: Gmelin, 1788:3164, non *A. minuta* Linnaeus, 1761, = *Asterina gibbosa* (Pennant, 1777).

minuta: de Blainville, 1834:288, non *A. minuta* Linnaeus, 1761, = *Asterina* [i.e. *Patiriella*] *exigua* (Lamarck, 1816) according to Sladen (1889).

mollis Hutton, 1872, see *Sclerasterias*

mollis Studer, 1877:457, non *A. mollis* Hutton, 1872, = *Diplasterias meridionalis* (Perrier, 1875) according to Koehler (1917)

muelleri: Norman, 1865:127, see *Leptasterias*

muelleri: Ludwig, 1900, non *Asteracanthion muelleri* M. Sars, 1866, = *Leptasterias arctica* (Murdoch, 1885)

multiclava Verrill, 1914a:114. A synonym of *Leptasterias camtschatica* (Brandt, 1835) according to Fisher (1930).

multiradiata Linnaeus, 1758:663. A comasterid crinoid

multiradiata Gray, 1840:180. A homonym of *A. multiradiata* Linnaeus, 1758, = *Helaster Solaris* A.H. Clark, 1920, nom. nov.

murrayi Bell, 1891:478. A synonym of *A. rubens* Linnaeus, 1758 according to Mortensen (1927).

nanimensis Verrill, 1914, see *Lethasterias*

**nautarum* Bell, 1883:333; Sladen 1889:824 (not assignable to subgenus).

The locality 'Ecuador' was rejected by Fisher 1926:198, who found the type material to be conspecific with *Leptasterias arctica* (Murdoch, 1885), which it antedates; *nautarum* declared a NOMEN NUDUM by Fisher (1930) but Bell's description was fair so the name should perhaps be suppressed by the ICZN.

neglecta Bell, 1881a:94. A synonym of *A. [i.e. *Diplasterias*] brandti* Bell, 1881 according to Bell (1908) but treated as a forma by Fisher (1940).

nipon Döderlein, 1902, see *Distolasterias*

noctiluca Viviani, 1805:5. According to Millott in Boolootian (1966)

AN OPHIUROID conspecific with *Amphipholis squamata* (Delle Chiaje, 1828) which should be saved by being put on the Official List.

nodosa Linnaeus, 1758:661, pt, see *Protoreaster* (Oreasteridae, part 2), pt = *Oreaster clavatus* Müller & Troschel, 1842, according to Madsen (1959). See A.M.C. (1962b:174).

normani Danielssen & Koren 1883:1; 1884b:25. A synonym of *Leptasterias hyperborea* (Danielssen & Koren, 1882) according to Fisher (1930).

nortonensis: A.H. Clark, 1920:8c. A synonym of *A. amurensis* Lütken, 1871 according to Fisher (1930) but a forma of *A. rathbuni* (Verrill, 1909) according to Djakonov (1950a).

NovaZealandiae Cuvier, 1829:485 (listed). A NOMEN NUDUM, undescribed.

nuda Perrier, 1875, see *Uniophora*

obtusangula Lamarck, 1816, see *Pseudoreaster* (Oreasteridae, part. 2)

obtusata Bory de St Vincent, 1827, see *Pentaster* (Oreasteridae, part 2)

obtusispinosa Bell, 1881a:92. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Madsen (1956).

ochotensis: Perrier, 1869, see *Leptasterias*

ochracea Brandt, 1835, see *Pisaster*

octagona Lamarck, 1816:557, as variety of *A. [i.e. *Patiriella*] calcar* Lamarck, 1816. A synonym of *calcar* as restricted by Gray (1840).

oculata Pennant, 1777, see *Henricia* (Echinasteridae, part 2)

ophidiana Lamarck, 1816, see *Ophidiaster* (Ophidiasteridae, part 2) i

ophidion Sladen, 1889, see *Hydrasterias* (Pedicellasteridae)

ophiura Linnaeus, 1758:662, an ophiuroid

pallida: Perrier, 1875:53, from *Asteracanthion pallidus* A. Agassiz, 1863, a NOMEN NUDUM according to Fisher (1930) and = *Asterias vulgaris* Verrill, 1866, i.e. *A. rubens* Linnaeus, 1758.

palmipes Olivi, 1792:66 (from Linck, 1733). A synonym of *A. membranacea* Retzius, 1783 according to Ludwig (1897), i.e. *Anseropoda placenta* (Pennant, 1777).

panopla Stuxberg, 1879, see *Icasterias*

papposus Linnaeus, 1776, see *Crossaster* (Solasteridae, part 3) , •

papulosa Verrill, 1909:63. A synonym of *Pisaster brevispinus* (Stimpson, 1857) according to Fisher (1930).

papyracea Konrad, 1814:3. A synonym of *Asterina gibbosa* (Pennant, 1777) according to Ludwig (1897).

paucispina Stimpson, 1862:266. Reduced to a forma of *Pisaster brevispinus* (Stimpson, 1857) by Fisher (1930).

pectinata Linnaeus, 1758:663. A CRINOID.

pectinata: Brandt, 1835:270, non *A. pectinata* Linnaeus, 1758, ? = *A. amurensis* (Lütken, 1871) according to Fisher (1930).

pectinata: Couch, 1840:34, non *A. pectinata* Linnaeus, 1758, = *Luidia ciliaris* (Philippi, 1837) (Luidiidae, see part 1), according to Forbes (1841).

pedicellaris Koehler, 1907a, see *Notasterias*

pedicellaris: Bell, 1917, non *A. pedicellaris* Koehler, 1907, = *Notasterias armata* Koehler, 1911, according to A.M. Clark (1962a).

penicillaris Lamarck, 1816, see *Asterinopsis* (Asterinidae, part 2).

pentacanthus Delle Chiaje, 1827. A variety of *Astropecten irregularis* (Pennant, 1777) according to Döderlein (1917).

pentacanthus: Simroth, 1889:231, non *A. pentacanthus* Delle Chiaje, 1827, = *Astropecten hermatophilus* Sladen, 1883 according to Downey in Clark & Downey (1992).

pentacyphus Retzius, 1805. A synonym of *Pentaceros* [i.e. *Oreaster reticulatus*] (Linnaeus, 1758) according to Sladen (1889).

pentagonula Lamarck, 1816, see *Anthenea* (Oreasteridae, part 2)

peregrina Bell an MS name according to Fisher (1928a: 107), specimen (from Saya da Malha Bank, western Indian Ocean) probably = *Sclerasterias stenactis* (H.L. Clark, 1925), which itself is probably a forma of *S. mazophora* (Wood-Mason & Alcock, 1891) according to Macan (1938). Type labelled *Sclerasterias euplecta stenactis*) in collection of N.H.M., London.

perforata O.F. Müller, 1776, see *Henricia* (Echinasteridae, part 3)

perrieri E.A. Smith, 1876, see *Anasterias*

pertusa O.F. Müller, 1776, see *Henricia* (Echinasteridae, part 3)

philippii Bell, 1881:511. A synonym of *Leptasterias polaris acervata* (Stimpson, 1862) according to Fisher (1926a).

phrygiana Perelius, 1768, see *Hippasteria* (Goniasteridae, part 2)

placenta Pennant, 1777, see *Anseropoda* (Asterinidae, part 2)

planci Linnaeus, 1758, see *Acanthaster* (Acanthasteridae, part 2)

platyacantha Philippi, 1837, see *Astropecten* (Astropectinidae, part 2)

pleyadella Lamarck, 1816, see *Goniodiscaster* (Oreasteridae, part 2)

polaris Sabine, 1824:223. To *Ctenodiscus* according to Müller & Troschel (1842) and a synonym of *Ctenodiscus corniculatus* [i.e. *C. crispatus* (Retzius, 1805)] according to Sladen (1889).

polaris (Müller & Troschel, 1842) Lütken, 1857. Could be regarded as a secondary homonym of *Asterias polaris* Sabine, 1824, but not contemporaneus according to Fisher (1930:61). Possibly also threatened by *Asterias katherinae* Gray, 1840 [q.v.]. See *Leptasterias*.

polyplax: Perrier, 1875, see *Allostichaster*

polythela Verrill, 1909:68. A synonym of *Leptasterias polaris acervata* (Stimpson, 1862) according to Djakonov (1950a).

problema: Lütken, 1872:73. A synonym of *Asterias* [i.e. *Stephanasterias*] *albula* (Stimpson, 1853) according to Sladen (1889).

procyon Valenciennes in Cuvier, 1938, pl. 1 fig. 2. A NOMEN NUDUM, undescribed, probably = *Tosia australis* Gray, 1840 or *T. nobilis* (Müller & Troschel, 1843), according to A.M.C. (1953:404).

pulchella Blainville 1834:238. A synonym of *Asterina gibbosa* (Pennant, 1777) according to Perrier (1875).

pulvillus O.F. Müller, 1776, see *Porani* (Poraniidae, pt 2)

rarispina Perrier, 1875. A forma of *Marthasterias glacialis* (Linnaeus, 1758) according to Fisher (1940).

rathbuni (Verrill, 1909) (with subspecies *crassispinis* Djakonov, 1950 and *formae alveolata* Djakonov, 1950 and *nortonensis* (Verrill, 1909) also synonym *Allasterias rathbuni* var. *anomala* (Verrill, 1909, 1914))

rathbuni rathbuni (Verrill, 1909)

Verrill 1909:65,66 (vars *anomala* and *nortonensis*); 1914a: 189 (as *Allasterias*). Djakonov 1950a:112 (with forma *alveolata*); 1950c:125; Baranova 1957:179.

Range: Bering Sea and Aleutian Is, 0-170 m.

A synonym of *A. amurensis* Lütken, 1871 according to Fisher (1930) but a valid species according to Djakonov (1950a).

rathbuni crassispinis Djakonov 1950

Djakonov 1950a:127.

, , > -

Range: Okhotsk Sea.

reticulata Linnaeus, 1758, see *Or easter* (Oreasteridae, pt 2)

reticulatum Philippi (MS) in Quijada, 1911. A NOMEN NUDUM according to Madsen (1956)

***richardi** Perrier in Milne Edwards 1882:20; Perrier 1894:109 (as *Hydrasterias*); Fisher 1928:108 (probably *Sclerasterias*). Possibly conspecific with *Sclerasterias neglecta* (Perrier, 1891) according to Downey (MS) in Clark & Downey (1992) but holotype immature and Perrier's description does not conform so *richardi* proposed for suppression by the ICZN by A.M.C. in Clark & Downey (1992:511)

robusta Djakonov, 1950, a forma of *A. amurensis* Lütken, 1871

rodolphi Perrier, 1875, see *Astrostole*

rollestoni Bell, 1881

Bell 1881:514; Fisher 1930:23 (as subspecies of *A. amurensis* Lütken,

1871); Djakonov 1950a:123 (as separate species); 1950c:99; 1958:3323; Baranova & Wu 1962:111,116; Chang & Liao 1964:69; Baranova 1971:269.

Range: Japan Sea, Yellow Sea, 5-96 m.

rosacea Lamarck, 1816, see *Anseropoda* (Asterinidae, part 2)

rosacea: Delle Chiaje 1925:354, presumably non *A. rosacea* Lamarck, 1816, = *A. membranacea* Retzius, 1783 [i.e. *Anseropoda placentia* (Pennant, 1777)] according to Ludwig (1897).

rosacea: Verany, 1846:5, non *A. rosacea* Lamarck, 1816, = *Echinaster sepositus* (Retzius, 1783) according to Ludwig (1897).

rosea O.F. Müller 1776, see *Stichastrella*

roseum Philippi (MS) in Quijada, 1911. A NOMEN NUDUM according to Madsen (1956).

rubens Linnaeus, 1758 (with synonyms *A. minuta* Linnaeus, 1761, *A. clathrata* Pennant, 1777, *A. violacea* O.F. Müller, 1776 (as variety), *A. holistica* Retzius, 1805, *A. spinosa* Say, 1825, *Asteracanthion distichum* Brandt, 1851, *A. pallidus* A. Agassiz, 1863 (nomen nudum) and *A. vulgaris* Verrill, 1866; variety *migratum* Sladen, 1878 now referred to synonymy of *A. amurensis* Lütken, 1871) Linnaeus 1758:661; Downey in Clark & Downey 1992:422. Nardo 1834:716 (as *Stellonia*). Müller & Troschel 1840a:102 (as *Asteracanthion*). Forbes 1841:83 (as *Uraster*).

Range: Scandinavia to S Portugal, Barents Sea, Greenland and Labrador to S Carolina (rarely Florida), LW to 900 m.

rubens: Olivi, 1792:65, non *A. rubens* Linnaeus, 1758, = *Echinaster sepositus* (Retzius, 1783) according to Ludwig (1897)

rubens: Johnston 1836:144, non *A. rubens* Linnaeus, 1758, = *Luidia ciliaris* (Philippi, 1837) according to Sladen (1889)

rubens: Murdoch, 1885:159, non *A. rubens* Linnaeus, 1758, = *A. amurensis* Lütken, 1871 according to Fisher (1930)

rugispina Stimpson, 1862:267. A synonym of *Anasterias antarctica* Lütken, 1857 according to Fisher (1940).

**rumphii* Parelius, 1768:427 [1770:351]. Synonymous with (and antedates) *Solaster endeca* (Linnaeus, 1771) (Solasteridae, pt 3) according to von Martens (1902) and Engel (1959); proposed for suppression by the ICZN by A.M.C. in Clark & Downey (1992).

rupicola Verrill, 1876:71, see *Anasterias*

rustica Gray, 1840:179. A synonym of *Meyenaster gelatinosus* Meyen, 1834) according to Madsen (1956).

saanichensis de Loriol, 1897:23. A synonym of *Leptasterias epichlora* (Brandt, 1835) according to Verrill (1914a), itself probably a synonym of *Evasterias troscheli* forma *alveolata* (Verrill, 1914) according to Fisher (1930) [in which case *saanichensis* would have priority].

sagena Retzius, 1805:21. A synonym of *Echinaster sepositus* (Retzius, 1783) according to Tortonese & Madsen (1979) after selection of lectotype.
sanguinolenta O.F. Müller, 1776, see *Henricia*
satsumana Döderlein, 1902, see *Sclerasterias*
savarensis Delie Chiaje, 1825:357; 1841:125. A synonym of *A.* [i.e. *Coscinasterias*] *tenuispina* Lamarck, 1816 according to Gray (1866)
savignyi Audouin, 1826, see *Luidia* (Luidiidae, part 1)
scabra: Farquharson, 1894, see *Astrostole*
scalprifera Sladen, 1889, see *Smilasterias*
schmidiana Retzius, 1805, see *Culcita* (Oreasteridae, part 2)
sebae de Blainville, 1830 [or 1834]. A synonym of *Pentaceros* [i.e. *Oreaster*] *reticulatus* (Linnaeus, 1758)
senegalensis Lamarck, 1816, see *Luidia* (Luidiidae, part 1)
sentus Say, 1825, see *Echinaster* (*Othilia*)
seposita Retzius, 1783, see *Echinaster* (*Echinaster*)
seposita: Retzius, 1805 = *Henricia* sp., probably *H. sanguinolenta* (O.F. Müller, 1776) according to Madsen (1987)
sertulifera Xantus, 1860, see *Astrometis*
similispinis H.L. Clark, 1908, see *Leptasterias*
sinusoida Perrier, 1875. A synonym of *Uniophoragranifera* Lamarck, 1816 according to Shepherd (1967)
Solaris Schreber, 1793:2. A synonym of *Acanthaster planci* (Linnaeus, 1758) (Acanthasteridae, part 2) according to Madsen (1955).
Solaris: Carpenter, 1856:360, non *A. Solaris* Schreber, 1793, probably = *Helaster cumingi* (Gray, 1840) according to H.L. Clark (1909).
spectabilis: Sladen, 1889:566. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Leipoldt (1895).
spinosa Pennant, 1777:62. A synonym of *A.* [i.e. *Marthasterias*] *glacialis* Linnaeus, 1758 according to Sladen (1889).
spinosa Retzius, 1805:18. A junior homonym of *A. spinosa* Pennant, 1777 and replaced by *A.* [i.e. *Echinaster* (*Othilia*)] *echinophora* Lamarck, 1816 (Echinasteridae, part 3) according to Fisher (1919).
spinosa Say, 1825:142. Also a junior homonym; a synonym of *A. rubens* Linnaeus, 1758 according to Downey in Clark & Downey (1992).
spinulosus Philippi, 1837, see *Astropecten* (Astropectinidae, part 1)
spirabilis Bell, 1881, see *Anasterias*
spitzbergensis Danielssen & Koren, 1881:177; 1884b:5. A synonym of *Lepasterias groenlandica* (Steenstrup, 1857) according to Fisher (1930)
spongiosa Fabricius, 1780, see *Henricia* (Echinasteridae, part 3)
steineni Studer, 1885, see *Neosmilaster*
stellionura: Perrier, 1875:46. A synonym of *Urasterias lincki* (Müller & Troschel, 1842) according to Fisher (1930)

stichantha Sladen, 1889, see *Distolasterias*
stimpsoni Verrill, 1866:349. At least partly = *A. vulgaris* Verrill, 1866 [i.e. *A. rubens* Linnaeus, 1758] according to Verrill (1895), Fisher (1930),
striata Lamarck, 1816, see *Valvaster* (Asteropectinidae, part 2)
studerii Bell, 1881. A synonym of *Diplasterias meridionalis* (Perrier, 1875) according to Fisher (1940).
subinermis Philippi, 1837), see *Tethyaster* (Astropectinidae, part 2).
subulata Lamarck, 1816:568. A synonym of *Chaetaster longipes* (Retzius, 1805) according to Perrier (1875).
culcifera: Perrier, 1875:58. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Fisher (1940).
tanneri Verrill, 1880, see *Sclerasterias*
tenella Retzius, 1783. A CRINOID (*Hathrometra tenella* according to A.H. Clark (1918) Siboga Exped.)
tenera Stimpson, 1862, see *Leptasterias*
tenuispina Lamarck, 1816, see *Coscinasterias*
tenuissima Risso, 1826:269. A printer's error for *tenuispina* [presumably *Coscinasterias tenuispina* (Lamarck, 1816)] according to Ludwig (1897) [though it is evidently the species later named *Luidia ciliaris* (Philippi, 1837)].
tertiarii Goldschmidt, 1924:499 (subgenus *Smilasterias*). A synonym of *Luidia magellanica* Leipoldt, 1895 according to Madsen (1956).
tessellata (vars C and D) Lamarck, 1816, see *Goniaster* (Goniasteridae, part 2)
tomodata Sladen, 1889:576. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Madsen (1956).
torquata Sladen, 1889:570. A synonym of *Aphelasterias japonica* (Bell, 1881) according to Hayashi (1938).
triremis Sladen, 1889, see *Smilasterias*
**trochiscus* Retzius, 1805:10. To *Asterina* (Asterinidae, see part 2) but of doubtful validity according to Sladen (1889).
troscheli Stimpson, 1862, see *Evasterias*
undulata O.F. Müller, 1784. A [superfluous] nom. nov. for *A. glacialis* Linnaeus, 1758 [i.e. *Marthasterias*] according to Madsen (1987).
umbilicata Konrad, 1814:4. A synonym of *Asterina gibbosa* (Pennant, 1777) according to Ludwig (1897).
vancouveri Perrier, 1875. A subspecies of *Leptasterias hexactis*
varia: Perrier, 1875, see *Anasterias*
variolata Retzius, 1805, see *Nardoa* (Ophidiasteridae, see part 2)
variolata: Risso, 1826:269, non *A. variolata* Retzius, 1805, = *Hacelia attenuata* (Gray, 1840) according to Ludwig (1897).
vernucina Lamarck, 1816, see *Petricia* (Asteropectinidae, part 2)

verrilli Bell, 1881:513. A synonym of *Anasterias varia* (Philippi, 1870) according to Madsen (1956).

verrucosa Risso, 1826:271. A synonym of *Chaetaster longipes* (Retzius, 1805) according to Ludwig (1897).

verruculata Retzius, 1805:12. A synonym of *Asterina gibbosa* (Pennant, 1777) according to Sladen (1889).

versicolor Sladen, 1899

Sladen 1899:573; Fisher 1930:206; Hayashi 1936:19; Djakonov 1950a: 124; 1950c: 101; Baranova & Wu 1962:111,116; Chiang & Liao 1964:70; A.M. Clark 1982:492; Liao & A.M. Clark 1995[96]:142. Hayashi 1973:106 (as subspecies of *A. amurensis* Lütken, 1871).

Range: S Japan, S China, 0-91 m.

vesiculosus Sladen, 1889, see *Diplasterias*

vestita Say, 1825, see *Tethyaster* (Astropectinidae, part 1)

victoriana Verrill, 1909:68; 1914:124. A synonym of *Evasterias troscheli* (Stimpson, 1862) according to Djakonov (1950a).

violacea: O.F. Müller, 1788:7. A synonym of *A. rubens* Linnaeus, 1758 according to Fisher (1930).

volsellatus Sladen, 1889, see *Coronaster* (Labidiasteridae)

volsellatus: Nutting, 1895:168, non *A. volsellatus* Sladen, 1889, = *Coronaster briareus* (Verrill, 1882) (Labidiasteridae)

vulgaris Packard, 1863:405. A NOMEN NUDUM according to Fisher (1930), = *A. rubens* Linnaeus, 1758.

vulgaris Verrill, 1866:347. A synonym of {*A. rubens*} Linnaeus, 1758 according to Downey in Clark & Downey (1992).

* *wilkinsoni* Gray, 1840:179. Northern Africa. Type lost; species unknown according to Sladen (1889).

ASTERODERMA Perrier, 1888:763, for *Asteroderma papillosum* undescribed and 1891a:96, a provisional name.

A synonym of *Anasterias* Perrier, 1875 according to Fisher (1940).

papillosum Perrier, 1891a:96 (1888:765 a nomen nudum), probably a synonym of *Anasterias minuta* Perrier, 1875 according to Fisher (1940).

ASTROMETIS Fisher, 1923

Fisher 1923:254; 1928a:118.

Type species: *Asterias sertulifera* Xantus, 1860.

* *californica* (Verrill, 1914)

Verrill 1914a:174 (as *Orthasterias*).

Fisher 1928:126 (as *Astrometis*).

Range: Type probably not off San Francisco but more likely San Diego or San Pedro, California according to Fisher.

Probably another variant of *A. sertulifera* (Xantus, 1860) according to Maluf (1988).

sertulifera (Xantus, 1860) (with synonyms *Orthasterias dawsoni* and *golenha* Verrill, 1914a, probably also *Orthasterias californica* Verrill, 1914a)

Xantus 1860:568 (as *Asterias*).

Baker in Fisher 1912:89 (as *Coscinasterias*)

Verrill 1914a:100 (as ? *Marthasterias*).

Fisher 1923:254; 1928a:119; Caso 1961:97; Maluf 1988:46,126 (as *Astrometis*).

Range: S California to Peru, 0-156 m.

ASTROSTOLE Fisher, 1923 (nom. nov. for *Margaraster* Hutton, 1872, non Gray, 866)

Fisher 1923:255; 1928a:130.

Type species: *Margaraster scaber* Hutton, 1872.

insularis H.L. Clark, 1938

H.L. Clark 1938:191.

Range: Lord Howe I, SE Australia.

multispina A.M. Clark, 1950

A.M. Clark 1950:808.

Range: Norfolk Island, N of New Zealand.

* *paschae* (H.L. Clark, 1920)

H.L. Clark 1920:105 (as *Stylasterias*).

Fisher 1928a:130; Marsh 1974:95 (as *Astrostole*).

Range: Easter I, shore.

'Not improbably' a synonym of *A. platei* (Meissner, 1896) , *

according to Fisher (1928a).

platei (Meissner, 1896) (with probable synonym *Polyasterias fernandensis* Meissner, 1896)

Meissner 1896:103,104 (as *Polyasterias*). H

Fisher 1928a:130 (as *Astrostole*). T , •

Range: Juan Fernandez, W from Chile. , : :

rodolphi (Perrier, 1875)

Perrier 1875:41; Farquhar 1897:192; Benham 1911:150 (as *Asterias*). , , , Q

Fisher 1928:130 (as *Astrostole*). , , , Q

Range: Kermadec Is, N of New Zealand.

scabra (Hutton, 1872)

Hutton 1872:5 (as *Margaraster*?). , , , Q

Farquhar 1894:202 (as *Asterias (Strolasterias) [sic] scabra*). , , , Q

Fisher 1923:255; Fell 1962:49; McKnight 1967:302; Dartnall 1969:54 (as *Astrostole*). , , , Q

Range: Central and southern New Zealand, Tasmania, shore. , , , Q

AUSTRALIASTER Fisher, 1923

Fisher 1923:253; 1928a:131. > ,

Type species: *Coscinasterias dubia* (H.L. Clark, 1909).

dubia (H.L. Clark, 1909)

H.L. Clark 1909:532 (as *Coscinasterias*).

Fisher 1919a:489 (as *Distolasterias*).

Fisher 1923:253; Rowe & Pawson 1977:342 (as *Australiaster*).

Range: N.S.W., Australia, 40-90 m.

AUTASTERIAS Koehler, 1912

Koehler 1912a:152; 1912b:26.

Type species: *Asterias pedicellaris* Koehler, 1911.

A synonym of *Notasterias* Koehler, 1911, according to Fisher (1930).

bongraini Koehler, 1912, see *Notasterias*

pedicellaris: Koehler, 1911, see *Notasterias*

BATHYASTERIAS Fisher, 1930:231, as subgenus of *Diplasterias* Perrier, 1888 (type species *Asterias vesiculososa* Sladen, 1889) but listed in synonymy of *Diplasterias* by Fisher (1940).

vesiculososa (Sladen, 1889:568) (as *Asterias*) Fisher, 1930:231 (as *Diplasterias* (*Bathyasterias*)) supposedly from Arafura Sea, N of Australia. See under *Diplasterias*.

CAIMANASTER A.M. Clark, 1962

A.M. Clark 1962a:82.

Type species: *Caimanaster acutus* A.M. Clark 1962.

acutus A.M. Clark, 1962

A.M. Clark 1962a:82.

Range: Off Enderby Land, Antarctica, 193 m.

CALASTERIAS Hayashi, 1975

Hayashi 1975:199.

Type species: *Calasterias toyamensis* Hayashi, 1975.

toyamensis Hayashi, 1975

Hayashi 1975:199; Imaoka et al. 1991:100.

Range: Toyama Bay, Japan Sea, 100 m.

CALLIASTERIAS Fewkes, 1889:33.

Type species: *Asterias exquisita* de Loriol, 1888.

A synonym of *Pisaster* Müller & Troschel, 1840, according to Fisher (1926, 1930).

exquisita: Fewkes, 1889:33. A synonym of *Pisaster giganteus* (Stimpson, 1857) according to Fisher (1926, 1930).

CALVASTERIAS Perrier, 1875 (with synonym *Stichorella* Koehler, 1920)

Perrier 1875:84; Fisher 1930:225.

Type species: *Calvasterias asterinoides* Perrier, 1875.

*antipodium Bell, 1882

Bell 1882a:121.

Range: ? Given as 'Erebus' and 'Terror' (i.e. Ross) Antarctic

Expedition) so from anywhere between New Zealand and McMurdo

Sound, Ross Sea.

Status doubtful.

asterinoides Perrier, 1875

Perrier 1875:84; Sladen 1889:589; Fisher 1922b:597.

Range: Torres Strait !? Falkland Is according to Sladen (1889).

laevigata (Hutton, 1879)

Hutton 1879:343 (as *Asterias rupicola* var. *laevigatus*).

Farquhar 1898a:180; Benham 1909:302 (as *Stichaster suteri* var. *laevigatus*).

Fisher 1923:606; Mortensen 1925a:311; Fell 1953:96; McKnight 1967:303 (as *Calvasterias*).

Range: Auckland, Campbell and Antipodes Is.

stolidota Sladen, 1889: A synonym of *Anasterias varia* (Philippi, 1870) according to Madsen (1956).

suteri (de Loriol, 1894)

de Loriol 1894:477; Farquhar 1898:197; Benham 1909a:302 (as *Stichaster*).

Koehler 1920:87 (as *Stichorella*).

Fisher 1922:597; Mortensen 1925a:310; Fell 1960:66; Pawson 1965:253; McKnight 1967:304.

Range: Southern New Zealand (S from Wellington) and offshore islands, Macquarie I, intertidal.

CARLASTERIAS da Costa, 1952:7. Norn. nov. for *Mortensenia* da Costa, 1941, preoccupied. Type species: *Mortensenia lusitanica* da Costa, 1941.

Holotype lost but probably a species of *Sclerasterias* Perrier, 1891, according to A.M. Clark in Clark & Downey (1992:415, 449).

lusitanica: da Costa, 1952:7, see above.

COELASTERIAS Verrill, [1867] 1871

Verrill 1871:247.

Type species: *Coelasterias australis* Verrill, 1871.

A synonym of *Stichaster* Müller & Troschel, 1840, according to Fisher (1922b, 1930).

australis Verrill, 1871, see *Stichaster*

COMASTERIAS Perrier, 1891a:K159. Lapsus for *Cosmasterias*.

***COSCINASTERIAS** Verrill, 1870 (with synonyms *Polyasterias* Perrier, 1893 and *Lytaster* Perrier 1894, also subgenus *Stolasterias* Sladen, 1889*)

*The rank of *Stolasterias* in relation to *Coscinasterias* has been the subject of some dissention. Rowe in Rowe & Gates (1995), like Verrill (1907) and H.L. Clark (1922, 1933 and 1942), maintains that it is generically distinct, whereas Mortensen (1933) and Tortonese (1982) refuse to

grant it even subgeneric rank. My own view is that the differences are less than generic, so the compromise position of treating it as a subgenus, following Fisher (1928), is followed here [A.M.C. new obs.]

COSCINASTERIAS (COSCINASTERIAS) Verrill, 1870

Verrill 1870:248; 1914a:45; Fisher 1928a:128; Tortonese 1965:186; 1982:4; A.M. Clark in Clark & Downey 1992:423.

Type species: *Coscinasterias muricata* Verrill, 1870.

aster (Gray, 1840) Verrill, 1914a:46. Types lost.

brucei (Koehler, 1908) 1911, see *Diplasterias*

calamaria: Fisher, 1928a, H.L. Clark 1946 and other records from Australia, non *C. calamaria* Gray, 1840, = *C. muricata* Verrill, 1870

candicans: Koehler, 1917, see *Notasterias*

dubia H.L. Clark, 1909, see *Australiaster*

**echinata* (Gray, 1840) (with possible synonym *Asteracanthion gemmifer* Perrier, 1869, or *Astrostole platei* (Meissner, 1896), if not itself a synonym of *Meyenaster gelatinosus* (Meyen, 1834) judging from locality) Gray 1840:179 (as *Asterias*).

Fisher 1928a:128 (?*Coscinasterias*).

Range: Valparaiso, Chile.

Type not found in the Natural History Museum collection (1999).

euplecta Fisher, 1906, see *Sclerasterias*

gemmifera (Perrier, 1869) Fisher, 1928a:128, probably a synonym of *Asterias echinata* Gray, 1840 but see above.

gemmifera: H.L. Clark 1916:74, non *C. gemmifera* (Perrier, 1869), = *Coscinasterias calamaria* according to H.L. Clark (1946) i.e. *C. muricata* (Verrill, 1870).

jehennesi (Perrier, 1869) Verrill, 1914:46 possibly a synonym of *oscinasterias calamaria* according to Perrier (1875).

**linearis* (Perrier, 1881) Verrill 1915:21. See A.M. Clark in Clark & Downey 1992:425, affinities doubtful.

muricata (Verrill, 1870) (including Australian records of *C. calamaria*)

Verrill 1870:249; Rowe 1989:290 (revived from the synonymy of *Coscinasterias calamaria*); A.M. Clark in Clark & Downey 1992:424; Rowe in Rowe & Gates 1995:28.

Range: New Zealand and southern Australia.

victoriae Koehler, 1911:32. A synonym of *Diplasterias brucei* (Koehler, 1908) according to Fisher (1940).

COSCINASTERIAS (STOLASTERIAS) (Sladen, 1889, as subgenus of

Asterias) (with synonyms *Polyasterias* Perrier, 1893 and *Lytaster* Perrier, 1894) Sladen 1889:583 (*Asterias (Stolasterias)*).

H.L. Clark 1933:30 (as genus).

Fisher 1928a:129 (as subgenus).

Type species: *Asterias tenuispina* Lamarck, 1816.

acutispina (Stimpson, 1862) (with synonym *Asterias calamaria* var. *japonica* Döderlein, 1902)

Stimpson 1862:262 (as *Asterias*).

Verrill 1914:46; Fisher 1928a:129 (as *Coscinasterias (Stolasterias)*)

Hayashi 1943:197; Chang & Liao 1964:73; Hayashi 1973:102; A.M. Clark 1982:487,491; Liao & A.M. Clark 1995 [1996]:144 (as *Coscinasterias*)

Range: Southern Japan, Korea, China, W Hawaiian Is, shore.

[The generic position of this species in relation to *Astrostole* Fisher, 1923 should be re-examined since larger specimens of *acutispina* have some diplacanthid proximal adambulacrals and no enlarged tooth on the crossed pedicellariae. A.M.C. new obs.]

calamaria (Gray, 1840) (with possible synonym *Asterias jehennesi* Perrier, 1875)

Gray 1840:179; de Loriol 1885:4; Bell 1905:251 (as *Asterias*)

Dujardin & Hupé 1862:339 (as *Asteracanthion*).

H.L. Clark 1923a:306; Mortensen 1933a:227; A.M. Clark in Clark & Courtman-Stock 1876:92; A.M. Clark in Clark & Downey 1992:426 (as *Coscinasterias*).

Range: Mauritius, South Africa (at least Natal), shore.

calamaria: Fisher 1928a, H.L. Clark 1946, non (Gray, 1840), = *C. (Coscinasterias) muricata* (Verrill, 1870)

tenuispina (Lamarck, 1816) (with synonyms *Asterias savaresi* Delle Chiaje, 1827, *Asterias atlantica* Verrill, 1868 and *Lytaster inaequalis* Perrier, 1894))

Lamarck 1816:561; Perrier 1875:42 [306]; Ludwig 1897:344 (as *Asterias*).

Müller & Troschel 1842:16 (as *Asteracanthion*). , ,

Sladen 1889:565 (as *Asterias (Stolasterias)*).

Perrier 1894:108 (as *Polyasterias*).

Verrill 1914:45; Koehler 1924:103; Madsen 1950:219; Tortonese 1965:186; 1982:3; A.M. Clark in Clark & Downey 1992:427 (as *Coscinasterias*).

Verrill 1907:324; H.L. Clark 1933:30 (as *Stolasterias*).

Fisher 1928a:129 (as *Coscinasterias (Stolasterias)*).

Range: Mediterranean, North Carolina, Brazil, Bermuda, Azores, St Helena, SW France (Biscay) S to Guinea, 1-165 m.

COSMASTERIAS Sladen, 1889

Sladen 1889:562, 576 (as subgenus of *Asterias*).

Perrier 1893:848; 1896:32 (as genus).

Type species: *Asteracanthion sulcifer* Perrier, 1869, a synonym of *A. luridum* Philippi, 1858.

*alba (Bell, 1891:92 (as *Asterias*)) Fisher 1940:250, possibly a *Cosmasterias*. [Type?]

capensis: Fisher 1926:198; Mortensen 1933a:276, see *Allostichaster*

capensis: Fisher, 1930:228, non *Asterias* (i.e. *Allostichaster capensis* Perrier, 1875, = *Cosmasterias felipes* Sladen, 1889) according to Mortensen (1933a).

dyscrita H.L. Clark, 1916

H.L. Clark 1916:71; Fell 1958:20; 1960:66; McKnight 1967:303; Baker & H.E.S. Clark 1970:5.

Range: Off Victoria, Australia, New Zealand and Chatham Is, 240-550 m.

felipes (Sladen, 1889)

Sladen 1889:433; H.L. Clark 1923a:304 (as *Stichaster*).

Perrier 1896:27 (as *Quadraster*).

Fisher 1923:596 (footnote); Mortensen 1933a:274; A.M. Clark & Courtman-Stock 1976:93; A.M.C. in Clark & Downey 1992:429; Stampanato & Jangoux 1997:31 (as *Cosmasterias*).

Range: West and South coasts of South Africa, 79-353 m, also the vicinity of Amsterdam & St Paul Islands, southern Indian Ocean, c.1100 (?880-1680) m.

**fernandensis*: Verrill, 1914a:360. Probably a juvenile *Astrostole platei* according to Fisher (1930).

germaini (Philippi, 1858) Fisher 1940:263. Probably a forma of *C. lurida* according to Fisher but listed as one of many synonyms by A.M.C. in Clark & Downey (1992).

lurida (Philippi, 1858) (with synonyms *Asteracanthion germaini*

Philippi, 1858, *A. sulcifer* Perrier, 1869, *A. clavatum*, *fulvum*, *spectabile* and *mite* Philippi, 1870, *Asterias sulcifer* Perrier, 1875, *A. alba* and *obtusispinosa* Bell, 1881a and *A. (Cosmasterias) tomidata* Sladen, 1889)

Philippi 1858:265 (as *Asteracanthion*).

Ludwig 1903:40; Koehler 1912b:22; Fisher 1940:263; Madsen 1956a:42; Bernasconi 1973a:318; Hernandez & Tablado 1985:7; A.M. Clark in Clark & Downey 1992:429 (as *Cosmasterias*).

de Loriol 1904:39 (as *Asterias (Cosmasterias)*.

Range: S Chile, Falkland-Magellan area, South Georgia and S Argentina N to c.41°S., 0-650 m.

obtusispinosa: Fisher 1940:250. A synonym of *C. lurida* (Philippi, 1858) according to A.M.C. in Clark & Downey (1992).

***polygramma** (Sladen, 1889)

Sladen 1889:434 (as (*Stichaster*).

Verrill 1914a:360; Fisher 1930:228 (as *Cosmasterias*).

Synonymized with *C. lurida* (Philippi, 1858) by Leipoldt (1895) but a distinct species according to Verrill (1914a).

Range: West of Patagonia, 448 m.

radiata Koehler, 1923, see *Diplasterias*

sulcifera: Leipoldt, 1895:553. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Fisher (1940).

tomidata: Leipoldt, 1895:552. A synonym of *Cosmasterias lurida* according to Madsen (1956).

CRYPTASTERIAS Verrill, 1914

Verrill 1914b:15; 1914a:362.

Type species: *Diplasterias turqueta* Koehler, 1906.

brachiata Koehler, 1923

Koehler 1923:25.

Range: Falkland Is.

turqueta (Koehler, 1906) (with probably synonym *Diplasterias induta*

Koehler, 1906)

Koehler 1906:19 (as *Diplasterias*).

Verrill 1914a:362; Koehler 1920:57; Fisher 1940:257 (as *Cryptasterias*).

Range: South Orkney Is, 0-36 m.

CTENASTERIAS Verrill, 1914

Verrill 1914a:148.

Type species: *Asterias spitzbergensis* Danielssen & Koren, 1884

A synonym of *Leptasterias groenlandica* (Steenstrup, 1857)

according to Djakonov (1938).

A synonym of *Leptasterias* Verrill, 1866 according to Fisher (1930).

cribraria (Stimpson, 1862) Verrill, 1914:148. A synonym of *Leptasterias groenlandica* (Steenstrup, 1857) according to Djakonov (1950).

georgianus: Koehler, 1923:40, see *Neosmilaster*

DIPLASTERIAS Perrier, 1891 (*Diplasterias* Perrier, 1888:765 a nomen nudum) (synonyms *Podasterias* Perrier, 1894, *Koehleraster* Fisher, 1922) and *Bathyasterias* Fisher, 1930

Perrier 1891a:77; Fisher 1908a:89; 1908b:358; 1930:229; 1940:248; Bernasconi 1964b:273; 1970:270; A.M. Clark in Clark & Downey 1992:430.

Type species: *Diplasterias lutkeni* Perrier, 1891, a synonym of *Asterias brandti* Bell, 1881, replacement designation by Fisher (1930), awaiting validation by the ICZN, see A.M.C., 1992:431)

brandti (Bell, 1881) (with synonyms *Asterias neglecta* Bell, 1881

(forma), *Asterias belli* Studer, 1884), *Asterias glomerata*

Sladen, 1889, also *Diplasterias loveni* and *lutkeni* Perrier, 1891)

Bell 1881a:91 (as *Asterias*).

Meissner 1904:7; Koehler 1908:572; Barattini 1938:23; Fisher 1940:249 (with forma *neglecta* Bell); Bernasconi 1966b:172; 1973a:319; A.M.C. in Clark & Downey 1992:431 (as *Diplasterias*). [Non *D. bradtii* [sic]]

Tommasi 1970:20, nec *D. brandtii*: Carrera-Rodriguez & Tommasi 1977; see note in Clark & Downey]
 Koehler 1917:26; 1920:40,51; 1923:27 (as *Podasterias*).
 Range: Uruguay to the Falkland-Magellan area and South Georgia; also South Shetlands, Antarctic Peninsula and Bellingshausen Sea but with some doubt - see Clark & Downey (1992); 0-450 m.
brucei (Koehler, 1908) (with synonyms *Coscinasterias victoriae*
 Koehler, 1911 and *Podasteriasfochi* Koehler, 1920)
 Koehler 1908a:569 (as *Stolasterias*).
 Koehler 1911a:30 (as *Coscinasterias*).
 Koehler 1920:42 (as *Podasterias*).
 Fisher 1930:231; 1940:253; Bernasconi 1956:18; A.M. Clark 1962a:83; H.E.S. Clark 1963:75; Bernasconi 1967b:10 (as *Diplasterias*).
 Range: South Orkney Is, probably circum-polar antarctic, 18-730 m.
eunota Fisher 1940:255. A form of *Diplasterias octoradiata* (Studer, 1885).
fochi: Fisher 1930:231. A synonym of ö. *brucei* (Koehler, 1908) according to A.M. Clark (1962).
georgiana: Perrier, 1891, see *Neosmilaster*
germaini (Philippi, 1858) Meissner, 1904:7. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Madsen (1956).
induta Koehler, 1908a:575. Probably young *Cryptasterias turqueta* Koehler, 1906 according to Fisher (1940).
kerguelensis (Koehler, 1917)
 Koehler 1917:24 (as *Podasterias*).
 Fisher 1930:231 (as *Diplasterias*).
 Range: Kerguelen, Southern Ocean.
loveni Perrier, 1891a:K81. A synonym of *Diplasterias brandti* (Bell, 1881) according to Fisher (1940).
luetkeni Perrier, 1891a:K81. Also a synonym of *Diplasterias brandti* according to Fisher (1940).
meridionalis (Perrier, 1875) (with synonyms *Asterias mollis* Studer 1884 and *A. studeri* Bell, 1881, also probably *Asterias vesiculosa* Sladen, 1889, see below under ö. *vesiculosa*)
 Perrier 1875:76; E.A. Smith 1879:272 (as *Asterias*).
 Perrier 1891a:7; Fisher 1940:251; Bernasconi 1956:21; A.M. Clark 1962a:84; Guille 1974:38 (as *Diplasterias*).
 Koehler 1917:20; Döderlein 1928:294 (as *Podasterias*).
 Range: Kerguelen, Marion I, South Georgia and Shag Rocks, 0-234 m.
octoradiata (Studer, 1885) (with forma *eunota* Fisher 1940)
 Studer 1885:147 (as *Pedicellaster*).
 Koehler 1914b:64 (as *Anasterias* but given as n.sp.!).
 Fisher 1922b:593; 1930:234 (as *Koehler aster*).

Fisher 1940:254 (as *Diplasterias*) 255 (forma *eunota*). > . . . 1
 Range: South Georgia, 15-55 m. • (• * * *
papillosa Koehler, 1906:21, see *Adelasterias* / * * *
radiata (Koehler, 1923)
 Koehler 1923:36 (as *Cosmasterias*).
 Fisher 1940:257 (as *Diplasterias*).
 Range: Shag Rocks, Falkland Plateau [?], 160-177 m. ;
steineni: Perrier, 1891, see *Neosmilaster*
sulcifera: Perrier, 1891c:77, = *Cosmasterias lurida* (Philippi, 1858) according to Madsen (1956)
turqueta Koehler, 1906, see *Cryptasterias*
***vesiculos** (Sladen, 1889) Fisher 1930:231 (subgenus *Bathyasterias*), 232.
 'Challenger' station almost certainly wrong and not Arauca Sea, N. of Australia but probably 151, near Kerguelen and *vesiculos* a synonym of *Diplasterias meridionalis* (Perrier, 1875) (also with six arms. New observation
DISTOLASTERIAS Perrier, 1896
 Perrier 1896:34; Fisher 1928a:102.
 Type species: *Asterias (Stolasterias) stichantha* Sladen, 1889.
chelifera Verrill, 1914a:185. Reduced to a subspecies of *Lethasterias nanimensis* (Verrill, 1914) by Fisher (1928).
dubia: Fisher, 1919, see *Australiaster*
elegans Djakonov, 1931
 Djakonov 1931:67; 950a:116; Chang & Liao 1964:71; **Baranova** 1971:257.
 Range: Japan Sea, N China, 4-68 m.
euplecta: (Fisher, 1919), see *Sclerasterias*, ,
eustyla: Fisher, 1919, see *Sclerasterias*
hypacantha Fisher 1917c:92. Reduced to a forma of *Sclerasterias euplecta* (Fisher, 1906) by Fisher (1928).
mazophora: Fisher, 1919, see *Sclerasterias*
mollis: Fisher, 1919, see *Sclerasterias*
nanimensis: Fisher, 1923, see *Lethasterias*
nipon (Döderlein, 1902) (with synonym *Distolasterias tricolor*)
 Djakonov, 1927)
 Döderlein 1902:234; Uchida 1928:798 (as *Asterias*).
 Fisher 1928a:103; Djakonov 1950a:116; Chang & **Liao 1964:71**; Rho 1971:71; Baranova 1971:256; A.M. Clark 1982:496.
 Range: Japan Sea, N China, 30-150 m.
robusta (Ludwig, 1905)
 Ludwig 1905:228 [non 1908:350 cited by Fisher (1928)] (as *Stolasterias*).
 Verrill 1914a:179 (as *Styasterias*).

Fisher 1928a:109 (as *Distolasterias*).

Range: Galapagos Is, 704 m.

stichantha (Sladen, 1889)

Sladen 1889:586 (as *Asterias (Stolasterias)*).

Perrier 1896:34 (as *Distolasterias*).

Range: Japan, 630 m.

tricolor Djakonov, 1927:315. A synonym of *Distolasterias nippon*

(Döderlein, 1902) according to Fisher (1928a).

ENDOGENASTERIAS Djakonov, 1938:844. As subgenus of *Leptasterias*

Verrill, 1866, for *Leptasterias groenlandica* (Steenstrup, 1857) and *L. siberica* Djakonov, 1930, but neither designated as type species, so not strictly valid. See under *Leptasterias*.

EOLEPTASTERIAS Djakonov, 1938:814. As subgenus of *Leptasterias*

Verrill, 1866, for 7 species 'which stand very near *L. ochotensis* (Brandt, 1851)' which may stand as type validation. See under *Leptasterias*.

EREMASTERIAS Fisher, 1930, for type species *Pisaster antarcticus*

Koehler, 1917. A synonym of *Anasterias* Perrier, 1875, according to A.M. Clark (1962).

antarctica: Fisher, 1930:323. A synonym of *Anasterias perrieri* (E.A. Smith, 1876) according to A.M. Clark (1962).

*robusta Mortensen, 1941:4, from Tristan da Cunha. Left in limbo by A.M. Clark (1962); position uncertain.

EUSTOLASTERIAS Fisher, 1923

Fisher 1923:255.

Type species: *Coscinasterias (Distolasterias) euplecta* Fisher, 1906.

A synonym of *Sclerasterias* Perrier, 1891 according to Fisher (1928a).

euplecta: Fisher, 1923, see *Sclerasterias*

mollis: Fisher, 1923, see *Sclerasterias*

•

stenactis: H.L. Clark 1926:23, see *Sclerasterias*

EVASTERIAS Verrill, 1914

Verrill 1914a:51,151; Fisher 1930:139.

Type species: *Asterias troscheli* Stimpson, 1862.

acanthostoma (Verrill, 1909). Reduced to a forma of *E. troscheli* by Fisher (1930) and Djakonov (1950).

alveolata Verrill, 1914, with synonym *Asterias saanichensis* de Loriol, 1897. A forma of *E. troscheli*.

derjugini (Djakonov, 1938)

Djakonov 1938:842 (as *Leptasterias*).

Djakonov 1950a:131; 1958b:322 (as *Evasterias*).

Range: Peter the Great Bay, Japan Sea, 25 m.

echinosoma Fisher, 1926

Fisher 1926:2; 1930:152; Hayashi 1943:229; Djakonov 1950a:131;

1950c:90; Baranova 1957:128; Djakonov 1958a:263 (with forma tro-scheliformis nov.)

Range: Japan, Okhotsk and Bering Seas, 4-112 m.

retata Djakonov, 1950a. A forma of *E. retifera* below

retifera Djakonov, 1938 (with forms retata, retifera and tabulata Djako-nov)

Djakonov 1938:444; 1950a:132; 1950c:79; Baranova 1957:177.

Range: Japan, Okhotsk and Bering Seas, 0-68 m.

tabulata Djakonov, 1938. A forma of *E. retifera*.

troscheli (Stimpson, 1862)(with synonyms *Asterias saanichensis* de Loriol, 1897, *Leptasterias macouni* Verrill, 1914, *L. inaequalis* Verrill, 1914 and probably also *Asterias epichlora* Brandt, 1835, and forms *troscheli* (Stimpson, 1862), *acanthostoma* and *alveolata* (Verrill, 1909))

Stimpson 1862:267 (as *Asterias*).

Verrill 1914a:151; Fisher 1926:1; 1930:139; Djakonov 1950a:130; 1950c:73; Baranova 1957:178; Shin 1995a:120 (as *Evasterias*).

Range: Kamtchatka and Korea to California, 0-70 m.

GASTRASTER Perrier, 1894

Perrier 1894:103; Fisher 1930:206; Mortensen 1927:137.

Type species: *Pedicellaster margaritaceus* Perrier in Milne-Edwards, 1882.

A synonym of *Neomorphaster* Sladen, 1889 according to Downey in Clark & Downey (1992).

margaritaceus (Perrier in Milne-Edwards, 1882), see *Neomorphaster* (Neomorphasteridae)

**studeride* Loriol, 1904:34.

Range: Port San Antonio, Argentina.

Left in limbo by the synonymy of *Gastraster* with *Neomorphaster*, position uncertain.

GRANASTER Perrier, 1894 (with synonym *Hemasterias* Verrill, 1914)

Perrier 1894:129; Fisher 1940:264.

Type species: *Stichaster nutrix* Studer, 1885.

biseriatus Koehler, 1906:11. A synonym of *Granaster nutrix* (Studer, 1885) according to Fisher (1940).

nutrix (Studer, 1885) (with synonym *G. biseriatus* Koehler, 1906)

Studer 1885:1554 (as *Stichaster*).

Perrier 1894:129; Koehler 1912:29; Fisher 1940:264; Bernasconi 1956:12; 1967:13 (as *Granaster*).

Range: South Georgia to Antarctic Peninsula, 0-250 m.

HEMIASTERIAS Verrill, 1914

Verrill 1914a:362.

Type species: *Granaster biseriatus* Koehler, 1906.

A synonym of *Granaster* Perrier, 1894 according to Fisher (1940).

biseriata: Verrill, 1914:362. A synonym of *Granaster nutrix* (Studer, 1885) according to Fisher (1940).

HEXASTERIAS Fisher, 1930. A subgenus of *Leptasterias* Verrill, 1866

ICASTERIAS Fisher, 1923

Fisher 1923:601; 1930:210.

< <

Type species: *Asterias panopla* Stuxberg, 1879.

panopla (Stuxberg, 1879)

Stuxberg 1879:32; Danielssen & Koren 1884:17; Döderlein 1900:204 (as *Asterias*?).

Fisher 1930:210; Mortensen 1932:20; Djakonov 1933:64; 1950a:114; Smirnov 1990:444 (as *Icasterias*).

Range: Arctic Atlantic: Greenland, Spitzbergen, Barents and Kara Seas, 18-560m.

KALYPTASTERIAS Koehler, 1923

Koehler 1923:43.

Type species: *Kalyptasterias conferta* Koehler, 1923.

A synonym of *Anasterias* Perrier, 1875 according to Fisher (1940).

conferta Koehler, 1923:43. A synonym of *Anasterias spirabilis* (Bell, 1881) according to A.M. Clark (1962a).

KENRICKASTER A.M. Clark, 1962

A.M. Clark 1962a:80-81.

pedicellaris A.M. Clark, 1962

A.M. Clark 1962a:81.

Range: [?Enderby or MacRobertson Land, Antarctica.]

KOEHLERASTER Fisher, 1922

Fisher 1922b:596; 1930:234.

Type species: *Anasterias octoradiata* Koehler, 1914.

A synonym of *Diplasterias* Perrier, 1891 according to Fisher (1940).

octoradiatus: Fisher, 1922:593, see *Diplasterias*

LEPTASTERIAS Verrill, 1866 (with synonym *Ctenasterias* Verrill, 1914; subgenera *Hexasterias* and *Nesasterias* Fisher, 1930, also *Eoleptasterias* Djakonov, 1938 - though *Endogenasterias* Djakonov not strictly valid, no type designation)

Verrill 1866:350; 1914a:116; Fisher 1930:23; Djakonov 1938:749-764; 1950a:133; Official List of ICZN 1940 [?1942]: ; A.M. Clark in Clark & Downey 1992:432.

Note: As with *Pteraster* (see part 3), all the species are treated below under the generic heading rather than the subgeneric, pending re-evaluation, especially of the incredible multiplicity of taxa described by Djakonov (1929 and 1938a).

LEPTASTERIAS (LEPTASTERIAS) Verrill 1866 [To end with other subgenera?]

Verrill 1866:350; Fisher 1930:3,23; Djakonov 1938a:763 (emended).

Type species: *Asteracanthion muelleri* M. Sars, 1846.

acervata (Stimpson, 1862). A subspecies of *L. polaris* (Müller & Troschel, 1842)

aequalis (Stimpson, 1862:273) Fisher, 1930:120. A synonym of *L. hexactis* (Stimpson, 1862) according to Chia (1966).

alaskensis (Verrill, 1909) (subgenus *Hexasterias*; with subspp. *asiatica* and *multispina* Fisher, 1930, and forms *shumaginensis* and *pribilofensis* Fisher)

alaskensis alaskensis (Verrill, 1909)

Verrill 1909b:549 (as var. of *Asterias epichlora* Brandt).

Verrill 1914a:136 (as *Leptasterias epichlora alaskensis*).

Fisher 1930:124 (emended, non *epichlora* (Brandt), as species of *Leptasterias* with forms *alaskensis*, *shumaginensis* and *pribilovensis*); Baranova 1957:184.

Range: Alaska, Pribilov and Shumagin Is, 0-10 m.

alaskensis asiatica Fisher, 1930

Fisher 1930:131; Djakonov 1938:901; 1950a:151; Baranova 1957:184; Hayashi 1973:110.

Range: Kurile Is, Bering Sea, Tatar Strait, 0-28 m.

alaskensis multispina Fisher, 1930

Fisher 1930:133.

Range: Alaska to northern Vancouver I. >

aleutica Fisher, 1930

Fisher 1930:101; Baranova, 1957:185.

Range: Aleutian Is.

aphelonota Fisher, 1930. A forma of *L. polaris acervata* (Stimpson, 1862)

***arctica** (Murdoch, 1885) (conspecific with *Asterias nautarum* Bell, 1883) a long-forgotten name which needs to be suppressed; see under *Asterias nautarum*; possible synonym *L. islandica* (Levinsen, 1887); forms *beringensis* Fisher, 1930, *arctica* and *glomerata* Djakonov, 1938

Murdoch 1885:159 (as *Asterias*).

Verrill 1914a:120; Fisher 1930:24, 227 (forma *beringensis*); Djakonov 1930:46; 1938:764, 773 (forma *arctica*, 775 (f. *glomerata*); 1950a:139; Baranova 1957:179 (as *Leptasterias*).

Range: N Alaska, Bering Sea, 0-80 m.

asiatica Fisher, 1930, as subspecies of *L. alaskensis*

asteira Fisher, 1930

Fisher 1930:103; Baranova 1957:186.

Range: Aleutian Is, Bering Sea, 0-26 m.

austera (Verrill, 1895)

Verrill 1895:209 (as *Asterias* perhaps *Leptasterias*).

H.L. Clark 1904:555 (as *Asterias*). • -

Fisher 1930:207; Gosner 1971:577; A.M.C. in Clark & Downey 1992:435 (as *Leptasterias*).

Range: Off Cape Cod, possibly S to Rhode Island, 33-64 m.

bartletti A.H. Clark, 1940 (*Leptasterias Hexasterias*)

'Not readily distinguishable from *L. polaris* (Müller & Troschel, 1842) according to Grainger (1966:50).

beringensis Fisher, 1930, as forma of *L. arctica*

camtschatica (Brandt, 1835) (subgenus *Hexasterias*; with synonym

Asterias multiclava Verrill, 1914a) subsp. *dispar* Verrill, 1914 and forma *nitida* Fisher, 1930

Brandt 1835:270; Ludwig 1900:485 (as *Asterias*).

Brandt 1851:32 (as *Asteracanthium*).

Fisher 1930:91, 94 (*dispar* as forma), 95 (forma *nitida*); Djakonov 1938:889 (*dispar* as subsp.); 1950:151; Baranova 1957:185.

Range: Kamchatka, Bering Sea, Aleutians and Kurile Is, 0-27 m.

camtschatica dispar Verrill, 1914

Verrill 1914a:142. See above.

***canuti** Heding, 1936

Heding 1936:13.

Range: SE Greenland

carinata Heding, 1935. A forma of *L. hyperborea* (Danielssen & Koren).

clavispina Heding, 1936

Heding 1936:14

Both overlooked by A.M.C. in Clark & Downey (1992).

coei (*coei*) Verrill, 1914 (subgenus *Hexasterias*; with subspp.

trunculenta Fisher, 1930 and *shantarica* Djakonov, 1938.)

coei coei Verrill, 1914

Verrill 1914a:123; Fisher 1930:84.

Range: Alaska, 18-186 m.

coei shantarica Djakonov, 1938

Djakonov 1938:881; 1950a:149.

Range: NW Ochotsk Sea.

coei trunculenta Fisher, 1930

Fisher 1930:186; Baranova 1957:184.

Range: Aleutian Is, Barents Sea, 79-102 m.

compta (Stimpson, 1862)

Stimpson 1862:270 (as *Asterias*).

Verrill 1866:340 (as *Asterias* (*Asteracanthion*)).

Verrill 1879:14; 1885b:540 (as (?*Leptasterias*).

Sladen 1889:583 (as *Asterias* (*Leptasterias*)).

Fisher 1930:208 (as *Leptasterias tenera* forma *compta*).

A.M. Clark in Clark & Downey 1992:436 (as *Leptasterias*).

Range: South of Halifax, Nova Scotia to New Jersey, 32-275 m.

compacta and *concinna* Verrill 1914:130, 132 as varieties of *L. aequalis* (Stimpson, 1862), a synonym of *L. hexactis* (Stimpson, 1862).

confinis Djakonov, 1950. A forma of *L. polaris katherinae* (Gray) *crassa* Heding, 1935. A variety of *L. floccosa* (Levinsen, 1903)

cribraria (Stimpson, 1862) Djakonov 1930:41. A synonym of *L. groenlandica* (Steenstrup, 1857) according to Fisher (1930) and Djakonov (1950a).

danica (Levinsen, 1887)

Levinsen 1887:393 (as *Asterias Mulleri* var. *danica*).

Heding 1935:49 (neotype; raised to specific rank); A.M. Clark in Clark & Downey 1992:436 (as *Leptasterias*).

Range: Southern Kattegat, between Denmark and Sweden.

degerboelli Heding, 1935

Heding 1935:56; 1936:12.

Range: SE Greenland.

derbeki Djakonov, 1938 (subgenus *Eoleptasterias*, with subspecies *tatarica*)

derbeki derbeki Djakonov, 1938

Djakonov 1938a:829; 1950a:144.

Range: Okhotsk Sea. 31-500 m.

derbeki tatarka Djakonov, 1938

Djakonov 1938a:8291 1950a:144.

Range: Tatar Strait and Okhotsk Sea, 66-73 m.

derjugini Djakonov, 1938 (subgenus *Eoleptasterias*)

Djakonov 1938a:842.

Range: Japan Sea, 25 m.

dispar Verrill, 1914. A subspecies of *L. camtschatica* Brandt, 1835.

epichlora (Brandt, 1835) (to *Leptasterias* according to Verrill, 1914a:132).

Probably a synonym of *Evasterias troscheli* forma *alveolata* Verrill, 1914, according to Fisher (1930).

epichlora: Verrill 1914, non *Asterias epichlora* Brandt, 1835, partly = *L. hexactis* formae *regularis* and *aspera* and partly *L. alaskensis* according to Fisher (1930).

fascicularis (Perrier, 1881) Verrill, 1915, see *Tarsaster* (Pedicellasteridae)

fisheri Djakonov, 1929 (with subspecies *meridionalis* Djakonov, 1938)

fisheri fisheri Djakonov, 1929

Djakonov 1929a:283; Fisher 1930:42; Djakonov 1938a:801; 1950a:142.

Range: Okhotsk Sea and Tatar Strait, 40-160 m.

fisheri meridionalis Djakonov, 1938

Djakonov 1938a:806.

Range: Japan Sea, 10-20 m.

floccosa (Levinsen, 1887)

Levinsen 1887:392 (as *Asterias Mulleri* var. *floccosa*).

Heding 1935:54 (as *L. floccosa*, with var. *crassa* nov.).

Range: Baffin Bay, NE Greenland.

floccosoides Heding, 1935. A forma of *L. hyperborea* (Danielssen & Koren)

glomerata Djakonov, 1938. A forma of *L. arctica* (Murdoch, 1885).

granulata Djakonov, 1938 (subgenus *Eoleptasterias*)

Djakonov 1938a:836; 1950a:145.

Range: NW Okhotsk Sea, 53-157 m.

groenlandica (Steenstrup, 1857) (with synonyms *A. inermis* Bell, 1881,

A. spitzbergensis Danielssen & Koren, 1881 and *L. obtecta*

Verrill, 1914; also *Asterias cribalaria* Stimpson, 1862 but a distinct forma according to Fisher (1930))

Steenstrup 1857:228; Duncan & Sladen 1881:27 (as *Asteracanthion*).

Stimpson 1863:142; Döderlein 1900:202; Ludwig 1900:482 (as *Asterias*).

Verrill 1879:151; 1895:210; Fisher 1930:45; Djakonov 1930:38; Mortensen 1932:21; Djakonov 1938a:844 and f. *cribraria*; 1950a:146; Baranova 1957:181; Grainger 1964:44; A.M. Clark in Clark & Downey 1992:433.

Range: Circum-North Polar, possibly S in Atlantic to Nova Scotia - see A.M.C. (1992), 5-276 m.

hartu Rathbun, 1879, see *Allostichaster*

hexactis (Stimpson, 1862) (subgenus *Hexasterias*) (with synonyms

Asterias aequalis Stimpson, 1862, along with *L. compacta* and *L. concinna* Verrill, 1914 and *aequalis* forma *nana* Verrill, 1914; subspp. *vancouveri* (Perrier, 1875) and *occidentalis* Djakonov, 1938)

hexactis hexactis (Stimpson, 1862)

Stimpson 1862:82 (as *Asterias*).

Fisher 1930:114; Lambert 1981:114; Maluf 1988:46,126 (as *Leptasterias*).

Range: South of Vancouver Island to Catalina Island, S California, intertidal - 3 m.

hexactis occidentalis Djakonov, 1938

Djakonov 1938a:897; 1950a:150.

Range: Okhotsk Sea.

hexactis vancouveri (Perrier, 1875)

Perrier 1875:328 (as *Asterias*).

Verrill 1914a:125; Fisher 1930:115 (as *Leptasterias*).

Range: Vicinity of Vancouver Island.

hirsuta Djakonov, 1938

Djakonov 1938a:785; 1950a:140.

Range: Okhotsk Sea, 17-106 m.

hispidella Verrill, 1895

Verrill 1895:210; Fisher 1930:207; A.M. Clark in Clark & Downey 1992:437.

Range: Off Nova Scotia, 91 m.

hyloides Fisher, 1930 (with subsp. *reticulata* Djakonov, 1938)

hyloides hyloides Fisher, 1930

Fisher 1930:35; Djakonov 1938a:780.

Range: S Bering Sea, Aleutian Is, S Alaska, 45-125 m.

hyloides reticulata Djakonov, 1938

Djakonov 1938a:781; 1950a:140; Baranova 1957:180.

Range: W side of Bering Sea.

hyperborea (Danielssen & Koren, 1882) (with synonym *Asterias normani*

Danielssen & Koren, 1883 with formae *carinata*, *floccosoides* and *intermedia* all of Heding, 1935)

Danielssen & Koren 1882:269; 1884b:10; Ludwig 1900:484 (as *Asterias*).

Fisher 1930:207; Heding 1935:44 (formae).

Range: Spitzbergen, Bear Island, Faeroe Is, formae from S Greenland and Iceland.

A subspecies of *L. muelleri* (M. Sars, 1846) according to Djakonov (1930, 1933) but a valid species according to Heding (1935).

inaequalis Verrill, 1914a: 117. A synonym of *Evasterias troscheli* according to Fisher (1930).

intermedia Heding, 1935. A forma of *L. hyperborea* (Danielssen & Koren)

intermedia Djakonov, 1938b:867 (a homonym of the above). A forma of *L. polaris acervata* (Stimpson, 1862)

insolens Djakonov, 1938

Djakonov 1938a:807; 1950a:142.

Range: Tatar Strait, Okhotsk Sea, 100-128 m.

***islandica** Levinsen, 1877 (with variety *gracilis* Heding, 1935)

Levinsen 1877:393 (as *Asterias Mulleri* var. *islandica*).

Heding 1935:47 (as species, with var. *gracilis*); A.M.C. in Clark & Downey 1992:433 (in key), 434 (remarks).

Range: Iceland and the Faeroe Islands.

A synonym of *L. arctica* (Murdoch, 1885) according to Djakonov (1950a), apparently overlooked by A.M.C. (1992).

kussakini Baranova, 1962

Baranova 1962:348.

Range: Kurile Is.

leptalea Verrill, 1914

Verrill 1914a:119; Fisher 1930:44 (type lost).

Range: Alaska.

leptodoma Fisher, 1930 (subgenus *Hexasterias*)

Fisher 1930:105; Djakonov 1938a:899; 1950a:150; Baranova 1957:184.
Range: Aleutian Is, Commander Is, mid-low water.

littoralis (Stimpson, 1853)

Stimpson 1853:14 (as *Asteracanthion*).

Verrill 1866:349; Ganong 1888:39; H.L. Clark 1905:4 (as *Asterias*).

Verrill 1879:14; 1895:211; Fisher 1930:207; Gosner 1971:577; A.M.C.
in Clark & Downey 1992:438 (as *Leptasterias*).

Range: Bay of Fundy, Gulf of St Lawrence S to Maine, intertidal - 42
m.

macouni Verrill, 1914a:124. A synonym of *Evasterias troscheli* (Stimpson,
1862) according to Fisher (1923).

meridionalis Djakonov, 1938a. Subspecies of *L. fisheri* Djakonov, 1929.

mexicana (Lütken, 1860 [1859 in part 1 references])

Lütken 1860:94 (as *Aster acanthion*).

Verrill 1867:344 (as *Asterias*).

Verrill 1915:24 (as ? *Leptasterias*, or young *Asterias*).

A.M.C. in Clark & Downey 1992:434 (under *Leptasterias*). ' , ,
Range: 'Vera Cruz, (atlantic coast of) Mexico'. : 6

Verrill (1915) doubted the generic affinity of the type material^{*} and
A.M.C. (1992) thought the locality incompatible. i ;

muelleri (M. Sars, 1846) (with subsp. *celtica* A.M.C. in Clark & Downey,
1992 - conspecific with *Asterias hispida* Pennant, 1777, suppressed; var.
nobilis Heding, 1935)

muelleri muelleri (M. Sars, 1846)

M. Sars 1846:56; 1861:88 (as *Aster acanthion*; *A. muelleri* M. Sars, 1844
a nomen nudum, undescribed).

Norman 1865:127; Danielssen & Koren 1884b:21 (as *Asterias*).

Verrill 1866:350; Mortensen 1927:141; Brun 1970:238, Opinion ICZN
984 1972:115 (on Official List of Specific Names); Fisher 1930:208;
Heding 1935:41 (and var. *nobilis*); Djakonov 1950a:138; A.M.C.

In Clark & Downey 1992:439 (as *Leptasterias*).

Sladen 1889:582 (as *Asterias* (*Leptasterias*)).

Range: Southern Norway to the Oresund, E Denmark, and Dogger Bank
(mid-North Sea), ?Shetlands, E of Faeroe Is., North Norway and Murman
coast, intertidal to ?140 m.

muelleri celtica A.M. Clark in Clark & Downey 1992 (nom. nov. for *Aste-*
rias hispida Pennant, 1777, suppressed)

Bell 1881b:510 (*Asterias muelleri*).

Mortensen 1927:141 (*L. muelleri*). • > : 8

A.M.C. in Clark & Downey 1992:440. • : 1

Range: Northern Ireland, Scotland and NE England, intertidal.

Brun's premature rejection through the ICZN of the name *Asterias*

hispida Pennant, 1777 necessitated a new name for British specimens
believed by A.M.C. to be subspecifically distinct from *L. muelleri* (M.
Sars) of Scandinavia.

obtecta Verrill, 1914a:144. A synonym of *L. groenlandica* (Steenstrup,
1857), according to Fisher (1930).

ochotensis (Brandt, 1851) (could be constructed as type species of subgenus
Eoleptasterias Djakonov, 1938)

Brandt 1851:28; Perrier 1869: (as *Aster acanthion*).

Fisher 1930:57; Djakonov 1938a:815; 1950a:143.

Range: Okhotsk Sea, 0-30 m.

orientalis Djakonov, 1929 (with subsp. *japonica* Djakonov, 1938)

orientalis orientalis Djakonov, 1929

Djakonov 1929b:277; Fisher 1930:40; Djakonov 1938a:791; 1950a:141;
1958b:324.

Range: Okhotsk Sea to Sea of Japan, 16-161 m.

orientalis japonica Djakonov, 1938

Djakonov 1938a:796.

Range: Japan Sea, 37-128 m.

***polaris** (Müller & Troschel, 1842) (type species of subgenus
Hexasterias Fisher, 1930; synonyms: *Asterias borealis* Perrier, 1875
and possibly *L. bartletti* A.H. Clark, 1940; subsp.: *acervata* (Stimpson,
1862); *katherinae* (Gray, 1840*) and *ushakovi* Djakonov, 1938 and
formae aphelonota Fisher 1930, *confinis* Djakonov, 1938, *intermedia*
Djakonov, 1938 and *polythela* (Verrill, 1909))

*Fisher and Djakonov's treatment of *Asterias katherinae* Gray, 1840 as
a subspecies of *L. polaris* Müller & Troschel, 1842, renders the latter
a junior synonym. Since *polaris* is such a widely-used name there is a
good case for suppression of *katherinae* by the ICZN.

polaris polaris (Müller & Troschel, 1842)

Müller & Troschel 1842:16; Duncan & Sladen 1881:23 (as *Asteracan-*
thion).

Lütken 1857:28; Stimpson 1862:271; Verrill 1866:356; 1895:208;
Mortensen 1932a:22 (as *Asterias*).

Fisher 1923:599; Djakonov 1950a:148; Tortonese 1955:681; Grainger
1966:48; Gosner 1979:262 (as *Leptasterias*).

Fisher 1930:60; A.M.C. in Clark & Downey 1992:441 (as *Leptasterias*
(*Hexasterias*)).

Range: Greenland*, Circum-N polar, S to George's Bank off Cape Cod
in W Atlantic, and to Okhotsk Sea and Washington State in Pacific,
0-360 m.

polaris acervata (Stimpson, 1862) (with forms: *aphelonota* Fisher, 1930,
intermedia Djakonov, 1938a and *polythela* (Verrill, 1909))

Stimpson 1862:271 (as *Asterias*).

Fisher 1930:66 (and forms); Djakonov 1938a:867 (f. *intermedia*); Baranova 1957:182 (forms).
Range: Okhotsk and Bering Seas, S Alaska, 3-150 m.

***polaris katherinae** (Gray, 1840) (with synonym *Pisaster grayi* Verrill, 1914 and forma *confinis* Djakonov, 1938)
Gray 1840:179 (as *Asterias katherinae*).
Fisher 1930:77 (as subsp.); Djakonov 1938a:876 (with forma *confinis*).
See remarks under *polaris* above.

polaris ushakovi Djakonov, 1938
Djakonov 1938a:870.
Range: W Okhotsk Sea.

polymorpha Djakonov, 1938 (subgenus *Hexasterias*)
Djakonov 1938a:876; 1950a:149.
Range: Okhotsk Sea, 66-100 (?183) m.

polythela: Fisher, 1930:255. A forma of *L. polaris acervata* (Stimpson).

pribilofensis Fisher, 1930. A forma of *L. alaskensis* (Verrill, 1909).

pusilla Fisher, 1930
Fisher 1930:118.
Range: Monterey Bay, California.

schmidti Djakonov, 1938 (subgenus *Hexasterias*)
Djakonov 1938a:885; 1950a:148.
Okhotsk Sea, 30-68 m.

shantarica Djakonov, 1938a. A subspecies of *L. coei* (Verrill, 1909).

shumaginensis Fisher, 1930. A forma of *L. alaskensis* Verrill, 1909.

siberica Djakonov, 1930
Djakonov 1930:44; 1933:70; 1938a:855; 1952b:294.
Range: Bering Sea (c.67°N, 175°W), 16 m.

similispinus (H.L. Clark, 1908) (subgenus *Eoleptasterias*)
H.L. Clark 1908:288 (as *Asterias*).
Fisher 1930:59 (as subsp. of *L. ochotensis*).
Djakonov 1938a:821; 1938b:446; 1950a:143 (as species).
Range: NE Hokkaido, Japan, Tatar Strait, 0-10 m.

squamulata Djakonov, 1938 (subgenus *Eoleptasterias*)
Djakonov 1938a:839; 1950a:145; Baranova 1957:181.
Range: Commander Is, Bering Sea, littoral.

stolacantha Fisher, 1930 (subgenus *Nesasterias*)
Fisher 1930:135; Baranova 1957:186.
Range: Unalaska, Aleutian Is, Bering Sea, 64-108 m.

subarctica Djakonov, 1938
Djakonov 1938a:798; 1950a:141.
Range: SW Okhotsk Sea, 30-50 m.

tatarica Djakonov, 1938a. A subspecies of *L. derbeki* Djakonov, 1938.

tenera (Stimpson, 1862) (with synonym *Asteracanthion flaccida* A. Agassiz, 1863) Stimpson 1862:269; H.L. Clark 1904:554(pt); Coe 1912:63 (as *Asterias*).
Verrill 1866:349 (as *Asterias* (*Leptasterias*)).
Verrill 1873b:504; Ganong 1888:40; Gray et al. 1968:160; Gosner 1971:583; Franz et al. 1981:404; A.M.C. in Clark & Downey 1992:441 (as *Leptasterias*).
Range: Massachusetts Bay*, Nova Scotia and the Gulf of Maine to Cape Hatteras, 18-180 m.

truculenta Fisher, 1930. A subspecies of *L. coei* Verrill, 1914.

ushakovi Djakonov, 1938. A subspecies of *L. polaris* (Müller & Troschel, 1842)

vancouveri (Perrier, 1875): Verrill, 1914. A subspecies of *L. hexactis* (Stimpson, 1862) according to Fisher (1930).

vinogradovi Djakonov, 1938 (subgenus *Eoleptasterias*)
Djakonov 1938b:826; 1950a:144.
Range: SE Kamtchatka, 0-10 m.

LEPTASTERIAS (ENDOGENASTERIAS) Djakonov, 1938
Djakonov, 1938b:844 (for *L. groenlandica* (Steenstrup, 1857) and *L. siberica* Djakonov, 1930 but neither designated as type species so *Endogenasterias* not strictly valid).

LEPTASTERIAS (EOLEPTASTERIAS) Djakonov, 1938.
Djakonov 1938b:814.
Type species: *Asteracanthion ochotensis* Brandt, 1851.
Other species included: *L. derbeki*, *L. derjugini* and *L. granulata*, all of Djakonov, 1938, *L. similispinus* (H.L. Clark, 1908), *L. squamulata* and *L. vinogradovi* Djakonov, 1938.

LEPTASTERIAS (HEXASTERIAS) Fisher, 1930
Fisher, 1930:59; Djakonov 1938b:856.
Type species: *Asteracanthion polaris* Müller & Troschel, 1842.
Other species included: *alaskensis* (Verrill, 1909), *camtschatica* (Brandt, 1835), *coei* Verrill, 1914, *hexactis* (Stimpson, 1862), *leptodoma* Fisher, 1930, *polymorpha* and *schmidti* Djakonov, 1938.

LEPTASTERIAS (NESASTERIAS) Fisher, 1930
Fisher 1930:135.
Type and only species: *Leptasterias stolacantha* Fisher, 1930 ,

LETHASTERIAS Fisher, 1923
Fisher 1923:258; 1928:131.
Type species: *Asterias nanimensis* Verrill, 1914.

acutispina Hayashi, 1973
Hayashi 1973a:12; 1973b:103.
Range: Sagami Bay, SE Japan, 160-230 m.

- australis** Fisher, 1940
 Fisher 1940:223; A.M. Clark 1962a:
 Range: Between Falkland Is and Argentina, 155 m.
- fusca** Djakonov, 1931
 Djakonov 1931:79; 1950a:118; 1958:320.
 Range: N Japan Sea, Tatar Strait, 16-40 m.
- nanimensis** (Verrill, 1914) (with subspecies *beringiana* Djakonov, 1931 and *chelifera* (Verrill, 1914))
nanimensis nanimensis (Verrill, 1914)
 Verrill 1914a:105 (as *Asterias*).
 Fisher 1923:258 (as *Distolasterias* and *Lethasterias*). .
 Fisher 1928a:132 (as *Lethasterias*).
 Range: Nanaimo, Vancouver I, Washington, 46-73 m.
- nanimensis beringiana** Djakonov, 1931
 Djakonov 1931:74.
 Range: Bering Sea.
- nanimensis chelifera** (Verrill, 1914)
 Verrill 1914a: .
 Fisher 1928a:132; Baranova 1957:177; Djakonov 1958b:319; Hayashi 1973b:103; Imaoka et al. 1991:104 (as subsp. of *Lethasterias nanimensis*).
 Range: Okhotsk and Japan Seas, 0-247 m.
- LYSASTERIAS** Fisher, 1908 (with synonym *Paedasterias* Verrill, 1914)
 Fisher 1908a:88; 1922b:594; 1930:235; 1940:239; A.M. Clark 1962a:89; H.E.S. Clark 1963b:72.
 Type species: *Anasterias perrieri* Studer, 1885 (not Perrier, 1891)
- adeliae** (Koehler, 1920)
 Koehler 1920:26 (as *Anasterias*).
 Fisher 1930:236; 1940:244; H.E.S. Clark 1963b:72 (as *Lysasterias*).
 Range: Adelie Land, Palmer Archipelago, Antarctic Peninsula, 22-235 m.
- belgicae** (Ludwig, 1903)
 Ludwig 1903:51 (as *Anasterias*).
 Fisher 1930:236; Bernasconi 1956:16 (affinity with *L. joffrei*); Jangoux & Massin 1986:90 (syntypes)(as *Lysasterias*).
 Range: Bellingshausen Sea, South Shetland Is.
- chirophora** (Ludwig, 1903)
 Ludwig 1903:43 (as *Anasterias*).
 Verrill 1914a:371 (as *Paedasterias*).
 Fisher 1930:236; Jangoux & Massin 1986:90 (type material) (as *Lysasterias*).
 Range: Bellingshausen Sea, 450-56- m.
- cupulifera** (Koehler, 1908) Fisher, 1930:236. A synonym of *L. perrieri* (Studer, 1885) according to Fisher (1940).
- digitata** A.M. Clark, 1962
 A.M. Clark 1962a:91.
 Range: Enderby and MacRobertson Lands, Antarctica, 163-300 m.
- ***hemiora** Fisher, 1940
 Fisher 1940:245.
 Validity in relation to *L. joffrei*(Koehler, 1920) questioned by Bernasconi (1956:16).
 Range: Palmer Archipelago, Antarctic Peninsula, 70 m.
- heteractis** Fisher, 1940
 Fisher 1940:247.
 Range: Clarence I, Antarctic, 342 m.
- joffrei** (Koehler, 1920) (with possible synonym *L. hemiora* Fisher, 1940)
 Koehler 1920:30 (as *Paedasterias*).
 Fisher 1930:236; 1940:245; Bernasconi 1956:15 (cf. *hemiora*); A.M. Clark 1962a:93; H.E.S. Clark 1963:74 (as *Lysasterias*).
 Range: Adelie Land, Ross Sea, South Shetland Is, 163-810 m.
- lactea** (Ludwig, 1903) Ludwig 1903:50 (as *Anasterias*).
 Fisher 1930:236; Jangoux & Massin 1986:91 (holotype) (as *Lysasterias*).
 Range: Bellingshausen Sea.
- perrieri** (Studer, 1885) (with synonyms *Anasterias cupulifera* Koehler, 1908, *A. lysasteria* Verrill, 1914, *A. tenera* Koehler, 1906 and *A. victoriae* Koehler, 1920; possibly also *Sporasterias pedicellaris*) Koehler, 1923
 Studer 1885:153 (as *Anasterias*).
 Fisher 1930:236; 1940:241; Bernasconi 1967b:11 (as *Lysasterias*).
 Range: Probably Circum-S Polar, including South Georgia, ? - 650 m.
- studerii**: Fisher, 1930, see *Anasterias*
- tenera** (Koehler, 1906) Fisher 1930:236. A synonym of *L. perrieri* (Studer, 1885) according to Fisher (1940)
- victoriae** (Koehler, 1920) Fisher 1930:237. A synonym of *L. perrieri* (Studer, 1885) according to Fisher (1940).
- LYTASTER** Perrier, 1894
 Perrier 1894:98.
 Type species: *Lytaster inaequalis* Perrier, 1894.
 A synonym of *Coscinasterias* Verrill, 1870, subgenus *Stolasterias* Sladen, 1889, according to Fisher (1928).
inaequalis Perrier, 1894:98. A synonym of *Coscinasterias tenuispina* (Lamarck, 1815) according to Fisher (1926a, 1928a).
- MARGARASTER** Gray, 1866
 Gray 1866:2.

A synonym of *Uniophora* Gray, 1840. Fisher (1923:597) noted 'at first sight it appears to be a synonym of *Uniophora* but is described as having monacanthid ambulacrals'. However, apart from *Margaraster graniferus* - author given as the pre-linnaean Linck, not Lamarck, 1816 - Gray listed, apparently as a synonym, *Asterias janthina* Brandt, later synonymised with *Pisaster ochraceus* by Fisher (1930), which may have been the source of the error.

graniferus: Gray, 1866:2 = *Uniophora granifera* (Lamarck, 1816).

MARGARASTER: Hutton, 1872, a homonym of *Margaraster* Gray, 1866, = *Astrostoile* Fisher, 1923.

scaber Hutton, 1872, see *Astrostoile*

MARTHASTERIAS Jullien, 1878

Jullien 1878:141; Koehler 1921:21; 1924:95; Fisher 1928a:129; Tortonese 1937a:104; A.M.C. in Clark & Downey 1992:443.

Type species: *Marthasterias foliacea* Jullien, 1878, a synonym of *Asterias glacialis* Linnaeus, 1758.

africana (Müller & Troschel, 1842) H.L. Clark 1923a:306, reduced to a variety of *glacialis* by Mortensen (1933) but a forma by A.M.C. (1974). *foliacea* Jullien, 1878:141. A synonym of *Asterias* (i.e. *Marthasterias*) *glacialis* Linnaeus, 1758, according to Sladen (1889).

glacialis (Linnaeus, 1758) (with synonyms *Asterias undulata* O.F. Müller, 1784, *A. spinosa* Pennant, 1777, *A. angulosa* O.F. Müller, 1788, *Stellonia webbiana* D'Orbigny, 1839, *A. madeirensis* Stimpson, 1862 and *Marthasterias foliacea* Jullien, 1878; formae *africana* (Müller & Troschel, 1842) and *rarispina* (Perrier, 1875))

Linnaeus 1758:661; Lamarck 1816:561; Viguier (1878) 1879:100; Ludwig 1897:364 (full references to date and description) (as *Asterias*). Nardo 1834:716 (as *Stellonia*).

Müller & Troschel, 1840a:101; Perrier 1869:28 (as *Asteracanthion*).

Forbes 1841:78 (as *Uraster*).

Perrier 1894:109 (as *Stolasterias*).

Fisher 1906a:1105 (as *Coscinasterias* (*Marthasterias*)). Verrill 1914a:47,100; Koehler 1921:22; 1924:96; Mortensen 1927:143; Nataf & Cherbonnier 1975:825; A.M. Clark & Courtman-Stock 1976:94 (with forms *africana* and *rarispina*); Jangoux & De Ridder 1987:89 (syn-types of *africana*); A.M.C. in Clark & Downey 1992:443 (as *Marthasterias*).

Range: Scandinavia from Finmark to West Sweden, N and W of British Isles, S to Mediterranean, Canary, Cape Verde and Azores Islands, Annobon in Gulf of Guinea, W and S of Cape Province, South Africa (forms *africana* and *rarispina*) (see A.M.C., 1992).

rarispina (Perrier, 1875) H.L. Clark, 1923:305. A forma of *M. glacialis* (Linnaeus, 1758).

MEYENASTER Verrill, 1913

Verrill 1913:485; Fisher 1928a:130.

Type species: *Asterias gelatinosa* Meyen, 1834.

gelatinosus (Meyen, 1834)

Meyen 1834:222; H.L. Clark 1910:337 (as *Asterias*).

Müller & Troschel 1842:15 (as *Asteracanthion*).

Verrill 1913:485; Fisher 1928a:130; Madsen 1956:36 (as *Meyenaster*).

Range: Chile.

MORTENSENIA da Costa. 1941:11. Type species: *M. lusitanica* da Costa, 1941. A NOMEN NUDUM according to Da Costa (1952), preoccupied by *Mortensenia* Döderlein, 1905 - Echinoidea and renamed *Carlasterias*.

C. lusitanica probably a *Sclerasterias* According to A.M. C. in Clark & Downey (1992:415, 449).

NANASTER Perrier, 1894

Perrier 1894:129, 131, 133; 1896:27.

Type species: *Asteracanthion albulus* Stimpson, 1853.

A synonym of *Stephanasterias* Verrill, 1871 according to Fisher (1930).

albulus Perrier, 1894, see *Stephanasterias*

NEOSMILASTER Fisher, 1930

Fisher 1930:237.

Type species: *Asterias georgiana* Studer, 1885.

georgianus (Studer, 1885)

Studer 1885:15 (as *Asterias*).

Perrier 1891a:7 (as *Diplasterias*).

Koehler 1917:26 (as *Podasterias*).

Koehler 1923:40 (as *Ctenasterias*).

Fisher 1930:237; 1940:258; Bernasconi 1956:22; 1967b:12 (as *Neosmilaster*).

Range: South Georgia, South Shetlands, Palmer Archipelago, 0-335 m. *steineni* (Studer, 1885)

Studer 1885:152 (as *Asterias*).

Perrier 1891a:84 (as *Diplasterias*).

Koehler 1917:26; 1920:41; 1923:30 (as *Podasterias*).

Fisher 1920:237; 1940:259 (as *Neosmilaster*).

Range: Falkland-Magellan area, South Georgia, 99-160 m.

NESASTERIAS Fisher, 1930. A subgenus of *Leptasterias* Verrill, 1866.

NOTASTERIAS Koehler, 1911 (with synonym *Autasterias* Koehler, 1911)

Koehler 1911a:35; Fisher 1930:243; A.M. Clark 1962a:77; H.E.S. Clark 1963:67.

Type species: *Notasterias armata* Koehler, 1911.

armata Koehler, 1911

Koehler 1911a:39; Fisher 1940:225; A.M. Clark 1962a:79; H.E.S. Clark 1963:67.

Range: McMurdo Sound, Ross Sea and Bellingshausen Sea, probably circum-S polar, 30-647 m.

bongraini (Koehler, 1912)

Koehler 1912a:152; 1912b:26 (as *Autasterias*).

Fisher 1940:227; Bernasconi 1956:14; A.M. Clark 1962a:79 (as *Notasterias*).

Range: South Shetland Is, Antarctic Peninsula, Kemp and Adelie Lands, 110-830 m.

candicans (Ludwig, 1903)

Ludwig 1903:41 (as *Stolasterias*).

Koehler 1917:30 (as *Coscinasterias*).

Fisher 1940:75 (listed as *Sclerasterias*).

Jangoux & Massin 1986:90 (syntype; as *Notasterias*).

Range: Bellingshausen Sea, Antarctic, 450-560 m.

haswelli Koehler, 1920

Koehler 1920:70; Fisher 1930:244; A.M. Clark 1962a:78.

Range: Off Queen Mary and Adelie Lands, Ross Sea, 110-647 m.

pedicellaris (Koehler, 1907)

Koehler 1907a:145 (as *Asterias*).

Koehler 1911a:38 (as *Autasterias*).

Fisher 1940:75 (listed as *Notasterias*).

Range: East Weddell Sea, Southern Ocean, 1410-2580 m. <

***stolophora** Fisher, 1940

Fisher 1940:226; A.M. Clark 1962a:77; H.E.S. Clark 1963:70; McKnight 1976:29.

Range: Ross Sea, 247-274 m.

Possibly a synonym of *N. armata* Koehler, 1911 according to A.M. Clark (1962a).

ORTASTERIAS Verrill, 1914

Verrill 1914a:168; Fisher 1923:257 (emended).

Type species: *O. columbiana* Verrill, 1914, a synonym of *Asterias koehleri* de Loriol, 1897.

biordinata Verrill, 1914a:173. A forma of *O. koehleri* (de Loriol, 1897) according to Fisher (1928).

californica Verrill, 1914a, see *Astrometis*

columbiana Verrill, 1914a:48. A synonym of *Orthasterias koehleri* (de Loriol, 1897) according to Fisher (1923).

contorta (Perrier, 1881) Verrill, 1914:48, see *Sclerasterias*

dawsoni Verrill, 1914a:175. A synonym of *Astrometis sertulifera* (Xantus, 1860), according to Fisher (1928).

eustyla (Sladen, 1889) Verrill, 1914a, see *Sclerasterias*

forreri (de Loriol, 1888) Verrill, 1914, see *Styasterias*

gonolena Verrill, 1914a:184. A synonym of *Astrometis sertulifera* (Xantus, 1860) according to Fisher (1928).

koehleri (de Loriol, 1897) (with formae *biordinata*, *leptostyla* and *montereyensis* Fisher, 1938)

de Loriol 1897:21 (as *Asterias*).

Verrill 1914a:175; Fisher 1928:139 (with formae).

Range: Alaska to California, 0-130 m.

leptolena Verrill, 1914a:182. A synonym of *Styasterias forreri* (de Loriol, 1887).

leptostyla Fisher, 1928:139. A forma of *O. koehleri* (de Loriol).

merriami Verrill, 1914a:177. A synonym of *Leptasterias coei* Verrill, 1914, according to Fisher (1930).

montereyensis Fisher 1928. A forma of *O. koehleri* (de Loriol).

subangulosa Verrill, 1914a:168, 370, see *Sclerasterias*

tanneri: Verrill, 1914a, see *Sclerasterias*

PAEDASTERIAS Verrill, 1914

Verrill 1914a:355.

Type species: *Anasterias chirophora* Ludwig, 1903.

A synonym of *Lysasterias* Fisher, 1908, according to Fisher (1922).

chirophora: Verrill, 1914, see *Lysasterias*

joffrei Koehler, 1920, see *Lysasterias*

PARASTERIAS Verrill, 1914

Verrill 1914a:53, 187.

Type species: *Parasterias albertensis* Verrill, 1914.

A synonym of *Asterias* Linnaeus, 1758, according to Fisher (1930).

albertensis Verrill, 1914a:167. A synonym of *Asterias amurensis*

Lütken, 1871, according to Fisher (1930).

PARASTICHASTER Koehler, 1920

Koehler 1920:89.

Type species: *Parastichaster mawsoni* Koehler, 1920.

A synonym of *Anasterias* Perrier, 1875, according to Fisher (1940):

directus Koehler, 1920, see *Anasterias*

mawsoni Koehler, 1920, see *Anasterias*

sphaerulatus Koehler, 1920, see *Anasterias*

PERISSASTERIAS H.L. Clark, 1923

H.L. Clark 1923:307, Fisher 1930:238; A.M. Clark & Courtman-Stock 1976:95; A.M.C. in Clark & Downey 1992:445.

Type species: *P. polyacantha* H.L. Clark, 1923.

heptactis H.L. Clark, 1926 H.L. Clark 1926a:26; A.M. Clark & Courtman-Stock 1976:95.

Range: W of Lambert's Bay, Cape Province, South Africa, 385 m.

monacantha McKnight, 1973

McKnight 1973:231.

Range: South from New Zealand (c.48°S, 168°E), 668 m.

***obtusispina** H.L. Clark, 1926

H.L. Clark 1926a:28; A.M. Clark 1974:440; A.M.C. & Courtman-Stock 1976:95; A.M.C. in Clark & Downey 1992:446.

Range: W of Cape Province, South Africa, 392 m.

Possibly a synonym of *P. polyacantha* H.L. Clark, 1923, according to A.M. Clark (1974:440).

polyacantha H.L. Clark, 1923

H.L. Clark 1923:307; 1926a:29; Mortensen 1933a:278; A.M. Clark 1974:439; A.M.C. & Courtman-Stock 1976:95; Tablado & Maytia 1988:1; A.M.C. in Clark & Downey 1992:447.

Range: W and SW coasts of Cape Province, South Africa, Uruguay and N Argentina, 96-760 m.

PISASTER Müller & Troschel, 1840 (with synonym *Calliasterias* Fewkes, 1889)

Müller & Troschel 1840:367; Fisher 1926:556; 1930:162.

Type species: *Asterias ochracea* Brandt, 1835.

antarcticus Koehler, 1917:30. A synonym of *Anasterias perrieri* (E.A. Smith, 1876), according to A.M. Clark (1962a).

australis Verrill 1914a:88, as a variety of *Pisaster luetkeni* (Stimpson, 1862).

A synonym of *P. gigantem* (Stimpson, 1857) according to Fisher (1926a, 1930).

brevispinus (Stimpson, 1857) (with synonyms *Asterias paucispina*

Stimpson, 1862 - reduced to forma - and *A. (Pisaster) papulosa* Verrill, 1909)

Stimpson 1857:528 (*as Asterias*).

Verrill 1909a:63; 1914a:77; Fisher 1926a:564; 1930:180;

Maluf: 1988:47, 127 (*as Pisaster*).

Range: Sitka, Alaska to San Diego, Southern California, intertidal - 102 m.

capitatus (Stimpson, 1862) Verrill, 1909a. A subspecies of *P. gigantem* (Stimpson, 1857), according to Fisher (1926a, 1930).

fissispinus (Stimpson, 1862) Verrill, 1909a:63; 1914a:76. A synonym of *P. ochraceus* (Brandt, 1835) according to Fisher (1926a, 1930).

giganteus (Stimpson, 1857) (with synonyms *Asterias luetkeni* (Stimpson, 1862) and var. *australis* Verrill, 1914a, also *A. exquisita* de Loriol, 1888; subspecies *capitatus* (Stimpson, 1862))

giganteus giganteus (Stimpson, 1857)

Stimpson 1857:528 (*as Asterias*).

Verrill 1909b:545; Fisher 1926a:561; 1930:172; Maluf: 1988:47, 127 (*as Pisaster*).

Range: Oregon to San Cristobal, Mexico, intertidal - 374 m.

giganteus capitatus (Stimpson, 1862)

Stimpson 1862:264 (as species of *Asterias*). • †

Verrill 1909a:63 (*as Pisaster*). • †

Fisher 1930:177; Maluf 1988:47, 127 (as subspecies of *P. giganteus*). • †

Range: California, intertidal - 156 m.

grayi Verrill, 1914a:97. A synonym of *Leptasterias polariskatherinae* Gray, 1840, according to Fisher (1930). • †

luetkeni (Stimpson, 1862) Verrill, 1909a:63, 1914a:83. A synonym of *Pisaster giganteus* (Stimpson, 1857) according to Fisher (1930). • †

ochraceus (Brandt, 1835) (with synonyms *Asteracanthion margarifer* Müller & Troschel, 1842 and *Asterias fissispina* Stimpson, 1862; subspecies *segnis* Fisher, 1926 and *formae confertus* (Stimpson, 1862) and *nodiferus* Verrill)

ochraceus ochraceus (Brandt, 1835)

Brandt 1835:69; A. Agassiz 1877:96 (*as Asterias*).

Fisher 1908:89; 1926a:557; 1930:164; Maluf 1988:47, 127 (*as Pisaster*),

Range: Alaska - Point Concepcion, California, intertidal - 97 m.

ochraceus segnis Fisher, 1926

Fisher 1926a:560; 1930:171.

Range: Southern and N part of Lower California.

papulosus: Verrill, 1914:91. A synonym of *P. brevispinus* (Stimpson, 1857) according to Fisher (1926a, 1930).

paucispinus (Stimpson, 1862) Verrill, 1914. A forma of *P. brevispinus* (Stimpson, 1857) according to Fisher (1930).

PODASTERIAS Perrier, 1891a:160. Apparently an MS name of Perrier's for the *Asterias scalprifera* group, only mentioned as a synonym of *Cosmasterias* Sladen, 1889, see Fisher (1940:249).

PODASTERIAS Perrier, 1894 (Non *Podasterias* Perrier, 1891)

Perrier 1894:107; 1896:35.

Type species: *Diplasterias luetkeni* Perrier, 1891, a synonym of *D. brandti* (Bell, 1881).

A synonym of *Diplasterias* Perrier, 1891, according to Fisher (1940).

brandti: Koehler 1917:26, see *Diplasterias*.

brucei (Koehler, 1908) Koehler 1920:42, see *Diplasterias*

fochi Koehler, 1920:35. A synonym of *Diplasterias brucei* (Koehler, 1908) according to A.M. Clark (1962a).

georgiana (Studer, 1885) Koehler, 1917, see *Neosmilaster*

glomerata (Sladen, 1889) Koehler, 1923:29, as a variety of *P. brandti*, = *Diplasterias brandti* forma *neglecta* (Bell, 1881), according to Fisher (1940).

kerguelensis Koehler, 1917, see *Diplasterias*

luetkeni (Perrier, 1891) 1894:107. A synonym of *Diplasterias brandti* (Bell, 1881) according to Fisher (1940).

meridionalis: Koehler, 1917, see *Diplasterias*

steineni: Koehler, 1917, see *Neosmilaster*

POLYASTERIAS Perrier, 1894

Perrier 1894:108.

Type species: *Asterias tenuispina* Lamarck, 1816.

A synonym of *Coscinasterias (Stolasterias)* Sladen, 1889, according to Fisher (1928).

tenuispina: Perrier, 1894, see *Coscinasterias (Stolasterias)*

PSALIDASTER Fisher, 1940

Fisher 1940:229.

Type species: *Psalidaster mordax* Fisher, 1940.

mordax Fisher, 1940 (with subspecies *rigidus* A.M. Clark, 1962)

mordax mordax Fisher, 1940

Fisher 1940:229; Bernasconi 1973a:320. [Non *mordax*: H.E.S. Clark 1963:71, = *P. mordax rigidus* according to McKnight (1976)].

Range: Falkland Is, Magellan area, Buenos Aires Province, Argentina, 75-600 m.

mordax rigidus A.M. Clark, 1962

A.M. Clark 1962a:79; McKnight 1976:30.

Range: MacRobertson Land and Ross Sea, Antarctica, 163 m.

PSEUDECHINASTER H.E.S. Clark, 1962

H.E.S. Clark 1962:41.

Type species: *Pseudechinaster rubens* H.E.S. Clark, 1962

rubens H.E.S. Clark, 1962

H.E.S. Clark 1962:41; McKnight 1967a:303.

Range: Cook Strait and Chatham Rise, New Zealand, 102-402 m.

QUADRASTER Perrier, 1896

Perrier 1896:27.

Type species: *Stichaster felipes* Sladen, 1889.

A synonym of *Cosmasterias* Sladen, 1889, according to Fisher (1923).

SALIASTERIAS Koehler, 1920

Koehler 1920:52; Fisher 1930:238.

Type species: *Saliasterias brachiata* Koehler, 1920.

brachiata Koehler, 1920

Koehler 1920:54; Fisher 1940:75 (listed); A.M. Clark 1962a:88;

McKnight 1976:30 (*Soliasterias*).

Range: off Adelie Land, Enderby and MacRobertson Lands, Ross Sea, 27-647 m.

SCLERASTERIAS Perrier, 1891 (with synonyms *Eustolasterias* Fisher, 1923, *Triplasterias* Engel & Schroevers, 1960 and probably *Mortensenia* and *Carlasterias da Costa*, 1941 and 1952)

Perrier 1891c:1227; 1896:35; Fisher 1928a:105 (emended); A.M. Clark & Courtman-Stock 1976:96; Jangoux 1986a:91; Downey in Clark & Downey 1992:448.

Type species: *Sclerasterias guernei* Perrier, 1891.

alexandri (Ludwig, 1905) (with var. *crassa* H.L. Clark, 1940 and synonym

Hydrasterias diomedae Ludwig, 1905)

Ludwig 1905:221 (as *Stolasterias*).

Fisher 1928a:107; H.L. Clark 1940:335 (var. *crassa*); Maluf 1988:47, 127 (as *Sclerasterias*).

Range: Panama, Lower California to Malpelo Ridge, off Colombia, 46-384 m.

candidans: Fisher, 1940:75 (listed). See *Notasterias*.

contorta (Perrier, 1881) (with synonyms *Asterias angulosa* Perrier, 1881 and *Orthasterias subangulosa* Verrill, 1914)

Perrier 1881:1 (as *Asterias*).

Verrill 1914a:48 (as *Orthasterias (Stylasterias)*).

Fisher 1928a:107; Downey in Clark & Downey 1992:449 (as *Sclerasterias*).

Range: Florida, Gulf of Mexico, Caribbean, Venezuela, Brazil, 344(?20)-424 m.

crassa H.L. Clark, 1940:335. A variety of *S. alexandri*.

***euplecta** (Fisher, 1906) (with forms *hypacantha* Fisher and *stenactis* (H.L. Clark, 1923))

Fisher 1906a:1105 (as *Coscinasterias*).

Fisher 1919a:487 (as *Distolasterias*).

Fisher 1923:255 (as *Eustolasterias*).

Fisher 1928a:107 (as *Sclerasterias*).

Range: Hawaiian Is, Indo-W. Pacific, 250-270 m.

Probably a form of *Sclerasterias mazophora* (Wood-Mason & Alcock, 1891) according to Macan (1938).

eustyla (Sladen, 1889)

Sladen 1889:587 (as *Asterias (Stolasterias)*).

Koehler 1907a:145 (as *Stolasterias*).

Verrill 1914a:168 (as *Orthasterias*).

Fisher 1928a:107; Mortensen 1933a:278; A.M. Clark & Courtman-Stock 1976:96; Downey in Clark & Downey 1992:450 (as *Sclerasterias*).

Range: Tristan da Cunha and W coast of South Africa, 183-275 m.

guernei Perrier, 1891

Perrier 1891c:1227; 1891b:264; Koehler 1895b:441; 1896:41; Perrier 1896:35; Fisher 1928a:107; Downey in Clark & Downey 1992:450.

Range: Bay of Biscay, 160-490 m.

heteropaeas Fisher, 1924

Fisher 1924a:7; 1928a:107; Ziesenhenne 1937:220; Maluf 1988:47, 127.

Range: Southern and Lower California, 18-457 m.

hypacantha: Fisher 1928a:108. Probably a forma of *S. euplecta* (Fisher, 1906) according to Fisher (1928a) but both probably forms of *S. mazophora* (Wood-Mason & Alcock, 1891) according to Macan (1938).

mazophora (Wood-Mason & Alcock, 1891) (probably with synonym *S. nitida* Koehler, 1910 and forms *euplecta* (Fisher, 1906) and *hypacantha* (Fisher, 1917))

Wood-Mason & Alcock 1891:436; Alcock 1893:115 (as *Asterias*).

Fisher 1919a:489 (as *Distolasterias*).

Fisher 1928a:107; Macan 1938:416 (as *Sclerasterias*).

Range: Bay of Bengal, Gulf of Aden, also probably the Philippines and Hawaiian Is, 220-550 m.

mollis (Hutton, 1872)

Hutton 1872b:4 (as *Asterias*).

Fisher 1919a:489 (as *Distolasterias*).

Fisher 1923:255 (as *Eustolasterias*).

Fisher 1924a:6; Mortensen 1925:318; Fell 1958:19; McKnight 1967a:302; H.E.S. Clark 1970b:23; Baker & Clark 1970:6 (as *Sclerasterias*).

Range: New Zealand, Chatham Is, 22-697 m.

***neglecta** (Perrier, 1891) (with synonym *Asterias edmundi* Ludwig 1897)

Perrier 1891b:226; von Marenzeller 1895:136; Perrier 1896:37 (as *Stolasterias*).

Verrill 1914a:48, 370 (as *Stylasterias*).

Fisher 1928a:107; Downey in Clark & Downey 1992:451 (as *Sclerasterias*).

Range: Bay of Biscay, Mediterranean, 160-887 m.

Possibly conspecific with *Asterias richardi* Perrier in Milne-Edwards 1882, which may need suppression by the ICZN according to A.M. Clark in Clark & Downey (1992:448,451,511).

***nitida** Koehler, 1910:176. Probably a juvenile *S. mazophora* (Wood-Mason & Alcock, 1891) according to Fisher (1928a).

***parvulus** (Perrier, 1891b:258) Fisher 1928a:59. A young *Sclerasterias* according to Fisher (1928). If so, from locality SE of Newfoundland could be *S. tanneri* (Verrill, 1895), so needing invocation of the ICZN (A.M.C. new obs., not mentioned by Downey in Clark & Downey (1992)).

peregrina (Bell, date?) Fisher 1928a:107, indexed in italics so probably an MS name omitted from Bell (1909) and a NOMEN NUDUM. Specimen in the Natural History Museum, London labelled *S. euplecta stenactis* from locality - western Indian Ocean - probably a form of *S. mazophora* (Wood-Mason & Alcock, 1891).

***richardi** (Perrier, 1882)

Perrier in Milne-Edwards 1882:20; Marenzeller 1893b:8 (as *Asterias*).

Perrier 1894:109 (as *Hydrasterias*).

Fisher 1928a:108 (as *Sclerasterias*).

Range: Off Corsica, Mediterranean.

See comments under *S. neglecta*, also *Asterias richardi* and *Hydrasterias richardi* (Pedicellasteridae). Needs suppression.

satsumana (Döderlein, 1902)

Döderlein 1902:334 (as *Asterias*).

Hayashi 1943:193; 1973b:100; Imaoka et al. 1991:98 (as *Sclerasterias*).

Range: Southern Japan, 750-100 m.

stenactis (H.L. Clark, 1926)

H.L. Clark 1926:23 (as *Eustolasterias*).

Fisher 1928a:107; Mortensen 1933a:277; A.M. Clark 1952:199; A.M.C. & Courtman-Stock 1976:96 (as *Sclerasterias*).

Range: South and SE of South Africa, 146-410 m.

Reduced to a forma of *S. euplecta* (Fisher, 1906) by Fisher (1928a) but probably a forma of *S. mazophora* (Wood-Mason & Alcock, 1891) according to Macan (1938). [No comment on that by A.M.C. !]

subangulosa: Fisher 1928. A synonym of *Sclerasterias contorta* (Perrier, 1881) according to Fisher (1928a) and Downey (1973).

tanneri (Verrill, 1880) (with synonym *Triplasterias mercatoris* Engel & Schroyers, 1960)

Verrill 1880b:401; 1895:209; Gray, Downey & Cerame-Vivas 1968 (as *Asterias*).

Verrill 1914a:48,168 (as *Orthasterias*).

Fisher 1928a:107,108; Franz et al. 1981:397; Jangoux & Massin 1986:91; Downey in Clark & Downey 1992:452.

Range: Newfoundland to Cape Hatteras, N Carolina, 62-700 m.

SMILASTERIAS Sladen, 1889

Sladen 1889:562,578 (as *Asterias (Smilasterias)*).

Perrier 1893:848; 1896:32 (as genus); Fisher 1930:239; 1940:260; A.M. Clark 1962a:85; O'Laughlin & O'Hara 1990:307 (reviewed); Downey in Clark & Downey 1992:452.

Type species: *Asterias (Smilasterias) scalprifera* Sladen, 1889.

clarkailsa O'Laughlin & O'Hara, 1990

< *

O'Laughlin & O'Hara 1990:316.

Range: Macquarie Island, Southern Ocean, 69-135 m.

irregularis H.L. Clark, 1928

H.L. Clark 1928:402; Shepherd 1968:752; O'Laughlin & O'Hara 1990:317.

Range: Spencer Gulf, S Australia to N.S.W., 1-30 m.

multipora O'Laughlin & O'Hara, 1990

O'Laughlin & O'Hara 1990:311. > * i

Range: Victoria and Tasmania, 0-3 m. * i

scalprifera (Sladen)

Sladen 1889:578 (as *Asterias (Smilasterias)*).

Fisher 1930:239 (as *Smilasterias*); 1940:261; A.M. Clark 1962a:85;
Guille 1974:38; O'Laughlin & O'Hara 1990:318.

Range: Falklands Is, Marion I, Kerguelen and Heard Islands, 40-267 m.

tasmaniae O'Laughlin & O'Hara, 1990

O'Laughlin & O'Hara 1990:315.

Range: SE Tasmania, 0-8 m.

terweili (Goldschmidt, 1924), as *Asterias (Smilasterias) terweili*, a synonym of *uidia magellanica* Leipoldt, 1895, Luidiae, see part 1, according to Madsen (1956).

triremis (Sladen, 1889)

Sladen 1889:578 (as *Asterias (Smilasterias)*).

Fisher 1930:239 (as *Smilasterias*); 1940:262; A.M. Clark 1962a:85; Bernasconi 1971:285; Downey in Clark & Downey 1992:453.

Range: S of Kerguelen, Palmer Archipelago, Antarctic Peninsula and off Argentina (36°S)(Downey), 93-335 and 2707 m.

SOLIASTERIAS McKnight, 1976:30, lapsus for *Saliasterias* Koehler, 1920.

SPORASTERIAS Perrier, 1893

, ,

Perrier 1893:848; 1894:107.

Type species: *Asterias spirabilis* Bell, 1881.

A synonym of *Anasterias* Perrier, 1875 according to Fisher (1940).

antarctica: Ludwig, 1903:39, see *Anasterias*

, ,

**borbonica* (Perrier, 1875)

Perrier 1875:61 (as *Asterias*). , :

Fisher 1930:216 (as *l Sporasterias*). ? , ,

Range: Reunion I, western Indian Ocean. •

Either tropical locality or generic affiliation must be incorrect.

[A.M.C.]

cocosana Ludwig, 1905, see *Tarsaster* (Pedicellasteridae) •

directa: Fisher, 1930:241, see *Anasterias*

galapagensis Ludwig, 1905, see *Tarsaster* (Pedicellasteridae)

mariana Ludwig, 1905, see *Ampheraster* (Pedicellasteridae)

mawsoni: Fisher 1930:241, see *Anasterias*

pedicellaris Koehler, 1923, see *Anasterias*

perrieri: Verrill, 1914:236, see *Anasterias*

rugispina: Perrier, 1896: A synonym of *Anasterias antarctica* (Lütken, 1857) according to Fisher (1940)

rupicola (Verrill, 1881) Ludwig 1903:40 (as var. of *S. antarctica*; Döderlein 1928:294 (as species), see *Anasterias*

sphaerulata: Fisher 1930:241, see *Anasterias*

spirabilis Perrier, 1894, see *Anasterias*

STELLONIA Nardo, 1834

Nardo 1834:716.

Type species: *Asterias rubens* Linnaeus, 1758, designated by Fisher (1913) to render this conglomerate of species a synonym of *Asterias* Linnaeus.

angulosa: L. Agassiz, 1836b:192. A synonym of *Asterias* (i.e. *Marthasterias*) *glacialis* Linnaeus, 1758, according to Sladen (1889).

echinites: L. Agassiz, 1836b:192. A synonym of *Acanthaster planci* (Linnaeus, 1758), according to Verrill (1914a).

endeca: L. Agassiz, 1836b:192, see *Solaster* (Solasteridae, part 3).

glacialis: Nardo, 1834:716, see *Marthasterias*

helianthus: L. Agassiz, 1836b:192, see *Heliaster* (Heliasteridae)

hispida (Pennant, 1777) Forbes, 1839:123. Suppressed and replaced by *Lepasterias muelleri* (M. Sars, 1846), see A.M.C. in Clark & Downey (1992).

papposa: L. Agassiz, 1836b:192, see *Crossaster* (Solasteridae, see part 3)

rubens: Nardo, 1834:716, see *Asterias*

seposita: Nardo, 1834:716. Validated as species of *Echinaster* (Echinasteridae, see part 3) by Tortonese & Madsen (1979).

spinosa: Nardo, 1834:716. Invalid and a synonym of *Echinaster* (*Othilia echinophorus* (Lamarck, 1816))

tenuispina: d'Orbigny, 1839:148, see *Coscinasterias*

webbiana: d'Orbigny, 1839:148. A synonym of *Asterias* (i.e. *Marthasterias glacialis* (Linnaeus, 1758) according to Sladen (1889)).

***STENASTERIAS** Verrill, 1914

Verrill, 1914a:145; Fisher 1930:138.

Type species: *Asterias macropora* Verrill, 1909.

'Name has status only by technicality' according to Fisher (1930).

**macropora* (Verrill, 1909) > .

Verrill 1909:65 (as *Asterias*).

Verrill 1914a: 145; Fisher 1930:138 (as *Stenasterias*).

Range: Sitka, Alaska and Queen Charlotte Is.

Type material juvenile (R 15 mm.) and lost.

STEPHANASTERIAS Verrill, 1871 (with synonym *Nanaster* Perrier, 1894)Verrill 1871c:5; Perrier 1875:84 [348];Verrill 1914a:146; Fisher 1930:156; Downey in Clark & Downey 1992:453.

Type species: *Asteracanthion albulus* Stimpson, 1853.

albula (Stimpson, 1853) (with synonyms *Asteracanthion problema*

Steenstrup, 1855 and *Asterias gracilis* Perrier, 1881)

Stimpson 1853:14 (as *Asteracanthion*).

Stimpson 1864:142 (as *Asterias*).

Verrill 1866:351; Duncan & Sladen 1881:29; Danielssen & Koren 1884b:31; Ludwig 1900:479 (as *Stichaster*).

Verrill 1871:5; 1914a:147; Fisher 1930:156; Djakonov 1950a:121; John & A.M. Clark 1954:151; Grainger 1966:43; Downey in Clark & Downey 1992:454 (as *Stephanasterias*).
 Range: Circumboreal, S in W Atlantic to Caribbean, in Pacific to Japan Sea, 33-2300 m.
gracilis (Perrier, 1881) Verrill 1899:223; Gray, Downey & Cerame-Vivas 1968:160. A synonym of *S. albula* (Stimpson, 1853) according to Downey in Clark & Downey (1992).
hebes Verrill, 1915:26. A synonym of *Allostichaster capensis* (Perrier, 1875) according to A.M.C. in Clark & Downey (1992).
STICHLASTER Müller & Troschel, 1840 (with synonyms *Tonia* Gray, 1840 and *Coelasterias* Verrill, 1871)
 Müller & Troschel 1840a:102; 1840b:323.
 Type species: *Stichaster striatus* Müller & Troschel, 1840 (non *Asterias striatus* Lamarck, 1816).
albulus (Stimpson, 1853) Verrill, 1866, see *Stephanasterias*
arcticus Danielssen & Koren, 1884
 Danielssen & Koren 1884b:27; Ludwig 1900:478.
 Range: Lofoten Is, Norway.
aurantiacus: Verrill 1870:293. Invalidated as junior homonym, = *Stichaster striatus* Müller & Troschel, 1840, according to Fisher (1930).
australis (Verrill, 1870)
 Verrill 1870:247 (as *Coelasterias*).
 Sladen 1889:431; Fisher 1922b:598; Mortensen 1925:313; Fell 1953:93; 1962:48; McKnight 1967:303.
 Range: New Zealand, Snares and Chatham Is.
felipes Sladen, 1889, see *Cosmasterias*
insignis Farquhar, 1894, see *Allostichaster*
littoralis Farquhar, 1894:206. A synonym of *Calvasterias suteri* (de Loriol, 1894) according to Farquhar (1897).
nutrix Studer, 1885, see *Granaster*
**polygrammus* Sladen, 1889. A synonym of *Cosmasterias lurida* (Philippi, 1858) according to Leipoldt (1895) but a valid species according to Verrill (1914a:360), though neither Fisher (1940) nor Madsen (1956) mention it.
polyplax Sladen, 1889, see *Allostichaster*
roseus: M. Sars, 1861, see *Stichastrella*
striatus Müller & Troschel, 1840 (non *Asteracanthion striatum*: Müller & Troschel, 1842, = *Valvaster striatus* (Lamarck, 1816) - see part 2) (includes *Asterias aurantiacus* Meyen, 1834, a junior homonym of *A. aurantiacus* Tiedemann, 1816, a synonym of *Astroppecten aranciacus* Linnaeus, 1758)
 Müller & Troschel, 1840a:102; 1840b:323; Fisher 1930:241; Madsen

1956:37; Bernasconi 1961c:319.
 Range: Peru to Chile. *
suteri de Loriol, 1894, see *Calvasterias*
talismani Perrier, 1885. A synonym of *Neomorphaster margaritaceus* (Perrier, 1882) according to Downey in Clark & Downey (1992).
STICHLASTER: Perrier, 1896, emended, for type species *Asterias rosea* O.F. Müller, 1776, = *Stichastrella* Verrill, 1914.
STICHLASTRELLA Verrill, 1914
 Verrill 1914a:40; Koehler 1921:28; 1924:117; Mortensen 1927:136; Fisher 1930:209; A.M. Clark in Clark & Downey 1992:455.
 Type species: *Asterias rosea* O.F. Müller, 1776.
ambigua (Farran, 1913)
 Farran 1913:18 (as var. *ambiguus* of *Stichaster roseus*)
 Mortensen 1927:136; Gage et al. 1983:286; Harvey et al. 1988:167 (as *Stichastrella rosea* var. *ambigua*).
 Fisher 1930:210 (as *S. rosea* forma *ambigua*).
 A.M. Clark in Clark & Downey 1992:456 (as species).
 Range: W slope of Porcupine Bank, W of Ireland, Porcupine Seabight, Rockall Trough to SW of Faeroe Is, 245-1630 m.
rosea (O.F. Müller, 1766) (with synonym *Chaetaster hermanni* Müller & Troschel, 1842)
 O.F. Müller 1776:234; 1788: 35 (as *Asterias*).
 Thompson 1840:245 (as *Linkia*).
 Forbes 1841:106 (as *Cribella*).
 Müller & Troschel 1842:17(pt); Düben & Koren 1846b:241; Perrier 1869:37 (as *Asteracanthion*).
 M. Sars 1861:86; Norman 1865:125; Perrier 1875:83; Danielssen & Koren 1884b:30; Bell 1893a:85; Ludwig 1900:477; Süßbach & Breckner 1911:228; Farran 1913:18; Grieg 1921 [1932]:24 (as *Stichaster*).
 Verrill 1914a:40; Koehler 1920:82; 1924:118; Mortensen 1927:136; Cherbonnier 1951: Gage et al. 1983:286, pt); Jangoux 1986b:128; Harvey et al. 1988:167; A.M. Clark in Clark & Downey 1992:456 (as *Stichastrella*).
 Range: Lofoten Is, southern Norway, NE England, Scotland, Rockall Bank, S to Bay of Biscay, 4-C.200 [366] m.
STICHORELLA Koehler, 1920
 Koehler 1920:89.
 Type species: *Stichaster suteri* de Loriol, 1894.
 A synonym of *Calvasterias* Perrier, 1875 according! to Fisher (1922b, 1930).
suteri: Koehler, 1920, see *Calvasterias*

STOLASTERIAS Sladen, 1889. Treated as a subgenus of *Coscinasterias* Verrill, 1870.
alexandri Ludwig, 1905, see *Sclerasterias*
brucei Koehler, 1908, see *Diplasterias*
candidans Ludwig, 1903, see *Notasterias*
edmondi* (Benham, 1911:151) (as *Asterias* (*Stolasterias*)). **Kermadec Is. ? Identity.

eustyla (Sladen, 1889), see *Sclerasterias*

glacialis: Perrier, 1894, see *Marthasterias*

>

<

neglecta Perrier, 1891, see *Sclerasterias*

robusta Ludwig, 1905, see *Distolasterias*

tenuispina (Sladen, 1889), see *Coscinasterias* (*Stolasterias*)

STOLASTERIAS: Perrier, 1894, 1896, non Verrill, 1870, = **Marthasterias** Jullien, 1878.

STYLASTERIAS Verrill, 1914

Verrill 1914a:48, 65, 179 (as subgenus of *Orthasterias*), 50 (as genus); Fisher 1928a:96 (as genus, restricted).

Type species: *Asterias forreri* de Loriol, 1887.

contorta (Perrier, 1881) Verrill, 1914a, see *Sclerasterias*

forreri (de Loriol, 1887) (with synonyms *Asterias forcipulata* Verrill, 1909 and *Orthasterias leptolena* Verrill, 1914)

Verrill 1887:401 (as *Asterias*).

Verrill 1914a:179 (as *Orthasterias Stylasserias*).

Fisher 1928a:96; Jangoux 1985:21 (lectotype selected); Maluf 1988:48, 127 (as *Stylasserias*).

Range: Southern Alaska to San Diego, California, 29-532 m.

neglecta (Perrier, 1891) Verrill, 1914a, see *Sclerasterias*

paschae H. L. Clark, 1920, see *Astrostone*

reticulatus (H.L. Clark, 1916)

H.L. Clark 1916:69 (as *Pedicellaster*).

A.M. Clark 1962a:99; H.E.S. Clark 1970:24 (as *Stylasserias*).

Range: Tasmania and NW of New Zealand, 128-421 m.

robusta (Ludwig, 1905) Verrill, 1914a, see *Distolasterias*

subangulosa Verrill, 1914a (*Orthasterias* (*Stylasserias*)). A synonym of *Sclerasterias contorta* (Perrier, 1881) according to Fisher (1928a).

TARANUIASTER McKnight 1973

McKnight 1973b:233.

Type species: *Taranuiaster novaezealandiae* McKnight, 1973.

novaezealandiae McKnight, 1973

McKnight 1973b:233.

Range: East of South Island, New Zealand, 198 m.

TARSASTROCLES Fisher, 1923

Fisher 1923:605.

Type species: *Hydrasterias verrilli* Fisher, 1906.

verrilli (Fisher, 1906)

† Fisher 1906a:1106 (as *Hydrasterias*).

Fisher 1923:605; 1928a:68 (as *Tarsastrocles*).

Range: Hawaiian Is., 520-530 m.

TONIA Gray, 1840 (December)

Gray 1840:180.

Type species: *Tonia atlantica* Gray, 1840.

A synonym of *Stichaster* Müller & Troschel, April, 1840, according to Sladen (1889).

atlantica Gray, 1840:180. A synonym of *Stichaster striatus* Müller & Troschel, 1840 according to Sladen (1889).

aurantiaca: Perrier, 1894:129; 1896:27. Invalid and conspecific with *Stichaster striatus* Müller & Troschel, 1840 according to Fisher (1930) indirectly.

TRIPLASTERIAS Engel & Schroevens, 1960

Engel & Schroevens 1960:6.

Type species: *Triplasterias mercatoris* Engel & Schroevens, 1960.

A synonym of *Sclerasterias* Perrier, 1891 according to Jangoux & Massin (1986).

mercatoris Engel & Schroevens, 1960:7. A synonym of *Sclerasterias tanneri* (Verrill, 1880) according to Jangoux & Massin (1986).

UNIOPHORA Gray, 1840 (with synonym *Margaraster* Gray, 1866)

Gray 1840:288; Fisher 1930:242; H.L. Clark 1938:416; Shepherd 1967:3.

Type species: *Uniophora globifera* Gray, 1840, a synonym of *Asterias granifera* Lamarck, 1816.

dyscrita H.L. Clark, 1923

H.L. Clark 1923b:244; Shepherd 1967b:7.

Range: Western Australia, 'shallow' and 120-200 m.

fungifera (Perrier, 1875) Fisher 1926:198. A synonym of *U. granifera* (Lamarck, 1816) according to Shepherd (1967b).

globifera Gray, 1840:288. A synonym of *U. granifera* (Lamarck, 1816) according to Shepherd (1967b).

granifera (Lamarck, 1816) (with synonyms *U. globifera* Gray, 1840, *Asterias fungifera* and *sinusoida* Perrier, 1875, *U. obesa*, *multispina* (form) and *uniserialis* H.L. Clark, 1928) (non *U. granifera*: Farquhar, 1878)

Lamarck 1816:560 (as *Asterias*).

Gray 1840:288; H.L. Clark 1946:159; Shepherd 1967b:4; 1968:753 (as *Uniophora*).

Müller & Troschel 1842:20 (as *Asteracanthion*).

Gray 1866:2 (as *Margaraster*).

Range: N.S.W., South Australia and Tasmania, 5-40 m.

granifera: Farquhar, 1878, non *U. granifera* (Lamarck, 1816), probably -
Stichaster australis (Verrill, 1870), according to Benham (1909b).
gymnonota H.L. Clark, 1928. A synonym of *U. nuda* (Perrier, 1875) according to Shepherd (1967b).
multispina H.L. Clark, 1928:407. A form of *U. granifera* according to Shepherd (1967b).
nuda (Perrier, 1875) (with synonym *U. gymnonota* H.L. Clark, 1928)
Perrier 1875:71 [335] (as *Asterias*).
Fisher 1926:198; Shepherd 1967b:6; 1968:753 (as *Uniophora*).
Range: South Australia, 8-20 (40) m.
'Intergrades with *U. granifera*' according to Shepherd (1968).
obesa H.L. Clark, 1928:409. A synonym of *U. granifera* (Lamarck, 1816) according to Shepherd (1967b).
sinusoida (Perrier, 1875) Fisher 1923:597. A synonym of *U. granifera* (Lamarck, 1816) according to Shepherd (1967b).
uniserialis H.L. Clark, 1928:413. A synonym of *U. granifera* (Lamarck, 1816) according to Shepherd (1967b).
URASTER L. Agassiz, 1836b:191 (part). A substitute name for *Stellonia* Nardo, 1834. A synonym of *Asterias* Linnaeus, 1758 according to Fisher (1930).
glacialis: Forbes, 1841:78, see *Marthasterias*
hispida (Pennant, 1777) Forbes, 1841:95. Suppressed by the ICZN, 1972, = *Leptasterias muelleri celtica* A.M. Clark {in Clark & Downey (1992).
rubens: Forbes, 1841:83, see *Asterias*
violaceus Forbes, 1841:91. A synonym of *Asterias rubens* Linnaeus, 1758, according to Fisher (1930).
URASTERIAS Verrill, 1909
Verrill 1909:67; 1914a:51,187; Fisher 1930:211.
Type species: *Asteracanthion lincki* Müller & Troschel, 1842.
enopla (Verrill, 1895) Fisher 1930:211. A synonym of *O. lincki* Müller & Troschel, 1842 according to Downey in Clark & Downey (1992).
lincki (Müller & Troschel, 1842) (with synonyms *Asteracanthion stellionura* Perrier, 1869, *Asterias gunneri* Danielssen & Koren 1884 and *Asterias enopla* Verrill, 1895) vars. *siberica* and *robusta* Kalischewsky, 1907)
Müller & Troschel 1842:18 (as *Asteracanthion*).
Döderlein 1900:200; Ludwig 1900:486 (as *Asterias*).
Kalishevsky 1907:51 (vars *robusta* and *siberica* of *Asterias lincki*).
Verrill 1909:67; 1914a:52; Fisher 1930:211; Mortensen 1932:20; Djakonov 1933:63; 1950a:114; 1952b:295; Grainger 1964:43; 1966: 44; Smirnov 1990:442; Downey in Clark & Downey 1992:458 (as *Urasterias*).
Range: Circumboreal arctic, S in Atlantic to Nova Scotia, 5-2000 m.

Family HELIASTERIDAE Viguier
Heliasteridae Viguier 1878:111; Fisher 1923:248; 1928a:3; Madsen 1956:35.
Genus-group name: **Heliaster**
HELIASTER Gray, 1840
Gray 1840:179 (as subgenus of *Asterias* Linnaeus, 1758).
Verrill 1870[1867]:289; Rathbun 1887:440; H.L. Clark 1907:23; A.H. Clark 1946:10; Caso 1943 [1961a]:112 (as genus).
Type species: *Asterias helianthus* Lamarck, 1816, designated by H.L. Clark (1907).
canopus Perrier, 1875
Perrier 1875:88(352); H.L. Clark 1907:45.
Range: Juan Fernandez Is, W from Chile, probably from shore.
cumingi (Gray, 1840)
Gray 1840:180 (as *Asterias* (*Heliaster*) *cumingii*).
Dujardin & Hupé, 1862:343; A.H. Clark 1939c:11 (as *Heliaster*).
Range: Galapagos Is, shore.
cumingi: Verrill, 1870 [1867]:291,333, non *H. cumingi* (Gray, 1840), = *H. polybrachius* H.L. Clark, 1907, according to Caso (1943).
helianthus (Lamarck, 1816)
Lamarck 1816:558 (as *Asterias*).
L. Agassiz 1836b:192 (as *Stellonia*).
Gray 1840:179 (as *Asterias* (*Heliaster*)).
Müller & Troschel 1842:18 (as *Asteracanthion*).
Dujardin & Hupé, 1862:344; Verrill 1870 [1867]:289; H.L. Clark 1910:338; Madsen 1956:34; Caso 1943 [1961a]:113; Maluf 1988:45, 125 (as *Heliaster*).
Range: Colombia to Valparaiso, Chile, ?W Mexico, shore.
kubingii Rathbun, 1887. Lapsus for
kubiniji Xantus, 1860
Xantus 1860:568; H.L. Clark 1907:48; Ziesenhenne 1937:220; Caso 1943 [1961a]:10, 115, 118 (var. *nigra*); 1944:224 (var. *nigra*); Dungan et al. 1982:989; Maluf 1988:45,125.
Range: Lower California S to Pacific Nicaragua, 0-9 m.
kubiniji: Verrill, 1869:387 (from Peru) = ?
microbrachius Xantus, 1860
Xantus 1860:568; H.L. Clark 1926b:4; Caso 1943 [1961a]:123; Maluf 1988:45.
Range: Lower California to Panama, shore.
microbrachius var. *polybrachius*: Caso, 1943 [1961a]:121; 1980:207 (NW Mexico), ? non *H. polybrachius* H.L. Clark, 1907, = ?

***morrisoni** A.H. Clark, 1949

A.H. Clark 1946:9.

Range: Pearl Is, Panama.

Probably conspecific with *H. microbrachius* Xantus, 1860

according to Madsen (1956).

multiradiatus (Gray, 1840:180, as *Asterias (Heliaster)*); Dujardin & Hupé, 1862:343; H.L. Clark 1907:46. A NOMEN NUDUM, junior homonym of *Asterias multiradiatus* Linnaeus, 1758 (a crinoid) according to A.H. Clark 1920, = *H. Solaris* nom. nov.

***polybrachius** H.L. Clark, 1907

H.L. Clark 1907:41,54; 1910:338; Tortonese 1955:681; Madsen 1956:9.

Range: Acapulco, Mexico to N Chile.

Probably conspecific with *H. cumingi* (Gray, 1840) according to Madsen (1956).

Solaris A.H. Clark, 1920

A.H. Clark 1920:183 (nom. nov. for *Asterias (Heliaster)*)

multiradiata Gray, 1840, non *A. multiradiata* Linnaeus, 1758; 1946:10; Maluf 1988:45,126.

Range: Galapagos Is.

*Family PYCNOPODIIDAE Fisher

, 'A

Pycnopodiinae Fisher 1928a:57 (in key), 148.

When the other subfamilies of Asteriidae sensu Fisher 1928 were raised to family rank, primarily by Downey in Clark & Downey 1992: 400-401, the Pycnopodiinae, being unrepresented in the Atlantic, was left in limbo. For the sake of consistency, it is here treated as of family rank but this needs to be reassessed.

Genus-group names: **Lysastrosoma**, **Pycnopodia**



LYSASTROSOMA Fisher, 1922b

Fisher 1922b:590; 1928a:148.

Type species: *Lysastrosoma anthosticta* Fisher, 1922

anthosticta Fisher, 1922 (with subspecies *crassispina* Djakonov, 1938 and forma *desmiora* H.L. Clark, 1925[?6])

anthosticta anthosticta Fisher, 1922

Fisher 1922b:591; 1928a:149; Djakonov 1950a:112; 1958:317; Baranova 1971:256; Shin 1995: .

Range: S coast of Hokkaido, Japan, Korea to Kurile Is, 0-50 m.

anthosticta crassispina Djakonov, 1938

Djakonov 1938b:499.

Range: Japan Sea.

desmiora H.L. Clark, 1925:5; Fisher 1928a:151. Reduced to forma of

L. anthosticta by Djakonov (1950a).

PYCNOPODIA Stimpson, 1861

Stimpson 1861:261; Fisher 1928a:153.

Type species: *Asterias helianthoides* Brandt, 1835.

helianthoides (Brandt, 1835)

Brandt 1835:271 (as *Astenas*).

Stimpson 1961:261; A. Agassiz 1877:100; Verrill 1914a:198;

Fisher 1928a:154; Baranova 1957:176 (as *Pycnopodia*).

Range: Alaska, Aleutian Is to Southern California, 0-455 m

Order BRISINGIDA Fisher 1928

Fisher 1928: 3; Spencer and Wright 1966: U77 (as Brisingina)

Tortonese 1958: 1 (as Euclasteroidea)

Downey 1973: 98 (as Euclasterida)

Downey 1986: 1; Blake 1987: 517; Downey in Clark and Downey 1992:

462; Mah 1998 (as Brisingida)

Family ODINELLIDAE Mah

Genus-group name: **Odinella** < / >

ODINELLA Fisher, 1940

Fisher 1940: 204; A.M. Clark, 1962: 68

Type species: *Odinella nutrix* Fisher, 1940.

nutrix Fisher, 1940

Fisher 1940: 207; A.M. Clark 1962: 68; Mein 1992: 251

Range: Southern Ocean: South Georgia, the South Shetland Islands, End-erby to Adelie Lands and from southern Argentina, 120-640 m.

Family BRISINGASTERIDAE Mah

Genus-group name: **Brisingaster**

BRISINGASTER de Loriol, 1883

de Loriol 1883: 55; Fisher 1917f: 419; 1919: 502; 1928: 5; 1940: 205

Rowe 1989: 274 (as *Novodinia helenae*).

Type species: *Brisingaster robilliardi* de Loriol, 1883

robillardi de Loriol, 1883

de Loriol 1883: 55; Fisher 1919: 502

Range: off Mauritius, New Caledonia, Norfolk Sea Mount, 100-1200 m.

Family NOVODINIIDAE Mah

Genus-group names: **Novodinia**, *Odinia*

NOVODINIA Dartnall, Pawson, Pope and Smith, 1969.

Dartnall, Pawson, Pope and Smith 1969: 211; Downey 1986: 21; Downey in Clark and Downey 1992: 471. (nom. nov. for *Odinia* Perrier 1885, preoccupied)

Type species: *Odinia semicoronata* Perrier, 1885.

»

americana (Verrill, 1880)

Verrill 1880: 139 (as *Brisinga*)

A

Verrill 1894: 279; 1895: 211 (as *Odinia*)

Downey 1986: 21; Downey in Clark and Downey 1992: 472 (as *Novodinia*)

Range: Nova Scotia to Colombia, 320-732 m.

antillensis (A.H. Clark, 1934)

A.H. Clark 1934: 1; Downey 1973: 99 (as *Odinia*)

Downey 1986: 23; Downey in Clark and Downey 1992: 472 (as *Novodinia*)

Range: West Indies, Gulf of Mexico. 366-622 m.

*, *

australis (H.L. Clark, 1916)

H.L. Clark 1916: 75; H.L. Clark 1946: 153 (as *Odinia*)

Range: SE Ocean. NSW Victoria. Known only from Shoalhaven Heads NSW to off Cape Everard, Victoria, 360-549 m !

austini (Koehler, 1909) with forma *japonica* Hayashi, 1943

Koehler 1909c: 124; H.L. Clark 1946: 153. (as *Odinia*)

Hayashi 1943: 140 (as *formajaponica*)

Range: Indian Ocean/Philippines: Arabian Sea-vicinity of Sri Lanka, Japan: Misaki and Suruga Bay, 400-802 m.

ciarki (Koehler, 1909)

Koehler 1909c: 120 (as *Odinia*) ..

Range: Indian Ocean/Philippines: Arabian Sea -Lakshadweep islands? 918m

helena Rowe, 1989. A junior synonym of *Brisingaster robillardii* according to Mah

homonyma Downey, 1986

Perrier 1885c: 9 (as *Brisinga*, non *Brisinga elegans* Verrill, 1884)

Perrier 1894: 71 (as *Odinia*)

Downey 1986: 25; Downey in Clark and Downey 1992: 474 (as *Novodinia*)

Range: South of Canary Islands 1056-1435 m.

magister Fisher, 1917

Fisher 1917f: 93; 1919: 507 (as *Odinia*)

Range: Philippines, off S. Panay Juraojurao Island.

novaezelandiae (H.E.S. Clark, 1962)

H.E.S. Clark 1962: 6; McKnight 1967: 304 (as *Odinia*)

Range: Sub-Antarctic, off Chatham Islands. 625-690 m.

pacifica Fisher, 1906. With forma *sagamiana* Hayashi, 1943

Fisher 1906: 1108 (as *Odinia*)

Hayashi 1943: 136, (as forma *sagamiana*)

Range: Hawaiian Islands: South coast of Molokai Island, vicinity of Kuai Island to Misaki Japan, 600-1056 m .

pandina (Sladen, 1889)

Sladen 1889: 598; Bell 1893: 105; Mortensen 1927: 123; H.L. Clark 1941: 64 (as *Odinia*)

Downey 1986: 27; Harvey et. al. 1988: 166 (as *Novodinia*)

Range: Faeroe Channel; North Carolina, off Cuba and Hbridean Slope; 278-990 m

penichra Fisher, 1916

Fisher 1916b: 31; 1919: 505; Jangoux 1981: 459 (as *Odinia*)

Range: Philippines between Burias and Luzon, 187-210 m.

radiata Aziz and Jangoux, 1985

Aziz and Jangoux 1985a: 289

Range: Off Mindoro, Philippines, 215 m

robusta Perrier, 1894. A junior synonym of *N. semicoronata* by Downey (1986) »

semicoronata (Perrier, 1885) «

Perrier 1885d: 442; 1885c: 9 (as *Brisinga*)

Perrier 1885d: 11; 1885c (as *B. robusta*) <

Perrier 1885a: 885; 1894: 75 (as *Odinia*)

Perrier 1894: 78; Koehler 1895b: 440, (as *O. robusta*)

Downey 1986: 29; Downey in Clark and Downey 1992: 475 (as *Novodinia*)

Range: Bay of Biscay and off Senegal, 1056-2160 m

ODINIA Perrier, 1885

Perrier 1885c: 9; Sladen 1889: 598; Bell 1892 (1893): 105; Perrier 1894:

71; Verrill 1894: 279; 1895: 211; Koehler 1895b: 420; Fisher 1906: 1108; 1916: 31; 1917: 419; A.H. Clark 1916b: 57; Fisher 1918: 105;

1919: 505; A.H. Clark 1934: 1; Hayashi 1943: 136.

Odinia Perrier, 1885 was replaced by *Novodinia* after being shown to be a junior homonym of *Odinia* Robineau-Desvoidy, 1830 (Insecta: Diptera).

- americana* (Verrill, 1880), see *Novodinia* s
antillensis A.H. Clark, 1934, see *Novodinia* ||
australis H.L. Clark, 1916 see *Novodinia* > |||
austini Koehler, 1909, see *Novodinia* , |||
ciarki Koehler, 1909, see *Novodinia*
elegans Perrier, 1885, syn. with *Novodinia homonyma*
magister Fisher, 1917, see *Novodinia*
novaeseelandiae H.E.S. Clark, 1962, see *Novodinia*
pacifica Fisher, 1906, see *Novodinia*
pandina Sladen, 1889, see *Novodinia*
penichra Fisher, 1916, see *Novodinia*
robusta Aziz and Jangoux, 1985, see *Novodinia*
emicoronata (Perrier, 1885), see *Novodinia*

Family BRISINGIDAE Sars

Sars 1875: 1; Verrill 1880: 139; Perrier 1885c: 3; Sladen 1889: 603; Perrier 1891c: 198; Verrill 1895: 199; Ludwig 1897a: 418; 1900: 488; Fisher 1906: 1108; Koehler 1907: 3; 1906: 141; 1908: 578; Fisher 1916b: 31; 1917: 419; 1928: 7; Hayashi 1943: 136; Madsen 1951b: 84; Tortonese 1958: 1; A.M. Clark 1962: 68; Bernasconi 1964: 248; Spencer and Wright 1966: U76; H.E.S. Clark 1970: 27 (arm fragments); McKnight 1975: 17; A.M. Clark and Courtman-Stock 1976: 97; Korovchinsky N.M. 1976a: 1205; 1976b: 165; Galkin and Korovchinsky 1984: 164; Korovchinsky and Galkin 1984: 1187; Downey 1986: 4; Downey in Clark and Downey 1992: 462
Genus-group names: **Astrostephane**, **Brisinga**, **Brisingenes**, Craterobrisinga, **Midgardia**, **Stegnobrisinga**.

ASTROSTEPHANE Fisher, 1917

Fisher 1917f: 421; Fisher 1919: 525; Baker and Clark 1970: 7

Type species: *Brisinga moluccana* Fisher, 1916

acanthogenys (Fisher, 1916)

Fisher 1916b: 33 (as *Brisinga*)

Fisher 1917f: 421; 1919: 528 (as *Astrostephane*)

Range: Mouth of Lingayan Gulf, Luzon. 344m.

moluccana (Fisher, 1916) with synonym *Brisingenes delli* Fell, 1958

Fisher 1916b: 32 (as *Brisinga*)

Fell 1958: 18 (as *Brisingenes delli*)

Fisher 1917f: 421; Baker and Clark 1970: 7 (as *Astrostephane*)

Range: Celebes (Burton Strait) and Molucca Islands, Indonesia.

New Zealand: Mayor Island, Bay of Plenty. Betw. Alderman & Major Is, 290-1118m.

BRISINGA Asbjornsen, 1856

Asbjornsen 1856: 95; G.O. Sars: 1; Perrier 1882a: 61; 1885a: 441; Sladen 1889: 604; Wood-Mason and Alcock 1891: 12; Alcock 1893b: 170; Perrier 1894: 61; Verrill 1894: 280; 1895: 211; Fisher 1916bb: 31; 1917c: 427; 1918: 103; 1919: 516; Döderlein 1927: 292; Fisher 1928: 7; McKnight 1967: 304; McKnight 1973: 238; A.M. Clark and Courtman-Stock 1976: 97; Downey 1986: 4; Downey in Clark and Downey 1992: Fisher 1916b: 33; 1917: 427 [as *Brisinga* (*Craterobrisinga*)]

alberti Fisher, 1907

Fisher 1906: 1111 (as *Brisinga*)

Fisher 1919: 513; 1928: 8 (as *Craterobrisinga*)

Range: Hawaiian Islands: Niihau Islands, Kauai Island, 638-1000 m

acanthogenys syn. *Astrostephane acanthogenys*

americana syn. with *Novodinia americana*

analoga (Fisher, 1919) (new comb.)

Fisher 1919: 516 (as *Craterobrisinga*)

Range: Philippines: Palawan Passage, 750 m²

andamanica Wood-Mason and Alcock, 1891

Wood-Mason and Alcock 1891: 430; Alcock 1893a: 118

Range: Andaman Sea, 810 m.

armillata syn. with *Brisingella armillata*

bengalensis Wood-Mason and Alcock, 1891

Wood-Mason and Alcock 1891: 439; Alcock 1893a: 119;

Range: Bay of Bengal, 1122 m.

chathamica McKnight, 1973

McKnight 1973: 238

Range: SE New Zealand, 309-512 m

coronata (G.O. Sars, 1871), see *Hymenodiscus* "

costata Verrill, 1884a

Verrill 1884a: 382; 1894: 280; 1895: 211; Downey 1986: 5; Downey in Clark and Downey 1992: 465.

Range: Western Atlantic, George's Bank to Venezuela, 1514-2377 m.

cricophora Sladen, 1889 (new comb.)

Sladen 1889: 606; H.L. Clark 1923a: 309; 1926a: 30; A.M.

Clark and Courtman-Stock 1976: 97; Downey 1986: 7; Downey in Clark and Downey 1992: 466.

Fisher 1917fc: 426; 1919a: 513 (as *Craterobrisinga*)

Range: Florida, the Bahamas, the Virgin Islands, Sargasso Seas, western South Africa, 360-1340 m.

distincta Sladen, 1889

Sladen 1899:

Range: Sub-Antarctic; South of Australia, 5200 m

edwardsi Perrier, 1882 see *Colpaster*

elegans see *Novodinia homonyma*

endecacnemos Asbjornsen, 1856

Asbjornsen 1856: 95; Sars 1861: 34; Bell 1892: 520; 1893: 104; Perrier 1894: 62; Koehler 1909: 123; Farran 1913: 27; Mortensen 1927: 125; Cherbonnier and Sibuet 1972: 1353, Gage et al. 1983: 284; Downey 1986: 9; Harvey et al. 1988: 166; Downey in Clark and Downey 1992: 466;

Range: Norway to Portugal, 183-2000 m.

eucoryne Fisher, 1916 (new comb.)

Fisher 1916b: 33 [as *Brisinga (Craterobrisinga)*]

Fisher 1917f: 426 (as *Craterobrisinga*)

Range: Philippines: Palawan Passage, 750 m

evermanni Fisher, 1906 (new comb.)

Fisher 1906: 1113 (as *Brisinga*)

Fisher 1917f: 426 (as *Craterobrisinga*)

Range: Hawaiian Islands: Kauai Island, 800-1000 m.

exilis Fisher, 1905, see *Hymenodiscus*

>

fragilis Fisher, 1906 see *Hymenodiscus*

gracilis Koehler, 1909 see *Stegnobrisinga*

gunni Alcock, 1893

Alcock 1893: 120

Range: Indian Ocean, off Konkan Coast, 1118 m.

hirsuta Perrier, 1894

Perrier 1894: 66; Downey 1986: 11; Downey in Clark and Downey 1992:

467.

, , 4

Range: Iberian Peninsula, Gulf of Guinea, 640-2525 m.

insularum Wood-Mason and Alcock, 1891

Wood-Mason and Alcock 1891: 439; Alcock 1893: 117

Range: Laccadive Sea, 2086 m.

mediterranea Perrier, 1885: 442. See *Hymenodiscus*

membranacea Sladen, 1889: See *Hymenodiscus*

mimica Fisher, 1916: see *Brisingenes*

moluccana Fisher, 1916: see *Astrostephane*

multicostata Verrill, 1894: see *Brisingenes*

panamensis Ludwig, 1905 see *Astrolirus*

panopla Fisher, 1906

Fisher 1906: 1109; Koehler 1909: 117 (as *Brisinga*)

Fisher 1919: 513; 1928: 8 (as *Craterobrisinga*)

Range: Hawaii to Indian Ocean (Arabian Sea). Nihau Island, South coast

of Molokai Island, vicinity of Kauai Island, Arabian Sea vicinity of Sri

Lanka, 600-1136 m

parallela Koehler, 1909

Koehler 1909c: 118 (as *Brisinga*)

Fisher 1919: 513 (as *Craterobrisinga*)

Range: Indian Ocean/Philippines: Indian Ocean/Arabian Sea off Sri Lanka, 1136 m

placoderma Fisher, 1916. see *Stegnobrisinga*

robusta Perrier, 1894 (a synonym of *Novodinia semicoronata*)

semicoronata Perrier, 1885 see *Novodinia*

synaptoma (Fisher, 1917)

Fisher 1917f: 426; 1928: 8; Lambert 1978: 8

Range: British Columbia to Mendocino Ridge, CA, 1353-3176 m.

tasmani H.E.S. Clark, 1970

H.E.S. Clark 1970: 25

Range: New Zealand, west of Cape Farewell, 908-915 m.

tenella syn. with *Brisingella tenella*

trachydisca Fisher, 1916

Fisher 1916bb: 31; Fisher 1919: 510

Range: Philippines-between Leyte and Mindanao, 1472 m.

variispina Ludwig, 1905

Ludwig 1905a: 249 (as *Brisinga*)

Fisher 1928: 8 (as *Craterobrisinga*)

Range: Paumotu (Tuamotu) Islands, 1614 m.

verticellata Sladen, 1889: 604 see *Hymenodiscus*

BRISINGENES Fisher 1917f

Fisher 1917f: 427; 1919: 517; Downey 1986: 16; Downey in Clark and Downey 1992: 470

Type Species: *Brisinga mimica* Fisher 1917f

anchista (Fisher, 1919)

Fisher 1919: 521

Range: Celebes, Burton Strait, North Island. 1118 m. "

delli Fell, 1958: 18; 1963: 41. A synonym of *Astrostephane moluccana* according to Baker and Clark (1970).

mimica (Fisher, 1916)

Fisher 1916bb: 32 (as *Brisinga*)

Fisher 1917f: 427 (as *Brisingenes*)

Range: Philippines, Burton strait, Celebes-1118 m.

multicostata (Verrill, 1894)

Verrill 1894: 280 (as *Brisinga*)

Fisher 1917f: 426; 1919: 513 (as *Craterobrisinga*)

Downey 1986: 17; Downey in Clark and Downey 1992: 470 (as *Brisingenes*)

Range: Georges Bank to the Straits of Florida, 805-3186 m.

plurispinula Aziz & Jangoux, 1985

Aziz & Jangoux 1985a: 271

Range: Indo-Malaysian region Indonesia, vicinity of Java/Sumatra, 694-794 m

CRATEROBRISINGA Fisher (A synonym of *Brisinga* according to Downey 1986)

Fisher 1916bb: 33; 1917: 427 [as *Brisinga (Craterobrisinga)*]

Fisher 1919: 512; 1928: 7; McKnight 1973: 238 (as *Craterobrisinga*).

Type Species: *Brisinga panopla* Fisher, 1906

alberti Fisher, 1906 see *Brisinga*

analogia Fisher, 1919 see *Brisinga*

chathamica McKnight, 1973 see *Brisinga*

cricophora Sladen, 1889 see *Brisinga*

eucoryne Fisher, 1916 see *Brisinga*

evermanni Fisher, 1906 see *Brisinga*

multicostata (Verrill, 1894) see *Brisingenes*

panopla Fisher, 1906 see *Brisinga*

parallela Koehler, 1909 see *Brisinga*

synaptoma Fisher, 1906 see *Brisinga*

variispina Ludwig, 1905 see *Brisinga*

GYMNOBRISINGA see LABIDIASTERIDAE

MIDGARDIA Downey, 1972

Downey 1972: 422; 1973: 99; 1986: 19; Downey in Clark and Downey 1992: 471.

Type Species: *Midgardia xandaros* Downey, 1972

xandaros Downey, 1972

Downey 1972: 422; 1973: 99; 1986: 19; Downey in Clark and Downey 1992: 471

Range: Southern Gulf of Mexico, Yucatan Strait; and off Honduras, 366-467 m

STEGNOBRISINGA Fisher, 1916

Fisher 1916bb: 34 [as *Brisinga (Stegnobrisinga)*]

Fisher 1917f: 428; 1919: 530; H.L. Clark 1926: 31; A. M. Clark and Courtman-Stock 1976: 98; Downey 1986: 29; Downey in Clark and Downey 1992: 476. (as *Stegnobrisinga*)

Type Species: *Stegnobrisinga placoderma* Fisher, 1916

gracilis (Koehler, 1909)

Koehler 1909c: 115 (as *Brisinga*)

Fisher 1919: 535

Range: Indian Ocean/Philippines: Bay of Bengal east of the Andaman Islands, 1920 m

splendens H.L. Clark, 1926 [A possible synonym of *S. placoderma* accord-

ing to Downey (1986)]

H.L. Clark 1926: 31; A.M. Clark and Courtman-Stock 1976: 98; Downey 1986: 31; Downey in Clark and Downey 1992: 476.

Range: Florida Strait to S. Caribbean off Venezuela and off Namibia (SW Africa); also

Natal, SE Africa, 860-4000 m.

placoderma Fisher, 1916

Fisher 1916bb: 34 [as *Brisinga (Stegnobrisinga)*] Fisher 1919: 531; Downey 1986: 31; Downey in Clark and Downey 1992: 476 as *Stegnobrisinga*)

Range: China Sea, off southern Luzon and Buton Strait, Celebes, 1050-1118m.

Family FREYELLIDAE Downey

Freyellidae Downey, 1986: 33; Downey in Clark and Downey 1992: 477.

Genus-group names: **Astrocles**, **Belgicella**, **Colpaster**, **Freyastera**, **Freyella**, **Freyellaster**, Freyellidea.

ASTROCLES Fisher, 1917 syn. with *Freyella* by Downey 1986: 43 but synonymy not supported by Mah (1998)

Fisher 1917f: 430

actinodetus Fisher, 1917

Fisher 1917f: 430; Fisher 1928: 29; Djakonov 1950 (1968): 104; Korovchinsky 1976b: 173

Range: Kamchatka opposite Avacha Bay to British Columbia and Oregon, 2870-4200 m.

djakonovi Gruzov, 1964

Gruzov 1964: 1394

Range: North Pacific/Arctic: Okhotsk Sea westward from the Isle One-kotan, 2975 m

japonicus Korovchinsky, 1976

Korovchinsky 1976b: 175

Range: NW Pacific, 3880-3900 m

BELGICELLA Ludwig, 1903

Ludwig 1903: 59

Type species: *Belgicella racowitzana* Ludwig, 1903

racowitzana Ludwig, 1903

Ludwig 1903: 59; Doederlein 1927: 293; Koehler 1907: 141; A.M. Clark 1962: 68; Jangoux and Massin 1986: 91

Range: Antarctica: off Ellsworth, Dronning Maud and Princess Elizabeth Lands, 2450-2800 m.

COLPASTER Sladen, 1889

Sladen 1889: 647; Downey 1986: 33; Downey in Clark and Downey 1992: 477

Type Species: *Colpaster scutigerula* Sladen 1889

edwardsi (Perrier, 1882)

Perrier 1882: 61 (as *Brisinga*)

Perrier 1885d: 441; 1894: 82; Sladen 1889: 616; Koehler 1907: 6; 1909c: 124; Mortensen 1927: 128; Galkin and Korovchinsky 1984: 165 (as *Freyella*)

Downey 1986: 33; Downey in Clark and Downey 1992: 478 (as *Colpaster*)

Range: Golfe de Gascogne, Canary Islands, 1700-2300 m.

scutigerula Sladen, 1889

Sladen 1889: 648; Downey 1986: 34; Downey in Clark and Downey: 479

Range: S. of Canary Islands: Gulf of Guinea; off Honduras, 933-2789 m

FREYASTERA Downey, 1986

Korovchinsky and Galkin 1984: 1205 (part) (as *Freyella*)

Downey 1986: 36; Downey in Clark and Downey 1992: 479

Type Species: *Freyella sexradiata* Perrier 1885

Because there are many species of non-Atlantic *Freyella* which potentially belong within *Freyastera* it is possible that the diversity within this genus is currently underrepresented.

benthophila (Sladen, 1889).

Sladen 1889: 641; Wood-Mason and Alcock 1891: 430; Alcock 1893a: 121; Fisher 1919: 538; Madsen 1950: 184; Cherbonnier and Sibuet 1972: 1356; Sibuet 1975: 292; Korovchinsky and Galkin 1984: 1215 (as *Freyella*)

Fisher 1917f: 429 (as *Freyellidea*)

Downey 1986: 37; Downey in Clark and Downey 1992: 480 (as *Freyastera*)

Range: South Pacific, eastern Pacific off California up to Oregon, Washington Pacific Northwest, Bay of Bengal, north to mid-Atlantic (between Azores and Spain), Bay of Biscay, Gulf of Gascogne, 4250-5000 m.

mexicana (A.H. Clark, 1939)

A.H. Clark 1939a: 442; Korovchinsky and Galkin 1984: 1213 (as *Freyella*)

Downey 1986: 38; Downey in Clark and Downey 1992: 481

Range: Gulf of Mexico (type only) 2683 m.

sexradiata (Perrier, 1885)

Perrier 1885c: 6; 1894: 89; Koehler 1909c: 129; Grieg 1921: 30; Madsen 1951b: 84 (as *Freyella*)

Downey 1986: 40; Downey in Clark and Downey 1992: 482 (as *Freyastera*)

Range: Off eastcoast of North America, near Azores, Porcupine Abyssal Plain, SW of Ireland, to west of Gibraltar; 4020-5110 m.

tuberculata (Sladen, 1889)

Sladen 1889: 638; Alcock 1893a: 121 (as *Freyella*)

Fisher 1917f: 429; H.L. Clark 1920: 113. (as *Freyellidea*)

Downey 1986: 41; Downey in Clark and Downey 1992: 482 (as *Freyastera*)

Range: Eastern Atlantic (22 deg. N to 3 deg. S); also Bay of Bengal and E. Pacific, 3365-5618 m.

FREYELLA Perrier, 1885. With synonym *Freyellidea*.

Perrier 1885d: 443; 1885c: 5; Sladen 1889: 618; Alcock 1893a: 121; Verrill 1894: 283; Perrier 1894: 81; Verrill 1895: 212; Ludwig 1905a: 267; Fisher 1905: 319; Koehler 1907: 3; 1909c: 127; Fisher 1916bb: 35; 1917: 428; 1918: 104; 1919: 538; 1928: 24; Grieg 1921: 30; A.H. Clark 1939: 442; H.L. Clark 1941: 65; Hayashi 1943: 169; Madsen 1956: 29; Cherbonnier and Sibuet 1973: 1353; Sibuet: 1975: 281; Korovchinsky 1976: 1188; Galkin and Korovchinsky 1984: 161; Korovchinsky and Galkin 1984: 1205-1215; Downey 1986: 43; Downey in Clark and Downey 1992: 483 (as *Freyella*)

Fisher 1917f: 424; 1919: 538; H.L. Clark 1920: 108; Doederlein 1927: 293 (as *Freyellidea*)

Type Species: *Freyella spinosa* Perrier 1885

abyssicola A.H. Clark 1949. A synonym of *Freyella elegans* according to Downey (1986).

***americana**. Mentioned in Sladen 1889 NOMEN NUDUM

Range: Continental zone off Nova Scotia, 350 m

aspera Verrill, 1884. A synonym of *Freyella elegans* according to Downey (1986).

attenuata Sladen, 1889

Sladen 1889: 645; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1215

Range: Philippine waters, 4210 m

benthophila Sladen, 1889: 641. see *Freyastera*

bracteata Sladen, 1889: A synonym of *Freyella elegans* according to Downey (1986).

breviispina (H.L. Clark, 1920)

H.L. Clark 1920: 108 (as *Freyellidea*)

Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1213 (as *Freyella*)

Range: Indonesian waters 4430m.

***dimorpha** Sladen, 1889

Sladen 1889: 623; Fisher 1928: 24; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1214

Range: Torres Strait (Australia), 2560 m.

Downey (1986: 46) suggests that this may be a synonym of *F. elegans*.
drygalskii Döderlein, 1927

Döderlein 1927: 293, (as *Freyellidea*)

A.M. Clark 1962: 68; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1213 (as *Freyella*)

Range: Antarctic Ocean: off Princess Elizabeth Land, 3425 m.

echinata (Sladen, 1889)

Sladen 1889: 623; McKnight 1975: 59; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1213

Range: Vicinity of China Sea, 1922-3930 m.

Fisher (1919: 540) states that this might be a species of *Freyellaster edwardsi* (Perrier, 1882) see *Colpaster elegans* (Verrill, 1884)

Verrill 1884: 382, (as *Brisinga elegans*) (non *B. elegans* Perrier 1885 = *Novodinia homonyma* Downey 1986, nom. nov.)

Perrier 1885c: 5; 1894: 85; Koehler 1907: 6; Mortensen 1927: 129; Sibuet 1975: 281; 1980: pl 1A; Gage et al. 1983: 285; Galkin and Korovchinsky 1984: 167; Korovchinsky and Galkin 1984: 1213 (in key) (as *Freyella spinosa*)

Sladen 1889: 629; Galkin and Korovchinsky 1984: 165; (as *Freyella bracteata*)

Verrill 1894: 283; 1895: 212; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1214; Downey 1986: 43; Downey in Clark and Downey 1992: 484 (as *Freyella elegans*)

Perrier 1894: 85; Sibuet 1975: 292; (as *Freyella spinosa* var. *abyssicola*)

Verrill 1895: 212; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1214 (as *Freyella aspera*)

A.H. Clark 1949: 375 (as *Freyella abyssicola*)

Cherbonnier and Sibuet 1973: 1353; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1213 (as *Freyella laubieri*)

Range: Greenland south to North Carolina in the west and the northern part of the West European Basin to Angola in the east, 1600-4500m. Downey(1986) suggests that *F. mutabilis*, *F. dimorpha*, and *F. pennata* are all conspecific with *F. elegans*.

fecunda, see *Freyellaster*

flabellispina Korovchinsky and Galkin, 1984

Galkin and Korovchinsky 1984: 167; Korovchinsky and Galkin 1984: 1206

Range: SE Pacific. 4160 m.

formosa Korovchinsky, 1976

Korovchinsky 1976a: 1192; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1212

Range: South Atlantic: Scott Sea, SE from the Falkland Islands, 3852-3858 m.

***fragilissima** Sladen, 1889

Sladen 1889: 626; Fisher 1928: 24; A.M. Clark 1962: 68; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1212;

Range: Southern Ocean: between Marion Island and the Crozets and north from Queen Mary land 515-3950 m.

Fisher (1928) notes that without knowledge of the gonad morphology placement of this species within the genus *Freyella* is tentative.

giardi Koehler, 1908

Koehler 1907: 145; 1908: 578; Fisher 1940: 75; A.M. Clark 1962: 68; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1213

Range: Southern Ocean: Weddell Sea and Kron Prinsesse Martha Kyst, 4570-4790 m.

heroina Sladen, 1889

Sladen 1889: 543; Fisher 1928: 24; Galkin and Korovchinsky 1984: 165; Korovchinsky and Galkin 1984: 1212

Range: Arabian Sea (Indian Ocean) to North Pacific off Japanese coast, 3000-5305 m.

hexactis Baranova, 1957

Baranova 1957: 174; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1215

Range: Bering Sea, south-easterly from Point Oliutarsky. 3939 m

indica Koehler, 1909

Koehler 1909: 126; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1213

Range: Bay of Bengal. 2552-2592m. 3190-3244m? (in Koehler)

insignis Ludwig, 1905

Ludwig 1905a: 272; Fisher 1928: 27; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1213

Range: Southern California: Santa Catalina Island, California to Gulf of Panama, 3182m-3436 m.

kurilokamchatica Korovchinsky, 1976b

Korovchinsky 1976: 165; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1212

Range: Region of Kurilo-Kamchatka, Japanese Idzu-Bonine trenches and in the northwestern basin of the Pacific Ocean, 4890-6860 m.

laubieri Cherbonnier and Sibuet, 1972. A synonym of *F. elegans* according to Downey (1986: 46).

loricata Korovchinsky and Galkin, 1984

Galkin and Korovchinsky 1984: 167; Korovchinsky and Galkin 1984: 1208

Range: NW Pacific: regions of Kurilo-Kamchatka and Idzu-Bonine fissures and NW region, 4995-5998 m.

macropedicellaria Korovchinsky and Galkin, 1984

Korovchinsky and Galkin 1984: 1209; Galkin and Korovchinsky 1984: 167.

Range: Indian Ocean Bay of Bengal, 5120 m.

mexicana Clark, 1939. See *Freyastera*

microplax (Fisher, 1917)

Fisher 1919: 538; 1928: 25; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1214 (as *Freyella*)

Fisher 1917f: 430 (as *Freyellidea*)

Range: British Columbia, Central California, 1722m-3176 m.

microspina Verrill, 1894

Verrill 1894: 285; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1214 (key); Downey 1986: 46; Downey in Clark and Downey 1992: 485 (as *Freyella elegans*)

H.L. Clark 1941: 65; Galkin and Korovchinsky 1984: 167; Korovchinsky and Galkin 1984: 1214 (key) (as *Freyella trispinosa*)

Range: Off Nantucket; southern coast of Cuba, Surinam (Africa), 1847-2734m.

mortenseni Madsen, 1956

Madsen 1956: 29; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1213

Range: Kermadec Trench (close to New Zealand): 5850-6160 m.

This is another species which might possibly be included in *Freyastera*.

mutabilis Korovchinsky, 1976

Korovchinsky 1976: 1188; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1212; Downey 1986: 46

Range: Sub-Antarctic; Southern Ocean side of the Southern Sandwich fissure, Southern Orkneyan fissure north Scott Sea, 664-6070 m.

Downey (1986: 46) states this is a possible junior synonym of *Freyella elegans*

octoradiata (H.L. Clark, 1920)

H.L. Clark 1920: 110 (as *Freyellidea*)

Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1213 (as *Freyella*)

Range: East Pacific, Southern California, Central America, 4085-4430 m.

oligobrachia (H.L. Clark, 1920)

H.L. Clark 1920: 112 (as *Freyellidea*)

Bernasconi 1967: 418; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1215 (as *Freyella*)

Range: East Pacific to Chile, 4030-4241 m

Bernasconi (1967) states that this may be related to or synonymous with *F.benthophila*

oligobrachia polypina Korovchinsky, 1976

Korovchinsky 1976b: 170; Galkin and Korovchinsky 1984: 166

Range: NW part of the Pacific Ocean to the east from Bonin Island to the south from Kuriles and to the South from W. Aleutians.

pacifica Ludwig, 1905

Ludwig 1905: 267; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1213

Range: Paumotu Archipelago (aka Tuamoto Archipelago). 1485-3200 m.

pennata Sladen, 1889

Sladen 1889: 618; Hayashi 1943: 160; Galkin and Korovchinsky 1984: 166 ; Korovchinsky and Galkin 1984: 1213

Range: Japan: south of Kawatsu, 1200-3429 m.

Downey (1986: 46) suggests that this is a synonym of *Freyella elegans*.

polycnema syn. with *Freyellaster polycnema*

propinqua Ludwig, 1905

Ludwig 1905: 280; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1214

Range: Cape San Francisco, Gulf of Panama 2877 m.

recta Koehler, 1907

Koehler 1907: 3; 1909; 127; Galkin and Korovchinsky 1984: 166; Korovchinsky and Galkin 1984: 1214; Downey 1986: 48; Downey in Clark and Downey 1992: 485

Range: Mid-Atlantic ridge between Azores and Virgin Islands, 3465m.

Downey 1986: 49 notes that this species may yet be another junior synonym of *Freyella elegans*.

remex Sladen, 1889

Sladen 1889: 635; Fisher 1928: 24; Galkin and Korovchinsky 1984: 167; Korovchinsky and Galkin 1984: 1212

Range: Coral Sea , SE of New Guinea. 4880 m

Fisher (1928) notes that without knowledge of the gonad morphology placement of this species within the genus *Freyella* is tentative.

scalaris A.H. Clark, 1916 see *Freyellaster*

sexradiata Perrier, 1885 see *Freyastera*

spatulifera Fisher, 1916 see *Freyellaster*

spinosa Perrier 1885. A synonym of *Freyella elegans* according to Downey (1986)

trispinosa H.L. Clark, 1941 a synonym of *Freyella microspina* according to Downey (1986)

tuberculata Sladen, 1889 see *Freyastera*

vitjazi Korovchinsky and Galkin, 1984

Galkin and Korovchinsky 1984: 167; Korovchinsky and Galkin 1984: 1211

Range: East Indian Ocean. 3680-3900 m.

This might be another species belonging to *Freyastera*.

FREYELLASTER Fisher, 1918

Fisher 1918: 104; 1919: 537; 1928: 21

Type Species: *Freyella fecunda* Fisher 1905

fecundus (Fisher, 1905) with forma *ochotensis* Hayashi 1943

Fisher 1905: 319 (as *Freyella*)

Fisher 1918: 104; 1919: 538; 1928: 21; Lambert 1978a: 10; Lambert 1978b: 62 (as *Freyellaster*)

Hayashi 1943: 153 (as forma *ochotensis*)

Range: Okhotsk Sea (Japan), British Columbia to Central California (Point Pinos, Monterey Bay), 880-2124 m.

intermedius Hayashi, 1943

Hayashi 1943: 156

Range: Japan: Omaesaki, 1836 m.

polycnema (Sladen, 1889)

Sladen 1889: 621 (as *Freyella*)

Fisher 1918: 104; 1928: 21 (as *Freyellaster*)

Range: E of the Kermadec islands, 1200 m

scalaris (A.H. Clark, 1916)

A.H. Clark 1916a: 115; Fisher 1918: 104 (as *Freyella*)

Fisher 1919: 538 (as *Freyellaster*)

Range: Galapagos Islands, 1480 m.

spatulifer (Fisher, 1916)

Fisher 1916b: 34; 1917: 429 (as *Freyella*)

Fisher 1918: 104; 1919: 538 (as *Freyellaster*)

Range: Celebes, Mascassar Strait off Mamuji Island, 1802 m.

FREYELLIDEA Fisher 1917. A synonym of *Freyella* but some *F.*

benthophila and *F. tuberculata* later placed into *Freyastera* Downey 1986.

Fisher 1917f: 429

benthophila Sladen, 1889 see *Freyastera*

breviispina H.L. Clark, 1920 see *Freyella*

drygalskii Döderlein, 1927 see *Freyella*

microplax Fisher, 1917 see *Freyella*

octoradiata H.L. Clark, 1920 see *Freyella*

oligobrachia H.L. Clark, 1920 see *Freyella*

tuberculata Sladen, 1889 see *Freyastera*

Family HYMENODISCIDIDAE Mah

Genus-group names: **Astrolirus**, Brisingella, **Hymenodiscus**, **Parabrisinga**.

ASTROLIRUS Fisher, 1917

panamensis (Ludwig, 1905)

Ludwig 1905a: 259; Macan 1938: 419; (as *Brisinga*)

Fisher 1917f: 428; 1928: 20 (as *Astrolirus*)

Range: East Pacific-Cocos Islands, Malpelo Island, the Galapagos, Gulf of California, and Gulf of Panama to Oregon, Pacific Northwest, 1820-2418m.

BRISINGELLA Fisher, 1917 (a synonym of *Hymenodiscus* according to Mah 1998)

Fisher 1917f: 427

aotearoa McKnight, 1973 see *Hymenodiscus*

armillata (Sladen, 1889) see *Hymenodiscus*

beringiana Korovchinsky, 1976 see *Hymenodiscus*

coronata (G.O. Sars 1871) see *Hymenodiscus*

distincta Sladen, 1889 see *Hymenodiscus*

exilis (Fisher, 1905) see *Hymenodiscus*

fragilis (Fisher, 1906) see *Hymenodiscus*

mediterranea (Perrier, 1881) see *Hymenodiscus*

membranacea (Sladen, 1889) see *Hymenodiscus*

monacantha H.L. Clark, 1920 see *Hymenodiscus*

ochotensis Djakonov, 1950 see *Hymenodiscus*

pannychia Fisher, 1928 see *Hymenodiscus*

pusilla Fisher, 1917 see *Hymenodiscus*

submembranacea (Döderlein, 1927) see *Hymenodiscus*

tenella (Ludwig, 1905) see *Hymenodiscus*

verticillata (Sladen, 1889) see *Hymenodiscus*

HYMENODISCUS Perrier, 1884 (with synonym *Brisingella*)

Perrier 1882: 61; 1884: 189; Fisher 1918: 104; 1919: 502; Spencer and Wright 1962: U78 (as *Hymenodiscus*);

Fisher 1917f: 419; 1918: 104; 1919: 515; H.L. Clark 1920: 107; Fisher 1928: 13; 1940: 206; Hayashi 1943: 152; Djakonov 1950; Dilwyn John and A.M. Clark 1954: 150; Spencer and Wright 1962: U78; McKnight 1973: 235; Downey 1986: 13; Downey in Clark and Downey 1992: 468 (as *Brisingella*)

Yamaoka 1987: 5 (as fossil *Brisingella* sp.)

Fisher 1918: 104

Type species: *Hymenodiscus agassizi* Perrier 1882

Many nominal species of *Hymenodiscus* are known only from type material, which in many cases is based on arm tips and other fragments. The widespread distributions of the better known taxa and the taxonomic implications of recognizing juvenile brisingidans dictate that all the species within this genus be seriously re-examined.

agassizi Perrier, 1882

Perrier 1882: 61; Fisher 1918: 104; Dilwyn-John and A.M. Clark 1954: 151

Range: Santa Cruz, Dominica. Lesser Antilles.

aotearoa McKnight, 1973 (new comb.)

McKnight 1973: 235 (as *Brisingella*)

Range: SE New Zealand waters, 113m-1518m

armillata (Sladen, 1889) (new comb.)

Sladen 1889: 608; Hayashi 1943: 152 (as *Brisingella*)

Range: off the coast of Japan, south of Kawatsu. 3750m

beringiana Korovchinsky, 1976 (new comb.)

Korovchinsky 1976b: 172 (as *Brisingella*)

Range: Bering Sea, 3661 m.

coronata (G.O. Sars, 1871) with synonym *Brisinga mediterranea* Perrier 1885 (new comb.)

G.O. Sars 1872: 5; Thomson 1873: 66(pt); G.O.Sars 1875: 4; Ludwig 1878: 216; Perrier 1882: 61; Danielssen and Koren 1884: 104; Carus 1885: 91; Perrier 1885d: 442; 1885: 4; Sladen 1889: 598; Bell 1889: 433; Sladen 1891: 698; Bell 1893: 105; Norman 1893: 347; Perrier 1894: 50; Koehler 1896a: 440; von Marenzeller 1895b: 137; Koehler 1896b: 38; Perrier 1896: 20; Ludwig 1897a: 308; 1897b: 418; 1900: 488 (as *Brisinga coronata*)

Marion 1883: 129 (as *Brisinga* sp.)

Perrier 1885d: 442; 1885b: 3; 1894: 70; von Marenzeller 1895b: 137; Boone 1933: 93(as *Brisinga mediterranea*)

Grieg 1927b: 127; Mortensen 1927: 127; John and A.M. Clark 1954: 151; Gage et al. 1983: 285; Downey 1986: 13 (as *Brisingella coronata*)

Range: Norway to Azores and Cape Verde Islands; Mediterranean 100-2600 m.

***distincta** Sladen, 1889 (new comb.)

Sladen 1889: ;A.M.Clark 1962: 68; A.M. Clark 1962: 68

Range: Antarctic Ocean: south from Australia. 43°S, 134°E. 4755 m

Fisher (1928) tentatively referred this species and *B. membranacea* to *Brisingella* (now *Hymenodiscus*). However, only detached arms of this species are known and an unambiguous placement seems unlikely with-

out collection and examination of less damaged material. It also seems unlikely that species based on such limited material will remain valid after more material is studied.

exilis (Fisher, 1905) (new comb.)

Fisher 1905: 318 (as *Brisinga*)

Fisher 1917f: 427; 1919: 524; 1928: 13;Alton 1966: 1708 (as *Brisingella*)

Range: Off Northern Oregon, central California, southern California: off San Diego to Santa Barbara Island, 592-2118 m.

fragilis (Fisher, 1906) (new comb.)

Fisher 1906: 1115 (as *Brisinga*)

Fisher 1917f: 423 (as *Brisingella*)

Range: Hawaii, 256-414 m.

***membranacea** (Sladen, 1889) (new comb.)

Sladen 1889: ; A.M. Clark 1962: 68

Range: Antarctica between Marion Island and the Crozet Islands and west of the Crozet Islands, 2750-3200 m.

Fisher (1928) tentatively referred this species and *B. distincta* to *Brisingella* (now *Hymenodiscus*). Only detached arms of this species are known and an unambiguous placement seems unlikely pending collection and examination of less damaged material. It also seems unlikely that species based on such limited material will remain valid after more material is studied.

***monacantha** H.L. Clark, 1920 (new comb.)

H.L. Clark 1920: 107

Range: off coast of Peru, W. pt. Aguja, 4064 m.

Only two detached arms (no disc) of this species are known. It seems unlikely that a species based on such limited material will remain valid after more material is studied.

ochotensis Djakonov, 1950 (new comb.)

Djakonov 1950a (1968): 103; 1950b: 29; Korovchinsky 1976b: 171;

Range: Sea of Okhotsk, 1,366 m.

pannychia Fisher, 1928 (new comb.)

Fisher 1928: 18; Hayashi 1943: 149 (as *Brisingella*)

Range: Alaska-Bowers Bank, Bering Sea, 1542 m.

pusilla Fisher, 1917 (new comb.)

Fisher 1917f: 427; 1928: 16 (as *Brisingella*)

Range: Off Southern California from San Diego to Santa Cruz Island, 602-2118 m.

submembranacea (Döderlein, 1927) (new comb.)

Döderlein 1927: 292 (as *Brisinga*)

A.M. Clark 1962: 68 (ref. prob. to *Brisingella*)

Range: off Princess Elizabeth and Wilhelm II islands, 2450-2926 m.

tenella (Ludwig, 1905) (new comb.)
,, Ludwig 1905a: 255; Macan 1938: 419 (as *Brisinga*)
Fisher 1917f: 524 (as *Brisingella*)

Range: Galapagos, 2418 m
verticellata (Sladen, 1889) (new comb.)

Sladen 1889: 604; Verrill 1894: 283; 1895: 211; H.L. Clark 1941: 64 (as *Brisinga*)

Fisher 1917f: 427; 1919: 524; Downey 1986: 15; Downey in Clark and Downey 1992: 469 (as *Bnsingella*)

Range: Georges Bank to Cuba and Gulf of Mexico, 640-2570 m.

PARABRISINGA Hayashi, 1943

Hayashi 1943: 144 Spencer and Wright 1966: U78 ; Downey in Clark and Downey 1992: 462

Type Species: *Parabrisinga pellucida* Hayashi 1943

Parabrisinga is differentiated from *Hymenodiscus* solely on the basis of the gonad morphology which may have been mistakenly for the pyloric caeca and thus misinterpreted by Hayashi as serial rather than paired. That in addition to the small size of the material described and the similarity of other morphological characters leads me to believe that *P. pellucida* is probably a synonym of some other species of *Hymenodiscus*. A search with Japanese colleagues was unsuccessful in locating the holotype which is now presumed lost or destroyed.

***pellucida** Hayashi, 1943

Hayashi 1943: 144

Range: "Probably" Misaki, Japan, 700 m.

ADDENDA

The three preceding parts of this Index went to press in the series Echinoderm Studies in the following years: Part 1. Paxillosida and Notomyotida in 1988; Part 2. Valvatida in 1992 and Part 3. Velatida and Spinulosida in 1995. Inevitably with a work of this kind there were some omissions and errors and also there have been some subsequent publications which included relevant taxonomic changes, additions and extensions of range. The following section should bring the whole index up to date as of 1999 to the best of my knowledge [A.M.C.]

List of genus-group names (for the whole class, recent only).

Coronaster	Labidiasteridae
Ctenodiscus	Ctenodiscidae, not Gonipectinidae
Damnaster nov.	Porcellanasteridae
Endogenasterias	Asteriidae
Enigmaster nov.	Goniasteridae
Eoleptasterias	Asteriidae
Gephyreaster	Goniasteridae, not Radiasteridae (Blake, 1987)
Glyphodiscus	Goniasteridae, not Gonipectinidae (Sastry, unpubl)
Lysasterias	Asteriidae, not Porcellanasteridae
Nectria and Nectriaster	Oreasteridae, not Goniasteridae
Odontohenricia nov.	Echinasteridae
Paralophaster	Solasteridae
Plazaster	Labidiasteridae
Tegulaster	Asterinidae, not Asteriidae
Tomidaster	Goniasteridae
Tremaster	Asterinidae

ADDITIONS TO PART 1.

Family LUIDIIDAE

Luidia magellanica Leipoldt, 1895. Add '(with synonym *Asterias (Smilasterias) terweili* Goldschmidt, 1924)' according to Madsen (1956).

L. prionota Fisher, 1913. A synonym of *L. hardwicki* (Gray, 1840) according to Liao & A.M. Clark (1995 [1996]).

L. prionota [as *prionata*]: Mah 1998b:66 (extension of range from Philippines and N Australia to Hawaii).

Family ASTROPECTINIDAE

ASTROPECTEN - from Downey in Clark & Downey (1992:25-44), unless otherwise stated.

armatus - Atlantic records only - non *A. armatus* Gray, 1840 = *A. brasiliensis* Müller & Troschel, 1842.

aurantiacus multispinosus da Costa, 1942:3. A synonym of *A. aranciacus* (Linnaeus, 1758).

carcharicus and *hartmeyeri* Döderlein, 1917. Synonyms of *A. vappa* Müller & Troschel, 1842 according to A.M.C. in Liao & Clark (1995[1996]).

caribemexicanensis Caso, 1990 sp. nov.

Caso 1990: 108 (comparison with *A. nitidus* Verrill, 1915).

Range: Caribbean side of Mexico.

granulatus: Jangoux, 1973, non *A. granulatus* Müller & Troschel, 1842, = *A. monacanthus* Sladen, 1883, according to Walenkamp (1990).

guineensis Koehler, 1911. A synonym of *A. gruveli* Koehler, 1911.

jarlii Madsen, 1950. A synonym of *A. cingulatus* Sladen, 1883.

longibrachius sp. nov. Jangoux & Aziz, 1988

Jangoux & Aziz 1988:635.

Range: Off Réunion Island, western Indian Ocean, 450-580 m.

? *Astropecten*. Very long-armed and with two rows of actinal plates.

A.M.C. (new obs.)

michaelseni Koehler, 1914. A synonym of *A. irregularis pontoporeus* Sladen, 1883.

nitidus: Caso. 1990:109.

nitidus forcipatus Verrill, 1915. Not subspecifically distinct from *A. nitidus nitidus* Verrill.

nuttingi Verrill, 1915. A synonym of *A. alligator* Perrier, 1881.
riensis Döderlein, 1917. A synonym of *A. brasiliensis* Müller & Troschel, 1842.

sinicus Döderlein, 1917, see *Ctenopleura*

sphenoplax Bell, 1892, see *Persephonaster*

validispinosus sp. nov. Oguro, 1982

Oguro 1982:72.

Range: Palau and Yap, Caroline Is.

weberi Döderlein, 1917. A synonym of *A. irregularis pontoporeus* (above).

Bathybiaster herwigi Bernasconi, 1972. Referred to *Psilaster* by A.M.C. in Clark & Downey (1992:46,80).

loripes obesus Sladen, 1889. Raised to specific rank by A.M.C. in Clark & Downey (1992:46). *B. spinulatus* Koehler, 1917
(from Kerguelen) probably a synonym of *obesus* rather than *loripes*
A.M.C. (new obs.)

Ctenophoraster donghaiensis sp. nov. Liao & Sun, 1989

Liao & Sun 1989:225.

Range: East China Sea (31°N, 128°E), 147 m.

Ctenopleura sinica new comb. (Döderlein, 1917) Liao in Liao & Clark 1995 [1996]:82.

Dipsacaster pretiosus (Döderlein, 1902) Liao in Liao & Clark 1995 [1996]:84 (extension of range from Honshu, Japan to East China Sea at Zhejiang and possibly southern China (from fish market)).

Dytaster agassizi Perrier, 1894, *biserialis* Sladen, 1889 and *rigidus* Perrier, 1894. Synonyms of *D. grandis* (Verrill, 1884), also *nobilis* Sladen, 1889. A subspecies of *D. grandis* according to Downey in Clark & Downey (1992).

parvulus Koehler, 1909. A synonym of *D. semispinosus* (Perrier, 1894) according to Downey (1992).

cherbonnieri Sibuet, 1975

Stampanato & Jangoux 1997:28 (extension of range from Angola and Namibia to NW of Amsterdam Island, southern Indian Ocean).

Persephonaster exquisitus sp. nov. Jangoux & Aziz, 1988

Jangoux & Aziz 1988:638.

Range: Off Réunion Island, western Indian Ocean (2PS, 55°E), 1970-2950 m.

? *Persephonaster pulcher* (Perrier, 1881): H.L. Clark, 1941. Probably conspecific with *Psilaster cassiope* Sladen, 1889 but proposed for suppression by A.M.C. in Clark & Downey (1992).

spinulosus H.L. Clark 1941. Confirmed as a synonym of *P. patagiatus* (Sladen, 1889) by A.M. Clark (1992).

Plutonaster agassizi agassizi (Verrill, 1880) Stampanato & Jangoux 1997:28 (extension of range from Atlantic, including S of Cape Town, to near St Paul Island, southern Indian Ocean).

Plutonaster abbreviatus Sladen, 1889 and *P. granulosus* Perrier, 1891. Synonyms of *P. agassizi notatus* Sladen, 1889, reduced to a subspecies, *edwardsi* (Perrier, 1882). Possibly conspecific with *P. agassizi notatus*, but proposed for suppression

intermedius (Perrier, 1881) and *marginatus* Sladen, 1889. Both synonyms of *P. agassizi agassizi* (Verrill, 1880)

patagiatus (Sladen, 1889). Referred back to *Persephonaster* from *Psilaster proteus* H.L. Clark, 1923. A synonym of *P. bifrons* (Wyville Thomson, 1873), though possibly recognisable as a South African subspecies. All according to A.M. Clark in Clark & Downey (1992).

Persephonaster euryactis (Fisher, 1913) (included in part 1 as *Proserpaster*) Imaoka et al. (ref. in part 3) 1991:47 (in Japanese, apart from description; apparently treating *Persephonaster misakiensis* Goto, 1914

as a synonym since range given as extending from the Philippines to Tosa Bay, SE Japan.

Psilaster florae (Verrill, 1878). Reduced to a subspecies of *P. andromeda* Müller & Troschel, 1842

herwigi (Bernasconi, 1972), new combination, referred from *Bathybiaster patagiatus* Sladen, 1889, referred back to *Persephonaster*.

All according to A.M. Clark in Clark & Downey (1992).

Psilasteropsis humilis Koehler, 1907. A synonym of *Persephonaster sphenocephalus* (Bell, 1892), referred from *Astropecten*, according to A.M. Clark in Clark & Downey (1992).

Tethyasteraulophorus (Fisher, 1911c) Liao & Clark 1995 [1996]:85 (extension of range from Philippines to Hainan Island, 128-174 m.)

T. magnificus (Bell, 1882). Reduced to a subspecies of *T. vestitus* (Say, 1825), according to A.M. Clark in Clark & Downey (1992).

Tethyaster tangaroae sp. nov. Rowe, 1989

Rowe 1989:268.

Range: off Norfolk Island, NE Tasman Sea, 390-423 m.

Family RADIASTERIDAE

GEPHYREASTER Fisher, 1910. To the Goniasteridae according to Blake (1987).

Radiaster notabilis (Fisher, 1913) Imaoka et al. 1991:50 (extension of range to S Japan).

Family PORCELLANASTERIDAE

ALBATROSSIA Ludwig, 1905 and **ALBATROSSASTER** Ludwig, 1907. Synonyms of

CAULASTER Perrier, 1882: Belyaev & Mironov 1996:892 (revived from the synonymy of *Porcellanaster* Wyville Thomson, 1877; with synonyms *Albatrossia* Ludwig, 1905 and *Albatrossaster* Ludwig, 1907).

eremicus (Sladen, 1889)**new comb.**: Belyaev & Mironov 1996:896 (revived from synonymy of *Porcellanaster ceruleus* Wyville Thomson, 1877, with synonym *Albatrossaster richardi* Koehler, 1909; range including Tasman Sea, SE Pacific and Antarctic).

pedunculatus Perrier, 1882: Belyaev & Mironov 1996:892 (size range described).

DAMMASTER gen. nov. H.E.S. Clark & McKnight, 1994
H.E.S. Clark & MacKnight 1994:1368.

Type species: *Dammaster tasmani* Clark & McKnight, 1994.

tasmani sp. nov. H.E.S. Clark & McKnight, 1994

Clark & McKnight 1994:1368.

Range: Tasman Sea, W of New Zealand (35-46°S, 156-167°E), 1647-4868 m.

HYPHALASTER Sladen, 1883: Belyaev & Mironov 1993:205.

australis sp. nov. Belyaev & Mironov, 1993

Belyaev & Mironov 1993:206.

Range: Southern Ocean S and SW from Heard Island, 1320-1820 (?2020) m.

inermis Sladen, 1883, sensu lato: Belyaev & Mironov 1993:210 (N and tropical Atlantic, Indian Ocean, mid-Pacific).

multispinus sp. nov. Belyaev & Mironov, 1993

Belyaev & Mironov 1993:214.

Range: NW Pacific SE from Kamchatka (48°N, 169°E), 2915-3015 m.

PORCELLANASTER Wyville Thomson, 1877: Belyaev & Mironov 1996: 887.

ceruleus Wyville Thomson, 1877: Belyaev & Mironov 1996:887 (synonymy restricted).

caulifer Sladen, 1883, *granulosus* Perrier, 1885 and *tuberosus* Sladen, 1883:

Belyaev & Mironov 1996:887 (revived from synonymy of *P. ceruleus*).

STYRACASTER Sladen, 1883

Belyaev & Moskalev 1986:1015 (key to the species).

armatus Sladen, 1883: Belyaev & Moskalev 1986:875 (extension of range to the Arabian Sea, and the central Pacific, S from Hawaii and depth down to 5420 m.).

chuni Ludwig, 1907: Belyaev & Moskalev 1986:876.

longispinus sp. nov. Belyaev & Moskalev, 1986 . "

Belyaev & Moskalev 1986:772.

Range: SE from Kurile Is, NW Pacific (38°N, 166°E to 54°N, 160°E), 5040 (?4990) - 6300 (?6330) m.

paucispinus Ludwig, 1907: Belyaev & Moskalev 1986:873 (range extended to NW Pacific, near Kurile Is and depth down to 5200 m.).

robustus Koehler, 1908: Belyaev & Moskalev 1986:873 (extension of range in Southern Ocean from Atlantic to Indian Ocean sector and depth down to 4540 m.).

simplipaxillatus sp. nov. Belyaev & Moskalev, 1986

Belyaev & Moskalev 1986:872.

Range: Western Indian Ocean, off the Seychelles, 3890 m. . "

transitivus sp. nov. Belyaev & Moskalev, 1986 . -

Belyaev & Moskalev 1986:867.

Range: Mid-Pacific and off Peru, 4660-5840 m. . }

[as Ctenodiscididae, misled by A.M.C.]

Ctenodiscus crispatus (Retzius, 1805). Additional synonym *Asterias aran-cia* Dewhurst, 1834.

Family GONIOPECTINIDAE

Goniopecten binghami Boone, 1928 and *Pectinidiscus aliciae* Carrera-Rodriguez & Tommasi, 1977. Synonyms of *Prionaster elegans* Verrill, 1899, according to A.M.C. in Clark & Downey (1992:111).

Family BENTHOPECTINIDAE

Benthopecten spinosus (Sladen) (tentatively) [see *B. spinosus* (Verrill) in Index pt. 1, p. 311, where inclusion of *Pararchaster occidentalis* Sladen, 1889 in synonymy should have led to extension of range to Japan] Imaoka et al. 1991:49.

Luidiaster oxyacanthus (Sladen) (in Index pt. 1, p. 315, as *Cheiraster (Christopheraster)*), Imaoka et al. 1991:48.

ADDITIONS TO PART 2

Family CHAETASTERIDAE

Chaetaster moorei Bell, 1894. A synonym of *Chaetaster vestitus* Koehler, 1910 according to Rowe in Rowe & Gates (1995:56).

Chaetaster vanzolinicus Tommasi, 1972. A synonym of *Chaetaster nodosus* Perrier, 1875, according to Downey in Clark & Downey (1992:146).

Family ODONTASTERIDAE

Acodontaster waitei (Koehler, 1920). A synonym of *Acodontaster conspicuus* (Koehler, 1920), according to Stampanato & Jangoux 1993:175.

Asterodon granulosus Perrier, 1891. A synonym of *Asterodon singularis* (Müller & Troschel, 1843), according to Orovitz & Tablado 1990:31.

Odontaster setosus Verrill, 1899. A synonym of *Odontaster robustus* Verrill, 1899, though both of uncertain validity with respect to *O. hispidus* Verrill, 1880, according to A.M.Clark in Clark & Downey 1992:157.

Family GANERIIDAE

Ganeria hahni Perrier, 1891; *Bernasconi*, 1964. Maintained as a synonym of *Ganeria falklandica* Gray, 1840, by A.M.Clark (1992:166).

Family ASTERINIDAE

Anseropoda insignis: Chave & Malahoff 1998:43, fig.

Asterina atypoida H.L. Clark 1916; Marsh & Pawson 1993:281 (extension of range from South Australia to Rottnest Island, Western Australia). *cephalus* (Müller & Troschel, 1842) Liao & Clark 1995 [1996]:130 (restored to specific rank distinct from *A. burtoni* Gray)).

orthodon Fisher, 1922: Liao in Liao & Clark 1995 [1996]:130 (specimens from Hainan possibly distinct from those from Hong Kong).

lutea H.L. Clark, 1938, *A. nuda* H.L. Clark, 1921 and *A. orthodon* Fisher, 1922. Synonyms of *Asterina sarasini* (de Loriol, 1897) according to Rowe in Rowe & Gates (1995:35).

perplexa H.L. Clark, 1938. A synonym of *Asterina inopinata* Livingstone, 1933 according to Rowe in Rowe & Gates (1995:35).

ASTERINIDES Verrill, 1913, with type species *A. folium* (Lütken, 1859) Rowe in Rowe & Gates 1995:33; Campbell & Rowe 1997:130. Confirmed as generically distinct from *Asterina* Nardo, 1834.

Asterinopsis lymani (Perrier, 1881). A synonym of *Asterinopsis pilosa* (Perrier, 1881) according to A.M.C. in Clark & Downey (1992:190).

praetermissa Livingstone, 1933, see *Paranepanthia*
Nepanthia belcheri (Perrier, 1875) Liao in Liao & Clark 1995 [1996]:133 (extension of range to southernmost China).

Paranepanthia praetermissa (Livingstone, 1933). A synonym of *Paranepanthia rosea* H.L. Clark, 1938, according to Rowe in Rowe & Gates 1995:39.

Patiriella exigua (Lamarck, 1816) Stampanato & Jangoux 1997:31.

**gunni* (Gray, 1840). Invalidated by *Asterias calcar* var. *hexagona* Lamarck, 1816, which needs rejection by the ICZN [new obs.]

nigra H.L. Clark, 1938. A synonym of *P. oliveri* (Benham, 1911) according to Rowe in Rowe & Gates (1995:40).

obscura Dartnall, 1971. A synonym of *P. pseudoexigua* Dartnall, 1971 according to Rowe in Rowe & Gates (1995:41).

paradoxa sp. nov. Campbell & Rowe, 1997, Campbell & Rowe 1997:131.

Range: Dhofar, southern Oman.

Family PORANIIDAE

Poraniella Verrill, 1914, referred to the family Asteropseidae by A.M. Clark (1984:20 and in Clark & Downey (1992).
japonica Fisher, 1939. A synonym of *Poraniopsis inflatus* (Fisher, 1906) according to Oguro (1989).
inflata flexilis (Fisher, 1910) Ahearn 1995:29.
Spoladaster veneris (Perrier, 1879) Stampanato & Jangoux 1997:31 (extension of depth range to 1050 m.).

Family GONIASTERIDAE

Calliaster Gray, 1840, with synonym *Mabahissaster* Macan, 1938 according to Rowe in Rowe & Gates (1995:64).
childreni Gray, 1840: Liao & Clark 1995 [1996]:92 occurrence in S China doubtful).
regenerator Döderlein, 1922 and
spinosus H.L. Clark, 1916. Both referred to *Milteliphaster* by Rowe (in) Rowe & Gates (1995:66).
pedicellaris: Chave & Malahoff 1998: & fig.
zengi (Macan, 1938) **new comb.** Rowe & Gates 1995:64.
Calliderma spectabilis: Chave & Malahoff 1998:43 & fig.
Ceramaster patagonicus (Sladen, 1889), reduced to a subspecies of *grenadensis* (Perrier, 1881) according to Downey in Clark & Downey (1992:237).
trispinosus H.L. Clark, 1923, reduced to a subspecies of *granularis* (Retzius, 1783) according to Downey (1992:234).
ENIGMASTER McKnight & H.E.S. Clark, 1996
McKnight & Clark 1996:205.
Type species: *Enigmaster scalaris* McKnight & Clark, 1996
scalaris McKnight & H.E.S. Clark, 1996
McKnight & Clark 1996:205.
Range: Off Auckland Is, S of New Zealand, 520 m.

Hippasteria argentinensis Bernasconi, 1961 and *H. strongylactis* H.L. Clark, 1926, reduced to subspecies of *H. phrygiana* (Parelius, 1768) according to Downey (1992:248).
imperialis Goto, 1914: Mah 1998b:67 (extension of range from southern Japan to Hawaii).
Litonotaster rotundigramulum. A synonym of *Litonotaster intermedius* (Perrier, 1883) according to Downey (1992:251).
MABAHISSASTER Macan, 1938, with *M. zengi* Macan, 1938. A synonym of *Calliaster* Gray, 1840 according to Rowe in Rowe & Gates (1995:64)

Mediaster capensis H.L. Clark, 1923, reduced to a subspecies of *M. bairdi* Verrill, 1882) according to Downey (1992:252).
Milteliphaster regenerator (Döderlein, 1922) and *M. spinosus* (H.L. Clark, 1916)
new combs Rowe in Rowe & Gates (1995:66).
Nymphaster pentagonus H.L. Clark, 1916. A synonym of *Nymphaster moebii* (Studer, 1884) according to Rowe in Rowe & Gates (1995:67)
prehensilis (Perrier, 1885) (following Macan, 1938) and *subspinosus* (Perrier, 1881). Synonyms of *Nymphaster arenatus* (Perrier, 1881) according to Downey (1992:254).
Ogmaster capella (Müller & Troschel, 1842) Liao in Liao & Clark 1995 [1996]:94 (with possible synonym *Stellaster septemtrionalis* Oguro in Imaoka et al. 1991).
Peltaster nidarosiensis (Storm, 1881). A synonym of *Peltaster placenta* (Müller & Troschel, 1842) according to Downey (1992:258).
Pseudarchaster jordani and *myobrachius* both Fisher, 1906, probably conspecific according to Mah (1998b)
tessellatus Sladen, 1889, reduced to a subspecies of *gracilis* Sladen, 1889 by Downey (1992:263).
Sphaeriodiscus placenta: Fouada & Hellal 1987 (extension of range into northern Red Sea from Mediterranean).
Stellaster septemtrionalis sp. nov. Oguro in Imaoka et al., 1991
Imaoka et al. 1991:72; Liao in Liao & Clark 1995 [1996]:94 (possibly a synonym of *Ogmaster capella* (Müller & Troschel, 1842).
Range: East China Sea (27°N, 124°E), 105 m.
Tosia clugreta Walenkamp, 1976. A synonym of *Tosia parva* (Perrier, 1881) according to Downey (1992:268).

Family ASTERODISCIDIDAE

Asterodiscides: Imaoka et al. 1991:85 (tabular key to species).
elegans (Gray, 1847) Liao in Liao & Clark 1995 [1996]:112 (new record from Hainan Island confirming range to S China).
japonicus Imaoka et al., 1991
Imaoka et al. 1991:81.
Range: East China Sea (27°N, 124°E), 105 m.
tuberculosus: Chave & Malahoff 1998, fig. 105.

Anthenea chinensis Gray, 1840: Liao & Clark 1995 [1996]:99 (confirmed as a species distinct from *A. pentagonula* (Lamarck, 1816); potential neotype material described).

difficilis Liao in Liao & Clark, 1995 [1996](= *A. flavescens*: Chen, 1932 and A.M.C., 1982, non *flavescens* (Gray, 1840) and *A. pentagonula*: Chang & Liao, 1964, non *A. pentagonula*: Döderlein, 1915) Liao & Clark 1995 [1996]:99.

edmondi A.M. Clark, 1970. A synonym of *A. sidneyensis* Döderlein, 1915 (revived) according to Rowe in Rowe & Gates (1995:98).

viguieri Döderlein, 1915: Liao & Clark 1995 [1996]:102 (type locality Amboina (A.M.C.); confirmed from southern China but not north, also possibly conspecific with *chinensis* (Gray, 1840) of which *regalis* Koehler, 1910 may be another synonym (Liao)).

Goniodiscaster granuliferus (Gray, 1847) Liao in Liao & Clark, 1995 [1996]:106 (new record from Taiwan Strait confirming Chinese type locality).

Monachaster umbonatus Macan, 1938. A synonym of *M. sanderi* (Meissner, 1892 according to Walenkamp (1990).

Nectria Gray, 1840: Zeidler, 1995:165, formal proposal of *Nectria ocellata* Perrier, 1875 as type species.

Pentaceraster cumingi: Chave & Malahoff 1998:44 & fig.

magnificus (Goto, 1914) A.M.C. in Liao & Clark 1995 [1996]:108 (includes *P. regulus*: A.M.C., 1982, non (Müller & Troschel, 1842)).

sibogae Döderlein, 1916: Liao in Liao & Clark 1995 [1996]: 109 (extension of range from Indonesia to Hainan Island, S China).

Family ASTEROPSEIDAE

Valvaster spinifera H.L. Clark, 1921. Confirmed as a synonym of *Valvaster striatus* (Lamarck, 1816) Rowe in Rowe & Gates (1995:45).

Family MITHRODIIDAE

Mithrodiafisheri: Fouda & Hellal 1987 (extension of range to northern Red Sea).

Family OPHIDIASTERIDAE

BUNASTER Döderlein, 1895 reviewed, Marsh (1991).

DRACHMASTER Downey, 1970. A synonym of *Ophidiaster* L. Agassiz, 1836 according to Downey in Clark & Downey (1992:279).

FERDINA emended, Marsh & Price 1991:213.

sadhaensis nov. sp. Marsh & Campbell, 1991 > > > Marsh & Campbell 1991:213.

Range: Southern Oman, 5-18 m.

Fromia nodosa: Fouda & Hellal 1987 (extension of range to northern Red Sea).

Gomophia gomophia (Perrier, 1875), *Gomophia mamillifera* (Livingstone, 1930) and *G. rosea* (H.L. Clark, 1921) new combs Rowe in Rowe & Gates (1995:83,84) (referred from *Nardoa*).

sphenisci (A.M. Clark, 1967), referred from *Nardoa*, Rowe & Gates 1995:84

Hacelia tuberculata nov. sp. Liao, 1985

Liao 1985:30.

Range: Diaoyudao, E China (24°45'N, 123°15'E), 100-200 m.

Leiaster speciosus von Martens, 1966: Liao in Liao & Clark 1995 [1996]:116 (extension of range to Xisha (Paracel) Is).

Linckia gracilis nov. sp. Liao, 1985

Liao 1985:32.

Range: Diaoyudao, E China, 100-200 m.

Nardoa lemonnieri Koehler, 1910. A synonym of *Nardoa galathea* (Lütken, 1865) according to Rowe in Rowe & Gates (1995:88).

mamillifera Livingstone, 1930 and *N. rosa* H.L. Clark, 1921, see *Gomophia sphenisci*, see *Gomophia tuberculata* Gray, 1840. Additional synonyms *N. pauciforis* (von Martens, 1866) and *N. finschi* (de Loriol, 1891), confirmed, Rowe & Gates 1995:88.

Neoferdina japonica nov. sp. Oguro & Misaki, 1986

Oguro & Misaki 1986:60.

Range: Japan.

Ophidiaster bullisi (Downey, 1970) new comb. Downey (1992:279)

multispinus nov. sp. Liao & A.M. Clark, 1996 (nom. nov. for *O. armatus*: A.M. Clark, 1982b and Liao & Clark, 1995 [1996]:120, non *O. armatus* Koehler, 1910)

Liao & Clark 1996:37.

Range: Hainan Strait to Fujian Province, southern China, 5-55 m.

ophidianus: Fouda & Hellal 1987 (extension of range to northern Red Sea from Mediterranean).

pinguis H.L. Clark, 1941. A synonym of *Ophidiaster alexandri* Verrill, 1915 according to Downey (1992:280).

O. reyssi Sibuet, 1977: Downey 1992:282 (extension of range to the Mediterranean).

Paraferdina sohariae nov. sp. Marsh & Price, 1991

Marsh & Price 1991:66.

Range: Sri Lanka.

laccadivensis: Marsh & Price 1991 (extension of range to W Sumatra).

ADDITIONS TO PART 3 , < ; , , • , > , ..

Family SOLASTERIDAE

CROSSASTER Müller & Troschel, 1840. Type species *Asterias papposa* Linnaeus, 1776). [Omitted in 1996]

multispinus H.L. Clark, 1916. A valid species distinct from *C. japonicus* Fisher, 1991 according to Rowe in Rowe & Gates (1995:113)

Family PTERASTERIDAE

Pteraster obesus myonotus Fisher, 1916: Mah 1998b:68 (extension of range from the Philippines and N Tasman Sea to Hawaii).

Family ECHINASTERIDAE

Echinaster (Othilia) echinophorus and *E.(O.) sentus*: Hendl et al., 1995:84-87 (with colour photographs of live specimens).

E. stereosomus Fisher, 1913: Liao in Liao & Clark 1995 [1996]:137 (extension of range from the Philippines and elsewhere to Hainan Island).

Metrodira subulata Gray, 1840 (retained in Metrodiridae) Liao & Clark 1995 [1996]:134 (extension of range from the Philippines and elsewhere to vicinity of Hainan Island and Taiwan Strait).

REFERENCES

- Agassiz, A. 1866. On the embryology of *Asteracanthion berylinus* Ag. and a species allied to *A. rubens* M.T., *A. pallidus* Ag. *Proc. A. Acad. Arts Sci.* [1863] 6: 106-114.
- Ahearn, C.G. 1995. Catalogue of the type specimens of seastars (Echinodermata: Asteroidea) in the National Museum of Natural History. *Smithson Contr Zool* No. 572. 59 pp.
- Aldrich, F.A. 1956. A comparative study of the identification characters of *Asterias forbesi* and *A. vulgaris* (Echinodermata: Asteroidea). *Notulae Philadelphia Acad. Nat. Hist.* 285: 1-3.

Alton, M. 1966. Bathymetric distribution of sea stars (Asteroidea) off the northern Oregon coast. *Jl Fish Res. Ed Canada* 23(11): 1673-1714.

Asbjornsen, P.C. 1856. Description d'un nouveau genre d'astéries. pp. 95-101; *Brisinga endecacemos*. p. 101. In: M. Sars, Koren & Danielssen (eds), *Fauna Litoralis Norvegiae*. 2. Christiania.

Aziz, A. & Jangoux, M. 1985b. Four new species and one new subspecies of Asteroidea (Echinodermata) collected by the 'Siboga' Expedition in the Indo-Malayan region. *Bijdr. Dierk.* 55(2): 263-274.

Bell, F.J. 1881b. Contributions to the systematic arrangement of the Asteroidea. 1. The species of the genus *Asterias*. *Proc. zool. Soc. Lond.* 1881: 492-515.

Bell, F.J. 1891c. *Asterias rubens* and the British species allied thereto. *Ann. Mag. nat. Hist.* 1: 469-479.

Belyaev, G.M. 1982. The systematic position of the multirayed sea star from the sublittoral zone of Moneron Island. *Biol. Morya* 1982(6): 29-33.

Belyaev, G.M. & Mironov, A.N. 1993. Deep-sea starfishes of the genus *Hyphalaster*. *Trud. Inst. Okeanol. P.P. Shirshov* 127: 215-217.

Belyaev, G.M. 1996. Starfishes *Porcellanaster* and *Caulaster* from the Atlantic and the Antarctic. *Zool. Zh.* 75: 886-899.

Belyaev, G.M. & Moskalev, L.I. 1986. Starfishes of the genus *Stylocaster*. 1. *S. longispinus* sp. n. from the group of long-armed species. 2. New and rare short-armed species. 3. Composition, geographical and vertical distribution. *Zool. Zh.* 65(5,6): 771-780; 867-877; 1015-1023.

Bernasconi, I. 1956b. Algunos asteroideos de Antartida. *An. Soc. dent. Argent.* 161: 7-30. [Reprinted 1959 in *Contrcoes Inst. Antart. Argent.* No. 1.]

Bernasconi, I. 1961c. Nota sobre *Stichaster striatus* Müller & Troschel. *Physis, B. Aires* 21: 319-321.

Bernasconi, I. 1979. Asteriidae, Coscinasteriinae de la Argentino y Antartida. *Revta Mus. argent. Cienc. Nat. Bernardino Rivadavia Inst. Nac. Invest. Nienc. Nat. (Hidrobiol.)* 5(11): 241-246.

Blake, D.B. 1989. Asteroidea: Functional morphology, classification and phylogeny. *Echinoderm Studies* 3: 179-223.

Brandt, J.F. 1851. Bemerkungen über die Asteriden und Echiniden Okhotskischen, Kamtschatischen und Behringsschen Meeres. pp. 27-33. In: Middendorff, A.T. von. *Reise in den Öussersten Norden und Osten Sibériens* 2(1). St Petersburg.

Brun, E. 1970. *Asterias hispida* Pennant, 1777, und *Uraster hispidus* (Pennant) Forbes, 1840 (Echinodermata, Asteridae): proposed suppression under the plenary powers in favour of *Leptasterias muelleri* (M. Sars, 1846). *Bull. Zool. Nom.* 26: 238-239.

Byrne, M., Morrice, M.G. & Wolf, B. 1997. Introduction of the northern Pacific asteroid *Asterias amurensis* to Tasmania: Reproduction and current distribution. *Mar. Biol.* 126: 673-685.

Campbell, A.C. & Rowe, F.W.E. 1997. A new species in the asterinid genus *Patiriella* (Echinodermata, Asteroidea) from Dhofar, southern Oman: A temperate taxon in a tropical locality. *Bull. Nat. Hist. Mus. Lond. (Zool.)* 62(2): 129-136.

Cams, J.V. 1885. *Prodromus Faunae Mediterraneae sive descriptio Animalium Maris Mediterranei Incollarum etc.* 524 pp. Stuttgart.

Caso, M.E. 1943. *Asteridos de Mexico*. Univ. Nation. Autonoma Mexico, Mexico, 136 pp.

Caso, M.E. 1961. *Equinodermos de Mexico*. Univ. Nation. Autonoma Mexico, Mexico, 388 pp.

- Caso, M E 1990 Un nuevo Asteroidea del caribe mexicano *Astropecten caribemexicanensis* sp nov y comparacion con la especie *Astropecten nitidus* Verrill *An Inst Cienc Mar Limnol Univ Aut Mexico* 17(1) 107-130
- Chave, E F & Malahoff A 1998 *In deeper waters Photographic studies of Hawaiian deep sea habitats and lifeforms* University of Hawai'i Press
- Cherbonnier, G & Guille, A 1967 Complément à la faune des échinodermes de la mer de Banyuls *Vie Milieu* 18(2B) 317-330
- Chia, F -S 1966 Systematics of the six-rayed sea-star *Leptastenias* m the vicinity of San Juan Island, Washington *Syst Zool* 15(4) 300-306
- Clark, A H 1916b One new starfish and five new brittle stars from the Galapagos Islands *Ann Mag nat Hist* 17 115-122
- Clark, A H 1920 A new name for *Helaster multiradiata* (Gray) *Proc Biol Soc Wash* 33 183
- Clark, A H 1934 A new starfish from Puerto Rico *Smithson Misc Collns* n s 91(14) 1-3
- Clark, A H 1946 Echinoderms from the Pearl Islands, Bay of Panama *Smithson Misc Collns* 106(5) 1-11
- Clark, A M 1950 A new species of sea star from Norfolk Island *Ann Mag Nat Hist* 3 808-811
- Clark, H E S 1962b A new genus and species of asteroid from New Zealand *Trans R Soc NZ (Zool)* 2 45-46
- Clark, A H & McKnight, D G 1994 *Damnaster tasmani*, a new genus and species of Asteroidea (Echinodermata) from New Zealand *Invert Tax* 8(6) 1367-1372
- Clark, H L 1907 The starfishes of the genus *Hehaster* *Bull Mus comp Zool Harv* 51(2) 23-76
- Costa, A A Elias da 1941 *Un genre nouveau et une espèce nouvelle de la faune échinologique* 11 pp , Porto
- Costa, A A Elias da 1942 *Une sous espèce nouvelle de la faune échinologique Astropecten auranticus multispinosus sous-espèce nouvelle* 8 pp , Guimaraes
- Costa, A A Elias da 1952 *Nouvelle désignation pour le genre Mortensenia Elias da Costa, 1941, et pour l'espèce Mortensenia lusitanica* sp n 7 pp , Porto
- Dartnall, A J , Pawson, D L , Pope, E C & Smith, B J 1969 Replacement name for the preoccupied genus name *Odinia* Perrier, 1885 (Echinodermata Asteroidea) *Proc Linn Soc NSW* 93 211
- Dewhurst, H W 1834 *The natural history of the order Cetacea and the oceanic inhabitants of the arctic regions* xx+328 pp London
- Djakonov, A M 1929a Neue Seesterne aus dem Ochotskischen Meer 1 *Leptasterias fisheri* sp n *C r Acad Sci Leningrad* 1929 233-238
- Djakonov, A M 1929b Neue Seesterne aus dem Ochotskischen Meer 2 *Leptasterias orientalis* sp n *C r Acad Sci Leningrad* 1929 277-281
- Djakonov, A M 1930b Zur Frage der Artberechtigung der *mulleri groenlandica*-Gruppe der Astenden Gattung *Leptastenias* mir Beschreibung einer neuen Art aus dem Siberischen Eismeer *Zool Anz* 91 27-50
- Djakonov, A M 1938a Monographische Bearbeitung der Astenden des westlichen Nordpazifik (Die Gattung *Leptastenias*) *Trud zool Inst Akad Nauk SSSR* 4(5) 749-914
- Downey, M E 1970a Zorocallida, new order, and *Doraster constellatus*, new genus and species, with notes on the Zoroasteridae (Echinodermata Asteroidea) *Smithson Contr Zool* No 64 18 pp
- Downey, M E 1971c *Ampheraster alaminos*, a new species of the family Asteriidae (Echinodermata, Asteroidea) from the tropical western Atlantic *Proc Biol Soc Wash* 84 51-54
- Downey, M E 1972 *Midgardia xandaros*, new genus, new species A large brisingid starfish from the Gulf of Mexico *Proc Biol Soc Wash* 84(48) 421-426
- Downey, M E 1986 Revision of the Atlantic Brisingida (Echinodermata, Asteroidea) with description of a new genus and family *Smithson Contr Zool* 435 57 pp
- Dungen et al 1982 Catastrophic decline of a top carnivore in the Gulf of California rocky intertidal zone *Science* 216 989-991
- Fisher, W K 1917b The asteroid genus *Coronaster* *Proc Biol Soc Wash* 30 23-26
- Fisher, W K 1917f New genera and species of Brisingidae *Ann Mag nat Hist* 20(8) 418-431
- Fisher, W K 1919b North Pacific Zoroasteridae *Ann Mag Nat Hist* 3 387-393
- Fisher, W K 1922b Notes on Asteroidea 3 *Ann Mag Nat Hist* 10(9) 590-598
- Fisher, W K 1923 A preliminary synopsis of the Asteridae, a family of sea stars *Ann Mag Nat Hist* 12(9) 247-258, 595-607
- Fisher, W K 1924a The genus *Sclerasterias* Perner *Bull Inst Oceanogr Monaco* 444 1-8
- Fisher, W K 1924b A remarkable new sea star from Japan *Proc U S Natn Mus* 64 1-6
- Fisher, W K 1926a Notes on the Asteroidea 4 *Ann Mag Nat Hist* 18 1 96-200
- Fisher, W K 1928a Asteroidea of the North Pacific and adjacent waters 2 Forcipulata (part) *Bull U S Natn Mus* 76(2) 1-245
- Fisher, W K 1930 Asteroidea of the North Pacific and adjacent waters 3 Forcipulata (concluded) *Bull U S Natn Mus* 76(3) 1-356
- Fouda, M & Hellal 1987 *Fauna and flora of Egypt 2 The echinoderms of the North western Red Sea Asteroidea* Al Azhar University, Department of Zoology Egypt iv+71 pp
- Galkin, S V & Korovchinsky, N M 1984 Vertical and geographical spread of the sea stars of the genus *Freyella* and notes about their ecology and origin *Trud Inst Okeanol Akad Nauk SSSR* 119 164-178 (In Russian)
- Goldschmidt, 1924 On a new *Asterias* from Chile *Ann Mag Nat Hist* (9)14 499-502
- Grieg, J A 1927a Evertebrater fra bankerne ved Spitzberge indsamlet av 'Tovik' og 'Armauer Hansen' somrene 1925 og 1926 *Bergens Mus Aarb* 1926(5) 1-28
- Grieg, J A 1927b Echinoderms from the west coast of Norway *Nyt Mag Naturvidensk* 65 127-136
- Grieg, J A 1928 The Folden Fjord Echinodermata *Tromsø Mus Skr* 1(7) 1-12
- Gruzov, E N 1964 A new deep water starfish *Astrocles djakonovi* sp n (Bnsmgidae) from the Okhotsk Sea *Zool Zh* 43 1394-1396 (In Russian)
- Hayashi, R 1943 Contributions to the classification of the sea-stars of Japan 2 Forcipulata *J Fac Sci Hokkaido imp Univ Zool* 9 227-280
- Hayashi, R 1975 A new sea-star of the Coscinasterinae from Toyama Bay *Ann Zool Jap* 48 198-202
- Heddle, D 1995 The descent of the Asteroidea and the reaffirmation of paxillosidan primitiveness, pp 179-183 In Emson, R Smith, A & Campbell, A (eds), *Echinoderm Research 1995* Rotterdam & Brookfield Balkema
- Hendler, G , Miller, J E , Pawson, D L & Kier, P M 1995 *Sea stars, sea urchins, and allies Echinoderms of Florida and the Caribbean* Smithsonian Institution

- Press Washington & London 390 pp [A comprehensive study of the species found down to 30 m , each described and illustrated, mostly in colour]
- Herring, P J 1974 New observations on the bioluminescence of Echinoderms *J Zool, Lond* 172 401-418
- Hutton, F W 1872b Catalogue of the Echinodermata of New Zealand, with diagnoses of the species Wellington vi+17 pp
- James, D B 1996 Notes on the family Goniasteridae from the Indian Seas *J Mar Biol Ass India* 38(1,2) 133-138 [Not seen]
- Jangoux, M & Massin, C 1986 Catalogue commenté des types d'échinodermes actuels conservés dans les collections nationales Belges *Bull Inst R Sci Nat Belg* 56 83-97
- Johnston, G 1836 Illustrations in British Zoology *Asterias rubens* and *A johnstoni* Gray, *Asterias aranciaca* and *A endeca*, *Asterias papposa* Mag Nat Hist 9 144-147, 298-300, 474-475
- Jullien, J 1878 Description d'un nouveau genre de stellende de la famille des asteriades *Bull Soc Zool Fr* 3 141-143
- Koehler, R 1895c Notes echinologiques *Rev Biol N Fr* 1 317-342
- Koehler, R 1896b Dragages profonds exécutés bord du 'Caudan' dans le Golfe de Gascogne (août -septembre, 1895) rapport préliminaire sur les echinodermes *Rev Bwl N Fr* 1 439-496
- Koehler, R 1909c Echinoderms recueillis dans les mers arctiques par la mission arctique française, commandée par M Bénard *Bull Mus Hist Nat Pans* 1909 121-123
- Koehler, R Koehler, R 1921b Echinoderms (astéries, ophiures, échinides et crinoïdes) des dernières campagnes de la Princesse Alice et de l'Hirondelle 2 *Bull Inst océanol Monaco* No 396 8 pp
- Korovchinsky, N M 1976a New species of abyssal starfishes of the genus *Freyella* (Brisingidae) *Zool Zh* 55(8) 1205-1215 (In Russian)
- Korovchinsky, N M 1976b New data on the deep-sea seastars (Asteroidea Brisingidae) from the North-Western Pacific *Trud Inst Okeanol Akad Nauk SSSR* 99 165-177
- Korovchinsky, N M & Galkin, S V 1984 New data on the fauna of starfishes of the genus *Freyella* (Brisingidae) *Zool Zh* 63(8) 1187-1194 (In Russian)
- Lambert, P 1978a British Columbia Marine Faunistic Survey Report Asteroids from the Northeast Pacific *Fish Mar Surv Tech Rep* No 773 23 pp
- Lambert, P 1978b New geographic and bathymétric records for some northeast Pacific Asteroids (Echinodermata Asteroidea) *Syesis* 11 61-64
- Liao, Y 1985 Two new species of ophidiasterid sea-stars from the vicinity of Diaoyudao, East China Sea *Chin J Oceanol Limnol* 3(1) 30-36
- Liao, Y & Clark, A M 1995 [available 1996] *The Echinoderms of southern China* Science Press Beijing, New York 614 pp
- Liao, Y 1996 On a new species of *Ophidiaster* (Echinodermata Asteroidea) from southern China *Bull nat Hist Mus Lond* (Zool) 62(1) 37-39
- Liao, Y & Sun, S 1989 A new species of astropectinid sea-stars from East China Sea *Chin J Oceanol Limnol* 7(3) 225-232
- Lissner, A & Hart, D 1993 Chapter 6 Class Asteroidea pp 97-112 *In Taxonomic Atlas of the benthic Fauna of the Santa Maria Basin western Santa Barbara Channel* 14 306 pp
- Loriol, P de 1883 Catalogue raisonné des echinodermes recueillis par M V de Robillard à l'île Maurice *Mem Soc Phys Hist nat Genève* 28(8) 1-64
- Loriol, P de 1894 Notes pour servir à l'étude des echinoderms *Rev suisse Zool* 2 467-497
- Ludwig, H 1878 Zur Kenntnis der Gattung *Brisinga* *Zool Anz* 2 21-234
- Ludwig, H 1897c Diagnosen der Seesterne des Mittelmeeres *Verh Ver Rheinland* 53 281-309
- Ludwig, H 1905b Asterien und Ophiuren der schwedischen Expedition nach den Magalhaenslaendern 1895-1897 *Z Wiss Zool* 82 39-79
- Macan, T T 1938 Asteroidea *Scient Rep John Murray Exped* 4(9) 323-435 [Omitted from part 1]
- McKnight, D G 1977b A note on the order Zorocallida (Echinodermata Asteroidea) *N Z O I Rec* 3(18) 159-161
- McKnight, D G 1993 Records of echinoderms (excluding holothurians) from the Norfolk Ridge and Three Kings Rise north of New Zealand Records of echinoderms from the Chatham Islands *N Z J Zool* 20 165-190, 191-200
- McKnight, D G & H E S Clark 1996 *Enigmaster scalaris*, n gen , n sp , a puzzling sea-star (Echinodermata, Asteroidea) from the Auckland Islands *J R Soc NZ* 16 205-214
- Madsen, F J 1956b Echinoïdea, Asteroïdea and Ophiuroïdea from depths exceeding 6000 metres *Galathea Rep* 2 23-32
- Mah, C L 1998a Preliminary phylogeny and taxonomic revision of the Brisingida pp 273-277 In R Mooi & M Telford (eds) *Proc Ninth int Echinoderm Conference* San Francisco 1996 Rotterdam/Brookfield Balkema
- Mah, C L 1998b New records, taxonomic notes and a checklist of Hawaiian starfish *Occ Pap Bishop Museum* 55 65-71 [Doubts cast on some old unconfirmed records not itemised here in Addenda]
- Mah, C L [in press] Redescription and taxonomic notes on the South Pacific brisingidan *Brisingaster robillardii* (Asteroidea), with new ontogenetic and phylogenetic information *Zoosysterna*
- Marenzeller, E von 1893c Zoologische Ergebnisse der Tiefsee-Expeditionen im Östlichen Mittelmeere auf S M Schiff 'Pola' 1 *Anz Preuss Akad Wiss Math naturwiss Cl* 8 65-67
- Marenzeller, E von 1895b Echinodermen gesammelt im stilchen Mittelmeere 1893-1894 *Anz Akad Wiss Math -naturwiss Cl* 28 189-191
- Marion, A F 1883 Les progrès récents des sciences naturelles *Rev Scient* 5 129-136
- Marsh, L M 1991 A review of the echinoderm genus *Bunaster* (Asteroidea Ophiasteridae) *Rec W Aust Mm* 15(2) 419-433
- Marsh, L M & A C Campbell 1991 A new species of *Ferdina* from Oman *Bull Er Mus nat Hist* (Zool) 57(2) 213-219
- Marsh, L M & D L Pawson 1993 Echinoderms of Rottnest Island pp 279-304 In Wells, F E et al *The Manne flora and fauna of Rottnest Island, Western Australia* *Proc Fifth Int Mar Bwl Workshop* Western Australian Museum, Perth
- Marsh, L M & A R G Price 1991 Indian Ocean echinoderms collected during the Sindbad Voyage *Bull Br Mus Nat Hist Zool* 57(1) 61-70
- Mein, B 1992 Beitrag zur Kenntnis antarktischer Seesterne (Asteroidea, Echinodermata) *Mitt Hamb Zool Mus Inst* 89 239-259
- Meyen, F J F 1834 *Reise um die Erde* 1 503 pp [Not seen]
- Millott, N 1966 In R A Boolootian (Ed) *Physiology of Echinodermata* New York Interscience Publishers

- Moyana & Larrain Prat, A P 1976 *Doraster qawoshqari* sp nov , nuevo Asteroidea de Chile austral (Echinodermata, Zorocallida, Zoroasteridae) *Bol Soc Biol Concepcion* 50 103-111
- Murdoch, J 1885 Marine Invertebrates In Report of the international Polar Expedition to Point Barrow, Alaska Washington
- Norman, A M 1893 A month on the Trondhjem Fiord 1 *Ann Mag Nat Hist* 6 341-357
- Nutting, C C 1895 Narrative and preliminary report *Bull Labs Nat Hist St Univ Iowa* 3 1-2
- Oguro, C 1982 Notes on the sea-star fauna and a new species of *Astropecten* in Palau and Yap Islands *Proc Jap Soc Syst Zool* 23 71-79
- Oguro, C 1989 *Poraniopsis inflata* with new synonym (*P. japonica*) (Fisher) *Bull biogeograph Soc Japan* 44 49-50
- Oguro, C & Misaki, H 1986 A new sea-star, *Neoferdinajaponica* from Japan *Proc Jap Soc Syst Zool* 34 60-64
- O'Loughlin, P M & O'Hara, T D 1990 A review of the genus *Smilasterias* (Echinodermata Asteroidea) with descriptions of two new species from south-eastern Australia, one a gastric brooder, and a new species from Macquarie Island *Mem Mus Vict* 50 307-324
- Opinion 984 1972 *Asterias hispida* Pennant, 1777, suppressed under the plenary Powers in favour of *Leptasterias muelleri* (M Sars, 1846) *Bull zool Nom* 29 115-116
- Orovitz, B & A Tablado 1990 *Asterodon singularis* (Muller & Troschel, 1843) unica especie del genero *Asterodon* Perrier, 1891 (Asteroidea Odontasteridae) *Gayana Zool* 54(1-2) 21-32
- Pemer, E 1882b Note sur les *Brisinga* *CR hebd Séanc Acad Sci Paris* 95 61-63 (Trans *Ann Mag nat Hist* 5(10) 261-263)
- Perrier, E 1885a Note préliminaire sur les échinodermes recueillis par le 'Travailleur' et le 'Talisman' *Nouv Archs Miss Sa Litt Rapp Instr* (2)6 1-154
- Perrier, E 1885d Sur les Brisingidae de la mission du 'Talisman' *CR hebd Séanc Acad Sa Pans* 10 441-444 [Translation in *Ann Mag Nat Hist* (5)16 312-314]
- Perner, E 1891c Sur les stellendes receuillis dans le Golfe de Gascogne, aux Açores et à Terre-Neuve pendant les campagnes scientifiques du yacht 'l'Hirondelle' *CR hebd Séanc Acad Sa Paris* 112(21) 1225-1228
- Rathbun, R 1887 Descriptions of the species of *Heliaster* (a genus of starfishes) represented in the U S National Museum *Proc U S Natn Mus* 10 440-449
- Rowe, F W E & J Gates 1995 Echinodermata In A Wells (ed), *Zoological Catalogue of Australia* 33 510 pp Melbourne CSIRO Australia [Not seen]
- Sars, G O 1875 *On some remarkable forms of animal life from the great deeps off the norwegian coast* 2 Researches on the structure and affinity of the genus *Brisinga* based on the study of a new species, *Brisinga coronata* 112 pp Christiania Christiania University
- Sars, M 1846 Beobachtungen über die Entwicklung der Seesterne pp 47-62 *Fauna littoralis Norwegiae* Christiania
- Shepherd, S A 1967b A revision of the starfish genus *Uniophora* (Asteroidea Asteridae) *Trans R Soc S Aust* 91 3-14
- Shin, S 1995a Echinodermata from Chindo Island, Korea *Kor J Syst Zool* 11(1) 115-124
- Shin, S 1995b A systematic study of the Asteroidea in the Eastern Sea, Korea *Kor J Syst Zool* 11(2) 243-263
- Stampanato, S & Jangoux, M 1993 Les astendes (Echinodermata) de la Baie Breid (Côte de la Princesse Ragnild, Quartier Enderby, Antarctique), avec la description d'une nouvelle espèce de *Solaster* *Bull Inst R Sa Nat Belg* Biol 63 175-184
- Stampanato, S & Jangoux, M 1997 Les astendes (Echinodermata) récoltés autour des îles Saint-Paul et Amsterdam (Océan Indien Sud) *Zoosystema* 19(1) 27-33
- Stimpson, W 1864 Synopsis of the marine Invertebrates collected by the late Arctic Expedition *Proc Acad Nat Sci, Philadelphia* 1863 138-142
- Studer, T 1885 Die Seesterne Sudgeorgiens nach der Ausbeute der deutschen Polarstation, 1881 und 1883 *Jahrsber Wiss Anst Hamburg* 2 150
- Tablado, A & Maytia, S 1988 Presencia de *Perissasterias polyacantha* H L Clark, 1923 (Echinodermata, Asteroidea) em el Oceano Atlantico Sudoccidental *Comun Zool Mus Hist Nat Montevideo* 12(169) 1-11
- Thomson, C W 1873b On the Echinoidea of the Porcupine deep-sea dredging expedition *Phil Trans R Soc* 719 59-71
- Tortonese, E 1958 Euclasteroidea nuevo ordine di Asteroidi (Echinodermi) *Don ana* 2(88) 1-3
- Tyler, P A & Zibrowius, H 1992 Submersible observations of the invertebrate fauna on the continental slope southwest of Ireland(NE Atlantic Ocean) *Oceanol Acta* 15(2) 211-226
- Verrill, A E 1871c Marine fauna of Eastport, Maine *Bull Essex Inst* 3 2-6
- Verrill, A E 1873b Report on the invertebrate animals of Vineyard Sound *Rep US Fish Commn* 1871 295-778
- Verrill, A E 1879a *Preliminary checklist of the marine Invertebrata of the Atlantic coast from Cape Cod to the Gulf of St Lawrence* 32 pp New Haven A E Verrill
- Verrill, A E 1880c Notice of recent additions to the marine invertebrate fauna of the northeastern coast of America *Amer J Sci* 19 137-140
- Verrill, A E 1884b Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, and of some additions to the fauna of Vineyard Sound *Ann Rep U S Commn* 1882 641-669 (1-29)
- Viguier, J 1878 Anatomie comparée du squelette des stellendes *Archs Zool exp* 1 33-250
- Walenkamp, J 1980 Systematics and zoogeography of Asteroidea (Echinodermata) from Inhaca Island, Mozambique *Zool Verh* 70 3-86
- Xantus, J 1860 Descriptions of three new species of starfishes from Cape San Lucas *Proc Acad nat Sa Philad* 1860 568
- Yamaoka, M 1987 Fossil asteroids from the Miocene Morozaki group, Aichi Prefecture central Japan *Kaseki No Tomo* 135 5-23
- Zeidler, W 1995 Case 2951 *Nectria* Gray, 1840 (Echinodermata Asteroidea) proposed designation of *Nectria ocellata* Perner, 1875 as the type species *Bull Zool Nom* 52(2) 164-165