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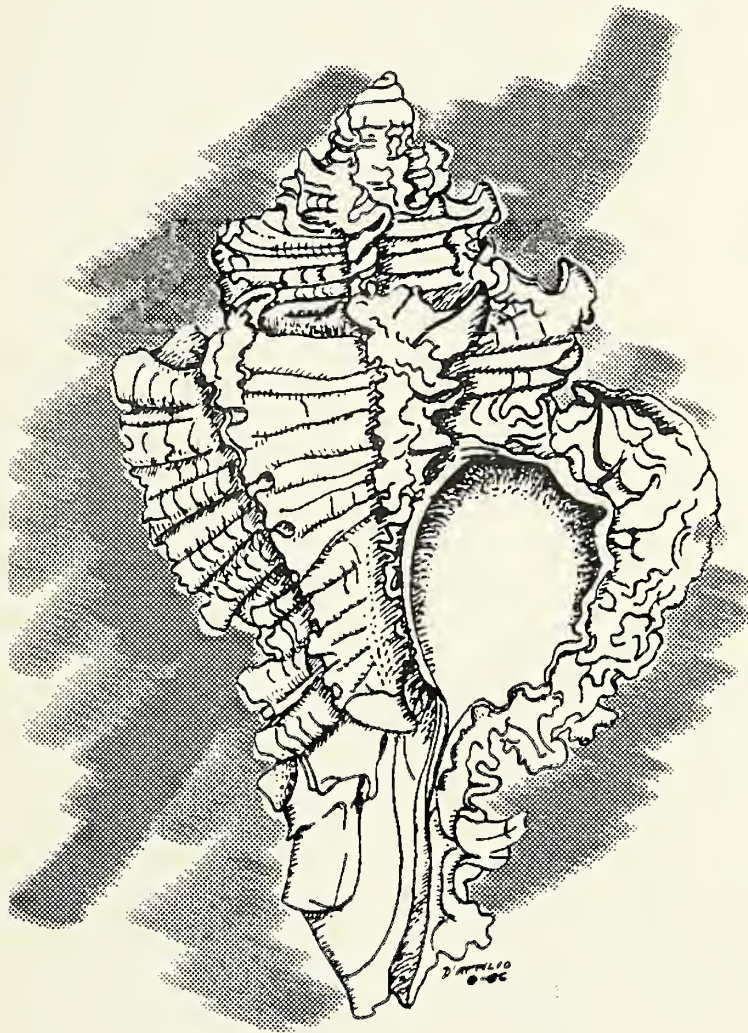
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## Additions to the Panamic Province Gastropod (Mollusca) Literature 1971 to 1992



Carol Skoglund





*Murexiella laurae* Vokes, 1970  
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## ADDITIONS TO THE PANAMIC PROVINCE GASTROPOD (MOLLUSCA) LITERATURE - 1971 to 1992

CAROL SKOGLUND

Santa Barbara Museum of Natural History  
2559 Puesta del Sol Road, Santa Barbara, California, 93105

A great many changes have occurred in the Panamic Province literature since A. Myra Keen's mammoth *Sea Shells of Tropical West America* was published in 1971. New species have been named, taxonomic relationships redefined, and distributions changed. The purpose of this paper is to draw together as many of these citations as possible for easy reference at the species level. Publications appearing after August, 1992, are not included, except for a few "in-press" papers. Previous papers in this series have dealt with Polyplacophora (Skoglund, 1989c), Opisthobranchia (Skoglund, 1991a) and Bivalvia (Skoglund, 1991b).

The Panamic Province is the area between latitudes 31°N at the head of the Gulf of California, and 25°N on the west coast of Baja California Sur, México, to 6°S along the Pacific coast of North and South America. The literature has many references to Baja California, México. The two political divisions of the peninsula are Baja California, which is the area north of the 28th parallel, and Baja California Sur, the area south of the 28th parallel. Any references made to Baja California Norte are listed herein as Baja California, which is the correct name of the state.

A special effort has been made to include records of occurrence in the major offshore islands, including Islas Revillagigedo, México; L'île Clipperton, France; Isla del Coco, Costa Rica; Isla Gorgona, Colombia and Islas Galápagos, Ecuador. Records from these islands include many Indo-Pacific faunal elements not yet reported as occurring on the mainland.

Higher taxa order has been rearranged by several workers since 1971, including Ponder (1973, 1988), Golikov & Starobogatov (1975), Salvini-Plawen (1980), Boss (1982), Haszprunar (1985a, b, c), Houbriek (1988), and Ponder & Warén (1988), and there is still much disagreement among authors. Vaught (1989) summarized much of this work.

Since this paper is meant to be used with Keen (1971), the original order used in that book has been preserved wherever possible. Numbers from

Keen are used when available, but may no longer be in numerical order because some changes are unavoidable. When these numbers are used within the text they are in brackets. Only those species with changes since Keen (1971) are listed. Species are listed alphabetically within a genus. Synonyms are listed as published by each author, with the exception that those shown in Keen (1971) are not repeated. Taxa which differ from those given in Keen (1971) are in bold type. Authors and publication dates are given only for those higher taxa in bold type.

Citations are given in date order. Where authors disagree, both are listed. It is assumed that descriptions of new species include a figure of the holotype, so this notation is not included. The notation "anatomy figured" includes any level of soft part study, from external to serial sections. The largest published size records for species are given with the exception that records that change by less than 1 mm are not included.

Not all distributional records have been included, even so, the reader should be aware of the possibility of error and make his/her own judgments.

I would like to thank the many people without whose help this paper could not have been completed. Dr. Eugene V. Coan, Dr. Donald R. Shasky, Jules Hertz, and Kay C. Vaught called citations to my attention.

Those who critically read and offered valuable suggestions on various sections of this paper have my profound thanks. They are: Dr. James H. McLean, Archaeogastropoda and Turridae; Dr. David G. Reid, Littorinoidea; Dr. Winston F. Ponder, Rissoidae, Anabathridae, Barleidae, Assimineidae and Elachisinidae; Carole M. Hertz, Vitrinellidae; Dr. Richard S. Houbriek, Cerithioidea; Dr. K. Elaine Hoagland, *Crepidula*; Dr. Louie Marincovich, Jr., Naticoidea; David W. Behrens, Lamellariidae; Lindsey T. Groves, Cypraeoidea, Lamellarioidea; Dr. William K. Emerson and Walter E. Sage III, Tonnoidea; Dr. Roger R. Seapy,

Heteropoda; Dr. Bruce A. Marshall, Triphoroidea; Helen DuShane, Epitoniidae; Dr. Anders Warén, Eulimoidea; Dr. Emily H. Vokes, Muricidae and Coralliophilidae; Dr. Henry W. Chaney, Buccinidae, Columbidae, Volutidae, Harpidae, Turbinellidae and Olividae; Dr. Peter Jung, *Strombina*, *Cotonopsis*, *Clavistrombina*, *Sincola*, *Bifurcium*; Dr. Barry Roth, Marginellidae; Walter O. Cernohorsky, Nassariinae, Mitridae and Costellariidae; Richard E. Petit, Cancellarioidea; Dr. Alan J. Kohn, Conidae; Twila Bratcher, Terebridae; Dr. Rüdiger Bieler and Dr. Robert Robertson, Architectonicidae. Since all

final decisions were mine, I take full responsibility for any errors.

Bob Koch edited the final draft. Carole and Jules Hertz gave constant encouragement throughout all four papers in this series, and proof-read the final drafts. Paul Skoglund supplied moral support, computer expertise and final camera-ready copy.

In any work of this sort there are bound to be omissions. It is my intention to keep this list up to date in the future. I would be most grateful if errors and omissions are called to my attention.

Class GASTROPODA  
Subclass PROSOBRANCHIA  
Superorder ARCHAEOGASTROPODA  
Thiele, 1929  
Order PATELLOGASTROPODA  
Lindberg, 1986

Classification follows Lindberg (1988b) modified by McLean (1990b).

Suborder LEPETOPSINA McLean, 1990  
Superfamily LEPETOPSOIDEA McLean, 1990  
Family NEOLEPETOPSIDAE McLean, 1990  
Genus *Neolepetopsis* McLean, 1990

- *Neolepetopsis densata* McLean, 1990. Radula and external anatomy figured. Length: 7.3 mm. Distribution: East Pacific Rise near 12°N. Depth: 2725 m (McLean, 1990b). Anatomy discussed (Fretter, 1990).
- *Neolepetopsis occulta* McLean, 1990. External anatomy figured. Length: 3.4 mm. Distribution: Green Seamount near 21°N. Depth: 1990 m (McLean, 1990b). Anatomy compared with that of *Eulepetopsis vitrea* McLean, 1990b (Fretter, 1990).
- *Neolepetopsis verruca* McLean, 1990. External anatomy figured. Length: 6 mm. Distribution: East Pacific Rise near 21°N. Depth: 2593 m (McLean, 1990b).

Genus *Eulepetopsis* McLean, 1990

- *Eulepetopsis vitrea* McLean, 1990. Radula and external anatomy figured. Length: 16.9 mm. Distribution: East Pacific Rise near 11°N, 12°N and 21°N. Depth: 2447 to 2635 m (McLean, 1990b). Anatomy figured (Fretter, 1990).

Suborder PATELLINA von Ihering, 1876  
Synonym: Nacellina Lindberg, 1988 (McLean, 1990b).

Superfamily PATELLOIDEA  
Family PATELLIDAE

Genus *Patella* Linnaeus, 1758  
Subgenus *Ancistromesus* Dall, 1871

- 44 *Patella* (*A.*) *mexicana* Broderip & Sowerby, 1829. *Ancistromesus* as a subgenus (Abbott, 1974). Length: 254 mm (Draper, 1987).

Suborder NACELLINA Lindberg, 1988.  
Delete. Becomes a synonym of Patellina von Ihering, 1876 (McLean, 1990b).  
Superfamily ACMAEOIDEA Forbes, 1850  
Family LEPETIDAE Dall, 1869  
Genus *Iothia* Gray, 1850

- *Iothia lindbergi* McLean, 1985. Length: 6.2 mm. Distribution: Queen Charlotte Islands, British Columbia, Canada, to Islas San Benito, Baja California, México (McLean, 1985a). Extend distribution into the Golfo de California off Isla Smith, Bahía de los Angeles, Baja California, México. Depth: 183 m (Skoglund, 1989a).

Family ACMAEIDAE  
Genus *Pectinodonta* Dall, 1882

- *Pectinodonta gilbertvossi* Olsson, 1971. Radula figured. Length: 26.4 mm. Golfo de Panamá. Depth: 3193 to 3200 m (Olsson, 1971).

Family LOTTIIDAE Gray, 1840



## Subfamily LOTTIINAE Gray, 1840

## Tribe LOTTIINI Lindberg, 1988

Genus *Lottia* Sowerby, 1834Synonym: *Collisella* Dall, 1871 (Lindberg, 1986b).

- 45 *Lottia acutapex* (Berry, 1960). Holotype figured (C. Hertz, 1984a).
- 46 *Lottia atrata* (Carpenter, 1857). Length: 63.7 mm (Draper, 1987).
- 47 *Lottia dalliana* (Pilsbry, 1891). Length: 54.3 mm (Draper, 1987).
- 48 *Lottia discors* (Philippi, 1849). Length: 54 mm (Draper, 1987). Extend distribution south to Bahía Tangola-Tangola, Oaxaca, México (Holguin Quiñones, Doval U. & Flores G., 1987).
- *Lottia immaculata* (Lindberg & McLean, 1981). Radula figured. Length: 12 mm. Islas Galápagos (Lindberg & McLean, 1981). Genus changed from *Notoacmea* (Lindberg, 1986b).
- 60 *Lottia mesoleuca* (Menke, 1851). Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Genus changed from *Scurria*. Records from the Islas Galápagos based on two specimens from Isla Genovesa, the most northeastern of the Islands (Lindberg & McLean, 1981). Probably does not occur in the Islas Galápagos, Ecuador (Finet, 1985).
- *Lottia mimica* Lindberg & McLean, 1981. Radula figured. Distinguished on radular characters. Shell indistinguishable from *Lottia smithi* Lindberg & McLean, 1981. Length: 25 mm. Islas Galápagos, Ecuador (Lindberg & McLean, 1981).
- 49 *Lottia mitella* (Menke, 1847). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 17.3 mm (Draper, 1987).
- 50 *Lottia pediculus* (Philippi, 1846). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 35 mm (Draper, 1987).
- *Lottia rothi* (Lindberg & McLean, 1981). Radula figured. Length: 20 mm. Islas Galápagos, Ecuador (Lindberg & McLean, 1981). Genus changed from *Notoacmea* (Lindberg, 1986b).
- *Lottia smithi* Lindberg & McLean, 1981. Radula figured. Distinguished on radular characters. Shell indistinguishable from *L. mimica* Lindberg & McLean, 1981. Length: 25 mm. Islas Galápagos, Ecuador (Lindberg & McLean, 1981).
- 51 *Lottia stanfordiana* (Berry, 1957). Holotype figured. Also figured are holotypes of synonyms *Acmaea goodmani* Berry, 1960 and *A. concreta* Berry, 1963 (C. Hertz, 1984a). Length: 38.3 mm (Draper, 1987).
- 61 *Lottia stipulata* (Reeve, 1855). Genus changed from *Scurria* (Lindberg & McLean, 1981). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 32.2 mm (Draper, 1987).
- 52 *Lottia strigatella* (Carpenter, 1864). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Extend distribution south to Isla del Coco, Costa Rica (Montoya, 1983). Length: 27.9 mm (Draper, 1987).
- 53 *Lottia strongiana* (Hertlein, 1958). Length: 14.7 mm (Draper, 1987).
- 54 *Lottia turveri* (Hertlein & Strong, 1951). Length: 23.7 mm (Draper, 1987).

Genus *Tectura* Gray, 1847Delete genus *Notoacmea* Iredale, 1915, as it is confined to New Zealand and Australia (Lindberg, 1986b).

- 55 *Tectura biradiata* (Reeve, 1855). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).
- *Tectura depicta* (Hinds, 1842). Distribution: San Pedro, California, to Cabo San Lucas, Baja California Sur, México (Carlton, 1976). Radula figured. Extend distribution north to Monterey County, California (Lindberg, 1980). Length: 12.3 mm (Draper, 1987).
- 56 *Tectura fascicularis* (Menke, 1851). Holotype of synonym, *Nomaepelta myrae* Berry, 1959, figured (C. Hertz, 1984a). Length: 40.1 mm (Draper, 1987). Extend distribution north to Bahía San Carlos area, Sonora, México, intertidal zone (F. & L. Poorman, 1988). Anatomy figured (Lindberg, 1988b).
- 57 *Tectura filosa* (Carpenter, 1865). No recent records from the Islas Galápagos (Lindberg & McLean, 1981). Length: 20.7 mm (Draper, 1987).
- *Tectura paleacea* (Gould, 1853). Distribution: Vancouver Island, Canada, to Cabo San Lucas, Baja California Sur, México (Carlton,

- 1976). Genus changed from *Notoacmea* 3  
(Lindberg, 1986b). Length: 11.1 mm (Draper, 1987). 4
- *Tectura pumila* (Lindberg & McLean, 1981). Radula figured. Length: 7 mm. Distribution: Nicaragua to Ecuador (Lindberg & McLean, 1981). Genus changed from *Notoacmea* (Lindberg, 1986b).
- 58 *Tectura subrotundata* (Carpenter, 1865).
- *Tectura ubiquita* (Lindberg & McLean, 1981). Radula figured. Length: 12 mm. Distribution: Baja California Sur, México, from Punta Pequeña to Bahía Magdalena; Cabo San Lucas, north in the Golfo de California to Puertecitos; Guaymas, Sonora south to Oaxaca, México (Lindberg & McLean, 1981). Genus changed from *Notoacmea* (Lindberg, 1986b).
- Tribe SCURRIINI Lindberg, 1988  
Delete genus *Scurria* Gray, 1847. Panamic species are more closely related to *Lottia* (Lindberg & McLean, 1981). See *Lottia*.  
Genus *Discurria* Lindberg, 1988
- *Discurria insessa* (Hinds, 1842). Distribution: Alaska to Cabo San Lucas, Baja California Sur, México (Carlton, 1976). Length: 23.1 mm (Draper, 1987). Radula figured. Genus changed from *Notoacmea* (Lindberg, 1988a).
- Suborder VETIGASTROPODA  
Salvini-Plawen, 1980  
Superfamily HALIOTOIDEA  
Rafinesque, 1815  
Raised from family (Golikov & Starobogatov, 1975). Placement confirmed (Haszprunar, 1989a).  
Family HALIOTIDAE  
Genus *Haliotis* Linnaeus, 1758  
Subgenus *Padollus* Montfort, 1810
- 2 *Haliotis (P.) roberti* McLean, 1970. Length: 34.95 mm. Depth: 30 to 100 m (Chaney, 1992).
- Superfamily SCISSURELLOIDEA Gray, 1847  
Raised from family (Haszprunar, 1989a).  
Family SCISSURELLIDAE  
Subfamily ANATOMINAE McLean, 1989  
Genus *Anatoma* Woodward, 1859  
Raised from subgenus (McLean, 1989b).
- 3 *Anatoma epicharis* (McLean, 1970).  
4 *Anatoma keenae* (McLean, 1970).
- Subfamily SCISSURELLINAE d'Orbigny, 1824  
Raised from genus (McLean, 1989b).  
Genus *Sinezona* Finlay, 1927
- 5 *Sinezona rimuloides* (Carpenter, 1865). Include Islas Galápagos in distribution (Shasky, 1989a). Shell figured (McLean, 1989b).
- Subfamily TEMNOCINCLINAE  
McLean, 1989  
Genus *Temnozaga* McLean, 1989
- *Temnozaga parilis* McLean, 1989. Radula and external anatomy figured. Length: 4.1 mm. Distribution: East Pacific Rise at 21°N. Depth: 2616 m (McLean, 1989b). Anatomy figured (Haszprunar, 1989a).
- Subfamily SUTILIZONINAE  
McLean, 1989  
Genus *Sutilizona* McLean, 1989
- *Sutilizona theca* McLean, 1989. External anatomy and radula figured. Length: 1.3 mm. Distribution: East Pacific Rise near 12°N. Depth: 2715 m (McLean, 1989b). Anatomy figured (Haszprunar, 1989a).
- Suborder EUOMPHALINA McLean, 1981  
Delete suborder (McLean, pers. comm. 1991).  
Superfamily NEOMPHALOIDEA McLean, 1981  
Family NEOMPHALIDAE McLean, 1981  
Genus *Neomphalus* McLean, 1981
- *Neomphalus fretterae* McLean, 1981. Radula and external anatomy figured. Length: 30 mm. Oyster Bed and Garden of Eden vent fields on the Galápagos Rift. Depth: 2478 to 2518 m (McLean, 1981). Anatomy figured (Fretter, Graham & McLean, 1981). Protoconch and young specimen figured (Warén & Bouchet, 1989). Distribution: Galápagos Rift and the East Pacific Rise (McLean, 1990a).
- Family CYATHERMIIDAE McLean, 1990

Genus *Cyathermia* Warén & Bouchet, 1989

- *Cyathermia naticoides* Warén & Bouchet, 1989. Anatomy, radula and operculum figured. Length: 6.8 mm. Distribution: East Pacific Rise near 13°N and 21°N. Depth: 2612 to 2635 m (Warén & Bouchet, 1989). Widely distributed on the East Pacific Rise (McLean, 1990a).

Genus *Lacunoides* Warén & Bouchet, 1989

- *Lacunoides exquisitus* Warén & Bouchet, 1989. Protoconch, radula and operculum figured. Diameter: 2.24 mm. Distribution: Galápagos Rift. Depth: 2482 m (Warén & Bouchet, 1989).

## Superfamily PELTOSPIROIDEA

McLean 1989

## Family PELTOSPIRIDAE McLean, 1989

Genus *Peltoospira* McLean, 1989

- *Peltoospira delicata* McLean, 1989. Radula and external anatomy figured. Length: 6.5 mm. Distribution: East Pacific Rise at 13°N. Depth: 2630 to 2635 m (McLean, 1989a). Anatomy figured (Fretter, 1989).
- *Peltoospira lamellifera* Warén & Bouchet, 1989. Known only from the holotype. Diameter: 2.1 mm. Distribution: East Pacific Rise near 13°N. Depth: 2635 m (Warén & Bouchet, 1989).
- *Peltoospira operculata* McLean, 1989. Radula and external anatomy figured. Length: 10.1 mm. Distribution: East Pacific Rise at 21°N. Depth: 2615 to 2622 m (McLean, 1989a). Anatomy figured (Fretter, 1989).

Genus *Nodopelta* McLean, 1989

- *Nodopelta heminoda* McLean, 1989. Radula and external anatomy figured. Length: 19 mm. Distribution: East Pacific Rise at 13°N and 21°N. Depth: 2615 to 2635 m (McLean, 1989a). Anatomy figured (Fretter, 1989).
- *Nodopelta subnoda* McLean, 1989. Radula and external anatomy figured. Length: 9.6 mm. Distribution: East Pacific Rise at 13°N. Depth: 2630 to 2635 m (McLean, 1989a). Anatomy figured (Fretter, 1989).

Genus *Rhynchopelta* McLean, 1989

- *Rhynchopelta concentrica* McLean, 1989. Radula and external anatomy figured. Length: 12.6 mm. Distribution: East Pacific Rise at 13°N and 21°N. Depth: 2615 to 2635 m (McLean, 1989a). Anatomy figured (Fretter, 1989).

Genus *Echinopelta* McLean, 1989

- *Echinopelta fistulosa* McLean, 1989. Radula and external anatomy figured. Length: 8.8 mm. Distribution: East Pacific Rise at 21°N. Depth: 2615 to 2622 m (McLean, 1989a). Anatomy figured (Fretter, 1989).

Genus *Hirtopelta* McLean, 1989

- *Hirtopelta hirta* McLean, 1989. Radula and external anatomy figured. Length: 12 mm. Distribution: East Pacific Rise at 13°N. Depth: 2630 to 2635 m (McLean, 1989a). Anatomy figured. May not belong to the peltospirid limpets (Fretter, 1989).

Genus *Melanodrymia* Hickman, 1984

- *Melanodrymia aurantica* Hickman, 1984. Radula figured. Width: 2.5 mm. Distribution: Black Forest Vent, East Pacific Rise, near 21°N. Depth: 2600 m (Hickman, 1984). Moved from Trochoidea. Anatomy figured (Haszprunar, 1989b). Protoconch, anatomy, radula and operculum figured. Distribution: East Pacific Rise near 13°N and 21°N. Depth: 2615 to 2635 m (Warén & Bouchet, 1989). May not be a true peltospirid (McLean, 1990a).

Genus *Pachyderma* Warén & Bouchet, 1989

- *Pachyderma laevis* Warén & Bouchet, 1989. Protoconch, anatomy, radula and operculum figured. Length: 4.6 mm. Distribution: East Pacific Rise near 13°N and 21°N. Depth: 2612 to 2635 m (Warén & Bouchet, 1989).

Genus *Depressigyra* Warén & Bouchet, 1989

- *Depressigyra planispira* Warén & Bouchet,

1989. Protoconch, radula and operculum figured. Diameter: 5.1 mm. Distribution: East Pacific Rise near 13°N and 21°N. Depth: 2612 to 2635 m (Warén & Bouchet, 1989).

Genus *Solutigyra* Warén & Bouchet, 1989

- *Solutigyra reticulata* Warén & Bouchet, 1989. Protoconch, anatomy, radula and operculum figured. Length: 2.8 mm. Distribution: East Pacific Rise near 13°N and 21°N. Depth: 2617 to 2635 m (Warén & Bouchet, 1989).

Genus *Lirapex* Warén & Bouchet, 1989

- *Lirapex granularis* Warén & Bouchet, 1989. Protoconch figured. Diameter: 1 mm. Distribution: East Pacific Rise near 21°N. Depth: 2616 m (Warén & Bouchet, 1989).
- *Lirapex humata* Warén & Bouchet, 1989. Protoconch, anatomy, radula and operculum figured. Length: 3.4 mm. Distribution: East Pacific Rise near 21°N. Depth: 2616 m (Warén & Bouchet, 1989).

Superfamily LEPETODRILLOIDEA  
McLean, 1988

Family LEPETODRILIDAE McLean, 1988  
Genus *Lepetodrilus* McLean, 1988

- *Lepetodrilus cristatus* McLean, 1988. Radula and external anatomy figured. Length: 8.1 mm. Distribution: Galápagos Rift and the East Pacific Rise at 13°N and 21°N. Depth: 2614 to 2635 m (McLean, 1988). Anatomy figured (Fretter, 1988).
- *Lepetodrilus elevatus elevatus* McLean, 1988. Radula and external anatomy figured. Length: 6.6 mm. Distribution: East Pacific Rise at 21°N. Depth: 2633 m (McLean, 1988). Anatomy figured (Fretter, 1988). Distribution: occurs widely at vents on the Galápagos Rift, at all vent fields on the East Pacific Rise, and the Mariana vents (McLean, 1990a).
- *Lepetodrilus elevatus galriftensis* McLean, 1988. Radula and anatomy figured. Length: 6.3 mm. Distribution: Galápagos Rift. Depth: 2451 m (McLean, 1988).
- *Lepetodrilus guaymasensis* McLean, 1988. Radula and external anatomy figured. Length:

14.1 mm. Distribution: thermal vents, Guaymas Basin, México. Depth: 2019 m (McLean, 1988). Anatomy figured (Fretter, 1988).

- *Lepetodrilus ovalis* McLean, 1988. Radula and external anatomy figured. Length: 5.7 mm. Distribution: East Pacific Rise at 13°N and 21°N. Depth: 2633 m (McLean, 1988). Anatomy figured (Fretter, 1988).
- *Lepetodrilus pustulosus* McLean, 1988. Radula and external anatomy figured. Length: 10 mm. Distribution: Galápagos Rift and the East Pacific Rise at 13°N and 21°N. Depth: 2447 to 2519 m (McLean, 1988). Anatomy figured (Fretter, 1988).

Family GORGOLEPTIDAE McLean, 1988  
Genus *Gorgoleptis* McLean, 1988

- *Gorgoleptis emarginatus* McLean, 1988. Radula and external anatomy figured. Length: 8.9 mm. Distribution: East Pacific Rise at 21°N. Depth: 2618 m (McLean, 1988). Anatomy figured (Fretter, 1988).
- *Gorgoleptis patulus* McLean, 1988. External anatomy figured. Length: 2.8 mm. Known only from the Mussel Bed vent field, Galápagos Rift. Depth: 2482 m (McLean, 1988). Anatomy figured (Fretter, 1988).
- *Gorgoleptis spiratus* McLean, 1988. External anatomy figured. Length: 3.3 mm. Distribution: East Pacific Rise at 13°N. Depth: 2635 m (McLean, 1988). Anatomy figured (Fretter, 1988).

Superfamily FISSURELLOIDEA

Family CLYPEOSECTIDAE McLean, 1989  
Genus *Clypeosectus* McLean, 1989

- *Clypeosectus delectus* McLean, 1989. Radula and external anatomy figured. Length: 5.2 mm. Distribution: Galápagos Rift and East Pacific Rise at 13°N and 21°N. Depth: 2447 to 2633 m (McLean, 1989b). Anatomy figured (Haszprunar, 1989a).

Family FISSURELLIDAE  
Subfamily EMARGINULINAE  
Genus *Hemitoma* Swainson, 1840  
Subgenus *Hemitoma*, s. s.

- 8 *Hemitoma (H.) natlandi* Durham, 1950. Include Isla de Gorgona, Colombia, in distribution (Cosel, 1984). Length: 14.1 mm (Draper, 1987).

Subgenus *Montfortia* Récluz, 1843

- 9 *Hemitoma (M.) hermosa* Lowe, 1935. Length: 24.6 mm (Draper, 1987).

Genus *Rimula* DeFrance, 1827

- 13 *Rimula mexicana* Berry, 1969. Extend distribution to Puerto Escondido, Baja California Sur, México (Draper, 1973a). Include Isla Smith, Bahía de los Angeles in distribution (J. Hertz, 1977e). Holotype figured (C. Hertz, 1984a).

Tribe FISSURELLIDINI Pilsbry, 1890

New tribe (McLean, 1984b).

Genus *Fissurellidea* d'Orbigny, 1841

Synonym: *Megatebennus* Pilsbry, 1890 (McLean, 1984b).

- *Fissurellidea bimaculata* Dall, 1871. Length: 19.2 mm. Radula figured. Distribution: southeastern Alaska south to Sacramento Reef, west coast of Baja California, México. A single lot known from Bahía Adair, Sonora, and a single specimen from Bahía Santiago, Colima, México (McLean, 1984b).

Genus *Leurolepas* McLean, 1970

- 43 *Leurolepas roseola* McLean, 1970. Length: 21.1 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Genus *Lucapinella* Pilsbry, 1890

- 25 *Lucapinella callomarginata* (Dall, 1871). Length: 35 mm (Draper, 1987). Extend distribution to Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman 1988). Delete distribution to Bahía San Carlos area (Poorman, pers. comm. 1991).
- 28 *Lucapinella milleri* Berry, 1959. Holotype figured (C. Hertz, 1984a).

Subfamily DIODORINAE Odhner, 1932  
Genus *Diodora* Gray, 1821

- 15 *Diodora alta* (C.B. Adams, 1852). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 21.8 mm (Draper, 1987).
- 16 *Diodora digueti* (Mabille, 1895). Length: 31.7 mm (Draper, 1987).
- 18 *Diodora inaequalis* (Sowerby, 1835). Juvenile development figured (Gemmell, 1975). Length: 37.2 mm (Draper, 1987).
- 20 *Diodora picta* (Sowerby, 1835). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991).
- 22 *Diodora pusilla* Berry, 1959. Holotype figured (C. Hertz, 1984a). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 23 *Diodora saturnalis* (Carpenter, 1864). Extend distribution south to Isla Lobos de Afuera, Perú (Peña G., 1971). Length: 34 mm (Draper, 1987).

Genus *Stromboli* Berry, 1954

- 29 *Stromboli beebei* (Hertlein & Strong, 1951). Length: 94 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

Subfamily FISSURELLINAE

Genus *Fissurella* Bruguière, 1789

Subgenus *Fissurella*, s. s.

- *Fissurella (F.) volcano* Reeve, 1849. Distribution: northern California to Bahía Magdalena, Baja California Sur, México (McLean, 1978). Add subgenus (McLean, 1984c). Length: 45 mm (Draper, 1987).

Subgenus *Cremides* H. & A. Adams, 1854

- 31 *Fissurella (C.) asperella* Sowerby, 1835. Extend distribution north to Mazatlán, Sinaloa, México (J. & C. Hertz, 1983a).
- 32 *Fissurella (C.) decemcostata* McLean, 1970. Length: 40 mm (Draper, 1987).
- 34 *Fissurella (C.) gemmata* Menke, 1847. Length: 40 mm (Draper, 1987).
- 36 *Fissurella (C.) macrotrema* Sowerby, 1834.

- Extend distribution to near Playas de Villamil, Guayas Province, Ecuador (Skoglund, 1990b).
- *Fissurella (C.) microtrema* Sowerby, 1835. Holotype figured. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Distribution: Panamá to Perú (J. Hertz, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991).
- 38 *Fissurella (C.) nigrocincta* Carpenter, 1856. Length: 40.9 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988). Delete Bahía San Carlos distribution (Poorman, pers. comm., 1991).
- 39 *Fissurella (C.) obscura* Sowerby, 1835. Length: 27.5 mm (Draper, 1987).
- 37 *Fissurella (C.) rugosa* Sowerby, 1835. See *F. microtrema* Sowerby, 1835, as a separate species (J. Hertz, 1983). Extend distribution north to Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988).
- 41 *Fissurella (C.) spongiosa* Carpenter, 1857. Length: 19.5 mm (Draper, 1987).
- 42 *Fissurella (C.) virescens* Sowerby, 1835. Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 54.1 mm (Draper, 1987).
- Superfamily TROCHOIDEA  
Classification follows Hickman & McLean (1990).
- Family TURBINIDAE  
Subfamily LIOTIINAE  
H. & A. Adams, 1854  
Changed from family (Hickman & McLean, 1990).
- Genus *Arene* H. & A. Adams, 1854  
Subgenus *Arene*, s. s.
- 125 *Arene (A.) adusta* McLean, 1970. In last line of paragraph, read: *lurida* (Keen & Coan, 1975).
- 128 *Arene (A.) guttata* McLean, 1970. Extend distribution to Isla del Coco, Costa Rica (Shasky, 1989c).
- 129 *Arene (A.) hindiana* Pilsbry & Lowe, 1932. Radula figured (Hickman & McLean, 1990).
- Subgenus *Marevahvata* Olsson & Harbison, 1953
- 134 *Arene (M.) balboai* (Strong & Hertlein, 1939). Length: 5.1 mm (Draper, 1987).
- Genus *Macrarene* Hertlein & Strong, 1951
- 136 *Macrarene californica californica* (Dall, 1908). Extend distribution north to Bahía de los Angeles, Baja California, México (Poorman, pers. comm., 1991).
- *Macrarene californica cookeana* (Dall, 1918). Delete. Distribution is north of the Panamic Province (McLean, 1978).
- 138 *Macrarene lepidotera* McLean, 1970. Extend distribution north to Bahía de los Angeles, Baja California, México (F. & L. Poorman, 1978). Delete distribution extension (Poorman, pers. comm., 1991). See *Macrarene californica* (Dall, 1908).
- Genus *Otollonia* Woodring, 1928  
Raised from subgenus (Hickman & McLean, 1990).
- 135 *Otollonia fricki* (Crosse, 1865). Shell, operculum and radula figured (Hickman & McLean, 1990).
- Subfamily COLLONIINAE Cossmann, 1916  
Homalopomatinae as a synonym (Hickman & McLean, 1990).
- Genus *Cantrainea* Jeffreys, 1883  
Raised from subgenus (Hickman & McLean, 1990).
- 140 *Cantrainea panamense* (Dall, 1908). Shell, operculum and external anatomy figured (Hickman & McLean, 1990).
- Genus *Homalopoma* Carpenter, 1864  
Subgenus *Panocochlea* Dall, 1908
- 141 *Homalopoma (P.) clippertonense* (Hertlein & Emerson, 1953). Extend distribution to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- 142 *Homalopoma (P.) grippii* (Dall, 1911). Length: 9.4 mm (Draper, 1987).
- 143 *Homalopoma (P.) rubidum* (Dall, 1908). As genus *Panocochlea*. Length: 9.3 mm. Depth to 276 m (Olsson, 1971).

## Subfamily TURBININAE

Genus *Turbo* Linnaeus, 1758Subgenus *Callopoma* Gray, 1850

- 144 *Turbo* (*C.*) *fluctuosus* Wood, 1828. Juvenile and operculum figured (Gemmell, Hertz & Myers, 1980). Radula figured (Hickman, 1981). Length: 86.1 mm (Draper, 1987). External anatomy, radula and shell figured (Hickman & McLean, 1990).
- 145 *Turbo* (*C.*) *funiculosus* Kiener, 1847-48. Length: 86.7 mm (Wagner & Abbott, 1990).
- 146 *Turbo* (*C.*) *saxosus* Wood, 1828. Extend distribution north to El Tamarindo, El Salvador (Hernandez, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 53.7 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983).

Subgenus *Marmarostoma* Swainson, 1829

- 149 *Turbo* (*M.*) *squamiger* Reeve, 1843. Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 42.5 mm (Wagner & Abbott, 1990).

Subgenus *Senectus* Swainson, 1840Synonyms: *Chaenoturbo* McLean, 1970; *Taeniaturbo* Woodring, 1928 (Schremp, 1981).

- 150 *Turbo* (*S.*) *magnificus* Jonas, 1844. Subgenus changed (Schremp, 1981). Length: 72 mm (Wagner & Abbott, 1990).
- 147 *Turbo* (*S.*) *mazatlanicus* Pilsbry & Lowe, 1932. Subgenus changed (Schremp, 1981). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution north to Bahía Kino, Sonora, México (López Rivas & Escalante Cavazos, 1987).

Genus *Astraea* Röding, 1798Subgenus *Pomaulax* Gray, 1850

- 152 *Astraea* (*P.*) *gibberosa* (Dillwyn, 1817). Holotype of synonym *Astraea guadalupeana* Berry, 1957, figured (C. Hertz, 1984a). Length: 79.7 mm (Draper, 1987). External anatomy figured (Hickman & McLean, 1990).

Subgenus *Uvanilla* Gray, 1850

- 154 *Astraea* (*U.*) *babelis* (Fischer, 1874). Extend distribution north to Isla Gorgona, Colombia (Cantera, et al., 1979).
- 155 *Astraea* (*U.*) *buschii* (Philippi, 1844). Extend distribution north to El Tamarindo, El Salvador (Hernandez, 1979).
- 156 *Astraea* (*U.*) *olivacea* (Wood, 1828). Extend distribution south to El Tamarindo, El Salvador (Hernandez, 1979). Length: 74.5 mm (Draper, 1987).
- 157 *Astraea* (*U.*) *unguis* (Wood, 1828). Length: 67.7 mm (Wagner & Abbott, 1990).

Subfamily TRICOLIINAE Woodring, 1928  
Transferred from Phasianellidae to Tricoliidae by Robertson (1985). As a subfamily (Hickman & McLean, 1990).Genus *Eulithidium* Pilsbry, 1898As a genus (Hickman & McLean, 1990). All eastern Pacific species are now in *Eulithidium* except *Tricolia variabilis* (Pease, 1861) (McLean, pers. comm., 1991).

- 158 *Eulithidium cyclostoma* (Carpenter, 1864).
- 159 *Eulithidium diantha* (McLean, 1970). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1989c). Delete Bahía San Carlos, Sonora, México, distribution (Poorman, pers. comm., 1990).
- 160 *Eulithidium perforata* (Philippi, 1848). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- 161 *Eulithidium phasianella* (Philippi, 1849). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- *Eulithidium pulloides* (Carpenter, 1865). Distribution: Puget Sound, Washington, to Cabo San Lucas, Baja California Sur, México (McLean, 1978). Embryonic development figured (Moors, 1981). Shell, operculum and external anatomy figured. Genus changed from *Tricolia* (Hickman & McLean, 1990).
- 162 *Eulithidium substriata* (Carpenter, 1864). Length: 3.85 mm (Draper, 1987).
- 163 *Eulithidium umbilicata* (d'Orbigny, 1840).
- 164 *Eulithidium variegata* (Carpenter, 1864).

Genus *Tricolia* Risso, 1826Synonym: *Hiloa* Pilsbry, 1917 (Robertson, 1985).

- *Tricolia variabilis* (Pease, 1861). Widespread in the Indo-West Pacific (Kay, 1979). See Robertson (1985) for full synonymy. Sexually dimorphic radulae (Robertson, 1985). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1988b). External anatomy and radula figured (Hickman & McLean, 1990).

## Family TROCHIDAE

## Subfamily TEGULINAE

Kuroda, Habe &amp; Oyama, 1971

Genus *Tegula* Lesson, 1835Subgenus *Tegula*, s. s.

- 93 *Tegula* (*T.*) *pellisserpentis* (Wood, 1828). Extend distribution north to Sonsonate, El Salvador (Hernandez, 1979). Length: 48.8 mm (Draper, 1987).

Subgenus *Chlorostoma* Swainson, 1840

- 94 *Tegula* (*C.*) *rugosa* (A. Adams, 1853). Length: 50.5 mm (Draper, 1987).

Subgenus *Agathistoma*

Olsson &amp; Harbison, 1953

- *Tegula* (*A.*) *aureotincta* (Forbes, 1852). Length: 40 mm. Distribution: Ventura County, California, to Bahía Magdalena, Baja California Sur, México (McLean, 1978).
- 96 *Tegula* (*A.*) *cooksoni* (E.A. Smith, 1877). Extend distribution north to Isla Gorgona, Colombia (Cantera, et al., 1979). Extend distribution north to Isla del Coco, Costa Rica (Montoya, 1983).
- 97 *Tegula* (*A.*) *corteziana* McLean, 1970. Length: 14.6 mm (Draper, 1987).
- 99 *Tegula* (*A.*) *eiseni* Jordan, 1936. Length: 28.4 mm (Draper, 1987). External anatomy figured (Hickman & McLean, 1990).
- *Tegula* (*A.*) *gallina* (Forbes, 1852). Length: 40 mm. Distribution: Santa Barbara County, California, to Bahía Magdalena, Baja California Sur, México (McLean, 1978).
- 101 *Tegula* (*A.*) *globulus* (Carpenter, 1857). Reported from Bahía San Luis Gonzaga, Baja California, México (Mulliner, 1984). Length:

10.6 mm (Draper, 1987).

- 102 *Tegula* (*A.*) *ligulata ligulata* (Menke, 1850). Extend distribution south to Máncora, Perú (Peña G., 1970).
- 103 *Tegula* (*A.*) *ligulata mariamadre* Pilsbry & Lowe, 1932. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- 105 *Tegula* (*A.*) *mariana* Dall, 1919. Length: 18.2 mm (Draper, 1987). Shell and radula figured (Hickman & McLean, 1990).
- 107 *Tegula* (*A.*) *panamensis* (Philippi, 1849). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 24.3 mm (Draper, 1987).
- 108 *Tegula* (*A.*) *picta* McLean, 1970, ex Dall MS. Extend distribution north to Isla Gorgona, Colombia (Cantera, et al., 1979). Delete Isla Gorgona distribution. Species is probably *Tegula verrucosa* McLean, 1970 [112] (Cosel, 1984).
- 109 *Tegula* (*A.*) *rubroflammulata* (Koch in Philippi, 1843). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 24 mm (Draper, 1987).

## Subfamily EUCYCLINAE Koken, 1897

Genus *Bathymargarites*

Warén &amp; Bouchet, 1989

- *Bathymargarites symplector* Warén & Bouchet, 1989. Anatomy, radula and operculum figured. Length: 10.3 mm. Distribution: East Pacific Rise near 13°N and 21°N. Depth: 2612 to 2635 m (Warén & Bouchet, 1989). Assigned to subfamily (Hickman & McLean, 1990).

## Tribe CHILODONTINI Wenz, 1938

Genus *Turcica* A. Adams, 1854

- 74 *Turcica admirabilis* Berry, 1969. Synonym: *Turcica panamensis* Olsson, 1971 (Keen & Coan, 1975). Holotype figured (C. Hertz, 1984a). Length: 42.9 mm (Wagner & Abbott, 1990).
- *Turcica panamensis* Olsson, 1971. Radula figured. Length: 31 mm. Golfo de Panamá. Depth: 84 m (Olsson, 1971). Delete here. Becomes a synonym of *Turcica admirabilis* Berry, 1969 [74] (Keen & Coan, 1975).



## Tribe CALLIOTROPINI

Hickman &amp; McLean, 1990

Genus *Bathybembix* Crosse, 1893Subgenus *Bathybembix*, s. s.

- 62 *Bathybembix* (*B.*) *bairdii* (Dall, 1889). As a subgenus of *Lischkeia* Fischer, 1879 (Abbott, 1974). As listed (Myers, 1979). Length: 58 mm (Wagner & Abbott, 1990). Shell and external anatomy figured (Hickman & McLean 1990).
- 63 *Bathybembix* (*B.*) *macdonaldi* (Dall, 1890). Holotype figured. Extend distribution north to Punta Mala, Panamá (McLean & Andrade V., 1982). Shell figured (Hickman & McLean, 1990).

Genus *Calliotropis* Seguenzia, 1903Synonym: *Solaricida* Dall, 1919 (Hickman & McLean, 1990).

- 64 *Calliotropis ceratophora* (Dall, 1896).
- 65 *Calliotropis equatorialis* (Dall, 1896). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983).
- 66 *Calliotropis galapagana* (Dall, 1908).

Subfamily MARGARITINAE

Tribe GAZINI Hickman &amp; McLean, 1990

Genus *Gaza* Watson, 1879

- 113 *Gaza rathbuni* Dall, 1890. Extend distribution north to the Golfo de Panamá (Shasky, 1989c).

Subfamily CALLIOSTOMATINAE

Genus *Calliostoma* Swainson, 1840

- 77 *Calliostoma bonita* Strong, Hanna & Hertlein, 1933. Diameter: 31.3 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- *Calliostoma decipiens* Olsson, 1971. Diameter: 13.5 mm. Golfo de Panamá. Depth: 59 m (Olsson, 1971). Delete here. Becomes a synonym of *C. veleroae* McLean, 1970 [92] (Keen & Coan, 1975).
- 78 *Calliostoma eximium* (Reeve, 1843). Length: 30.6 mm (Draper, 1987).
- 79 *Calliostoma* sp. Species figured in Keen

(1971) is undescribed. *Calliostoma fonkii* (Philippi, 1860) is a species of Perú & Chile (Finet, 1985).

- *Calliostoma insignis* Olsson, 1971. Diameter: 15.3 mm. Golfo de Panamá. Depth: 77 to 79 m (Olsson, 1971).
- 81 *Calliostoma iridium* Dall, 1896. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Length: 26.7 mm (Draper, 1987).
- *Calliostoma joanneae* Olsson, 1971. Diameter: 7.7 mm. Golfo de Panamá. Depth: 53 m (Olsson, 1971). Delete here. Becomes a synonym of *Calliostoma marshalli* Lowe, 1935 [85] (Keen & Coan, 1975).
- 84 *Calliostoma leanum* (C.B. Adams, 1852). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 14.2 mm (Draper, 1987).
- 85 *Calliostoma marshalli* Lowe, 1935. Synonym: *Calliostoma joanneae* Olsson, 1971. Extend distribution to the Golfo de Panamá and Ecuador. Delete last line, referring to color plate (Keen & Coan, 1975). Length: 19.1 mm (Draper, 1987).
- 86 *Calliostoma mcleani* Shasky & Campbell, 1964. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 14.6 mm (Draper, 1987). Include Islas Galápagos in distribution (Shasky 1989a).
- 87 *Calliostoma nepheloide* Dall, 1913. Add depth: 53 to 119 m (Olsson, 1971).
- 88 *Calliostoma palmeri* Dall, 1871. Add at end; "See Color Plate XIII." (Keen & Coan, 1975). Extend distribution south to Laguna de Yavaros, Sonora, México (García-Cubas & Reguero, 1987). Length: 30.3 mm (Draper, 1987).
- *Calliostoma pillsburyae* Olsson, 1971. Diameter, 19.5 mm. Archipiélago de las Perlas, Panamá. Depth: 57 to 64 m (Olsson, 1971).
- 90 *Calliostoma sanjaimense* McLean, 1970. Length: 25 mm. Extend distribution south to Golfo de Panamá, Panamá. Depth: 68 m (Olsson, 1971). Extend distribution north to off San Diego, California. Depth: 155 m (LaGrange, 1992).
- 92 *Calliostoma veleroae* McLean, 1970. Add depth: 81 m (Olsson, 1971). Synonym: *Calliostoma decipiens* Olsson, 1971. Depth: 59 to 100 m (Keen & Coan, 1975).

Subgenus *Otukaia* Ikebe, 1942

- *Calliostoma (O.) chilena* Rehder, 1971. Distribution: Isla Cébaco, Golfo de Montijo, Panamá to Chile (McLean & Andrade V., 1982).

## Subfamily SOLARIELLINAE Powell, 1951

Genus *Solariella* Wood, 1842Subgenus *Solariella*, s. s.

- 70 *Solariella (S.) nuda* Dall, 1896. Length: 38.8 mm (Draper, 1987). Radula figured (Hickman, 1977). Subgenus added (Hickman & McLean, 1990).

Subgenus *Minolia* A. Adams, 1860

- 71 *Solariella (M.) peramabilis* Carpenter, 1864. Subgenus added. Shell, external anatomy and radula figured (Hickman & McLean, 1990).

## Subfamily HALISTYLINAE

Genus *Halistylus* Dall, 1890

- *Halistylus genecoani* McLean, 1984. Length: 5.6 mm. Distribution: on the west coast of Baja California from Punta San Pablo to Arroyo Conejo, Baja California Sur, México. Depth: 13 to 55 mm (McLean, 1984a).

## Subfamily UMBONIINAE

## Tribe MONILEINI Hickman &amp; McLean, 1990

Genus *Monilea* Swainson, 1840

- 114 *Monilea patricia* (Philippi, 1851). Placed in new tribe (Hickman & McLean, 1990).

## Family SKENEIDAE

Genus *Haplocochlias* Carpenter, 1864

- 119 *Haplocochlias cyclophoreus* Carpenter, 1864. Shell and radula figured (Hickman & McLean, 1990).

Genus *Parviturbo* Pilsbry & McGinty, 1945

- 121 *Parviturbo acuticostatus* (Carpenter, 1864). Lectotype figured (LaFollette, 1976). Shell and radula figured (Hickman & McLean, 1990).

- 124 *Parviturbo stearnsii* (Dall, 1918). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Placement doubtful.

## Family PELYCIDIIDAE

## Ponder &amp; Hall, 1983

Placed in the Trochoidea by Ponder & Hall (1983). Not trochoidean. To be transferred to Neotaenioglossa by Ponder (Hickman & McLean, 1990).

Genus *Pelycidion* Fischer in de Folin & Perrier, 1873. Synonym: *Nannoteretispira* Habe, 1961 (Ponder & Hall, 1983).

- 220 *Pelycidion kelseyi* (Bartsch, 1911). Extend distribution south to the Islas Galápagos (Draper, 1974a). Protoconch, radula and operculum figured (Ponder & Hall, 1983).

## Superfamily NERITOIDEA

## Family NERITIDAE

## Subfamily NERITINAE

Genus *Nerita* Linnaeus, 1758

- *Nerita plicata* Linnaeus, 1758. Extend distribution to L'île Clipperton [France] (Hertlein & Allison, 1960). Length: 20 mm. A widespread Indo-Pacific species (Kay, 1979).

Subgenus *Ritena* Gray, 1858

- 165 *Nerita (R.) scabricosta* Lamarck, 1822. Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos in distribution (Finet, 1985). Anatomy figured (Houston, 1990). Length: 54.3 mm (as *N. ornata* Sowerby, 1823) (Wagner & Abbott, 1990).

Subgenus *Theliostyla* Mörch, 1852

- 166 *Nerita (T.) funiculata* Menke, 1851. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 20.4 mm (Draper, 1987). Anatomy, egg capsule and eggs figured (Houston, 1990).

Genus *Neritina* Lamarck, 1816  
Subgenus *Clypeolum* Récluz, 1842

- 167 *Neritina* (*C.*) *latissima* Broderip, 1833. Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 33.1 mm (Draper, 1987). Anatomy figured (Houston, 1990).

Genus *Theodoxus* Montfort, 1810  
Subgenus *Vittoclithon* H. B. Baker, 1923

- 168 *Theodoxus* (*V.*) *luteofasciatus* (Miller, 1879). Add parentheses on author's name (Keen & Coan, 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Anatomy figured (Houston, 1990).

Family PHENACOLEPADIDAE  
Genus *Plesiothyreus* Cossmann, 1888  
Synonym: *Phenacolepas* Pilsbry, 1891 (Christiaens, 1989).

- 169 *Plesiothyreus malonei* (Vanatta, 1912). Length: 19.7 mm (Draper, 1987). Radula figured (Christiaens, 1989).
- 170 *Plesiothyreus osculans* (C.B. Adams, 1852). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Synonyms: *Plesiothyreus cancellata* (Pease, 1860); *P. tenuisculpta* (Thiele, 1909); *P. newtoni* (Sowerby, 1894). Radula figured. Include in distribution: Hawaii, Fiji, Hong Kong, Cook Islands, Réunion, Red Sea (Christiaens, 1989).
- 171 *Plesiothyreus puntarene* (Mörch, 1860). Extend distribution north to Isla Smith, Bahía de los Angeles, Baja California, México (Skoglund, 1988). Delete distribution extension. See *Iothia lindbergi* McLean, 1985 (Skoglund, 1989a).

Family TITISCANIIDAE  
Genus *Titiscania* Bergh, 1890

- 172 *Titiscania limacina* (Bergh, 1875). Anatomy figured. Add San Carlos, Sonora, México, to distribution (Houston, 1990). Extend distribution to north of Puerto Peñasco, Sonora, México (Emerson, 1991).

Suborder COCCULIFORMIA  
Haszprunar, 1987b

Classification follows Haszprunar (1988b).  
Superfamily COCCULINOIDEA  
Family COCCULINIDAE  
Genus *Cocculina* Dall, 1882

- 173 *Cocculina agassizii* Dall, 1908. Genus changed. See *Coccocrater*.
- 174 *Cocculina diomedae* Dall, 1908. Length: 13 mm (Dall, 1908).
- 175 *Cocculina nassa* Dall, 1908. Length: 8.5 mm (Dall, 1908).

Genus *Coccocrater* Haszprunar, 1987

- 173 *Coccocrater agassizii* (Dall, 1908). Genus changed. Delete upper figure 173, Keen (1971). Shell and radula figured. Length: 6.9 mm. Extend depth to 3710 m (McLean, 1987). Anatomy discussed (Haszprunar, 1987b).

Family BATHYSCIADIIDAE Thiele, 1908  
Genus *Bathysciadium*  
Dautzenberg & Fischer, 1900

- 176 *Bathysciadium pacificum* Dall, 1908. Radula figured (Hickman, 1983).

Superfamily LEPETELLOIDEA Dall, 1881  
As Lepetellacea Dall, 1881 (McLean, 1991).  
Family PYROPELTIDAE  
McLean & Haszprunar, 1987  
Genus *Pyropelta*  
McLean & Haszprunar, 1987

- *Pyropelta corymba* McLean & Haszprunar, 1987. Anatomy figured. Length: 3 mm. Distribution: thermal vents, Guaymas Basin, Golfo de California, México. Depth: 2022 m. Known only from holotype (McLean & Haszprunar, 1987).

Family PSEUDOCOCCULINIDAE  
Hickman, 1983

Separation from Cocculinidae confirmed by anatomical differences (Haszprunar, 1988a). Subfamilies Pseudococculininae Hickman, 1983, and Caymanabyssinae Marshall, 1986, used by Haszprunar (1988a,b). Subfamilies

not used by McLean (1991).

Genus *Punctabyssia* McLean, 1991

- *Punctabyssia tibbettsi* McLean, 1991. Radula and external anatomy figured. Length: 5 mm. Distribution: East Pacific Rise near 12°N. Depth: 2700 m (McLean, 1991).

Genus *Caymanabyssia* Moskalev, 1976

Subgenus *Dictyabyssia* McLean, 1991

- *Caymanabyssia (D.) fosteri* McLean, 1991. Radula and external anatomy figured. Length: 5.7 mm. Distribution: East Pacific Rise near 12°N. Depth: 2700 m (McLean, 1991).

Family ADDISONIIDAE Dall, 1882

Genus *Addisonia* Dall, 1882

- *Addisonia brophyi* McLean, 1985. Length: 10.2 mm. Distribution: Gaviota, Santa Barbara County, to Catalina Island, Los Angeles County, California (McLean, 1985b). Extend distribution to off Isla Danzante, Golfo de California, México (Skoglund, 1985). Anatomy figured (Haszprunar, 1987a).

Superorder CAENOGASTROPODA Cox, 1959  
Higher classification follows Ponder & Warén (1988).

Order NEOTAENIOGLOSSA Haller, 1882

Suborder DISCOPODA Fischer, 1884

Superfamily SEGUENZOIDEA

Placement uncertain. Moved to Archaeogastropoda by Ponder & Warén (1988), and to Mesogastropoda by Hickman & McLean (1990).

Family SEGUENZIIDAE

Genus *Seguenzia* Jeffreys, 1876

[No changes at the species level.]

Family uncertain.

Genus *Moelleriopsis* Bush, 1897

- *Moelleriopsis sp.* Shell and operculum figured, then lost. Diameter: 3.4 mm. Distribution: East Pacific Rise at 13°N. Depth: 2635 m (Warén & Bouchet, 1989).

Superfamily LOXONEMATOIDEA

Koken, 1889

Family PROVANNIDAE Warén & Ponder, 1991

Genus *Provanna* Dall, 1918

Genus placed provisionally in Cerithioidea by Warén & Bouchet (1986). Moved to the Littorinoidea by Warén & Bouchet (1989). As Loxonematoidea by Warén & Ponder (1991).

- *Provanna goniata* Warén & Bouchet, 1986. Radula and operculum figured. Length: 12.3 mm. Distribution: thermal vents, Guaymas Basin, Golfo de California, México. Depth: 2020 m (Warén & Bouchet, 1986).

- *Provanna ios* Warén & Bouchet, 1986. Radula and anatomy figured. Length: 9.5 mm. Distribution: Galápagos Rift and East Pacific Rise near 12°N and 21°N. Depth: 2450 to 2620 m (Warén & Bouchet, 1986).

- *Provanna laevis* Warén & Ponder, 1991. Anatomy, radula and operculum figured. Length: 10 mm. Distribution: thermal vents, Guaymas Basin, Golfo de California, México. Depth: 2000 m (Warén & Ponder, 1991).

- *Provanna muricata* Warén & Bouchet, 1986. Radula figured. Length: 6.4 mm. Distribution: Galápagos Rift. Depth: 2450 m (Warén & Bouchet, 1986). Extend distribution to the Guaymas Basin, Golfo de California, México. Depth: 2008 m (Warén & Ponder, 1991).

- 836 *Provanna pacifica* (Dall, 1908). Genus changed from *Cerithioderma*. Lectotype and radula figured. Length: 4.9 mm. Delete top figure in Keen (1971), as poor condition of specimen makes identification impossible (Warén & Bouchet, 1986).

Superfamily LITTORINOIDEA

Family LITTORINIDAE

Subfamily LITTORININAE Gray, 1840

Genus *Littorina* Férussac, 1822

Subgenus *Littorina*, s. s.

- 187 *Littorina (L.) schmitti* Bartsch & Rehder, 1939. Holotype figured. Subgenus changed. *Littorina schmitti* as a subspecies of *Littorina pintado* (Wood, 1828). Known only from L'île Clipperton [France] (Rosewater, 1970). Delete. Becomes a synonym of *Littoraria pintado* (Wood, 1828) [186] (Reid, 1989).

Subgenus *Austrolittorina* Rosewater, 1970

- *Littorina* (*A.*) *penicillata* Carpenter, 1864. As a species. Distribution: Baja California, México (Rosewater, 1970). Delete here. Becomes a synonym of *Nodilittorina aspera* (Philippi, 1846) [181] (Reid, 1989).

Subgenus *Planilittorina* Reid, 1989

- *Littorina* (*P.*) *keenae* Rosewater, 1978. Synonym: *Littorina planaxis* Philippi, 1847 (Rosewater 1978). Subgenus changed (Reid, 1989).

Genus *Littoraria* Griffith & Pidgeon, 1834Subgenus *Littoraria*, *s. s.*

- 182 *Littoraria* (*L.*) *fasciata* (Gray, 1839). Extend distribution south to Tumbes, Perú (Peña G., 1970). Subgenus changed to *Littorinopsis* (Rosewater, 1970). Genus and subgenus changed (Reid, 1986). Length: 33.8 mm (Draper, 1987).
- 188 *Littoraria* (*L.*) *varia* (Sowerby, 1832). As subgenus *Littorinopsis* (Rosewater, 1970). Extend distribution south to Tumbes, Perú (Peña G., 1970). Extend distribution north to El Tamarindo, El Salvador (Hernandez, 1979). Length: 39 mm (Wagner & Abbott, 1990). Genus and subgenus changed (Reid, 1986).
- 189 *Littoraria* (*L.*) *zebra* (Donovan, 1825). As subgenus *Littoraria* (Rosewater, 1970). Extend distribution south to Esmeraldas Province, Ecuador (Baldazzi, Di Cecco & Tiberi, 1986). Genus changed (Reid, 1986). Length: 36.3 mm (Draper, 1987).

Subgenus *Bulimilittorina* Reid, 1989

- 179 *Littoraria* (*B.*) *aberrans* (Philippi, 1846). As subgenus *Littorinopsis*. As a subspecies of *Littorina scabra* (Linnaeus, 1759) (Rosewater, 1970). Valid species. Subgenus unknown (Reid, 1986). Valid species. Genus and subgenus changed (Reid, 1989).

Subgenus *Protolittoraria* Reid, 1989

- 186 *Littoraria* (*P.*) *pintado* (Wood, 1828). Subgenus changed (Rosewater, 1970). As

*Littoraria* (*Littoraria*). Synonyms: *Littorina pullata* Carpenter, 1864 [186]; *L. schmitti* Bartsch & Rehder, 1939. Distribution: tropical northwest Pacific; west Indian Ocean (Reid, 1986). Extend distribution north to Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988). Genus and subgenus changed (Reid, 1989). Delete Bahía San Carlos, Sonora, México distribution extension (Poorman, pers. comm., 1990). Include L'île Clipperton [France] and the Hawaiian Archipelago in distribution (Emerson, 1991).

Genus *Nodilittorina* von Martens, 1897Subgenus *Nodilittorina*, *s. s.*

- 180 *Nodilittorina* (*N.*) *albicarinata* (McLean, 1970). Genus and subgenus changed (Reid, 1989).
- 770 *Nodilittorina* (*N.*) *angiostoma* (C.B. Adams, 1852). Genus changed from *Fossarus* (Rosewater, 1979). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Specific identity uncertain, but is *Nodilittorina* (*Nodilittorina*) (Reid, pers. comm., 1992).
- 184 *Nodilittorina* (*N.*) *araucana* (d'Orbigny, 1840). As subgenus *Littorinopsis* (Rosewater, 1970). As *Littorina paytensis* Philippi, 1847 [184]. Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). ?Synonym: *Littorina paytensis* Philippi, 1847. Genus and subgenus changed (Reid, 1989).
- 181 *Nodilittorina* (*N.*) *aspera* (Philippi, 1846). As subgenus *Austrolittorina*. Delete *Littorina penicillata* Carpenter, 1864 as a synonym (Rosewater, 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). ?Synonym: *Littorina penicillata* Carpenter, 1864. Change genus and subgenus (Reid, 1989).
- 190 *Nodilittorina* (*N.*) *galapagensis* (Stearns, 1892). Add subgenus (Reid, 1989).
- 191 *Nodilittorina* (*N.*) *porcata* (Philippi, 1845). As *Fossarus atratus* (C.B. Adams, 1852) [772]. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Genus changed from *Fossarus*. Endemic to the Islas Galápagos, Ecuador (Finet, 1985). Synonyms:

*Peasiella roosevelti* Bartsch & Rehder, 1939 [191]; *Adeorbis abjecta* C.B. Adams, 1852 [769]; *Littorina atrata* C.B. Adams, 1852 [772]; *L. excavata* C.B. Adams, 1852 [773]; *L. foveata* C.B. Adams, 1852 [774] (Reid, 1989).

Subgenus *Echinolittorina* Habe, 1956

- 185 *Nodilittorina* (*E.*) *peruviana* (Lamarck, 1822). As subgenus *Austrolittorina* (Rosewater, 1970). Distribution: Paita to Atico, Perú (Peña G., 1970). Distribution verified to the Islas Galápagos, Ecuador (Finet, 1985). Genus and subgenus changed (Reid, 1989).

Subgenus *Fossarilittorina* Rosewater, 1981

- 183 *Nodilittorina* (?*F.*) *modesta* (Philippi, 1846). As subgenus *Littorinopsis* (Rosewater, 1970). Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 19.9 mm (Draper, 1987). Genus and subgenus changed (Reid, 1989).

Genus *Peasiella* Nevill, 1885

- 191 *Peasiella roosevelti* Bartsch & Rehder, 1939. Delete here. Becomes a synonym of *Nodilittorina* (*N.*) *porcata* (Philippi, 1846) [191] (Reid, 1989).

Subfamily LACUNINAE Gill, 1871

Transferred from Lacunidae (Reid, 1989).

Genus *Lacuna* Turton, 1827

Subgenus *Lacuna*, *s. s.*

[No changes at the species level.]

Subfamily TECTARIINAE Rosewater, 1970

Genus *Tectarius* Valenciennes, 1833

- *Tectarius muricatus* (Linnaeus, 1758). Found live near the head of the Golfo de California at El Golfo de Santa Clara, Sonora, and dead south of San Felipe, Baja California, México. Previously known distribution: southern Florida, West Indies and Bermuda (Bishop, 1992).

### Superfamily RISSOOIDEA

Classification follows Ponder (1988).

Rissooidea as a synonym of Truncatelloidea (Ponder, 1988). Application to conserve Rissooidea Gray, 1847 as a family-group name filed with the ICZN (Rosenberg & Davis, 1990). Rissooidea retained over Truncatelloidea, ICZN opinion 1664 (Anon., 1992).

### Family RISSOIDAE

#### Subfamily RISSOINAE

Genus *Alvinia* Monterosato, 1884

As a subgenus of *Manzonina* by Ponder (1985).

Subgenus *Alvinia*, *s. s.*

- 193 *Alvinia* (*A.*) *albolirata* (Carpenter, 1864). Delete here. Genus changed. See *Lirobarleeia*.
- 194 *Alvinia* (*A.*) *clarionensis* (Bartsch, 1911). Delete here. Genus changed. See *Lirobarleeia*.
- 195 *Alvinia* (*A.*) *electrina* (Carpenter, 1864). Delete here. Genus changed. See *Lirobarleeia*.
- 196 *Alvinia* (*A.*) *galapagensis* (Bartsch, 1911). Delete here. Genus changed. See *Lirobarleeia*.
- 197 *Alvinia* (*A.*) *gallegosi* (Baker, Hanna & Strong, 1930). Delete here. Moved to Cerithiidae without genus assignment (Ponder, 1983b).
- 198 *Alvinia* (*A.*) *granti* (Strong, 1938). Delete here. Genus changed. See *Lirobarleeia*.
- 199 *Alvinia* (*A.*) *halia* (Bartsch, 1911). Delete here. Genus changed. See *Manzonina*.
- 200 *Alvinia* (*A.*) *herreriae* (Baker, Hanna & Strong, 1930). Delete here. Genus changed. See *Lirobarleeia*.
- 201 *Alvinia* (*A.*) *hoodensis* (Bartsch, 1911). Delete here. Genus changed. See *Lirobarleeia*.
- 202 *Alvinia* (*A.*) *ima* (Bartsch, 1911). Delete here. Genus changed. See *Lirobarleeia*.
- 203 *Alvinia* (*A.*) *inconspicua* (C.B. Adams, 1852). Delete here. Genus changed. See *Alvania*.
- 204 *Alvinia* (*A.*) *ingrami* (Hertlein & Strong, 1951). Delete here. Genus changed. See *Lirobarleeia*.
- 205 *Alvinia* (*A.*) *lara* (Bartsch, 1911). Delete here. Genus changed. See *Lirobarleeia*.
- 206 *Alvinia* (*A.*) *lucasana* (Baker, Hanna & Strong, 1930). Delete here. Genus changed. See *Lirobarleeia*.

- 207 *Alvinia (A.) monserratensis* (Baker, Hanna & Strong, 1930). Delete here. Becomes a synonym of *Alvania inconspicua* (C.B. Adams, 1852) [203] (Ponder, 1985).
- 208 *Alvinia (A.) nemo* (Bartsch, 1911). Delete here. Genus changed. See *Lirobarleeia*.
- 209 *Alvinia (A.) perlata* (Mörch, 1860). Delete here. Genus changed. See *Lirobarleeia*.
- 210 *Alvinia (A.) profundicola* (Bartsch, 1911). Delete here. Genus changed. See *Alvania*.
- 211 *Alvinia (A.) tumida* (Carpenter, 1857). Delete here. Genus changed. See *Alvania*.
- 212 *Alvinia veleronis* (Hertlein & Strong, 1939). Delete here. Becomes synonym of *Lirobarleeia granti* (Strong, 1938) [198] (Ponder, 1983c).
- Genus *Alvania* Risso, 1826  
Subgenus *Alvania*, s. s.
- 203 *Alvania (A.) inconspicua* (C.B. Adams, 1852). Extend distribution north to Bahía Concepción, Baja California Sur, México (as *Alvania monserratensis* Baker, Hanna & Strong, 1930) (Baker, Hanna & Strong, 1930). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). As a synonym of *Alvania (Alvaniella) keeleri* Palazzi, 1978 (Palazzi, 1978). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). As *Alvania inconspicua*. Synonyms: *Alvania monserratensis* Baker, Hanna & Strong, 1930 [207]; *A. oldroydae* Bartsch, 1911; *A. (Alvaniella) keeleri* Palazzi, 1978 (Ponder, 1985). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 207 *Alvania (A.) monserratensis* Baker, Hertlein & Strong, 1930. Delete here. Becomes synonym of *Alvania inconspicua* (C.B. Adams, 1852) [203] (Ponder 1985).
- 210 *Alvania (A.) profundicola* Bartsch, 1911. Genus changed from *Alvinia* by Ponder (1985).
- 211 *Alvania (A.) tumida* Carpenter, 1857. Extend distribution to Cabo San Lucas, Baja California Sur, México (Bartsch, 1911c). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution to Isla Todos Santos, west coast of Baja California, México (Draper, 1973b). Genus changed (Ponder, 1985). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- Subgenus *Alvaniella*  
Sacco, 1895, Monterosato MS
- *Alvania (A.) keeleri* Palazzi, 1978. Synonym: *Rissoa inconspicua* C.B. Adams, 1852, non Alder, 1844 [203] (Palazzi, 1978). Delete here. Becomes synonym of *Alvania inconspicua* (C. B. Adams, 1852) [203] (Ponder, 1985).
- Genus *Manzonía* Brusina, 1870  
Subgenus *Alvinia* Monterosato, 1884  
Lowered from genus (Ponder, 1985).
- *Manzonía (A.) aequisculpta* (Keep, 1887). Extend distribution to Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1930). Delete. Distribution extends south only to Bahía Todos Santos, Baja California, México (McLean, 1978).
- 199 *Manzonía (A.) halia* (Bartsch, 1911). Genus changed from *Alvinia* (Ponder, 1985). As *Lirobarleeia* by Shasky (1989a). As *Manzonía* (Shasky, pers. comm., 1992).
- Genus *Onoba* H. & A. Adams, 1852
- 227 *Onoba fortis* Pilsbry & Olsson, 1941. Distribution: Isla de Venado, Panamá, to Perú (Shasky, 1975).
- Subfamily RISSOININAE  
Genus *Rissoina* d'Orbigny, 1840  
Subgenus *Rissoina*, s. s.
- 240 *Rissoina (R.) alarconi* Hertlein & Strong, 1951. Include near Corinto, Nicaragua, in distribution (Hertlein & Strong, 1951). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 242 *Rissoina (R.) axeliana* Hertlein & Strong, 1951. Add the Islas Galápagos to the distribution (J. Hertz, 1976b). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

- 243 *Rissoina (R.) bakeri* Bartsch, 1902. Delete. Distribution restricted from Monterey, California, to Islas Coronados off northern Baja California, México (McLean, 1978).
- 246 *Rissoina (R.) burragei* Bartsch, 1915. Distribution confirmed to Puerto Peñasco, Sonora, México (Draper, 1974a).
- 248 *Rissoina (R.) clandestina* (C.B. Adams, 1852). Extend distribution north to east of Bahía Willard, Baja California, México (Draper, 1974a). Intertidal zone (J. & C. Hertz, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 249 *Rissoina (R.) dina* Bartsch, 1915. Delete here. Becomes a synonym of *Rissoina stricta* Menke, 1850 [271] (Abbott, 1974).
- 250 *Rissoina (R.) effusa* Mörch, 1860. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 251 *Rissoina (R.) excolpa* Bartsch, 1915. Delete here. Becomes a synonym of *Rissoina firmata* (C.B. Adams, 1852) [254] (Abbott, 1974).
- 253 *Rissoina (R.) favilla* Bartsch, 1915. Delete here. Becomes a synonym of *Rissoina stricta* Menke, 1850 [271] (Abbott, 1974).
- 254 *Rissoina (R.) firmata* (C.B. Adams, 1852). Include Cabo Pulmo and Cabo San Lucas, Baja California Sur, México, in distribution (Bartsch, 1915). Extend distribution north to Bahía Concepción, Baja California Sur, México (Baker, Hanna & Strong, 1930). Extend distribution across the Golfo de California to the Guaymas area, Sonora, México (DuShane & Poorman, 1967). Synonym: *Rissoina excolpa* Bartsch, 1915 [251] (Abbott, 1974). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 255 *Rissoina (R.) fortis* (C.B. Adams, 1852). Delete here. Becomes a synonym of *Rissoina stricta* Menke, 1850 [271] (Abbott, 1974). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988). Delete Bahía San Carlos area distribution (Poorman, pers. comm., 1991).
- 256 *Rissoina (R.) gisna* Bartsch, 1915. Extend distribution north to Guaymas, Sonora, México (Draper, 1974a). Delete here. Becomes a synonym of *Rissoina stricta* Menke, 1850 [271] (Abbott, 1974). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 10.4 mm (Draper, 1987).
- 257 *Rissoina (R.) hartmanni* Jordan, 1936. Delete. Fossil species (Jordan, 1936).
- 259 *Rissoina (R.) histia* Bartsch, 1915. Delete here. Genus changed. See *Folinia*.
- 260 *Rissoina (R.) inca* d'Orbigny, 1840. Lower case on species name (Keen & Coan, 1975). Distribution: Perú south to Isla Chiloé, Chile (Marincovich, 1973). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- 261 *Rissoina (R.) io* Bartsch, 1915. Delete here. Becomes a synonym of *Rissoina stricta* Menke, 1850 [271] (Abbott, 1974).
- 263 *Rissoina (R.) laurae* de Folin, 1870. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 264 *Rissoina (R.) mazatlanica* Bartsch, 1915. Distribution includes Puerto Angel, Oaxaca, México (Bartsch, 1915). Delete here. Becomes a synonym of *Rissoina stricta* Menke, 1850 [271] (Abbott, 1974).
- 266 *Rissoina (R.) mexicana* Bartsch, 1915. Distribution includes Chiapas, México (Bartsch, 1915).
- 267 *Rissoina (R.) nereina* Bartsch, 1915. Delete here. Genus changed. See *Schwartziella*.
- 268 *Rissoina (R.) peninsularis* Bartsch, 1915. Extend distribution north to Caleta Saladita, Sonora, México (Draper, 1974a). Synonym: *Rissoina townsendi* Bartsch, 1915 [272] (Abbott, 1974).
- 269 *Rissoina (R.) porteri* Baker, Hanna, & Strong, 1930. Delete here. Genus changed. See *Schwartziella*.
- 270 *Rissoina (R.) scalariformis* (C.B. Adams, 1852). Reported from Rikitea, French Polynesia (Dautzenberg & Bouge, 1933). Delete here. Becomes a synonym of *Rissoina firmata* (C.B. Adams, 1852) [254] (Bartsch, 1915).
- 271 *Rissoina (R.) stricta* Menke, 1850. Include Mazatlán, Sinaloa, México, in distribution (Carpenter, 1857). Synonyms: *Rissoina fortis* (C.B. Adams, 1852) [255], *R. favilla* [253], *R. io* [261], *R. gisna* [256], *R. mazatlanica* [264], *R. dina* [249] all Bartsch, 1915 (Abbott, 1974). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 272 *Rissoina (R.) townsendi* Bartsch, 1915. Delete here. Becomes a synonym of *Rissoina peninsularis* Bartsch, 1915 [268] (Abbott, 1974).



- 274 *Rissoina (R.) zeltneri* (de Folin, 1867). Extend distribution to French Polynesia (Dautzenberg & Bouge, 1933). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Subgenus *Sulcorissoina* Kosuge, 1965

- 277 *Rissoina (?S.) berryi* Baker, Hanna & Strong, 1930. Delete here. Genus changed. See *Acirsa*.
- 278 *Rissoina (?S.) lapazana* Bartsch, 1915. Delete here. Becomes synonym of *Lirobarleeia kelseyi* (Dall & Bartsch, 1903) (Ponder, 1983c).
- 279 *Rissoina (?S.) lirata* (Carpenter, 1857). Delete here. Genus changed. See *Lirobarleeia*.
- 280 *Rissoina (?S.) stephensae* Baker, Hanna & Strong, 1930. Delete here. Genus changed. See *Bittium*.

Genus *Rissoina* s. l.

- 282 ?*Rissoina infrequens* (C.B. Adams, 1852). Delete here. Genus changed. See *Opalia*.

Genus *Folinia* Crosse, 1869.

Raised from subgenus (Ponder, 1985).

- 275 *Folinia ericana* (Hertlein & Strong, 1951). Distribution includes Puerto Parker, Costa Rica (Hertlein & Strong, 1951). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos (Shasky, 1989a).
- 259 *Folinia histia* (Bartsch, 1915). Distribution: off La Paz, Golfo de California, México. Depth: 16 to 18 m (Bartsch, 1915). Genus changed from *Rissoina* (Ponder, 1985). Extend distribution north to Bahía Concepción, Baja California Sur, México. Figured (L. Poorman, 1990).
- 276 *Folinia insignis* (de Folin, 1867). Extend distribution north to the upper Golfo de California, México and south to the Islas Galápagos, Ecuador (Draper, 1974a). Synonym: *Rissoina signae* Bartsch, 1915 [276] (Ponder, 1985).

Genus *Lapsigyus* Berry, 1958

Raised from subgenus (Ponder, 1985).

- 213 *Lapsigyus contrerasi* (Jordan, 1936). Extend distribution north in the Golfo de California to Bahía Adair, Sonora, México (Berry, 1958). Extend distribution south to Mazatlán, Sinaloa, México (Shasky, 1970). Delete here. Becomes a synonym of *Lapsigyus mutans* (Carpenter, 1857) [215] (Ponder, 1985).
- 214 *Lapsigyus milleriana* (Hertlein & Strong, 1951). Delete here. Becomes synonym of *Lapsigyus mutans* (Carpenter, 1857) [215] (Ponder, 1985).
- 215 *Lapsigyus mutans* (Carpenter, 1857). Synonyms: *Alvinia contrerasi* (Jordan, 1936) [213]; *A. milleriana* (Hertlein & Strong, 1951) [214] (Ponder, 1985).
- 216 *Lapsigyus myriosirissa* Shasky, 1970.

Genus *Schwartziella* Nevill, 1881

Subgenus *Schwartziella*, s. s.

- 267 *Schwartziella (S.) nereina* (Bartsch, 1915). Extend distribution north to Isla Carmen, Golfo de California, México (Baker, Hanna & Strong, 1930). Genus changed from *Rissoina* by Ponder (1985).

Subgenus *Pandalosia* Laseron, 1956

- 269 *Schwartziella (P.) porteri* (Baker, Hanna & Strong, 1930). Extend distribution south to the Islas Galápagos, Ecuador (Draper, 1974a). Genus and subgenus changed from *Rissoina* by Ponder (1985).

Genus *Zebina* H. & A. Adams, 1854

Subgenus *Tiphocerma* Berry, 1958

- 281 *Zebina (T.) preposterum* (Berry, 1958). Holotype figured (C. Hertz 1984a). Genus changed from *Rissoina* (Ponder, 1985).

Family ANABATHRIDAE Coan, 1964

As a subfamily (Ponder, 1983c). As a family (Ponder, 1988).

Genus *Amphithalamus* Carpenter, 1865

Subgenus *Amphithalamus*, s. s.

- 217 *Amphithalamus (A.) inclusus* Carpenter, 1865.

Synonyms: *Amphithalamus tenuis* Bartsch, 1911; *A. stephensae* Bartsch, 1927 [218]; *A. trosti* Strong & Hertlein, 1939 [219]. Radula figured (Ponder, 1983c). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to Sand Island, Midway Islands (Shasky, 1987b). Include the Islas Galápagos, Ecuador, in distribution (Shasky, 1989a).

- 218 *Amphithalamus (A.) stephensae* Bartsch, 1927. Delete here. Becomes synonym of *Amphithalamus inclusus* Carpenter, 1865 [217] (Ponder, 1983c).
- 219 *Amphithalamus (A.) trosti* Strong & Hertlein, 1939. Extend distribution to L'île Clipperton [France] (Hertlein & Allison, 1968). Delete here. Becomes synonym of *A. inclusus* Carpenter, 1865 [217] (Ponder, 1983c).

Family BARLEEIDAE Gray, 1857

Raised from subfamily (Ponder, 1983c).

Genus *Barleeia* Clark, 1853

- 221 *Barleeia alderi* (Carpenter, 1857). Distribution: Bahía Agua Verde, Baja California Sur, to Chiapas, México (Bartsch, 1920). Extend distribution north to Orange County, California (Abbott, 1974).
- 222 *Barleeia bentleyi* Bartsch, 1920. Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967).
- 223 *Barleeia bifasciata* (Carpenter, 1957). Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967). Genus changed from *Rissoella* by Ponder (1983b).
- 223 *Barleeia carpenteri* Bartsch, 1920. Extend distribution north to Newport Beach, California (Abbott, 1974).
- 226 *Barleeia paupercula* (C.B. Adams, 1852). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Genus changed from *Rissoella*. Synonym: *Barleeia zeteki* Strong & Hertlein, 1939 [226] (Ponder, 1983c).
- 225 *Barleeia polychroma* (de Folin, 1870). No recent collecting records have been published (Draper, 1986).
- *Barleeia subtenuis* Carpenter, 1864. Distribution: San Pedro, California, to Bahía Todos Santos, Baja California, México

(Bartsch, 1920). Extend distribution into the Golfo de California and north to Bahía San Luis Gonzaga, Baja California, México (Baker, Hanna & Strong, 1930). Synonyms: *Barleeia rimata* Carpenter, 1864; *B. coronadoensis* Bartsch, 1920; *B. sanjuanensis* Bartsch, 1920. Distribution: Alaska to central Baja California, México (Abbott, 1974). Delete. Southern distribution only to Laguna de San Ignacio, Baja California Sur, México (McLean, 1978). *Barleeia coronadoensis* and *B. sanjuanensis* as valid species (Draper, 1986).

Genus *Lirobarleeia* Ponder, 1983

Genus changed from *Alvinia* for the following by Ponder (1983b) unless otherwise noted.

- 193 *Lirobarleeia albolirata* (Carpenter, 1864). Radula and operculum figured (Ponder 1983b).
- 194 *Lirobarleeia clarionensis* (Bartsch, 1911). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974).
- 195 *Lirobarleeia electrina* (Carpenter, 1864). Synonym: *Alvinia lucasana* (Baker, Hanna & Strong, 1930) [206] (Ponder, 1983c).
- 196 *Lirobarleeia galapagensis* (Bartsch, 1911). Synonym: *Alvania nigrescens* Bartsch & Rehder, 1939, whose West Indian locality is erroneous. Anatomy, protoconch, radula and operculum figured (Ponder, 1983c).
- 198 *Lirobarleeia granti* (Strong, 1938). Synonym: *Alvinia veleronis* (Hertlein & Strong, 1939) [212] (Ponder, 1983c).
- 200 *Lirobarleeia herrerae* (Baker, Hanna & Strong, 1930).
- 201 *Lirobarleeia hoodensis* (Bartsch, 1911).
- 202 *Lirobarleeia ima* (Bartsch, 1911). Genus changed (Ponder, pers. comm., 1992).
- 204 *Lirobarleeia ingrami* (Hertlein & Strong, 1951).
- *Lirobarleeia kelseyi* (Dall & Bartsch, 1902). Synonyms: *Alaba oldroydi* Dall, 1905; *Rissoina lapazana* Bartsch, 1915 [278]; *Alvania bartolomensis* Bartsch, 1917; *Rissoina lowei* Strong, 1938. Radula, protoconch and operculum figured (Ponder, 1983c).
- 205 *Lirobarleeia lara* (Bartsch, 1911).
- 279 *Lirobarleeia lirata* (Carpenter, 1857). Genus changed from *Rissoina* by Ponder (1983b). Extend distribution to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L.

- Poorman, 1988).
- 208 *Lirobarlecia nemo* (Bartsch, 1911). Protoconch figured (Ponder, 1983c).
- 209 *Lirobarlecia perlata* (Mörch, 1860). Extend distribution north to Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988).

## Family ASSIMINEIDAE

Genus *Assiminea* Fleming, 1828

- 229 *Assiminea californica* (Tryon, 1865). Delete. Distribution is north of the Panamic Province (McLean, 1978).
- 230 *Assiminea compacta* (Carpenter, 1864). Extend distribution north to Bahía Kino, Sonora, México (López Rivas & Escalante Cavazos, 1987).

## Family ELACHISINIDAE Ponder, 1985

Genus *Elachisina* Dall, 1918

- 235 *Elachisina grippi* Dall, 1918. Synonyms: *Rissoella excolpa* Bartsch, 1920 [235]; *R. californica* Bartsch, 1927 (Ponder, 1983c).
- 236 *Elachisina johnsoni* (Baker, Hanna & Strong, 1930). Genus changed from *Rissoella* by Ponder (1983c). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).

## Family TRUNCATELLIDAE

Genus *Truncatella* Risso, 1826

- 284 *Truncatella californica* Pfeiffer, 1857. Synonym: *Truncatella stimpsoni* Stearns, 1872. Distribution: Santa Barbara, California, to Bahía Magdalena, Baja California Sur, México (McLean, 1978).

## Family VITRINELLIDAE

Genus *Vitrinella* C.B. Adams, 1852Subgenus *Vitrinella s. s.*

- 286 *Vitrinella (V.) goniomphala* Pilsbry & Olsson, 1952. Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967). Extend distribution north to San Felipe, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured (Hertz, Myers & Gemmell, 1992b).
- 288 *Vitrinella (V.) ?naticoides* Carpenter, 1857.

Figured. Diameter: 1.8 mm. Extend distribution north to Bahía la Cholla, Sonora, México, intertidal zone (Draper, 1974b).

Subgenus *Vitrinellops* Pilsbry & Olsson, 1952

- 290 *Vitrinella (V.) campylochila* Pilsbry & Olsson, 1952. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- 291 *Vitrinella (V.) dalli* (Bartsch, 1911). Diameter: 1.3 mm. Distribution: head of the Golfo de California, México (Bartsch, 1911d). Figured. Distribution confirmed to Puertecitos, Baja California, México (Hertz, Myers & Gemmell, 1992b).
- 293 *Vitrinella (V.) guaymasensis* Durham, 1942. Include Bahía Concepción, Baja California Sur, México, in distribution (Durham, 1942).
- 297 *Vitrinella (V.) martensiana* (Hertlein & Strong, 1951). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 302 *Vitrinella (V.) subquadrata* Carpenter, 1857. Figured. Diameter: 1.8 mm. Extend distribution north to Bahía la Cholla, Sonora, México, intertidal zone (Draper, 1974b).
- 304 *Vitrinella (V.) zonitoides* Pilsbry & Olsson, 1952. Extend distribution north to Puertecitos, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured (Hertz, Myers & Gemmell, 1992b).

Genus *Aorotrema* Schwengel & McGinty, 1942

- 305 *Aorotrema humboldti* (Hertlein & Strong, 1951). Figured. Diameter: 1.8 mm. Include east of Isla Willard, Baja California, México, in distribution. Depth: 18 to 27 m (Draper, 1974b).

Genus *Scissilabra* Bartsch, 1907

- *Scissilabra dalli* Bartsch, 1907. Distribution: Monterey, California, to the Golfo de California, México (Abbott, 1974).

Genus *Cochliolepis* Stimpson, 1897

- *Cochliolepis cornis* Hertz, Myers & Gemmell, 1992. Diameter: 4.2 mm. Distribution: Bahía San Felipe to just south of Puertecitos, Baja

- California, México. Depth: intertidal zone to 25 m (Hertz, Myers & Gemmell, 1992a). Figured (Hertz, Myers & Gemmell, 1992b).
- Genus *Cyclostremiscus* Pilsbry & Olsson, 1945  
Subgenus *Cyclostremiscus*, s. s.
- 308 *Cyclostremiscus* (*C.*) *baiyi* (Hertlein & Strong, 1951). Extend distribution north to San Felipe, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured. Diameter: 2.6 mm. Extend distribution across the Golfo de California to Estero Marua [sic] Morua, Sonora, México (Hertz, Myers & Gemmell, 1992b).
- 310 *Cyclostremiscus* (*C.*) *baldrigae* (Bartsch, 1911). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988).
- 311 *Cyclostremiscus* (*C.*) *bifrontia* (Carpenter, 1857). Figured. Diameter: 1.4 mm. Extend distribution across the Golfo de California to Bahía Pulmo, Baja California Sur, México (Draper, 1974c). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 312 *Cyclostremiscus* (*C.*) *cerrosensis* (Bartsch, 1907). As a synonym of *Cyclostremiscus* (*C.*) *cosmius* (Bartsch, 1907) [315] (Abbott, 1974). As a valid species. Figured. Diameter: 1.9 mm. Include Bahía Pulmo, Baja California Sur, México, in distribution. Depth: 2 to 6 m (Draper, 1974c).
- *Cyclostremiscus* (*C.*) *chamizal* Myers, Hertz & Gemmell, 1991. Diameter: 9 mm. Distribution: off Isla Salvatierra, Baja California, to Bahía de las Banderas, Jalisco, México. Depth: 18 to 27 m (Myers, Hertz & Gemmell, 1991). Figured (Hertz, Myers & Gemmell, 1992b).
- 313 *Cyclostremiscus* (*C.*) *coronatus* (Carpenter, 1857). Figured. Diameter: 1.3 mm. Extend distribution north to Bahía de Topolobampo, Sonora [sic] Sinaloa, México (Draper, 1974c). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 315 *Cyclostremiscus* (*C.*) *cosmius* (Bartsch, 1907). As *Circulus*. Synonym: *Circulus cerrosensis* Bartsch, 1907 [312]. Distribution: Catalina Island, California, to Ecuador (Abbott, 1974). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- 317 *Cyclostremiscus* (*C.*) *gallo* Pilsbry & Olsson, 1945. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 318 *Cyclostremiscus* (*C.*) *gyptobasis* Pilsbry & Olsson, 1952. Delete. No Recent records (Pilsbry & Olsson, 1952).
- 319 *Cyclostremiscus* (*C.*) *gyptomphalus* Pilsbry & Olsson, 1952. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985).
- 320 *Cyclostremiscus* (*C.*) *gordanus* (Hertlein & Strong, 1951). Distribution: Gorda Banks, Golfo de California, México. Depth: 73 to 82 m (Hertlein & Strong, 1951). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 10 to 100 m (F. & L. Poorman, 1988). Holotype figured. Correct diameter of holotype to 8.5 mm (Myers, Hertz & Gemmell, 1991).
- 321 *Cyclostremiscus* (*C.*) *janus* (C.B. Adams, 1852). Figured. Diameter: 1.8 mm. Extend distribution north to Cabo San Lucas, Baja California Sur, México (Draper, 1974c). Extend distribution north to Puertecitos, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured (Hertz, Myers & Gemmell, 1992b).
- 323 *Cyclostremiscus* (*C.*) *lowei* (Baker, Hanna & Strong, 1938). Include Isla Espiritu Santo, Golfo de California, México, in distribution (Baker, Hanna & Strong, 1938). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 324 *Cyclostremiscus* (*C.*) *madreensis* (Baker, Hanna & Strong, 1938). Figured. Diameter: 2.2 mm. Extend distribution north to off Punta Ventana, Baja California Sur, México (Draper, 1974c). Extend distribution north on mainland to Laguna de Yavaros, Sonora, México (García-Cubas & Reguero, 1987).
- 326 *Cyclostremiscus* (*C.*) *nodosus* Pilsbry & Olsson, 1952 (*non* Carpenter, 1857). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman 1988). Specimens figured as *C. nodosus* by Pilsbry & Olsson (1952) are

- actually young *Turbo fluctuosus* Wood, 1828 (Gemmell, Hertz & Myers, 1989).
- 327 *Cyclostremiscus (C.) nummus* Pilsbry & Olsson, 1952. Figured. Diameter: 2.4 mm. Extend distribution to east of Punta Mita, Nayarit, México (Draper, 1974c). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 329 *Cyclostremiscus (C.) panamensis* (C.B. Adams, 1852). Figured. Diameter: 1.4 mm. Extend distribution south to Salinas, Ecuador (Draper, 1974c).
- 330 *Cyclostremiscus (C.) parvus* (C.B. Adams, 1852). Figured. Diameter: 1.3 mm. Extend distribution north to Bahía Willard, Baja California, and Bahía San Carlos, Sonora, México (Draper, 1974c). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution north to Puertecitos, Baja California, México (Myers, Hertz & Gemmell, 1989). Synonyms: *Cyclostremiscus veleronis* Hertlein & Strong, 1947 [344]; *C. bartschi* Strong & Hertlein, 1939, non Mansfield, 1930. Figured (Hertz, Myers & Gemmell, 1992b).
- 332 *Cyclostremiscus (C.) perparvus* (C.B. Adams, 1852). Extend distribution north to San Felipe, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured (Hertz, Myers & Gemmell, 1992b).
- 335 *Cyclostremiscus (C.) psix* Pilsbry & Olsson, 1952. Figured. Diameter: 1.4 mm. Extend distribution north to Bahía la Cholla, Sonora, México, intertidal zone (Draper, 1974c). Extend distribution across the Golfo de California to San Felipe, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured. Include Puertecitos, Baja California, México, in distribution (Hertz, Myers & Gemmell, 1992b).
- *Cyclostremiscus (C.) salvatierrensis* Hertz, Myers & Gemmell, 1992. Diameter: 1 mm. Distribution: Isla Salvatierra, in the northern Golfo de California, México, to Puerto Culebra, Guanacaste Province, Costa Rica. Depth: 1 to 55 m (Hertz, Myers & Gemmell, 1992a). Figured (Hertz, Myers & Gemmell, 1992b).
- 337 *Cyclostremiscus (C.) spiceri* (Baker, Hanna & Strong, 1938). Distribution: Bahía Concepción, Baja California Sur, México. Depth: 4 m (Baker, Hanna & Strong, 1938). Figured. Extend distribution to Guaymas, Sonora, México. Depth: 4 to 12 m (Draper, 1974c). Figured. Diameter: 4.5 mm. Extend distribution north to Playa Alicia, south of San Felipe, Baja California, México (Hertz, Myers & Gemmell, 1992b).
- 338 *Cyclostremiscus (C.) spiritualis* (Baker, Hanna & Strong, 1938). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988).
- 340 *Cyclostremiscus (C.) tenuisculptus* (Carpenter, 1865). Figured. Diameter: 1.7 mm. Extend distribution north to Bahía la Cholla, Sonora, México, intertidal zone (Draper, 1974c). Extend distribution across the Golfo de California to San Felipe, Baja California, México (Myers, Hertz & Gemmell, 1989). Correct date from Carpenter, 1864. Figured. Limit northern distribution to Puertecitos, Baja California, México, in distribution (Hertz, Myers & Gemmell, 1992b).
- 341 *Cyclostremiscus (C.) tricarinatus* (C.B. Adams, 1852). Figured. Diameter: 2.8 mm. Extend distribution north to Punta San Felipe, Baja California, México (Draper, 1974c). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Figured. Depth: 18 to 91 m (Hertz, Myers & Gemmell, 1992b).
- 342 *Cyclostremiscus (C.) trigonatus* (Carpenter, 1857). Distribution: Mazatlán, Sinaloa, México, to Iquique, Chile (Marincovich, 1973). Figured. Diameter: 1.4 mm. Extend distribution north to Estero Marua [sic] Morua, Sonora, México (Draper, 1974c). Extend distribution across the Golfo de California to San Felipe, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured (Hertz, Myers & Gemmell, 1992b).
- 343 *Cyclostremiscus (C.) valvatoides* (C.B. Adams, 1852). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 344 *Cyclostremiscus (C.) veleronis* (Strong & Hertlein, 1947). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth:

35 m (F. & L. Poorman, 1988). Delete. Becomes a synonym of *Cyclostremiscus (C.) parvus* (C.B. Adams, 1852) [330] (Hertz, Myers & Gemmell, 1992b).

- 346 *Cyclostremiscus (C.) xantusi* (Bartsch, 1907). Extend distribution north to Isla Monserrate, Golfo de California, México (Baker, Hanna & Strong, 1938).

Subgenus *Pachystremiscus*  
Olsson & McGinty, 1958

- 349 *Cyclostremiscus (P.) pachynepion* Pilsbry & Olsson, 1945. Figured. Diameter: 0.9 mm. Distribution: Golfo de California to Perú, including the Islas Galápagos, Ecuador (Draper, 1974c).

Genus *Miralabrum* Pilsbry & Olsson, 1945  
Raised from subgenus (McLean, 1984d).

- 347 *Miralabrum planospiratum* (Carpenter, 1857). Extend distribution north to Guaymas, Sonora, México (McLean, 1984d). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Depth: 35 m (F. & L. Poorman, 1988).

Genus *Alleorus* Strong, 1938  
Raised from subgenus (Hertz, Myers & Gemmell, 1992b).

- 350 *Alleorus deprellus* Strong, 1938. Figured. Diameter: 1.9 mm. Distribution: Estero Marua [sic] Morua, Sonora, in the north end of the Golfo de California, México, to Costa Rica (Draper, 1974c). Figured. Include Puertecitos, Baja California, México, in distribution (Hertz, Myers & Gemmell, 1992b).

Genus *Episcynia* Mörch, 1875

- 351 *Episcynia bolivari* Pilsbry & Olsson, 1946. Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Holotype figured. Synonym: *Episcynia medialis* Keen, 1971 [352]. Diameter 3.9 mm. Extend distribution north to San Felipe, Baja California, and Bahía la Cholla, Sonora, México (Myers, Hertz & Gemmell, 1990). Figured (Hertz, Myers & Gemmell, 1992b).

- 352 *Episcynia medialis* Keen, 1971. Extend distribution across the Golfo de California to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Extend distribution north to Bahía la Cholla, Sonora, México (Draper, 1975). Delete here. Becomes a synonym of *Episcynia bolivari* Pilsbry & Olsson, 1946 [351] (Myers, Hertz & Gemmell, 1990).

- 353 *Episcynia nicholsoni* (Strong & Hertlein, 1939). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Holotype figured. Diameter 3.1 mm (Myers, Hertz & Gemmell, 1990).

Genus *Lydiphnis* Melvill, 1906

Subgenus *Cymatopteryx* Pilsbry & Olsson, 1946

- 355 *Lydiphnis (C.) cymatotropis* Pilsbry & Olsson, 1945. Figured. Diameter: 1.3 mm. Extend distribution north to Bahía Pulmo, Baja California Sur, México (Draper, 1974c). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974).
- 357 *Lydiphnis (C.) strongi* Pilsbry & Olsson, 1952. Figured. Diameter: 2.5 mm. Extend distribution north to Guaymas, Sonora, México (Draper, 1974c).

Genus *Parviturboides* Pilsbry & McGinty, 1950

- 359 *Parviturboides copiosus* (Pilsbry & Olsson, 1945). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- 360 *Parviturboides decussatus* (Carpenter, 1857). Figured. Diameter: 1.25 mm. Extend distribution north to Bahía San Carlos, Sonora, México (Draper, 1974d). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 362 *Parviturboides monile* (Carpenter, 1857). Figured. Diameter: 1.6 mm. Extend distribution across the Golfo de California to Bahía Pulmo, Baja California Sur, México. Depth: 2 to 6 m (Draper, 1974d). Radula figured (Draper, 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Genus *Solariorbis* Conrad, 1865  
Subgenus *Solariorbis s. s.*

- 364 *Solariorbis (S.) allomphalus* Pilsbry & Olsson, 1952. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 365 *Solariorbis (S.) ametabolus* Pilsbry & Olsson, 1952. Figured. Diameter: 3.7 mm. Extend distribution north to Isla el Chollude (south of Puertecitos), Baja California, México. Depth: 2 to 8 m (Draper, 1974d).
- 368 *Solariorbis (S.) concinnus* (C.B. Adams, 1852). Figured. Diameter: 1.5 mm. Extend distribution north to Guaymas, Sonora, México (Draper, 1974d). Figured. Extend distribution north to south of Punta Estrella, Baja California, México. Depth: 9 to 18 m (Hertz, Myers & Gemmell, 1992b).
- *Solariorbis (S.) cortezi* Myers, Hertz & Gemmell, 1991. Diameter 1.7 mm. Distribution: Puertecitos, Baja California, to Bahía Concepción, Baja California Sur, México. Depth: intertidal zone (Myers, Hertz & Gemmell, 1991). Figured (Hertz, Myers & Gemmell, 1992b).
- 369 *Solariorbis (S.) gibraleonis* Pilsbry & Olsson, 1952. Figured. Diameter: 2.3 mm. Extend distribution north to Estero Marua [sic] Morua, Sonora, México, in drift (Draper, 1974d).
- *Solariorbis (S.) granti* (Baker, Hanna & Strong, 1938). Diameter 5.09 mm. Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1938). Figured. Extend distribution north to Bahía de los Muertos, Baja California Sur, México. Depth: 18 to 55 m (as genus *Cyclostremiscus*) (Draper, 1974c). Genus changed from *Cyclostremiscus* (Keen & Coan, 1975).
- 370 *Solariorbis (S.) hambachi* (Strong & Hertlein, 1939). Figured. Diameter: 4 mm (Draper, 1974d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 371 *Solariorbis (S.) hannai* (Strong & Hertlein, 1939). Figured. Diameter: 1.6 mm. Extend distribution north to Guanacaste Province, Costa Rica. Depth: 12 to 15 m (Draper, 1974d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 372 *Solariorbis (S.) hypolius* Pilsbry & Olsson, 1952. Figured. Diameter: 2.5 mm. Extend distribution north to Panamá (Draper, 1974d). Extend distribution north to San Felipe, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured (Hertz, Myers & Gemmell, 1992b).
- 373 *Solariorbis (S.) miguelensis* Pilsbry & Olsson, 1952. Figured. Diameter: 1.8 mm. Extend distribution north to Punta Abreojos, Baja California Sur, México. Depth: 6 to 9 m (Draper, 1974d).
- 375 *Solariorbis (S.) minutus* (C.B. Adams, 1852). Figured. Diameter: 1.1 mm. Extend distribution south to Punta Ancón, Ecuador (Draper, 1974d). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974).
- 376 *Solariorbis (S.) narinensis* Pilsbry & Olsson, 1952. Figured. Diameter: 2.8 mm. Extend distribution north to south of Rancho Tule, Baja California Sur, México. Depth: 18 to 36 m (Draper, 1974d). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 377 *Solariorbis (S.) pyralcollosus* (Carpenter, 1857). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 378 *Solariorbis (S.) regularis* (C.B. Adams, 1852). Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967). Figured. Diameter: 1.9 mm. Extend distribution north to south of Bahía San Luis Gonzaga, Baja California, México (Draper, 1974d).
- Subgenus *Eulerema* Pilsbry & Olsson, 1952
- 379 *Solariorbis (E.) pellucidus* Pilsbry & Olsson, 1952. Distribution: Colombia to Perú (Pilsbry & Olsson, 1952). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- Subgenus *Hapalorbis* Woodring, 1957
- 381 *Solariorbis (H.) carinatus* (Carpenter, 1857). Figured. Diameter: 1.05 mm. Extend distribution south to Guanacaste, Costa Rica. Depth: 2 to 7 m (Draper, 1974d). Extend distribution south to Manabí Province,

- Ecuador (Shasky, 1984d). Extend distribution north to Puertecitos, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured (Hertz, Gemmell, Myers, 1992b).
- 383 *Solariorbis (H.) ditropis* Pilsbry & Olsson, 1952. Figured. Diameter 1.6 mm. Extend distribution south to Punta Ancón, Ecuador (Draper, 1974d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 384 *Solariorbis (H.) exquisitus* Pilsbry & Olsson, 1952. Figured. Diameter: 1.4 mm. Extend distribution north to Punta San Pablo, on the west coast of Baja California, México. Depth: 21 to 30 m (Draper, 1974d).
- 385 *Solariorbis (H.) liriopae* (Bartsch, 1911). Figured. Diameter: 1.8 mm. Common throughout the Panamic Province (Draper, 1974d).
- 386 *Solariorbis (H.) pacificus* Pilsbry & Olsson, 1952. Figured. Diameter: 2 mm (Draper, 1974d).
- 387 *Solariorbis (H.) seminudus* (C.B. Adams, 1852). Figured. Diameter: 1.6 mm. Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 31 m (Draper, 1974d). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- Subgenus *Systellomphalus*  
Pilsbry & Olsson, 1941
- 388 *Solariorbis (S.) annulatus* (Carpenter, 1857). Figured. Diameter: 1.6 mm. Extend distribution across the Golfo de California to Bahía Concepción, Baja California Sur, México (Draper, 1974d). Extend distribution north to San Felipe, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured. Include Puerto Peñasco, Sonora, México, in distribution (Hertz, Myers & Gemmell, 1992b).
- 389 *Solariorbis (S.) elegans* Pilsbry & Olsson, 1952. Figured. Diameter: 2.3 mm (Draper, 1974d).
- Genus *Vitrinorbis* Pilsbry & Olsson, 1952
- 390 *Vitrinorbis callistus* Pilsbry & Olsson, 1952. Correct date from 1945 (Keen & Coan, 1975).
- 391 *Vitrinorbis galloensis* Pilsbry & Olsson, 1952. Correct date from 1945 (Keen & Coan, 1975).
- Genus *Teinostoma* H. & A. Adams, 1853  
Author and date corrected (Hertz, Myers & Gemmell, 1992).  
Subgenus *Teinostoma*, s. s.
- 393 *Teinostoma (T.) politum* A. Adams, 1853. Extend distribution north to Baja California, México (Abbott, 1974). Figured. Diameter: 10 mm. Extend distribution north to Puerto Peñasco, Sonora, México (Draper, 1974d). Extend distribution across the Golfo de California to Bahía de los Angeles, Baja California, México (J. Hertz, 1977f). Length: 10.1 mm (Draper, 1987). Date corrected from 1851 (Hertz, Myers & Gemmell, 1992)
- 394 *Teinostoma (T.) politum ultimum* Pilsbry & Olsson, 1945. Distribution: Bahía de Adair, Sonora, México (Pilsbry & Olsson, 1945). Figured. Extend distribution across the Golfo de California to Puertecitos, Baja California, México, in drift (Hertz, Myers & Gemmell, 1992b).
- Subgenus *Esmeralda* Pilsbry & Olsson, 1952
- 395 *Teinostoma (E.) concavaxis* Pilsbry & Olsson, 1945. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 397 *Teinostoma (E.) imperfectum* Pilsbry & Olsson, 1945. Extend distribution south to Máncora, Perú (Pilsbry & Olsson, 1952). Figured. Diameter: 1.8 mm. Extend distribution north to Bahía la Cholla, Sonora, México, intertidal zone (Draper, 1974d). Extend distribution across the Golfo de California to Puertecitos, Baja California, México (Myers, Hertz & Gemmell, 1989). Figured (Hertz, Myers & Gemmell, 1992b).
- Subgenus *Pseudorotella* Fischer, 1857
- 400 *Teinostoma (P.) amplexans* Carpenter, 1857. Extend distribution to Baja California Sur, México, from Puerto Escondido to Isla Espíritu Santo (Baker, Hanna & Strong, 1938). Figured. Diameter: 3.3 mm. Extend distribution north to Bahía Adair, Sonora, México (Draper, 1974d). Synonyms: *Teinostoma americanum* Pilsbry & Olsson,



- 1945 [399]; *T. cecinella* Dall, 1919 [401] (Lectotype figured). Distribution: Bahía Magdalena, Baja California Sur, throughout the Golfo de California, México, and south to Ecuador (Hertz, Myers & Gemmell, 1992b).
- 399 *Teinostoma (P.) amplexans americanum* Pilsbry & Olsson, 1952. As a subspecies. Distribution: Colombia to Ecuador (Pilsbry & Olsson, 1952). Delete. Becomes a synonym of *Teinostoma (P.) amplexans* Carpenter, 1857 [400] (Hertz, Myers & Gemmell, 1992b).
- 401 *Teinostoma (P.) cecinella* Dall, 1919. Delete. Becomes a synonym of *Teinostoma (P.) amplexans* Carpenter, 1857 [400] (Hertz, Myers & Gemmell, 1992b).
- 402 *Teinostoma (P.) ecuadorianum* Pilsbry & Olsson, 1941. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 403 *Teinostoma (P.) herbertianum* Hertlein & Strong, 1951. Extend distribution south to Ecuador (Pilsbry & Olsson, 1952). Figured. Diameter: 1.9 mm. Extend distribution north to Bahía Magdalena, Baja California Sur, México. Depth: 3 to 15 m (Draper, 1974d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Figured. Extend distribution north to San Felipe, Baja California, México, in drift (Hertz, Myers & Gemmell, 1992b).
- 406 *Teinostoma (P.) millepunctatum* Pilsbry & Olsson, 1945. Figured. Diameter: 1.3 mm (Draper, 1974d).
- 408 *Teinostoma (P.) pallidulum* (Carpenter, 1857). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 409 *Teinostoma (P.) percarinatum* Pilsbry & Olsson, 1945. Include Colombia and Ecuador in distribution (Pilsbry & Olsson, 1945).
- 410 *Teinostoma (P.) soror* Pilsbry & Olsson, 1945. Extend distribution north to Panamá (Pilsbry & Olsson, 1952). Figured. Extend distribution north to Bahía de las Banderas, Jalisco, México. Depth: 18 m (Draper, 1974d). Diameter: 5.1 mm (Draper, 1987).
- Subgenus uncertain
- 415 *Teinostoma hemphilli* Strong & Hertlein, 1939. Figured. Diameter: 2.2 mm. Extend distribution north to Estero Marua [sic] Morua, Sonora, México, in drift (Draper, 1974d). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 416 *Teinostoma invallatum* (Carpenter, 1864). Delete here. Becomes synonym of *Teinostoma supravallatum* (Carpenter, 1864) [418] (Abbott, 1974).
- *Teinostoma myrae* Pilsbry & Olsson, 1952. Diameter 1.55 mm. Distribution: Bucaru [sic] Búcaro, Los Santos Peninsula, Panamá (Pilsbry & Olsson, 1952).
- *Teinostoma regularis* Baker, Hanna & Strong, 1938, non C.B. Adams, 1852. Distribution: Islas Tres Marias, México (Baker, Hanna & Strong, 1938). Figured. Diameter: 2.3 mm. Extend distribution south to the Canal Zone, Panamá. Depth: intertidal zone (Draper, 1974d).
- 418 *Teinostoma supravallatum* (Carpenter, 1864). Synonym: *Teinostoma invallatum* (Carpenter, 1864) [416] (Abbott, 1974). Delete. Distribution is north of the Panamic Province (McLean, 1978).
- Genus *Anticlimax* Pilsbry & McGinty, 1946  
Subgenus *Subclimax* Pilsbry & Olsson, 1950
- 419 *Anticlimax (S.) occidens* Pilsbry & Olsson, 1952. Distribution: Puerto Peñasco, Sonora, and Bahía Concepción to La Paz, Baja California Sur, México (Pilsbry & Olsson, 1952). Figured. Diameter: 3.6 mm. Extend distribution north in Baja California to Bahía San Luis Gonzaga, México. Depth: 37 m (Draper, 1974d).
- 419a *Anticlimax (S.) willetti* Hertlein & Strong, 1951. Figured. Extend distribution north to near Santa Rosalía, Baja California Sur, México. Depth: 12 m (Draper, 1972). Diameter: 2.5 mm. Extend distribution south to Panamá. Depth: intertidal zone (Draper, 1974d). Change number from 419 (Keen & Coan, 1975).
- Genus *Panastoma* Pilsbry & Olsson, 1945
- 420 *Panastoma azulense* Pilsbry & Olsson, 1945. Figured. Diameter: 2.5 mm. Extend distribution north to Guanacaste Province, Costa Rica. Depth: 2 to 7 m. First reported

Recent occurrence (Draper, 1974d).

Genus *Woodringilla* Pilsbry & Olsson, 1951

- 423 *Woodringilla glyptylus* Pilsbry & Olsson, 1951. Correct spelling from *glyptulus* (Pilsbry & Olsson, 1951). Figured. Diameter: 1.6 mm. Extend distribution north to Isla Espíritu Santo, Golfo de California, México. Depth: 20 m (Draper, 1974d).

#### Family CAECIDAE

Moved from *Turritelloidea* by Moore in Abbott (1974).

Genus *Caecum* Fleming, 1813

Subgenus *Caecum*, s. s.

- 451 *Caecum* (*C.*) *bahiahondaense* Strong & Hertlein, 1939. Extend distribution north to Bahía Bacochibampo, near Guaymas, Sonora, México. Intertidal zone (DuShane & Poorman, 1967). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988).
- *Caecum* (*C.*) *californicum* Dall, 1885. Length: 3 mm. Distribution: Monterey Bay, California, to Bahía Magdalena, Baja California Sur, México (McLean, 1978).
- 452 *Caecum* (*C.*) *clathratum* Carpenter, 1857. Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967). Extend distribution to La Paz, Baja California Sur, México. Intertidal zone (J. & C. Hertz, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 455 *Caecum* (*C.*) *eburneum* C.B. Adams, 1852. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 456 *Caecum* (*C.*) *elongatum* Carpenter, 1857. Also listed as *Micranellum elongatum* (Carpenter, 1857) [488]. Extend distribution to Bahía de los Angeles, Baja California, México (J. Hertz, 1978a).
- 457 *Caecum* (*C.*) *farcimen* Carpenter, 1857. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 458 *Caecum* (*C.*) *firmitum* C.B. Adams, 1852. Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 459 *Caecum* (*C.*) *laqueatum* C.B. Adams, 1852. Radula figured (Draper, 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 460 *Caecum* (*C.*) *mirificum* de Folin, 1867. Delete here. Genus changed. See *Fartulum*.
- 465 *Caecum* (*C.*) *quadratum* Carpenter, 1857. Extend distribution to San Felipe area, Baja California, México (J. Hertz, 1979a). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 466 *Caecum* (*C.*) *richthofeni* Strong & Hertlein, 1939. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985).
- 467 *Caecum* (*C.*) *semilaeve* Carpenter, 1857. Figured. Extend distribution to off northeast coast of Baja California, México (J. Hertz, 1979b). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to include off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Extend distribution to the Islas Galápagos (Shasky, 1989a).
- 470 *Caecum* (*C.*) *undatum* Carpenter, 1857. Figured. Extend distribution to off northeast coast of Baja California, México (J. Hertz, 1979b). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- Subgenus *Micranellum* Bartsch, 1920  
As a subgenus of *Caecum* (Long, 1972). As a synonym of *Caecum* (Moore in Abbott, 1974). As a subgenus (Draper, 1979).
- 487 *Caecum* (*M.*) *corrugulatum* Carpenter, 1957.
- 488 *Caecum* (*M.*) *elongatum* Carpenter, 1857. Delete. Listed twice. See [456].
- *Caecum* (*M.*) *limnetes* Long, 1972. Length: 1.5 mm. Bahía Adair, Sonora, México (Long, 1972). Extend distribution south to Cabo Tepoca, Sonora, México (Skoglund, 1974).
- 489 *Caecum* (*M.*) *lohri* (Strong & Hertlein, 1939).
- Genus *Elephantulum* Carpenter, 1857  
Synonyms: *Elephantanellum* Bartsch, 1920; *Quadrulata* de Folin, 1867 (Moore in Abbott, 1974). *Elephantanellum* as a subgenus of *Caecum*; *Elephantulum* as a subgenus of

- Fartulum* (Draper, 1979). As a genus with *Elephantanellum* as a synonym (Gemmell, Hertz & Myers, 1980).
- 471 *Elephantulum carpenteri* (Bartsch, 1920). Figured. Doubtfully placed as *Caecum* (*Elephantulum*). Distribution: San Pedro, California, to the Golfo de California, México (Moore in Abbott, 1974).
- 472 *Elephantulum heptagonum* (Carpenter, 1857). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 478 *Elephantulum insculptum* (Carpenter, 1857). Radula figured (Draper, 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 473 *Elephantulum liraticinctum* (Carpenter, 1857). Extend distribution north to San Felipe, Baja California, México (Gemmell, Hertz & Myers, 1980).
- 460 *Elephantulum mirificum* (de Folin, 1867). As *Fartulum* (*Elephantulum*) (Draper, 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985).
- 479 *Elephantulum obtusum* (Carpenter, 1857). Extend distribution north to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).
- 474 *Elephantulum subconicum* (Carpenter, 1857).
- 475 *Elephantulum subobsoletum* (Carpenter, 1857). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 476 *Elephantulum tenuiliratum* (Carpenter, 1857).
- Genus *Fartulum* Carpenter, 1857  
As a subgenus (Moore in Abbott, 1974) and as a genus (Draper, 1979).  
Subgenus *Fartulum*, s. s.
- 482 *Fartulum* (*F.*) *dextroversum* (Carpenter, 1857). Figured. Extend distribution to off the northeast coast of Baja California, México (J. Hertz, 1979b). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos (Shasky, 1989a).
- 483 *Fartulum* (*F.*) *glabrifforme* (Carpenter, 1857). Figured. Extend distribution to off the northeast coast of Baja California, México (J. Hertz, 1979b).
- 484 *Fartulum* (*F.*) *laeve* (C.B. Adams, 1852). Radula figured (Draper, 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution north to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).
- 481 *Fartulum* (*F.*) *occidentale* (Bartsch, 1920). Figured. Probable synonyms: *Caecum hemphilli* Bartsch, 1920; *C. bakeri* Bartsch, 1920 [481] (Moore in Abbott, 1974).
- Family TORNIDAE Sacco, 1896  
Genus *Macromphalina* Cossmann, 1888
- *Macromphalina carinata* (Pilsbry & Olsson, 1945). Diameter 1.5 mm. Distribution: Punta Callo, Ecuador (Pilsbry & Olsson, 1945).
- *Macromphalina foliniana* (Pilsbry & Olsson, 1945). Diameter: 4.5 mm. Distribution: Isla del Gallo, Colombia (Pilsbry & Olsson, 1945).
- 788 *Macromphalina hancocki* (Strong & Hertlein, 1939). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988).
- 795 *Macromphalina souverbiei* (de Folin, 1867). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 796 *Macromphalina symmetrica* (Pilsbry & Olsson, 1945). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 30 m (F. & L. Poorman, 1988).
- Superfamily CINGULOPSOIDEA  
Fretter & Patil, 1958  
Family RASTODENTIDAE Ponder, 1966  
Genus *Cythnia* Carpenter, 1864  
[No changes at the species level.]
- Superfamily VERMETOIDEA Rafinesque, 1815  
Family VERMETIDAE  
Genus *Vermetus* Daudin, 1800  
Subgenus *Thylaeodus* Mörch, 1860
- 493 *Vermetus* (*T.*) *contortus* (Carpenter, 1857). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Distribution: head of the Golfo de California to Oaxaca, México (Keen, 1983).

- 494 *Vermetus (T.) indentatus* (Carpenter, 1857). Distribution: head of the Golfo de California to the Islas Tres Marías, México (Keen, 1983).

Genus *Petaloconchus* Lea, 1843

Subgenus *Petaloconchus*, s. s.

- 495 *Petaloconchus (P.) complicatus* Dall, 1908. Subgenus changed. Extend distribution north to Colima, México (Keen, 1983). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 496 *Petaloconchus (P.) flavescens* (Carpenter, 1857). Subgenus changed. Restrict distribution to Mazatlán area, México (Keen, 1983). Extend distribution south to Bahía Tangola-Tangola, Oaxaca, México (Holguin Quiñones, Doval U. & Flores G., 1987).
- 497 *Petaloconchus (P.) innumerabilis* Pilsbry & Olsson, 1935. Subgenus changed (Keen, 1983). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Genus *Tripsycha* Keen, 1961

- 499 *Tripsycha tripsycha* (Pilsbry & Lowe, 1932). Distribution: head of the Golfo de California to Acapulco, Guerrero, México (Keen, 1983).

Genus *Eualetes* Keen, 1971

Raised from subgenus (Keen, 1983).

- 500 *Eualetes centiquadra* (Valenciennes, 1846). Delete ?*Bivonia subtilis* Mörch, 1862, as a synonym (Gardner, 1982). Distribution: Puerto Peñasco, Sonora, México, to El Salvador (Keen, 1983).
- 501 *Eualetes tulipa* (Chenu, 1843, ex Rousseau, MS).

Genus *Serpulorbis* Sassi, 1827

- 502 *Serpulorbis eruciformis* (Mörch, 1862). Extend distribution south to Panamá (Avilés E., 1981). Distribution: head of the Golfo de California to Acapulco, Guerrero, México (Keen, 1983).
- 503 *Serpulorbis margaritaceus* (Chenu, 1844, ex Rousseau, MS). Distribution: La Paz, Baja

California Sur, to Oaxaca, México (Keen, 1983). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985).

- 504 *Serpulorbis oryzata* (Mörch, 1862). Length (uncoiled): 496 mm (Draper, 1987).
- *Serpulorbis (?) subtilis* (Mörch, 1862). Valid species. Tube diameter: 7 to 9 mm. Golfo de California, México. More information necessary to establish correct generic placement, as it may be a *Serpulorbis* (Gardner, 1982). Genus changed from ?*Tripsycha* (Keen, 1983).

Genus *Dendropoma* Mörch, 1861

- *Dendropoma krypta* Gardner, 1989. Aperture diameter: 1 mm. Calcified operculum. Found on *Patella mexicana* Broderip & Sowerby, 1829, from Isla Isabela, off the west coast of México (Gardner, 1989).
- 505 *Dendropoma lituella* (Mörch, 1861). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 50 m (F. & L. Poorman, 1988).

Superfamily CERITHIOIDEA

Family TURRITELLIDAE

Subfamily TURRITELLINAE

Genus *Turritella* Lamarck, 1799

- 433 *Turritella anactor* Berry, 1957. Juvenile figured (C. Hertz, 1979). Holotype figured (C. Hertz 1984a). Length: 136 mm (Draper, 1987). Egg mass figured. Intertidal zone (C. Hertz, 1989a).
- 434 *Turritella banksi* Reeve, 1849. Length: 86.5 mm (Wagner & Abbott, 1990).
- 435 *Turritella broderipiana* d'Orbigny, 1840. Extend distribution north to Tumbes, Perú (Peña G., 1970). Length: 191 mm (Wagner & Abbott, 1990). Extend distribution north to Guayas Province, Ecuador (Skoglund, 1990b).
- 436 *Turritella cingulata* Sowerby, 1825. Extend distribution north to off Nayarit, México (Reguero & García-Cubas, 1987).
- 438 *Turritella gonostoma* Valenciennes, 1832. Extend distribution south to Isla Lobos de Afuera, Perú (Peña G., 1970). Length: 163.5 mm (Draper, 1987). Protoconch figured.

- Depth: 0 to 2 m (Allmon, 1988). Egg mass figured (C. Hertz, 1990a). Distribution: Bahía la Cholla, Sonora, México to southwestern Colombia. Egg capsules and veligers figured (Allmon, Jones & Vaughan, 1992).
- 439 *Turritella lentiginosa* Reeve, 1849. Length: 141.6 mm (Wagner & Abbott, 1990).
- 440 *Turritella leucostoma* Valenciennes, 1832. Kiener plate figured; Reeve plate figured; syntype of synonym *Turritella dura* Mörch, 1860, figured. Protoconch figured (C. Hertz, 1980). Extend distribution south to Isla Gorgona, Colombia (Cosel, 1984). Eggs found in the intertidal zone at San Felipe, Baja California, México (C. Hertz, 1989a). Extend distribution south to Esmeraldas Province, Ecuador (Baldazzi, Di Cecco & Tiberi, 1989). Length: 127.2 mm (Wagner & Abbott, 1990).
- 441 *Turritella mariana* Dall, 1908. Extend distribution north to Catalina Island, California (Abbott, 1974). Extend distribution north to Bahía de los Angeles, Baja California (F. & L. Poorman, 1978). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 108.2 mm (Draper, 1987). Extend distribution across Gulf to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 442 *Turritella nodulosa* King & Broderip, 1832. Extend distribution north to Bahía de los Angeles, Baja California (F. & L. Poorman, 1978). Extend distribution across Gulf to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Length: 45.9 mm (Draper, 1989).
- 444 *Turritella radula* Kiener, 1843-44. Extend distribution north to Isla Isabel, off Nayarit, México (Llera Gonzales & Ortea Rato, 1981). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 95.4 mm (Draper, 1987).
- 446 *Turritella willetti* McLean, 1970. Length: 106.6 mm (Draper, 1987).
- Subfamily VERMICULARIINAE  
Genus *Vermicularia* Lamarck, 1799
- 447 *Vermicularia frisbeyae* McLean, 1970. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972).
- Extend distribution north to near Bahía Kino, Sonora, México (Keen & Coan, 1975).
- 448 *Vermicularia pellucida pellucida* (Broderip & Sowerby, 1829). Extend distribution north to Los Santos Province, Panamá (García & Pelesca, 1984). Extend distribution north to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).
- 449 *Vermicularia pellucida eburnea* (Reeve, 1842). Extend distribution south to Isla Gorgona, Colombia (Cantera, et al., 1979). Specimens from Isla Gorgona have characteristics of both subspecies (Cosel, 1984). Anatomy figured (Hughes, 1985). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 122.2 mm (Draper, 1987).
- Genus *Stephopoma* Mörch, 1860
- 450 *Stephopoma pennatum* Mörch, 1860. Anatomy figured (Hughes, 1985).
- Family MODULIDAE  
Transferred from Turritelloidea (Houbrick, 1988).  
Genus *Modulus* Potiez & Michaud, 1838
- 490 *Modulus catenulatus* (Philippi, 1849). Extend distribution south to Bocapán, Perú (Peña G., 1970). Length: 20 mm (Draper, 1987).
- 491 *Modulus cerodes* (A. Adams, 1851). Extend distribution south to Isla Gorgona, Colombia (Cantera, et al., 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985). Length: 21 mm (Draper, 1987).
- 492 *Modulus disculus* (Philippi, 1846). Extend distribution south to Isla Gorgona, Colombia (Cantera, et al., 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 15.3 mm (Draper, 1987).
- Family CERITHIIDAE  
Subfamily CERITHIINAE  
Genus *Cerithium* Bruguière, 1789  
Subgenus *Thericium* Monterosato, 1890
- 507 *Cerithium (T.) adustum* Kiener, 1841. Extend distribution south to Máncora, Perú (Peña G., 1970). Add Islas Galápagos to distribution

- (Keen & Coan, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal area (F. & L. Poorman, 1988). Length: 48.2 mm (Wagner & Abbott, 1990). Delete Bahía San Carlos area distribution (Poorman, pers. comm., 1991).
- 510 *Cerithium (T.) maculosum* Kiener, 1841. Synonym: *Cerithium nebulosum* Sowerby, 1851 (Keen & Coan, 1975). Extend distribution south to Isla Gorgona, Colombia (Cantera, et al., 1979). Extend distribution south to El Sonsonate, El Salvador (Hernandez, 1979). Extend distribution south to Isla del Coco, Costa Rica (Montoya, 1983). Delete Isla Gorgona distribution (Cosel, 1984). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 55.3 mm (Draper, 1987).
- 512 *Cerithium (T.) menkei* Carpenter, 1857. Extend distribution south to Máncora, Perú (Peña G., 1970).
- 514 *Cerithium (T.) nicaraguense* Pilsbry & Lowe, 1932. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979).
- 515 *Cerithium (T.) stercusmuscarum* Valenciennes, 1833. Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 33.1 mm (Draper, 1987).
- 516 *Cerithium (T.) uncinatum* (Gmelin, 1791). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- Genus *Bittium* Leach in Gray, 1847  
Transferred from Cerithiopsinae by Houbrick (1977).
- 544 *Bittium arenaense* Hertlein & Strong, 1951. Length: 11.6 mm (Draper, 1987).
- 550 *Bittium panamense* Bartsch, 1911. Length: 18.2 mm (Draper, 1987).
- *Bittium santamariensis* Bartsch, 1917. Length: 4.9 mm. Bahía Santa María, Baja California Sur, México (Bartsch, 1917a).
- 280 *Bittium stephensae* (Baker, Hanna & Strong, 1930). Transferred from Rissoidae with *Bittium* as a probable genus (Ponder, 1983b).
- Genus *Liocerithium* Tryon, 1887
- 517 *Liocerithium judithae* Keen, 1971. Add date (Keen & Coan, 1975). Length: 28.2 mm (Wagner & Abbott, 1990).
- Genus *Pseudovertagus* Vignal, 1904  
Raised from subgenus (Houbrick, 1976).  
Subgenus *Pseudovertagus*, s. s.
- *Pseudovertagus (P.) clava* (Gmelin, 1791). Distribution: Islas Galápagos; Indo-Pacific (Keen & Coan, 1975). Houbrick (1978) does not include the Islas Galápagos in distribution.
- Genus *Rhinoclavis* Swainson, 1840  
Raised from subgenus (Houbrick, 1976).  
Subgenus *Ochetoclava* Woodring, 1928
- 506 *Rhinoclavis (O.) gemmata* (Hinds, 1844). Genus changed. Lectotype figured. Synonym: *Cerithium tenuisculptum* Sowerby, 1855. Radula figured. Include the Islas Revillagigedo, México and Islas Galápagos, Ecuador, in distribution. Depth: 3 to 130 m (Houbrick, 1978). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 44.7 mm (Wagner & Abbott, 1990).
- Genus uncertain
- 197 *Alvania gallegosi* Baker, Hanna & Strong, 1930. Transferred from the Rissoidae to the Cerithiidae without generic placement (Ponder, 1983b).
- Family LITIOPIDAE Gray, 1847  
Raised from subfamily (Houbrick, 1987).  
Genus *Litiopa* Rang, 1829
- 570 *Litiopa melanostoma* Rang, 1829. Synonyms: *Litiopa maculata* Rang, 1829; *L. bomber* Kiener, 1833 (Abbott, 1974). Egg mass and protoconch figured (Houbrick, 1987). Add synonyms: *Bombyxinus uva* Langer in Lesson, 1831; *B. melanostoma* Belanger in Lesson, 1831. Protoconch, nucleus and radula figured

(Luque, Templado & Burnay, 1988).

Genus *Alaba* H. & A. Adams, 1853  
Transferred from family Cerithiidae  
(Houbrick, 1987).

- 560 *Alaba interruptelineata* Pilsbry & Lowe, 1932. Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967). Extend distribution south to Pimentel, Perú (Peña G., 1970). Extend distribution to Cabo Tepoca, Sonora, México (Skoglund, 1974). Extend distribution to the Islas Galápagos, Ecuador (J. Hertz, 1977a). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- 561 *Alaba jeannettae* Bartsch, 1910. Distribution: San Diego, California, to Cabo San Lucas and the Golfo de California, México (Bartsch, 1910). Confirm distribution to Bahía Kino, Sonora, México (López Rivas & Escalante Cavazos, 1987).
- 562 *Alaba supralirata* Carpenter, 1857. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).

#### Family DIASTOMATIDAE

Raised from subfamily (Gründel, 1976). Delete. Not Panamic. Only living genus and species in the family is Australian (Houbrick, 1981).

Genus *Diastoma* Deshayes, 1850

- 558 *Diastoma fastigiatum* (Carpenter, 1864). Synonyms: *Diastoma chrysalloidea* [558], *D. oldroydae*, *D. stearnsi*, all Bartsch, 1911. Distribution: southern California to the Golfo de California, México (Abbott, 1974). Not *Diastoma* Deshayes. No other generic placement given (Houbrick, 1981).

#### Family FINELLIDAE

(Houbrick, pers. comm., 1992.)

Genus *Finella* A. Adams, 1869

Synonym: *Alabina* Dall, 1902 (Abbott, 1974).

- 563 *Finella crystallina* (Carpenter, 1864). Delete here. Genus changed. See *Opalia*.
- 564 *Finella effusa* (Carpenter, 1857). Keen (1971), figure number 565 is this species (Keen & Coan, 1975). Extend distribution north to

Bahía de Guaymas, Sonora, México (García-Cubas & Reguero, 1987).

- 565 *Finella excurvata* (Carpenter, 1857). Extend distribution to Bahía Magdalena, Baja California Sur, México (as *Alabina diomedea* Bartsch, 1911) (Baker, Hanna & Strong, 1938). Keen (1971) figure number 564 is this species (Keen & Coan, 1975). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 566 *Finella ignati* (Bartsch, 1911). Delete. No records south of Laguna de San Ignacio, Baja California Sur, México (Bartsch, 1911a).
- 567 *Finella monicensis* (Bartsch, 1911).
- 568 *Finella occidentalis* (Hemphill, 1894).
- 569 *Finella veraguaensis* (Strong & Hertlein, 1939). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

#### Family PLANAXIDAE

Subfamily PLANAXINAE Lamarck, 1822

Genus *Planaxis* Lamarck, 1822

- 598 *Planaxis obsoletus* Menke, 1851. Extend distribution south to La Union, El Salvador (Hernandez, 1979). Length: 17 mm (Draper, 1987).
- 599 *Planaxis planicostatus* Sowerby, 1825. Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).

Subfamily FOSSARINAE Troschel, 1861

Transferred from Vanikoroidea (Houbrick, 1988). Raised from genus (Houbrick, 1990).

Genus *Fossarus* Philippi, 1841

- 769 *Fossarus abjectus* (C.B. Adams, 1852). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Delete here. Becomes a synonym of *Nodilittorina* (*N. porcata* (Philippi, 1845) [191] (Reid, 1989).
- 770 *Fossarus anglostoma* (C.B. Adams, 1852). Delete here. Genus changed. See *Nodilittorina*.
- 771 *Fossarus angulatus* Carpenter, 1857. Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).
- 772 *Fossarus atratus* (C.B. Adams, 1852). Delete

- here. Becomes a synonym of *Nodilittorina (N.) porcata* (Philippi, 1845) [191] (Reid, 1989).
- 773 *Fossarus excavatus* (C.B. Adams, 1852). Delete here. Becomes a synonym of *Nodilittorina (N.) porcata* (Philippi, 1845) [191] (Reid, 1989).
- 774 *Fossarus foveatus* (C.B. Adams, 1852). Delete here. Becomes a synonym of *Nodilittorina (N.) porcata* (Philippi, 1845) [191] (Reid, 1989).
- 776 *Fossarus lucanus* Dall, 1919. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 30 m (F. & L. Poorman, 1988).
- 778 *Fossarus megasoma* (C.B. Adams, 1852). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).
- 779 *Fossarus parcipictus* Carpenter, 1864. Extend distribution south to Panamá (Abbott, 1974).
- 780 *Fossarus porcatus* (Philippi, 1845). Delete here. Genus changed. See *Nodilittorina*.
- 781 *Fossarus purus* Carpenter, 1864. Extend distribution to the Islas Galápagos, Ecuador (J. Hertz, 1977b).
- 782 *Fossarus saxicola* (C.B. Adams, 1852). Extend distribution to the Islas Galápagos, Ecuador (as *Phasianema saxicola*) (Shasky, 1989a).
- 783 *Fossarus tuberosus* Carpenter, 1857. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- Family POTAMIDIDAE  
As Cerithideidae by Houbriek (1988) and Potamididae by Houbriek (1991).  
Genus *Cerithidea* Swainson, 1840  
As subfamily Potamidinae Thiele, 1929 (Houbriek, 1984).  
Subgenus *Cerithideopsis* Thiele, 1929  
As a subgenus (Houbriek, 1988).
- 601 *Cerithidea (C.) californica* Haldeman, 1840. Synonym: *Cerithidea albonodosa* Gould & Carpenter, 1857 [601] (Abbott, 1974). Length: 48.2 mm (Wagner & Abbott, 1990).
- 602 *Cerithidea (C.) californica mazatlanica* Carpenter, 1857. Extend distribution south to Tumbes, Perú (Peña G., 1970). As a subspecies (Abbott, 1974).
- 603 *Cerithidea (C.) montagnei* (d'Orbigny, 1839). Extend distribution south to Tumbes, Perú (Peña G., 1970). Length: 46 mm (Draper, 1987).
- 604 *Cerithidea (C.) pulchra* (C.B. Adams, 1852). Extend distribution south to Tumbes, Perú (Peña G., 1970). Extend distribution north to El Tamarindo, El Salvador (Hernandez, 1979).
- 605 *Cerithidea (C.) valida* (C.B. Adams, 1852). Length: 48.2 mm (Draper, 1987).
- Family BATILLARIIDAE  
Raised from subfamily (Houbriek, 1988, 1991).  
Genus *Batillaria* Benson, 1842
- 600 *Batillaria mutata* (Pilsbry & Vanatta, 1902).  
Genus *Rhinocoryne* von Martens, 1900
- 606 *Rhinocoryne humboldti* (Valenciennes, 1832). Length: 41.7 mm (Draper, 1987).
- Superfamily STROMBOIDEA  
Family STROMBIDAE  
Genus *Strombus* Linnaeus, 1758  
Subgenus *Strombus*, s. s.
- 607 *Strombus (S.) gracilior* Sowerby, 1825. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 96 mm (Draper, 1987).  
Subgenus *Lentigo* Jousseau, 1886
- 608 *Strombus (L.) granulatus* Swainson, 1822. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 109.8 mm (Draper, 1989).  
Subgenus *Tricornis* Jousseau, 1886
- 609 *Strombus (T.) galeatus* Swainson, 1823. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 237 mm (Wagner & Abbott, 1990).
- 610 *Strombus (T.) peruvianus* Swainson, 1823. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 213 mm (Wagner & Abbott, 1990).



Superfamily VANIKOROIDEA Gray, 1840  
 Family HIPPONICIDAE  
 Genus *Hipponix* DeFrance, 1819

- 766 *Hipponix antiquatus panamensis* C.B. Adams, 1852. Delete as synonyms: *Patella antiquata* Linnaeus, 1767, of authors; *Hipponix serratus* Carpenter, 1856; *H. fimbriatus* Bartsch & Rehder, 1939. Protoconch figured (Cowan, 1974). Recorded from the Islas Galápagos, Ecuador (Keen & Coan, 1975). As a subspecies of the Atlantic *Hipponix antiquatus* (Linnaeus, 1758). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Occurrence in the Islas Galápagos, Ecuador, confirmed (Finet, 1985). Length: 33 mm (Wagner & Abbott, 1990).
- *Hipponix foliaceus* (Quoy & Gaimard, 1835). Synonym: *Hipponix antiquatus* Linnaeus, 1767, non Tryon 1886. Distribution: Indo-west Pacific and the west coast of the Americas (Kay, 1979). Include the Islas Galápagos in distribution (Kay, 1991).
- 765 *Hipponix grayanus* Menke, 1853. Extend distribution south to Máncora, Perú (Peña G., 1970). Protoconch figured (Cowan, 1974). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- *Hipponix imbricatus* Gould, 1846. Synonym: *Hipponix pilosus imbricatus* Edmonson, 1933. Distribution: Hawaiian Islands (Kay, 1979). Include the Islas Galápagos in distribution (Kay, 1991).

Genus *Pilosabia* Iredale, 1929

- 767 *Pilosabia pilosa* (Deshayes, 1832). Extend distribution south to Máncora, Perú (Peña G., 1970). Genus changed from *Hipponix*. Protoconch figured (Cowan, 1974). Extend distribution to include the tropical Atlantic and the Hawaiian Islands (Kay, 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 24.8 mm (Draper, 1987).

Family VANIKORIDAE  
 Genus *Vanikoro* Quoy & Gaimard, 1832

- *Vanikoro acuta* (Récluz, 1844). Distribution: Isla del Coco, Costa Rica; Hawaii; the Tuamotus; Lord Hood Island; and the Moluccas Islands (Shasky, 1987b).
- 797 *Vanikoro aperta* (Carpenter, 1864). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Superfamily CALYPTRAEOIDEA  
 Lamarck, 1809  
 Family CALYPTRAEIDAE  
 Genus *Calyptraea* Lamarck, 1799  
 Subgenus *Calyptraea*, s. s.

- 799 *Calyptraea* (C.) *conica* Broderip, 1834. Length: 31.4 mm (Draper, 1987). Depth: 183 m (Skoglund, 1988).
- 801 *Calyptraea* (C.) *mamillaris* Broderip, 1834. Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 38 mm (Draper, 1987).

Subgenus *Trochita* Schumacher, 1817

- 803 *Calyptraea* (T.) *spirata* (Forbes, 1852). Length: 82.4 mm (Wagner & Abbott, 1990).
- 804 *Calyptraea* (T.) *trochiformis* (Born, 1778). Also occurs in West Africa (Keen & Coan, 1975).

Genus *Cheilea* Modeer, 1793

- 806 *Cheilea cepacea* (Broderip, 1834). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 37.4 mm (Draper, 1987).
- 807 *Cheilea corrugata* (Broderip, 1834). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 53.3 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e).
- *Cheilea uncinata* (Reeve, 1858). A Caribbean form reported at Masachapa, western Nicaragua (Keen & Coan, 1975).

Genus *Crepidula* Lamarck, 1799

- 808 *Crepidula aculeata* (Gmelin, 1791). Synonyms:

- Crepidula intorta* Say, 1822; *C. tomentosa* and *C. maculata* both Quoy & Gaimard, 1832-33; *C. foliacea* Broderip, 1834; *C. californica* Tryon, 1886, ex Nuttall MS; *C. gravispinosa* Kuroda & Habe, 1950. Delete *Calyptraea echinus* Broderip, 1834, as a synonym. Length: 32 mm. Distribution: worldwide in the tropics and subtropics (Hoagland, 1977). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Anatomy figured. Delete *Crepidula echinus* Broderip, 1834, as a synonym (Hoagland, 1986). Length: 29.9 mm (Draper, 1987).
- *Crepidula adunca* Sowerby, 1825. Synonyms: *Crepidula solida* Hinds, 1844; *C. rostriformis* Gould, 1846; *C. aeola* Dall, 1927. Distribution: Vancouver Island, British Columbia, Canada, to Panamá (Hoagland, 1977).
- 809 *Crepidula arenata* (Broderip, 1834). Delete here. Becomes a synonym of *Crepidula excavata* (Broderip, 1834) [810] (Hoagland, 1977).
- *Crepidula cerithicola* C.B. Adams, 1852. Valid species. Panamá (Hoagland, 1986).
- *Crepidula* cf. *convexa* Say, 1822. Synonyms: *Crepidula glauca* Say, 1822; *C. acuta* Lea, 1842. Distribution: Massachusetts to Texas; West Indies; California (Abbott, 1974). Anatomy figured. Extend distribution south to Panamá (Hoagland, 1986). Not *C. convexa* Say, 1822 (Hoagland, pers. comm., 1992).
- *Crepidula dilatata* Lamarck, 1822. Length: 59 mm. See Hoagland (1977) for long synonymy. Distribution: Mazatlán, Sinaloa, México, to Cape Horn to Buenos Aires, Argentina; central west and South Africa (Hoagland, 1977).
- 819 *Crepidula dorsata* (Broderip, 1834). Genus changed from *Crepidatella*. Synonyms: *Crepidula lingulata* Gould, 1846 [820]; *C. bilobata* Reeve, 1859, ex Gray MS; *C. fissurata* Sowerby, 1883; *C. orbiculata* Dall, 1919; *Crepidatella fluctosa* Taki, 1938. Distribution: Vancouver, Canada to Valparaiso, Chile; South Bering Sea; east coast of Japan (Hoagland, 1977). Length: 27.5 mm (Draper, 1987).
- *Crepidula echinus* Broderip, 1834. Valid species. Panamá (Hoagland, 1986).
- 810 *Crepidula excavata* (Broderip, 1834). Extend distribution south to Tierra Colorado, Perú (Peña G., 1970). Synonym: *Crepidula arenata* (Broderip, 1834)[809]. Interior figured. Length: 52 mm. Extend distribution south to Chile (Hoagland, 1977). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- 811 *Crepidula incurva* (Broderip, 1834). Synonyms: *Crepidula costulata* Dunker, 1852; ?*C. cerithicola* C.B. Adams, 1852; *C. lirata* Reeve, 1859. Distribution: San Felipe, Baja California, México, to Paita, Perú (Hoagland, 1977). Delete *Crepidula cerithicola* C. B. Adams, 1852, as a synonym (Hoagland, 1986). Length: 33.3 mm (Draper, 1987).
- 812 *Crepidula lessonii* (Broderip, 1834). Possible synonym of *Crepidula striolata* Menke, 1851 [817] (Hoagland, 1977). Anatomy figured (Hoagland, 1986). Length: 38.4 mm (Draper, 1987).
- 813 *Crepidula marginalis* (Broderip, 1834). Length: 32 mm. Distribution: Mazatlán, Sinaloa, México, to northern Chile, including both sides of the Panamá Canal (Hoagland, 1977).
- *Crepidula naticarum* Williamson, 1905. Synonyms: *Crepidula rugosa naticarum* Williamson, 1905; *C. coe* Berry, 1950. Length: 31 mm. Distribution: San Pedro, California, to Bahía San Cristobal, Baja California Sur, México; Guatemala; Costa Rica (Hoagland, 1977).
- *Crepidula nivea* C.B. Adams, 1852. Synonym: *Crepidula nebulata* Mabilie, 1895. Length: 45 mm. Distribution: southern California to Panamá (Hoagland, 1977).
- *Crepidula nummaria* Gould, 1846. Synonyms: ?*Crepidula minuta* Middendorff, 1849; *C. navicelloides* "Nuttall" Carpenter, 1864, ex Jay, 1939; *Crypta (L.) unguiculus* H. & A. Adams, 1858, ex Sowerby, MS; *Crypta nivea* var. *glottidiarum* Dall, 1905. Distribution: Bering Strait to Mazatlán, Sinaloa, México (Hoagland, 1977). Length: 56.3 mm (Draper, 1987).
- 814 *Crepidula onyx* Sowerby, 1824. Synonyms: *Calyptraea amygdalus* Valenciennes, 1846; *C. rugosa* "Nuttall" Carpenter, 1856. Delete *Crepidula cerithicola* C.B. Adams, 1852 and *C. lirata* Reeve, 1859, as synonyms. Distribution: San Pedro, California, to Costa Rica and possibly Panamá (Hoagland, 1977). Include

- Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 71.5 mm (Draper, 1987).
- 815 *Crepidula perforans* (Valenciennes, 1846). Synonyms: *Crepidula fimbriata* Reeve, 1859; *C. exuviata* "Nuttall" Reeve, 1859, ex Jay, 1839. Distribution: Vancouver Straits, Canada; Monterey, California, to Mazatlán, Sinaloa, México (Hoagland, 1977). Length: 45.5 mm (Draper, 1987).
- 816 *Crepidula rostrata* C.B. Adams, 1952. Extend distribution south to Tumbes, Perú (Peña G., 1970). Extend distribution north to Laguna de Agiabampo, Sonora/Sinaloa, México (García-Cubas & Reguero, 1987).
- 817 *Crepidula striolata* Menke, 1851. Synonyms: *Crepidula strigellata* Dunker, 1853; *C. williamsi* Coe, 1947. Possible synonym: *C. lessonii* (Broderip, 1834) [812]. Delete *Crepidula nivea* C.B. Adams, 1952 and *C. nebulata* Menke, 1895 as synonyms. Distribution: San Diego, California, to Panamá (Hoagland, 1977). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 58.7 mm (Draper, 1987).
- 818 *Crepidula uncata* Menke, 1847. Possibly a subspecies of *Crepidula adunca* Sowerby, 1825. Distribution: San Felipe, Baja California, México, to Panamá (Hoagland, 1977). Length: 14.4 mm (Draper, 1987). A valid species (Hoagland, pers. comm., 1992).
- 822 *Crucibulum (C.) lignarium* (Broderip, 1834). Length: 51.7 mm (Draper, 1987).
- 823 *Crucibulum (C.) monticulus* Berry, 1969. Holotype figured (C. Hertz, 1984a). Length: 35.7 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Extend distribution north and across the Golfo de California to off Isla Smith, Bahía de los Angeles, Baja California, México (Skoglund, 1988).
- 824 *Crucibulum (C.) personatum* Keen, 1958. Guaymas, Sonora, México, records questionable. May be restricted to Panamá (Keen & Coan, 1975). Extend distribution north from Panamá to Punta Morales, Costa Rica (Hoagland, 1986). Extend distribution north to off Nayarit, México (Reguero & García-Cubas, 1987).
- 825 *Crucibulum (C.) scutellatum* (Wood, 1928). Extend distribution south to Pimentel, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Diameter: 86.6 mm (Draper, 1987).
- 826 *Crucibulum (C.) spinosum* (Sowerby, 1824). Add synonyms: *Crucibulum piliferum* Guppy, 1867; *C. arcuatum* Sowerby, 1883. Extinct in Caribbean (Keen & Coan, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Diameter: 72.2 mm (Draper, 1987).
- 827 *Crucibulum (C.) umbrella* (Deshayes, 1830). Diameter: 87 mm (Draper, 1987).

Genus *Crepipatella* Lesson, 1830

- 819 *Crepipatella dorsata* (Broderip, 1834). Delete here. Genus changed. See *Crepidula*.
- 820 *Crepipatella lingulata* (Gould, 1846). Add parentheses and correct date (Keen & Coan, 1975). Delete here. Becomes a synonym of *Crepidula dorsata* (Broderip, 1834) [819] (Hoagland, 1977).

Genus *Crucibulum* Schumacher, 1817

Subgenus *Crucibulum*, s. s.

- 821 *Crucibulum (C.) cyclopium* Berry, 1969. Holotype figured (C. Hertz, 1984a). Diameter: 81.4 mm (Wagner & Abbott, 1988c).
- 828 *Crucibulum (D.) concameratum* Reeve, 1859. Holotype of synonym *Crucibulum castellum* Berry, 1963, figured (C. Hertz, 1984a). Length: 29.7 mm (Draper, 1987). Include off Bahía San Carlos, Sonora, México in distribution. Depth: 25 to 35 m (F. & L. Poorman, 1988). Extend distribution south to Bahía Cocos, Guanacaste Province, Costa Rica. Depth: 9 to 18 m (Skoglund, 1990a).
- 829 *Crucibulum (D.) pectinatum* Carpenter, 1856. Length: 36.1 mm (Draper, 1987). Extend distribution north to Bahía de Guaymas, Sonora, México (García-Cubas & Reguero,

Subgenus *Dispotaea* Say, 1924

1987).

- 831 *Crucibulum (D.) subactum* Berry, 1963. Extend distribution across the Golfo de California to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Holotype figured (C. Hertz, 1984a). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

## Family CAPULIDAE

Genus *Capulus* Montfort, 1810

- 832 *Capulus sericeus* J. & R. Burch, 1961. Found on five different species of pectinids. Extend distribution north to Morro Colorado, Sonora, and south to off Río Sinaloa, Sinaloa, México (L. Poorman, 1982). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 46.5 mm (Draper, 1987). Extend distribution to mainland Ecuador (Skoglund, 1990b).
- 833 *Capulus ungaricoides* (d'Orbigny, 1841). Radula figured. Has fine radial sculpture. Extend distribution south to Chile and Argentina. Figured (McLean & Andrade V., 1982).

Genus *Thyca* H. & A. Adams, 1854

- 835 *Thyca callista* Berry, 1959. Transferred. See under Eulimidae.

Genus *Cerithioderma* Conrad, 1860

- 836 *Cerithioderma pacifica* Dall, 1908. Delete here. Genus changed. See *Provanna*.

## Superfamily XENOPHOROIDEA

## Family XENOPHORIDAE

Genus *Xenophora* Fischer de Waldheim, 1807Subgenus *Xenophora*, s. s.

- 837 *Xenophora (X.) conchyliophora* (Born, 1780). Synonyms: *Xenophora robusta* Verrill, 1870 [837]; *Astraea lapidifera* and *A. corallophora* both Röding, 1798; *Trochus lithophorus* Blumenback, 1803; *Xenophora laevigata*, *X. tricostata* (holotype figured), *X. vulcania*, *X. mecandrina*, all Fischer de Waldheim, 1807; *Phorus anustus* Reeve, 1842; *Xenophora trochiformis* H. & A. Adams, 1854. Distribution: Puerto Peñasco, Sonora, México

to the Golfo de Panamá; Cape Hatteras, eastern North America to Bahía, Brazil. Depth: mostly shallow water with a few records to 635 m (Ponder, 1983a). Diameter: 164 mm, including concretions (Draper, 1987). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).

## Superfamily NATICOIDEA

Classification follows Marinovich (1977).

## Family NATICIDAE

Subfamily NATICINAE Forbes, 1828

Genus *Natica* Scopoli, 1777Subgenus *Natica*, s. s.

- 864a *Natica (N.) inexpectans* Olsson, 1971. Depth: 117 to 119 m (Olsson, 1971). Holotype figured. Diameter: 22.6 mm. Known only from the type lot (Marinovich, 1977).
- 867 *Natica (N.) sigillata* McLean, 1970. Holotype figured. Known only from near Isla Carmen, Golfo de California, México, and the Islas Galápagos, Ecuador. Unknown in the intervening area. Depth: 37 to 91 m (Marinovich, 1977).

Subgenus *Glypheidhema* Rehder, 1943

- 864 *Natica (G.) idiopoma* Pilsbry & Lowe, 1932. Subgenus changed from *Natica*. Diameter: 22 mm. Distribution: Bahía San Quintín, Baja California; southern Golfo de California, México, to Colombia and the Islas Galápagos, Ecuador. Depth: 4 to 61 m (Marinovich, 1977). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 27.5 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e).

Subgenus *Lunaia* Berry, 1964

- 869 *Natica (L.) lunaris* (Berry, 1964). Holotype figured. Distribution: Estero Tastiota, Sonora, México, to Perú. Depth: 13 to 46 m (Marinovich, 1977). Holotype figured (C. Hertz, 1984a).

Subgenus *Naticarius* Dumèril, 1806

- 859 *Natica (N.) brunneolinea* McLean, 1970. Subgenus changed from *Natica*. Paratype

- figured. Length: 45.8 mm. Depth: 37 to 292 m (Marincovich, 1977).
- 860 *Natica* (*N.*) *caneloensis* Hertlein & Strong, 1955. Subgenus changed from *Natica*. Length: 29.8 mm. Distribution: Cabo San Lucas, Baja California Sur and Mazatlán, Sinaloa, México, to Perú. Depth: 118 to 133 m (Marincovich, 1977).
- 861 *Natica* (*N.*) *chemnitzii* Pfeiffer, 1840. Subgenus changed from *Natica*. Synonyms: *Natica undata* Philippi, 1852; *N. maroccana californica* Carpenter, 1857. Intertidal zone and offshore to 18 m (Marincovich, 1977). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 42.1 mm (Draper, 1987). Include the Islas Galápagos, Ecuador in distribution (Finet, 1991).
- 862 *Natica* (*N.*) *colima* Strong & Hertlein, 1937. Subgenus changed from *Natica*. Holotype figured. Length: 22.5 mm. Distribution: Isla Cedros, Baja California, throughout the Golfo de California, México, to Costa Rica. Depth: 32 to 130 m (Marincovich, 1977). Length: 23.1 mm (Draper, 1987).
- 863 *Natica* (*N.*) *grayi* Philippi, 1852. Extend distribution south to Máncora, Perú (Peña G., 1970). Panamá, intertidal zone (Shasky, 1975). Subgenus changed from *Natica*. Length: 20.4 mm. Depth: 2 to 58 m (Marincovich, 1977). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 865 *Natica* (*N.*) *othello* Dall, 1908. Panamá, intertidal zone (Shasky, 1975). Subgenus changed from *Natica*. Holotype figured. Distribution: Isla San Benito, on the west coast of Baja California, and throughout the Golfo de California, México, to Ecuador including the Islas Galápagos. Depth: 4 to 265 m (Marincovich 1977).
- 866 *Natica* (*N.*) *scethra* Dall, 1908. Subgenus changed from *Natica*. Holotype figured. Length: 29.3 mm. Distribution: La Paz, Baja California Sur, México, to Perú. Not known north of La Paz in the Golfo de California, México. Depth: 37 to 281 m (Marincovich, 1977). Extend distribution north to Bahía de los Angeles, Baja California (F. & L. Poorman, 1978). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 868 *Natica* (*N.*) *unifasciata* Lamarck, 1822. Subgenus changed from *Natica*. Length: 44 mm. Distribution: El Salvador to Ecuador. Intertidal area on mud flats (Marincovich, 1977).
- Subgenus *Stigmaulax* Mörch, 1852
- 870 *Natica* (*S.*) *broderipiana* Récluz, 1844. Panamá, intertidal zone (Shasky, 1975). Add synonym: *Natica tastei* Récluz, 1853. Distribution: Cabo San Lucas, Baja California Sur, México, throughout the Golfo de California, and south to Ecuador. Depth: 2 to 70 m (Marincovich, 1977). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 30.7 mm (Draper, 1987).
- 871 *Natica* (*S.*) *elenae* Récluz, 1844. Extend distribution south to Máncora, Perú (Peña G., 1970). Panamá, intertidal zone (Shasky, 1975). Add synonyms: *Natica haneti* Récluz, 1850; *N. sulculosa* Philippi, 1851. Length: 34.3 mm. Include the Islas Galápagos, Ecuador, in distribution. Depth: 15 to 70 m (Marincovich, 1977). Length: 50.3 mm (Draper, 1987). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 90 m (F. & L. Poorman, 1988).
- Subfamily POLINICINAE  
Finlay & Marwick, 1937  
Genus *Polinices* Montfort, 1810  
Subgenus *Polinices*, s. s.
- 881 *Polinices* (*P.*) *amiculatus* (Philippi, 1849). Synonym: *Polinices ravidus* (Souleyet, 1852) [881]. Length: 44.9 mm. Distribution restricted from Ecuador to Perú (Marincovich, 1977).
- 873 *Polinices* (*P.*) *bifasciatus* (Griffith & Pidgeon, 1834). Length: 60.7 mm. Extend distribution north to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to 60 m (Marincovich, 1977).
- 875 *Polinices* (*P.*) *galapagosus* (Récluz, 1844). Delete here. Becomes a synonym of *Polinices otis* (Broderip & Sowerby, 1829) [879] (Marincovich, 1977).

- *Polinices (P.) hacketti* Marinovich, 1975. Length: 63.9 mm. Islas Galápagos, Ecuador, intertidal zone (Marinovich, 1975).
- 877 *Polinices (P.) intemeratus* (Philippi, 1853). Extend distribution south to Paita, Perú (Peña G., 1970). Add synonym: *Natica rapulum* Reeve, 1855. Length: 29.5 mm. Include the Islas Galápagos, Ecuador, in distribution. Depth: 9 to 160 m (Marinovich, 1977).
- 878 *Polinices (P.) limi* Pilsbry, 1931. Delete. Miocene fossil (Marinovich, 1977).
- 879 *Polinices (P.) otis* (Broderip & Sowerby, 1829). Holotype of synonym *Ruma subfusa* Dall, 1919, figured. Add synonyms: *Natica galapagosa* Récluz, 1844 [875]; *N. unimaculatus* (Reeve, 1855) [883]. Correct date for synonym *N. salangonensis* to Récluz, 1843. Remove Islas Galápagos, Ecuador, from distribution. Depth: intertidal zone (rarely) to 297 m (Marinovich, 1977). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 44.5 mm (Draper, 1987).
- 880 *Polinices (P.) panamaensis* (Récluz, 1844). Delete synonym *Natica amiculata* Philippi, 1849. Distribution: Isla Cedros, west side of Baja California and the Golfo de California, México, to Perú. Depth: intertidal zone to 139 m (Marinovich, 1977). Length: 72.4 mm (Wagner & Abbott, 1989c).
- 882 *Polinices (P.) uber* (Valenciennes, 1832). In line 7, comma (not semicolon) after (d'Orbigny, 1842). Line 8, for *Polinices limi* and *Polinices unimaculatus*, read: *Polinices panamaensis* (Récluz, 1844) (Keen & Coan, 1975). Length: 35.7 mm. Extend distribution north to Isla Cedros, on the west coast of Baja California and throughout the Golfo de California, México, to the Islas Galápagos, Ecuador, and Paita, Perú. Depth: intertidal zone to 100 m (Marinovich, 1977). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- 883 *Polinices (P.) unimaculatus* (Reeve, 1855). Delete here. Becomes synonym of *Polinices otis* (Broderip & Sowerby, 1829) [879] (Marinovich, 1977).
- Subgenus *Euspira* Agassiz in Sowerby, 1838
- 884 *Polinices (E.) agujanus* Dall, 1908. Holotype figured. Subgenus assigned. Length: 26 mm. Known only from the holotype from Perú. Depth: 981 m (Marinovich, 1977).
- 885 *Polinices (E.) crawfordianus* Dall, 1908. Holotype figured. Subgenus assigned. Length: 15 mm. Include the Islas Galápagos, Ecuador, in distribution. Depth: 996 to 1895 m (Marinovich, 1977).
- 886 *Polinices (E.) litorinus* Dall, 1908. Holotype figured. Subgenus assigned. Length: 9 mm. Known only from the holotype from near the Islas Galápagos, Ecuador. Depth: 1845 m (Marinovich, 1977).
- 887 *Polinices (E.) pardoanus* Dall, 1908. Holotype figured. Subgenus assigned. Length: 13 mm. Distribution: Golfo de Panamá; off the Islas Galápagos, Ecuador. Depth: 1620 m to 2690 m (Marinovich, 1977). Extend distribution north to Isla del Coco, Costa Rica (Montoya, 1983).
- Subgenus *Hypterita* Woodring, 1957
- 876 *Polinices (H.) helicoides* (Gray, 1825). Subgenus changed from *Polinices*. Diameter: 62.2 mm. Limit southern distribution to Paita, Perú. Depth: 9 to 46 m (Marinovich, 1977). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983).
- Subgenus *Mammilla* Schumacher, 1817
- 874 *Polinices (M.) caprae* (Philippi, 1852). Syntype figured. Add synonym: *Polinices crickmayi* Palmer & Hertlein, 1936. Subgenus changed from *Polinices*. Length: 32.1 mm. Extend distribution from Cabo San Lucas, Baja California Sur, throughout the Golfo de California, México, to Perú and include the Islas Galápagos, Ecuador. Depth: 45 to 65 m (Marinovich, 1977). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- Genus *Neverita* Risso, 1826  
Raised from subgenus (Marinovich, 1977).  
Subgenus *Glossaulax* Pilsbry, 1929
- 888 *Neverita (G.) reclusiana* (Deshayes, 1839). Correct spelling from *recluziana*. Synonyms:

*Neverita secta* Gabb, 1864 (holotype figured); *N. callosa* Gabb, 1866; *Polinices reclusiana alta* Arnold, 1903 (neotype figured); *Neverita reclusiana imperforata* Dall, 1909, ex Stearns, 1909, MS (lectotype figured); *Polinices reclusiana vancouverensis* Clark & Arnold, 1923 (holotype figured); *Neverita secta hemisecta* Clark, 1938 (holotype figured); *N. thomsonae* Hickman, 1969 (holotype figured). Length: 90.5 mm. Extend distribution to northern California. Depth: intertidal zone to 50 m (Marincovich, 1977).

Genus *Choristes* Carpenter in Dawson, 1872. Transferred from the Vitrinellidae by Marincovich (1975).

- 424 *Choristes carpenteri* Dall, 1896. Holotype and radula figured. Length: 24 mm (Marincovich, 1975). Distribution: off central Oregon; southernmost México; Golfo de Panamá. Depth: 2500 to 3436 m (Marincovich, 1977).

Subfamily SININAE Wenz, 1941

Genus *Sinum* Röding, 1798

- 889 *Sinum cymba* (Menke, 1828). Add synonyms: *Sinum c. alba* Weinkauff, 1883; *S. maximus* Philippi, 1844 (syntype figured). Radula figured. Diameter: 59.4 mm. Extend distribution to the Islas Galápagos, Ecuador. Depth: 24 to 100 m (Marincovich, 1977).
- 890 *Sinum debile* (Gould, 1853). Extend distribution south to Paita, Perú (Peña G., 1970). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Distribution: La Paz, Baja California Sur, México, to Panamá. Depth: intertidal zone to 73 m (Marincovich, 1977). Diameter: 36.1 mm (Draper, 1987).
- 891 *Sinum grayi* (Deshayes, 1843). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). In line 5, the specific name should not be capitalized: *Sinum cymba* (Keen & Coan, 1975). Holotype of synonym, *S. cortezi* Burch & Burch, 1964, figured. Extend distribution south to Perú. Depth: 25 to 160 m (Marincovich, 1977). Length: 51.7 mm (Draper, 1987).
- 892 *Sinum noyesii* Dall, 1903. Holotype figured. Diameter: 42.1 mm. Distribution: Isla San

Benito, on the west coast of Baja California, México, to Isla Gorgona, Colombia. Depth: intertidal zone to 89 m (Marincovich, 1977).

- 893 *Sinum sanctijohannis* (Pilsbry & Lowe, 1932). Holotype figured. Distribution: Isla San Benito, on the west coast of Baja California and throughout the Golfo de California, México, to Perú. Depth: 18 to 165 m (Marincovich, 1977). Diameter: 31.7 mm (Wagner & Abbott, 1990).

Genus *Eunaticina* Fischer, 1885

- 872 *Eunaticina insculpta* (Carpenter, 1865). Extend distribution south to Tumbes, Perú (Peña G., 1970). Synonym: *Eunaticina heimi* Jordan in Hertlein, 1934 [872] (holotype figured). Radula figured. Length: 14.3 mm. Distribution: Bahía Magdalena, Baja California Sur; and Bahía Concepción in the Golfo de California, México, to Corinto, Nicaragua; Islas Galápagos, Ecuador. Depth to 22 m (Marincovich, 1977).

Superfamily LAMELLARIOIDEA

Family LAMELLARIIDAE

As Velutinidae with Lamellariidae as a synonym (Liltved, 1989).

Subfamily LAMELLARIINAE

Genus *Lamellaria* Montagu, 1815

- 894 *Lamellaria diegoensis* Dall, 1885. Synonym: *Lamellaria orbiculata* Dall, 1871 [896]. Radula figured. Length: 45 mm. Distribution: Moss Landing to Huntington Beach, California; San Felipe, Baja California, and Bahía la Cholla, Sonora, México. Depth: intertidal zone to 139 m (Behrens, 1980).
- 895 *Lamellaria inflata* (C.B. Adams, 1852). Radula figured. Add to distribution: Cabo Tepoca, Sonora, México, and the Islas Galápagos, Ecuador (Behrens, 1980). Length: 14.8 mm (Draper, 1987).
- 896 *Lamellaria orbiculata* Dall, 1871. Delete here. Becomes a synonym of *Lamellaria diegoensis* Dall, 1885 [894] (Behrens, 1980).
- 897 *Lamellaria perspicua* (Linnaeus, 1758). Radula figured. Distribution confirmed to Panamá (Behrens, 1980).

Genus *Marseniopsis* Bergh, 1886.

- 898 *Marseniopsis sharonae* (Willett, 1939). Genus changed from *Lamellaria*. Radula figured. Distribution: Oregon to Bahía San Luis Gonzaga, Baja California and Puerto Peñasco, Sonora, México (Behrens, 1980).

Family TRIVIIDAE

Generic and subgeneric usage not supported by anatomical characters (Gosliner & Liltved, 1982; Liltved, 1989). All species are listed alphabetically in the single genus *Trivia*.

Subfamily TRIVIINAE

Genus *Trivia* Broderip, 1837

- 900 *Trivia acutidentata* (Gaskoin, 1836). As genus *Decoriatrivia*. Delete here. Questionable species (Cate, 1979).
- *Trivia artema* (Cate, 1979). As genus *Decoriatrivia*. Length: 4.8 mm. Distribution: Islas Galápagos, Ecuador. Depth: 57 m (Cate, 1979).
- 904 *Trivia atomaria* Dall, 1908. As genus *Niveria* (*Cleotrivia*). Holotype figured. Extend distribution to the Islas Galápagos, Ecuador (Cate, 1979). As *Trivia*. Length: 6.6 mm (Draper, 1987). As genus *Niveria*. Include Isla del Coco, Costa Rica, in distribution. Depth: 21 m (Groves, 1992).
- *Trivia burius* (Cate, 1979). As genus *Decoriatrivia*. Length: 6.4 mm. Distribution: Golfo de Panamá (Cate, 1979).
- 905 *Trivia californiana* (Gray, 1827). As genus *Pusula*. Keen (1971) figure 905, lower left only, is this species. Top figures are *Trivia californica californica* (Sowerby, 1832, ex Gray, MS). Delete *T. elsiae* Howard & Sphon, 1960, as a synonym. Distribution: Monterey Bay, California, to Bahía Magdalena, Baja California Sur, México (Cate, 1979).
- *Trivia californica californica* (Sowerby, 1832, ex Gray, MS). Synonym: *Cypraea depauperata* Kiener, 1843. Keen (1971) figure 905, upper specimens only, are this species. Length: 12.8 mm. Distribution: Monterey Bay, California, to Bahía Magdalena, Baja California Sur, and Puertecitos, near the head of the Golfo de California, México. A subspecies, *Trivia c. loochooesis* Cate, 1979, is from the Ryukyu Islands (Cate, 1979).
- *Trivia campus* (Cate, 1979). As genus *Pusula*. Length: 7.4 mm. Distribution: Bahía la Cholla, Sonora, México (Cate, 1979).
- *Trivia carabus* (Cate, 1979). As genus *Pusula*. Length: 8 mm. Distribution: Golfo de Guayaquil, Ecuador (Cate, 1979).
- *Trivia cherobia* (Cate, 1979). As genus *Pusula*. Length: 6.3 mm. Distribution: Bahía Magdalena, Baja California Sur, México. Depth: 18 m (Cate, 1979).
- *Trivia citeria* (Cate, 1979). As genus *Decoriatrivia*. Length: 2.9 mm. Distribution: Islas Galápagos, Ecuador. Depth: 55 m (Cate, 1979).
- *Trivia costispunctata* (Sowerby, 1870). As genus *Pusula*. Length: 21 mm. Distribution: Mazatlán, Sinaloa to the Islas Tres Marias, México (Cate, 1979).
- *Trivia elsiae* Howard & Sphon, 1960. As a valid species. As genus *Pusula*. Holotype figured. Length: 7 mm. Distribution: Punta Final, Baja California, México (Cate, 1979).
- 906 *Trivia fusca* (Sowerby, 1832, ex Gray, MS). As genus *Pusula*. Lectotype figured. Paratype of synonym, *Trivia galapagensis* (Melville, 1900), figured. Restrict distribution to the Islas Galápagos, Ecuador (Cate, 1979).
- *Trivia halians* (Cate, 1979). As genus *Decoriatrivia*. Length: 7.3 mm. Distribution: San José, Guatemala (Pacific side) (Cate, 1979).
- *Trivia iota* (Cate, 1979). As genus *Circumscapula*. Length: 5.2 mm. Distribution: Bahía San Carlos, Sonora, México. Depth: 18 to 21 m (Cate, 1979).
- 902 *Trivia maugeriae* (Sowerby, 1832, ex Gray, MS). As genus *Niveria*. Lectotype figured (Cate, 1979).
- 907 *Trivia myrae* Campbell, 1961. As genus *Circumscapula*. Holotype figured. Extend distribution north to Puerto Peñasco, Sonora, and from Puertecitos, Baja California, south to Rancho Buenavista, Baja California Sur, México (Cate, 1979).
- *Trivia occidentalis* (Schilder, 1922). As genus *Niveria*. Synonyms: *Cypraea pulla* Gaskoin, 1846; *Trivia antillarum* Schilder, 1922. Length: 6.5 mm. Distribution: Golfo de California, México, to Ecuador including the Islas Galápagos (Cate, 1979).
- 903 *Trivia pacifica* (Sowerby, 1832, ex Gray, MS).



- As genus *Niveria* (Cate, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979).
- *Trivia padreserrai* (Cate, 1979). As genus *Pusula*. Length: 21 mm. Distribution: Palos Verdes to Balboa Bay, California; La Riviera [sic] La Ribera, Baja California Sur, México. Keen (1971) figure 910 is this species (Cate, 1979).
- *Trivia panamensis* (Dall, 1902). As genus *Pusula*. Holotype figured. Length: 4.2 mm. Distribution: Golfo de Panamá. Depth: 33 m (Cate, 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983).
- 901 *Trivia paucilirata* (Sowerby, 1870). As genus *Decoriatrivia*. Synonym: *Trivia acutidentata* Keen, 1971, non (Gaskoin, 1836) [900]. Delete *T. panamensis* (Dall, 1902) as a synonym (Cate, 1979). Extend distribution north to Nicaragua (Montoya, López & López, 1987).
- 908 *Trivia radians* (Lamarck, 1811). Extend distribution south to Isla Lobos de Afuera, Perú (Peña G., 1970). As genus *Pusula*. Holotype figured. Synonym: *Cypraea oniscus* Dillwyn, 1817. Delete *Trivia sanguinea circumdata* Schilder, 1913, as a synonym. Distribution: Costa Rica to Panamá (Cate, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 22.3 mm (Draper, 1987).
- 899 *Trivia rubescens* (Gray, 1833). As genus *Pusula*. Distribution: Colombia to Payta [sic] Paita, Perú (Cate, 1979).
- 909 *Trivia sanguinea* (Sowerby, 1832, ex Gray, MS). Extend distribution south to Máncora, Perú (Peña G., 1970). As genus *Pusula*. Lectotype figured. Type locality designated as Guaymas, Sonora, México. Distribution: Guaymas, Sonora, to the Golfo de Tehuantepec, México, and possibly to Perú (Cate, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 13.8 mm (Draper, 1987).
- 910 *Trivia solandri* (Sowerby, 1832, ex Gray, MS). As genus *Pusula*. Lectotype figured. Type locality designated as Bahía la Cholla, Sonora, México. Length: 18.5 mm. Distribution: upper Golfo de California to Mazatlán, Sinaloa, México. Keen (1971) figure 910 is *Pusula padreserrai* Cate, 1979 (Cate, 1979). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 24 mm (Draper, 1987).
- *Trivia tortuga* Cate, 1979. Length: 11.7 mm. Distribution: Playa Veracruz, Golfo de Panamá (Cate, 1979).
- Subfamily ERATOINAE  
Genus *Erato* Risso, 1826  
Subgenus *Eratopsis* Hörnes & Auinger, 1880
- 911 *Erato (E) oligostata* Dall, 1902. Holotype figured. Extend distribution to Perú (Cate, 1977). As genus *Hespererato*. Include Isla del Coco, Costa Rica, in distribution. Depth: 61 m (Groves, 1992).
- Genus *Hespererato* Schilder, 1932  
Raised from subgenus (Cate, 1977).
- 912 *Hespererato columbella* (Menke, 1847). Lectotype figured. Synonym: *Erato panamensis* Carpenter, 1856 [914]. Extend distribution south to Perú (Cate, 1977). Length: 8.6 mm (Draper, 1987). Depth: 145 m (LaGrange, 1992).
- 913 *Hespererato galapagensis* Schilder, 1933. Holotype figured (Cate, 1977).
- 914 *Hespererato panamensis* (Carpenter, 1856). Delete here. Becomes synonym of *Hespererato columbella* (Menke, 1847) [912] (Cate, 1977).
- 915 *Hespererato scabriuscula* (Sowerby, 1832). Extend distribution south to Tumbes, Perú (Peña G., 1970). Lectotype figured (Cate, 1977). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 11 mm (Draper, 1987).
- *Hespererato vitellina* (Hinds, 1844). Distribution: Bodega Bay, California, to Bahía Magdalena, Baja California Sur, México (L. Poorman, 1973). Lectotype figured (Cate, 1977). Length: 17.1 mm (Draper, 1987).
- Superfamily CYPRAEOIDEA  
Family CYPRAEIDAE  
Genus *Cypraea* Linnaeus, 1758  
Subgeneric usage is not supported by anatomical characters (Burgess, 1985; Liltved,

- 1989). *Cypraea* are listed alphabetically without regard to subgenus.
- 934 *Cypraea aequinoctialis* (Schilder, 1933). As genus *Zonaria* (*Zonaria*) by Schilder & Schilder (1971). Valid species (Bradner, 1985). Extend distribution north to Nicaragua (López & Montoya, 1985a). Length: 48.1 mm (Draper, 1987).
- 919 *Cypraea albuginosa* Gray, 1825. As genus *Erosaria* (*Erosaria*). Synonym: *Cypraea fimbriolata* Carpenter, 1872 (Schilder & Schilder, 1971). Include Isla Malpelo, Colombia, in distribution (Birkeland, et al., 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Distribution: Isla Angel de la Guarda, Golfo de California, both sides of the tip of Baja California Sur and Isla Clarión, México; L'île Clipperton, [France]; Isla del Coco, Costa Rica; Islas Galápagos, Ecuador (Burgess, 1985). Length: 33.5 mm (Draper, 1987).
- *Cypraea alisonae* Burgess, 1983. Extend distribution to Isla del Coco, Costa Rica (Shasky, 1983c). Length: 39.4 mm. Extend distribution to the Islas Galápagos, Ecuador. Also known from Hawaii, American Samoa, and Australia (Burgess, 1985). Possible synonym of *Cypraea teres* Gmelin, 1791 [932] (Emerson, 1991). As genus *Blasicrura*. Two beachworn specimens from L'île Clipperton [France] are probably this species (Groves, 1992).
- 933 *Cypraea annettae* Dall, 1909. As genus *Zonaria* (*Zonaria*) by Schilder & Schilder (1971). Extend distribution to the west coast of Baja California as far north as Laguna de San Ignacio, Baja California Sur, México (Burgess, 1985). Length: 55 mm (Wagner & Abbott, 1990).
- *Cypraea annulus* Linnaeus, 1758. As genus *Monetaria* (*Ornamentaria*) by Schilder & Schilder (1971). Synonyms: *Cypraea annularis* and *C. coerulea* both Perry, 1811; *C. noumeensis* Marie, 1869; *C. camellorum* and *C. harmandiana* both Rochebrune, 1884; *Monetaria* (*Ornamentaria*) *annulus scutellum* Schilder & Schilder, 1937; *M. annulus dranga* Iredale, 1939. Distribution: Kenya, Africa to the Cook Islands (Burgess, 1985). Extend distribution to the Islas Galápagos, Ecuador (Kay, 1991).
- 927 *Cypraea arabicula* (Lamarck, 1811). As genus *Zonaria* (*Pseudozonaria*). Synonyms: *Cypraea gemmula* Weinkauff, 1881; *C. massauensis* Schilder, 1922 (Schilder & Schilder, 1971). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Extend distribution to the west coast of Baja California, México, as far north as Punta San Hipólito (Burgess, 1985). Length: 36.1 mm (Draper, 1987).
- 920 *Cypraea caputserpentis* Linnaeus, 1758. As genus *Erosaria* (*Ravitrona*). For full synonymy see Schilder & Schilder (1971). As *Cypraea*. Extend distribution to Isla del Coco, Costa Rica (Shasky, 1983d). Extend distribution to Isla Gorgona, Colombia (Cantera-K., 1991). Include the Islas Galápagos, Ecuador, in distribution (Kay, 1991). As genus *Erosaria* (*Ravitrona*). Reported from off Isla de Coiba, Veraguas Province, Panamá (Groves, 1992).
- *Cypraea caurica* (Linnaeus, 1758). As genus *Erronea*. A single beachworn specimen reported from Punta Arena, Baja California Sur, México (Groves, 1992).
- 925 *Cypraea cervinetta* Kiener, 1843. Extend distribution south to Isla Lobos de Afuera, Perú (Peña G., 1970). As genus *Macrocypraea*. Synonym: *Cypraea angustata* Gray, 1824 (Schilder & Schilder, 1971). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 120 mm (Wagner & Abbott, 1990). As genus *Macrocypraea*. Include Isla del Coco, Costa Rica, in distribution. Depth: 5 to 18 m (Groves, 1992).
- 916 *Cypraea depressa* Gray, 1824. As genus *Mauritia* (*Mauritia*). Synonym: *Cypraea gillei* Jousseaume, 1893 (Schilder & Schilder, 1971). Length: 55.5 mm (Wagner & Abbott, 1990).
- 921 *Cypraea helvola* Linnaeus, 1758. As genus *Erosaria* (*Erosaria*) by Schilder & Schilder (1971). As *Cypraea*. Not found on the west coast of the Americas or the outlying islands (Burgess, 1985). As genus *Erosaria* (*Erosaria*). Distribution confirmed to L'île Clipperton [France] (Groves, 1992).
- 922 *Cypraea isabellamexicana* Stearns, 1893. As genus *Luria* by Schilder & Schilder (1971). Extend distribution to L'île Clipperton

- [France] (Perrin, 1977). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Extend distribution to Isla del Coco, Costa Rica (Montoya, 1983). Extend distribution to Isla Angel de la Guarda, Golfo de California, Islas Clarión and Socorro, México (Burgess, 1985). Length: 53.6 mm (Wagner & Abbott, 1990).
- 917 *Cypraea maculifera* (Schilder, 1932). As genus *Mauritia* (*Mauritia*) by Schilder & Schilder (1971). As *Cypraea*. Distribution confined to the central Pacific (Burgess, 1985). As genus *Mauritia*. L'île Clipperton [France] distribution confirmed (Groves, 1992).
- 926 *Cypraea moneta* Linnaeus, 1758. As genus *Monetaria* (*Monetaria*). For full synonymy see Schilder & Schilder (1971). Length: 40 mm (Wagner & Abbott, 1990).
- 928 *Cypraea nigropunctata* Gray, 1828. As genus *Zonaria* (*Pseudozonaria*). Delete as synonyms: *Cypraea gemmula* Weinkauff, 1881; *C. massauensis* Schilder, 1922 (Schilder & Schilder, 1971). Length: 41.2 mm (Draper, 1987).
- 930 *Cypraea rashleighana* Melvill, 1888. Reported at L'île Clipperton [France] (Perrin, 1977). Radula figured (Kay, 1981). Delete. Not believed to occur outside the Hawaiian Island chain (Burgess, 1985). As genus *Blasicrura*. Shell reported by Ingram (1945) from Isla del Coco, Costa Rica, is actually *Cypraea alisonae* Burgess, 1983. *Bistolida r. rashleighana* figured by Cate (1969) from L'île Clipperton [France] are most likely *C. alisonae* Burgess, 1983 (Groves, 1992).
- 929 *Cypraea robertsi* (Hidalgo, 1906). As genus *Zonaria* (*Pseudozonaria*) by Schilder & Schilder (1971). As *Cypraea*. Extend distribution south to Isla Lobos de Afuera, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Extend distribution north to Guaymas, Sonora, México (Burgess, 1985). Length: 32.9 mm (Draper, 1989). As *Zonaria* (*Pseudozonaria*). Include Isla del Coco, Costa Rica, in distribution. Depth: 30 m (Groves, 1992).
- 923 *Cypraea schilderorum* (Iredale, 1939). As genus *Lyncina*. Synonyms: *Cypraea arenosa* Gray, 1824; *C. alba* (Paetel, 1883) (Schilder & Schilder, 1971). As *C. arenosa* Gray, 1824 with *C. schilderorum* [923] as a synonym (Emerson, 1978). As *C. schilderorum*. L'île Clipperton [France] locality not confirmed. Distribution confined to Polynesia (Burgess, 1985). Correct synonym to read: *Cypraea arenosa* Gray, 1924, non Dillwyn, 1823. Distribution to L'île Clipperton confirmed (Groves, 1992).
- 918 *Cypraea scurra* Gmelin, 1791. As genus *Mauritia* (*Mauritia*) by Schilder & Schilder (1971). Synonym: *Cypraea indica* Gmelin, 1791 (Burgess, 1985). Length: 57.2 mm (Wagner & Abbott, 1990).
- *Cypraea spurca acicularis* (Gmelin, 1791). As genus *Erosaria* (*Erosaria*). Include Isla del Coco, Costa Rica, in distribution. Depth: 15 to 18 m (Groves, 1992).
- *Cypraea staphylaea* (Linnaeus, 1758). As genus *Staphylaea*. A single beachworn specimen reported from Los Chilenos, Baja California Sur, México (Groves, 1992).
- *Cypraea talpa* Linnaeus, 1758. As genus *Talparia*. Synonyms: *Cypraea saturata* Dautzenberg, 1903; *C. imperialis* Dautzenberg, 1923 (Schilder & Schilder, 1971). Extend distribution to Panamá (Emerson, 1983) and Isla del Coco, Costa Rica (Shasky, 1983d). Synonym: *C. saturata* Dautzenberg, 1903. For full Indo-Pacific distribution see Burgess (1985). Length: 107.5 mm (Wagner & Abbott, 1990).
- 932 *Cypraea teres* Gmelin, 1791. As genus *Blasicrura* by Schilder & Schilder (1971). As *Cypraea*. Synonym: *Cypraea pellucens* Melvill, 1888 [931]. Radula figured (Kay, 1981). Extend distribution to Panamá (Emerson, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). See Burgess (1985) for full synonymy and distribution. Length: 45 mm (Wagner & Abbott, 1990). Extend distribution south to Colombia (Emerson, 1991). Include the Islas Galápagos, Ecuador, in distribution (Kay, 1991). As genus *Blasicrura*. Include L'île Clipperton [France] in distribution (Groves, 1992).
- 931 *Cypraea teres pellucens* Melvill, 1888. Delete here. *Cypraea pellucens* Melvill, 1888, becomes a synonym of *C. teres* Gmelin, 1791 [932] (Kay, 1981).
- 924 *Cypraea vitellus* Linnaeus, 1758. As genus

*Lyncina* by Schilder & Schilder (1971). As *Cypraea*. L'île Clipperton [France] locality not confirmed. Distribution: Indo-Pacific (Burgess, 1985). As *Lyncina*. L'île Clipperton distribution confirmed (Groves, 1992).

Family OVULIDAE  
Subfamily OVULINAE  
Genus *Delonovolva* Cate 1973

- *Delonovolva macleani* Cate, 1976. Length: 8.7 mm. Distribution: Punta Quepos, Puntarenas Province, Costa Rica; Islas Galápagos, Ecuador (Cate, 1976).

Genus *Neosimnia* Fischer, 1884

- 936 *Neosimnia aequalis* (Sowerby, 1832). Genus changed to *Delonovolva* (Cate, 1973). Egg capsules and larval development figured (as *Simnia aequalis* Sowerby, 1832) (Main, 1982). Holotype of synonym, *Neosimnia vidleri tyrianthina* Berry, 1960, figured (C. Hertz, 1984a). Length: 25.8 mm (Draper, 1987). As genus *Neosimnia*. Include Isla del Coco, Costa Rica, in distribution. Depth: 24 to 36 m (Groves, 1992).
- 937 *Neosimnia avena* (Sowerby, 1832). Extend distribution south to Máncora, Perú (Peña G., 1970). Genus changed (Cate, 1973). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Unable to verify Galápagos distribution (Finet, 1991). Include Isla del Coco, Costa Rica, in distribution. Depth: 18 to 27 m (Groves, 1992).

Genus *Simnialena* Cate, 1973

- 938 *Simnialena inflexa* (Sowerby, 1832). Genus changed from *Simnia* (Cate, 1973).
- 939 *Simnialena rufa* (Sowerby, 1832). Genus changed from *Simnia* (Cate, 1973). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 23.8 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991).

Genus *Spiculata* Cate, 1973

- *Spiculata loebbeckeana* (Weinkauff, 1881).

Synonyms: *Ovula uniplicata* Tryon, 1885; *Ovulum formicarium* Keep, 1887. Type locality restricted to Bahía Magdalena, Baja California Sur, México. Length: 24 mm. Distribution: Monterey, California, to Bahía Magdalena, Baja California Sur, México (Cate, 1973).

Genus *Cymbula* Cate, 1973

- *Cymbula bratcheriae* Cate, 1973. Length: 14.7 mm. Distribution: Santa Rosalía to Cabo Pulmo, Baja California Sur, and Bahía Adair to Guaymas, Sonora, México (Cate, 1973).

Genus *Phenacovolva* Iredale, 1939

- *Phenacovolva brevirostris* (Schumacher, 1817). Length: 20 mm. Los Zurrónes, west Panamá. Also known from the east Asian mainland; the Japanese Ryukyus; Philippine and Cook Islands; Celebes-Sulu Sea; Queensland and Sidney, Australia (Bertsch & Bibbey, 1982). Delete. Becomes a synonym of *Phenacovolva lenoreae* Cardin & Walls, 1980 (Groves, 1992).
- *Phenacovolva lenoreae* Cardin & Walls, 1980. Length: 21 mm. Distribution: Archipiélago de las Perlas, Panamá (Cardin & Walls, 1980). Synonym: *Phenacovolva brevirostris* Bertsch & Bibbey, 1982, *non* (Schumacher, 1817). Include Isla del Coco, Costa Rica, in distribution. Depth: 18 to 33 m (Groves, 1992).

Genus *Xandarovula* Cate, 1973

- *Xandarovula hammersi* Bertsch & Bibbey, 1982. Length: 37 mm. Off Isla Cébaco, Panamá. Depth: 335 m (Bertsch & Bibbey, 1982).

Subfamily EOCYPRAEINAE  
Genus *Jenneria* Jousseaume, 1884

- 940 *Jenneria pustulata* ([Lightfoot, 1786], *ex* Solander MS). As genus *Cryptopterina* (*Jenneria*) by Schilder & Schilder (1971). As *Jenneria*. Extend distribution south to Máncora, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).

Length: 30 mm (Wagner & Abbott, 1990). As genus *Cypropterina* (*Jenneria*). Include Isla del Coco, Costa Rica, in distribution (Groves, 1992).

Genus *Pseudocypraea* Schilder, 1927

- 941 *Pseudocypraea adamsonii* (Sowerby, 1832). Holotype figured (Cate, 1973). Extend distribution to Isla la Plata, Ecuador, and north to Isla del Coco, Costa Rica (Shasky, 1983d).

Superfamily TONNOIDEA

Family TONNIDAE

Genus *Tonna* Brunnich, 1772

- *Tonna perdix* (Linnaeus, 1758). Length: 131 mm. Distribution: Indo-Pacific. Depth: 3 to 10 m (Kay, 1979). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1987). Occurs in the western Atlantic as *Tonna perdix maculosa* (Dillwyn, 1817) (Emerson, 1991).

Genus *Malea* Valenciennes, 1883

- 942 *Malea ringens* (Swainson, 1822). Extend distribution south to Isla Lobos de Afuera, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 267 mm (Wagner & Abbott, 1990).

Family CASSIDAE Latreille, 1825

Change spelling (Keen & Coan, 1975). Subfamilies not used by Ponder and Warén (1988).

Subfamily CASSINAE

Genus *Cypraeacassis* Stutchbury, 1837

Raised from subgenus (Abbott, 1974).

Subgenus *Cypraeacassis*, *s. s.*

- 946 *Cypraeacassis* (*C.*) *tenuis* (Wood, 1928). Include Golfo de Veraguas, Panamá, in distribution (Emerson, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e). Length: 168.2

mm (Wagner & Abbott, 1990).

Subgenus *Levenia* Gray, 1847

- 947 *Cypraeacassis* (*L.*) *coarctata* (Sowerby, 1825). Extend distribution south to Perú (Abbott, 1974). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 85.5 mm (Draper, 1987).

Subfamily OOCORYTHINAE

As Oocorythidae Fischer, 1886, in the Tonnoidea (Quinn, 1980). Transferred from Tonnidae and possibly should not be kept as a distinct subfamily (Warén & Bouchet, 1990).

Genus *Oocorys* Fischer, 1884

- 943 *Oocorys elevata* Dall, 1908. Probably does not occur in the Islas Galápagos, Ecuador (Finet, 1985).

Subfamily PHALIINAE

Genus *Phalium* Link, 1807

- *Phalium pilsbryi* (Woodring & Olsson, 1957). Holotype figured. Length: 66.3 mm. Islas Galápagos, Ecuador. Known only from the holotype (Woodring & Olsson, 1957). Extend distribution to Guayas Province, Ecuador (Skoglund, 1990b).

Genus *Semicassis* Mörch, 1852

As Mörch, 1825, in Keen (1971).

Raised from subgenus (Beu, 1976).

- 948 *Semicassis centiquadrata* (Valenciennes, 1832). As a subspecies of *Phalium granulatum* (Born, 1778). Synonym: *P. lactea* Kiener, 1835 (Abbott, 1974). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). As a species. Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 89.9 mm (Draper, 1987).

Genus *Casmaria* H. & A. Adams, 1853

- 949 *Casmaria vibexmexicana* (Stearns, 1894). As a subspecies of *Casmaria erinaceus* (Linnaeus, 1758) (Abbott, 1974). As a species. Extend distribution north to Isla San Pedro Nolasco,

off Sonora, México (Keen & Coan, 1975). Extend distribution to Archiepiélago de las Perlas, Panamá. Intertidal zone (DuShane, 1982). Radula figured (Bradner & DuShane, 1982). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 70 mm (Draper, 1987). Taken in sand by diver at 13 m at Bahía Escondido, Baja California Sur, México (Hutsell, 1990).

#### Family FICIDAE

Genus *Ficus* Röding, 1798

- 952 *Ficus ventricosa* (Sowerby, 1825). Intertidal zone, Panamá (Shasky, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 150 mm (Wagner & Abbott, 1990).

#### Family RANELLIDAE Gray, 1854

Synonym: CYMATIIDAE Iredale, 1913 (Beu, 1985).

##### Subfamily CYMATIINAE Iredale, 1913

As Neptunellinae Gray, 1854 (Warén & Ponder, 1990). Proposal to conserve Cymatiinae filed with ICZN (Jansson & Beu, 1990).

Genus *Cymatium* Röding, 1798

Subgenus *Cymatium*, *s. s.*

- 953 *Cymatium* (*C.*) *tigrinum* (Broderip, 1833). Length: 194 mm (Draper, 1987).

##### Subgenus *Gutturnium* Mörch, 1852

- 954 *Cymatium* (*G.*) *amictoideum* Keen, 1971. Delete here. Becomes a synonym of *Cymatium* (*M.*) *corrugatum amictum* (Reeve, 1844) (Beu, 1985). See subgenus *Monoplex*.
- *Cymatium* (*G.*) *muricinum* (Röding, 1798). Synonyms: *Cymatium tuberosum* Lamarck, 1822; *C. pyriformis* Conrad, 1849; *C. productum* Gould, 1852; *C. antillarum* d'Orbigny, 1842; *Litiopa obesa* C.B. Adams, 1850. Length: 50 mm. Distribution: southeast Florida and the West Indies to Brazil; Bermuda; Indo-Pacific (Abbott, 1974). Radula figured (Quinn, 1980). Figured. Extend distribution to the Golfo de Montijo, Panamá, and the Islas Galápagos, Ecuador

(Emerson, 1983). Synonym: *Cymatium tuberosum* Lamarck, 1822. Length: 52.5 mm. A tropical cosmopolitan species (Beu, 1985). Islas Galápagos record confirmed (Emerson, 1991).

##### Subgenus *Monoplex* Perry, 1811

- *Cymatium* (*M.*) *aquatile* (Reeve, 1844). Shell figured. Length: 96.5 mm. Distribution: Indo-West Pacific; east and west Atlantic (Beu, 1985). Protoconch and radula figured. Extend distribution to Isla del Coco, Costa Rica. A second record from Isla Cerros [*sic*] Cedros, Baja California, México, is suspect (Beu & Kay, 1988). Include the Golfo de California, México, in distribution (Emerson, 1991).
- 954 *Cymatium* (*M.*) *corrugatum amictum* (Reeve, 1844). As *Cymatium amictum tremperi* Dall, 1907, with *C. amictoideum* Keen, 1971 [1954], as a synonym. Distribution: San Diego, California, to the Golfo de California, México (Abbott, 1974). As *C. (Monoplex) corrugatum amictum*. Synonyms: *C. amictoideum* Keen, 1971 [1954]; *C. tremperi* Dall, 1907 (Beu, 1985). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Add synonyms: *Triton amictus* Reeve, 1844 and *Cymatium (Septa) pileare henicum* Woodring, 1959 (holotype figured). Extend distribution north to San Pedro, California. Length: 83.8 mm (Beu & Kay, 1988). Add to distribution: Islas Revillagigedo, México; Isla del Coco, Costa Rica; east and west Atlantic; Mediterranean (Emerson, 1991).
- *Cymatium* (*M.*) *gemmatum* (Reeve, 1844). Found in the Islas Galápagos, Ecuador (Finet, 1985). As subgenus *Monoplex*. Lectotype figured. Delete. Distribution confined to the western Pacific. Finet (1985) record is actually *C. (M.) mundum* (Gould, 1849) (Emerson, 1991).
- *Cymatium* (*M.*) *mundum* (Gould, 1849). Distribution: Indo-West Pacific (Beu, 1985). Length: 29.9 mm. Lectotype figured. Extend distribution to include the Islas Galápagos, Ecuador; Florida. Widespread throughout the Indo-Pacific (Emerson, 1991).
- *Cymatium* (*M.*) *nicobaricum* Röding, 1798. As subgenus *Cymatriton*. Synonyms: *Cymatium*

- chlorostomum* Lamarck, 1822; *C. pulchellus* C.B. Adams, 1850; *C. pumilio* Mörch, 1877. Length: 63 mm. Distribution: southeastern Florida to Brazil; Bermuda; Indo-Pacific (Abbott, 1974). Protoconch figured (Bandel, 1975). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1984c). As subgenus *Monoplex*. Distribution: Indo-West Pacific; east and west Atlantic (Beu, 1985). Known from L'île Clipperton [France] (Emerson, 1989). Include the Islas Galápagos, Ecuador, in distribution (Kay, 1991).
- 956 *Cymatium (M.) parthenopeum keenae* (Beu, 1970). As *Cymatium parthenopeum* von Salis, 1793. Synonyms: *C. costatum* Born, 1778, non Pennant, 1777; *C. australasiae* Perry, 1811; *C. americanum* d'Orbigny, 1842; *C. brasiliana* Gould, 1849; *C. echo* Kuroda & Habe, 1939; *C. keenae* Beu, 1970. Distribution: off North Carolina to Brazil; Bermuda; Golfo de California, México, to the Islas Galápagos, Ecuador; Japan (Abbott, 1974). As *C. p. keenae*. Length: 162 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Protoconch figured. Extend distribution south to northern Perú (Beu & Kay, 1988). As *C. p. parthenopeum*. Include west and east Atlantic and the Mediterranean in distribution (Emerson, 1991).
- 959 *Cymatium (M.) pileare macrodon* (Valenciennes, 1832). As *Cymatium pileare* (Linnaeus, 1758) [959]. Extend distribution south to Isla Gorgona, Colombia (Cantera, et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). As *Cymatium (M.) macrodon*. *C. pileare* is not a Panamic species (Beu, 1985). Length: 91.6 mm (Draper, 1987). Neotype figured. Distribution restricted from Isla Cerralvo, Baja California Sur, México, to Panamá, and including L'île Clipperton [France], Isla del Coco, Costa Rica and the Islas Galápagos, Ecuador (Beu & Kay, 1988). *C. macrodon* as a subspecies of *C. pileare*. Distribution: L'île Clipperton [France]; Islas Revillagigedo; Isla del Coco; Islas Galápagos; eastern and western Atlantic. The Indo-Pacific species is *C. pileare pileare* (Linnaeus, 1758) (Emerson, 1991).
- 960 *Cymatium (M.) vestitum* (Hinds, 1844). Distribution confirmed to Paita, Perú (Peña G., 1970). Distribution: Golfo de California, México, to Ecuador (Abbott, 1974). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Subgenus changed from *Septa* (Beu, 1985). Length: 117.9 mm (Draper, 1987). Protoconch figured. Distribution: Baja California, México, to Panamá and the Islas Galápagos (Beu & Kay, 1988).
- Subgenus *Reticutriton* Habe & Kosuge, 1966
- 958 *Cymatium (R.) lineatum* (Broderip, 1833). Subgenus changed from *Septa* (Beu, 1985).
- Subgenus *Turritriton* Dall, 1904
- 961 *Cymatium (T.) gibbosum* (Broderip, 1833). Add synonyms: *Cymatium kobelti* von Maltzan, 1884; *C. gomesi* Nordsieck & García-Talavera, 1979. Add west Africa to distribution (Beu, 1985). Syntype and protoconch figured. Delete *C. kobelti* and *C. gomesi* as synonyms. Extend distribution north to Isla Cedros on the west coast of Baja California, México. Depth: intertidal to 50 m (Beu & Knudsen, 1987). Length: 71 mm (Draper, 1987). Extend distribution north to Palos Verdes, California (Catarius, 1988).
- 957 *Cymatium (T.) lignarium* (Broderip, 1833). Subgenus changed (Beu, 1985). Length: 29.5 mm (Draper, 1987).
- Genus *Charonia* Gistel, 1848
- *Charonia tritonis* (Linnaeus, 1758). Length: 500 mm. Distribution: Indo-West Pacific. Depth: 3 to 25 m (Kay, 1979). Extend distribution to Isla del Coco, Costa Rica; Islas Galápagos, Ecuador. Depth: 40 m (Shasky, 1983c). Distribution confirmed to Isla Santa Cruz, Islas Galápagos. Depth: 18 m. Widely distributed in the Indo-Pacific (Emerson, 1989). Occurs in the eastern and western Atlantic and the Mediterranean as *Charonia tritonis variegata* (Lamarck, 1816) (Emerson, 1991).

Genus *Linatella* Gray, 1857

Raised from subgenus (Beu, 1985).

Subgenus *Linatella*, s. s.

- 955 *Linatella* (L.) *wiegmanni* (Anton, 1839). Genus changed from *Cymatium* (Beu, 1985). Synonym: *Cassidaria setosa* Hinds in Reeve, 1844; *Tritonium nodosum* "Martini" Menke, 1851. Lectotype selected. Protoconch figured. Length: 144.8 mm (Beu & Cernohorsky, 1986).

Subgenus *Gelagna* Schaufuss, 1869

- *Linatella* (G.) *succincta* (Linnaeus, 1771). See Beu & Cernohorsky (1986) for full synonymy. Length: 47.8 mm. Distribution: throughout the tropical Indo-West Pacific. Philippine Islands designated as type locality (Beu & Cernohorsky, 1986). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1988b).

## Family PERSONIDAE Gray, 1854

As a family (Beu, 1988).

Genus *Distorsio* Röding, 1798Synonym: *Rhysema* Clench & Turner, 1957 (Lewis, 1972).Subgenus *Distorsio*, s. s.

- *Distorsio* (D.) *clathrata* (Lamarck, 1816). Synonym: *Distorsio ridens* (Reeve, 1844). Type locality corrected to Key West, Florida. Distribution: west Atlantic (Emerson & Sage, 1990a,b). As *D. ridens*. Extend distribution to the Golfo de Chiriquí, Panamá (Parth, 1991). Delete *D. ridens* Golfo de Chiriquí, Panamá distribution. See *Distorsio jenniernestae* Emerson & Piech, 1992 (Emerson & Piech, 1992).
- 962 *Distorsio* (D.) *constricta constricta* (Broderip, 1833). Correct distribution to Máncora, Perú (not Ecuador) (Keen & Coan, 1975). Panamá, intertidal zone (Shasky 1976). Consists of three geographic subspecies: *Distorsio constricta constricta*, tropical east Pacific; *Distorsio c. macgintyi* Emerson & Puffer, 1953, western Atlantic; *Distorsio c. habei* Lewis, 1972, Japan (Lewis, 1972). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet,

1985). Include in distribution: Isla del Coco, Costa Rica; Islas Galápagos, Ecuador (Emerson, 1991). Lectotype selected. Length: 64.3 mm. Distribution: Guanacaste Province, Costa Rica, to Manta, Ecuador. Previous records from the Islas Galápagos not verifiable. Depth: intertidal to 27 m. Delete Keen (1971) figure 962. Specimen shown is *Distorsio jenniernestae* Emerson & Piech, 1992. *Distorsio habei* Lewis, 1972, treated as a separate species and not part of the *D. constricta* complex (Emerson & Piech, 1992).

- *Distorsio* (D.) *constricta habei* Lewis, 1972. Extend distribution from Japan to Oaxaca, México (Parth, 1989a). Delete. Parth (1989a) specimen a different species and of doubtful locality (Emerson & Piech, 1992).
- 963 *Distorsio* (D.) *decussata* (Valenciennes, 1832). Extend distribution south to Tumbes, Perú (Peña G., 1970). Panamá, intertidal zone (Shasky, 1975). Synonym: *Distorsio ridens* (Reeve, 1844) (Beu, 1985). Length: 95 mm (Wagner & Abbott, 1990). *D. ridens* as a synonym of *D. clathrata* (Lamarck, 1816). One of three British Museum (NH) paralectotypes (1967630) of *D. ridens* (Reeve, 1844) is referable to *D. decussata*. Another paralectotype of *D. ridens* (MCZH 186600) is also *D. decussata* (Emerson & Sage, 1990a). Neotype designated (Emerson & Piech, 1992).
- *Distorsio* (D.) *jenniernestae* Emerson & Piech, 1992. Length: 60 mm. Distribution: Golfo de California, México, to the Golfo de Panamá and the Islas Galápagos, Ecuador. Depth: intertidal to 137 m. Keen (1971) figure 962 is this species (Emerson & Piech, 1992). Include Isla del Coco, Costa Rica, in distribution (Chaney, 1992).
- *Distorsio* (D.) *minoruohnishii* Parth, 1989. Distribution: Sonora México, to the Golfo de Chiriquí, Panamá (Parth, 1989b). Synonym: *Distorsio c. constricta* Parth, 1989, non Broderip, 1833 (*pars*). Holotype figured. Type locality restricted to off Isla Macapule, Sinaloa, México. Length: 51.6 mm. Distribution: Golfo de California, México, to off Tumbes, Perú. Depth: 15 to 82 m (Emerson & Piech, 1992).

## Family BURSIDAE

Genus *Bursa* Röding, 1798



Subgenus *Bursa*, s. s.

- *Bursa* (*B.*) *asperrima* (Dunker, 1862). Distribution: L'île Clipperton [France]; Indo-West Pacific (Beu, 1985). Include Islas Galápagos, Ecuador, in distribution (Emerson, 1991).
- 965 *Bursa* (*B.*) *calcipicta* Dall, 1908. Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). A deep water species (Beu, 1985). Length: 59.2 mm (Draper, 1987).
- *Bursa* (*B.*) *rugosa* (G.B. Sowerby, 1835). Figured. Intertidal zone, Panamá (Beu, 1985).

Subgenus *Colubrellina* Fischer, 1884

- 964 *Bursa* (*C.*) *corrugata corrugata* (Perry, 1811). Synonyms: *Bursa caelata* (Broderip, 1833) [964]; *B. ponderosa* Reeve, 1844; *B. semigranosa* Lamarck, 1822; *B. louisa* Smith, 1948. *B. calcipicta* Dall, 1908 [965] may also be a synonym. Distribution: southeast Florida to Brazil; Bermuda; Baja California, México, to Ecuador (Abbott, 1974). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Add synonym: *B. caelata* (Broderip, 1833). Delete *B. ponderosa* Reeve, 1844 as a synonym (Beu, 1985). Length: 59.3 mm (Draper, 1987).
- *Bursa* (*C.*) *granularis* (Röding, 1798). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1983d). Include subgenus. An Indo-West Pacific species with many synonyms (Beu, 1985). Include in distribution: Bahía Chamela, Jalisco and Islas Revillagigedo, México; western Atlantic (Emerson, 1991).

Genus *Bufonaria* Schumacher, 1817Subgenus *Marsupina* Dall, 1904

- 966 *Bufonaria* (*M.*) *nana* (Broderip & Sowerby, 1829). Panamá, intertidal zone (Shasky, 1976). Genus and subgenus changed (Beu, 1985). Length: 69.5 mm (Draper, 1987).

Genus *Crossata* Jousseaume, 1881

- 967 *Crossata californica sonorana* (Berry, 1960).

Becomes a subspecies of *Bursa californica* (Hinds, 1988) (Abbott, 1974). Holotype figured (C. Hertz, 1984a). Genus changed (Beu, 1985). Length: 131 mm (Draper, 1987).

Suborder HETEROPODA  
Superfamily CARINARIOIDEA  
Family ATLANTIDAE  
Genus *Atlanta* Lesueur, 1817

- 838 *Atlanta brunnea* Gray, 1850. Delete here. Becomes a synonym of *Atlanta fusca* Souleyet, 1852 (van der Spoel, 1976).
- *Atlanta fusca* Souleyet, 1852. Eye figured (van der Spoel, 1972). Shell figured (Richter, 1974). Synonyms: *Atlanta helicinoides* form *fusca* van der Spoel, 1972; *A. brunnea* Gray, 1850 [838]. Protoconch and shell figured. Distribution: central México (18°N) to Perú (15°S); Atlantic, Mediterranean; Indo-Pacific (van der Spoel, 1976). Shell figured. Shell diameter: 1.9 mm. Include off Hawaii in distribution (Seapy, 1987). Shell and protoconch figured (Seapy, 1990a).
- 839 *Atlanta gaudichaudi* Souleyet, 1852. Eye figured (van der Spoel, 1972). Shell figured (Richter, 1974). Synonym: *Atlanta peroni* form *gaudichaudi* van der Spoel, 1972. Shell and protoconch figured. Shell diameter: 5 mm. Distribution: California (33°N) to Perú (15°S); Atlantic; Indo-Pacific (van der Spoel, 1976). Shell figured. Include off Hawaii in distribution (Seapy, 1987). Adult anatomy, veliger anatomy and shell, and radula figured. Include Australia in distribution (Newman, 1990).
- 840 *Atlanta helicinoides* Souleyet, 1852. Eye figured (van der Spoel, 1972). Adult and larval shells figured (Richter, 1974). Synonyms: *Atlanta helicinoides* form A Frontier, 1963. Shell figured. Shell diameter: 4 mm. Distribution: central México (ca. 18°N) to Perú (15°S); Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). Shell and radula figured (Richter, 1986b). Shell figured. Include off Hawaii in distribution (Seapy, 1987). Shell, operculum and eye figured (Seapy, 1990a).
- 841 *Atlanta inclinata* Souleyet, 1852. Delete here. Becomes a synonym of *Atlanta tokiokai* van der Spoel & Troost, 1972 (Richter, 1990;

- Seapy, 1990b)
- 842 *Atlanta inflata* Souleyet, 1852. Eye figured (van der Spoel, 1972). Veliger and animal figured (Thiriôt-Quévieux, 1973). Adult and larval shells figured (Richter, 1974). Synonyms: *Atlanta quojana* Bianco, 1903; *A. quoyii* Gray, 1850. Shell figured. Shell diameter: 3 mm. Distribution (as *A. inflata* group): California (40°N) to Perú (15°S); Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). Shell and radula figured (Richter, 1986b). Shell figured. Include off Hawaii in distribution (Seapy, 1987). Live animal and shell figured (Seapy, 1990a).
- 843 *Atlanta lesueuri* Souleyet, 1852. Eye figured (van der Spoel, 1972). Veliger and anatomy figured (Thiriôt-Quévieux, 1973). Shell figured (Richter, 1974). Synonym: *Atlanta oligogyra* Tesch, 1906. Distribution: worldwide (Abbott, 1974). Shell and veliger figured. Shell diameter: 3 mm. Distribution: California (35°N) to Perú (15°S); Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). Radula and shell figured. Delete *A. oligogyra* as a synonym (Richter, 1986a). Shell figured. Include off Hawaii in distribution (Seapy, 1987). Include off Costa Rica in distribution (Sanchez Nava & Segura Puertas, 1987). Veliger and radula figured (Lalli & Gilmer, 1989). Diameter: 1.9 mm. Live animal, shell and protoconch figured (Seapy, 1990a).
- *Atlanta peresi* Frontier, 1966. Eye figured (van der Spoel, 1972). As a possible synonym of *Atlanta peroni* Lesueur, 1817 [844] (Richter, 1974). Synonym: *A. lesueuri* form *peresi* van der Spoel, 1972. Veliger, shell and operculum figured. Shell diameter: 2.7 mm. Distribution: Ecuador (2°S) to Perú (15°S) (van der Spoel, 1976). Validity of species uncertain (Seapy, 1990a).
- 844 *Atlanta peroni* Lesueur, 1817. Eye figured (van der Spoel, 1972). Larval shell, radula and operculum figured (Thiriôt-Quévieux, 1973). Possible synonyms: *Atlanta peresi* Frontier, 1966; *A. pacifica* Tokioka, 1955. Shell figured (Richter, 1974). Synonyms: *A. rosea* Souleyet, 1852; *A. steindachneri* Oberwimmer, 1898. Shell figured. Shell diameter: 11 mm. Distribution: Oregon (45°N) to Perú (15°S) (van der Spoel, 1976). Live animal and shell figured (Newman, 1986). Shell figured. Include off Hawaii in distribution (Seapy, 1987). Shell figured (Seapy, 1990a).
- *Atlanta tokiokai* van der Spoel & Troost, 1972. As *A. inclinata* Souleyet, 1852 [841]. Eye figured (van der Spoel, 1972). Synonyms: *Atlanta gibbosa* Souleyet, 1852; *A. macrocarinata* Bonnevie, 1920. Distribution: Atlantic and Pacific (Abbott, 1974). Delete *A. gibbosa* as a synonym. Shell figured. Shell diameter: 5 mm. Distribution (as *A. inclinata* group): California (35°N) to Perú (15°S); Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). Embryonic shell and ultrastructure figured (Batten & Dumont, 1976). Include off Costa Rica in distribution (Sanchez Nava & Segura Puertas, 1987). Shell figured. Include off Hawaii in distribution (Seapy, 1987). As *A. tokiokai*. Synonym: *A. inclinata* Souleyet, 1852 [841] (Richter, 1990; Seapy, 1990b).
- 845 *Atlanta turriculata* d'Orbigny, 1836. Eye figured (van der Spoel, 1972). Shell, protoconch and operculum figured (Richter, 1974). Veliger, embryonic and adult shells figured. Shell diameter: 3 mm. Distribution: California (35°N) to Perú (15°S); Indo-Pacific (van der Spoel, 1976). Shell figured. Include off Hawaii in distribution (Seapy, 1987). Include off Costa Rica in distribution (Sanchez Nava & Segura Puertas, 1987). Live animal, operculum and shell figured (Seapy, 1990a).

Genus *Oxygyrus* Benson, 1835

- 846 *Oxygyrus keraudrenii* (Lesueur, 1817). Eye figured (van der Spoel, 1972). Anatomy and larval shell figured (Thiriôt-Quévieux, 1973). Synonyms: *Oxygyrus rangii* d'Orbigny, 1836; *O. inflatus* Benson, 1835. Distribution: off California; Panamá (Abbott, 1974). Protoconch and ultrastructure figured (Batten & Dumont, 1976). Add synonym: *Limacina helicialis* Reeve, 1842. Shell and operculum figured. Shell diameter: 10 mm. Distribution: central México (30°N) to Perú (10°S); Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). Shell figured. Include off Hawaii in distribution (Seapy, 1987). Off

Costa Rica (Sanchez Nava & Segura Puertas, 1987). Animal figured (Lalli & Gilmer, 1989). Shell figured (Seapy, 1990a).

Genus *Protatlanta* Tesch, 1908

- 847 *Protatlanta souleyeti* (Smith, 1888). Eye figured (van der Spoel, 1972). Shell figured (Richter, 1974). Protoconch and ultrastructure figured (Batten & Dumont, 1976). Synonyms: *Atlanta lamanoni* Eschscholtz, 1825; *Protatlanta mediterranea* Vatova, 1974. Shell figured. Distribution: southern México (15°N) to Perú (10°S); Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). Radula figured (Richter, 1982). Shell and anatomy figured. Include off Hawaii in distribution (Seapy, 1987). Diameter: 1.9 mm. Live animal, operculum and shell figured (Seapy, 1990a).

Family CARINARIIDAE

Genus *Carinaria* Lamarck, 1801

- *Carinaria challengerii* Bonnevie, 1920. As *C. lamarcki forma challengerii* van der Spoel, 1972. Eye figured (van der Spoel, 1972). Animal and eye figured. Body length: 40 mm. Distribution: central (20°N) to southern (15°N) México; Atlantic; Mediterranean; western Pacific (van der Spoel, 1976). As a valid species (Pafort-Van Iersel, 1983).
- 849 *Carinaria cristata* (Linnaeus, 1766). Anatomy figured (van der Spoel, 1972). Animal, eye and shell figured. Body length: 500 mm. Distribution: Canada (50°N) to Ecuador (0°); Indo-Pacific (van der Spoel, 1976). Radula figured (Lalli & Gilmer, 1989).
- 850 *Carinaria galea* Benson, 1835. Anatomy and eye figured (van der Spoel, 1972). Synonym: *Carinaria gaudichaudi* Gray, 1850. Distribution: Islas Galápagos, Ecuador; off California; Indo-Pacific (Abbott, 1974). Shell and protoconch figured. Body length: 50 mm. Distribution: Canada (55°N) to Costa Rica (10°N); Indo-Pacific (van der Spoel, 1976). Shell figured. Include off Hawaii in distribution (Seapy, 1987).
- 851 *Carinaria japonica* Okutani, 1955. As *Carinaria lamarcki* Peron & Lesueur, 1810. Anatomy and shell figured. Distribution:

40°N-30°N (Dales, 1953). Records by Dales (1953) are actually for *C. japonica* Okutani, 1955 (Seapy, pers. comm., 1992). Extend distribution from 44°N to 25°S (McGowan, 1967). Include in distribution: off southern California to near Isla Guadalupe, México (Seapy, 1974). *C. japonica* as a form of *C. cristata* (Linnaeus, 1766) [849]. Animal with shell figured. Body length: 50 mm. Distribution: Canada (45°N) to Baja California Sur, México (22°N); western Pacific (van der Spoel, 1976). Shell and anatomy figured. Include off Hawaii in distribution (Seapy, 1987).

- *Carinaria lamarcki* Peron & Lesueur, 1810. Anatomy and shell figured. Distribution: 40°N-30°N (Dales, 1953). Records by Dales (1953) are actually for *Carinaria japonica* Okutani, 1955 [851] (Seapy, pers. comm., 1992). Anatomy and eye figured (van der Spoel, 1972). Synonyms: *C. fragilis* Bory de Saint Vincent, 1804; *C. australis* Quoy & Gaimard, 1832; *C. punctata* d'Orbigny, 1836; *C. atlantica* Adams & Reeve, 1848; *C. mediterranea* Sowerby, 1820; *C. cymbium* Guerin, 1829; *C. vitrea* Lamarck, 1801. Animal, shell, protoconch and radula figured. Body length: 220 mm. Distribution: Canada (50°N) to Perú (10°S); Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). Shell figured. Include off Hawaii in distribution (Seapy, 1987).

Genus *Cardiapoda* d'Orbigny, 1835

- 852 *Cardiapoda placenta* (Lesson, 1830). Anatomy and eye figured (van der Spoel, 1972). Shell figured (Richter, 1974). Synonyms: *Cardiapoda pedunculata* d'Orbigny, 1836; *C. tracydermon*, *C. sublavis*, and *C. acuta*, all Tesch, 1906. Distribution: tropical east Pacific; Indo-Pacific; north Pacific; Gulf of México; Caribbean; West Africa (Abbott, 1974). Animal and shell figured. Body length: 50 mm. Distribution: southern México (ca. 18°N) to Perú (10°S); Atlantic; Indo-Pacific (van der Spoel, 1976). Length: ca. 30 mm. Off Costa Rica (Sanchez Nava & Segura Puertas, 1987). Animal figured (Lalli & Gilmer, 1989).
- *Cardiapoda richardi* Vayssière, 1904. Anatomy

and eye figured (van der Spoel, 1972). Animal and penis figured. Body length: 20 mm. Distribution: southern México (15°N) to Ecuador (0°); Atlantic; Indo-Pacific (van der Spoel, 1976). Length: ca. 30 mm. Off Costa Rica (Sanchez Nava & Segura Puertas, 1987).

Genus *Pterosoma* Lesson, 1827

- 853 *Pterosoma planum* (Lesson, 1827). Anatomy and eye figured (van der Spoel, 1972). Synonyms: *Carinaria depressa* Rang, 1827; *Pterosoma challengerii* Tesch, 1906; *Aloysia phyllosoma* Issel, 1911. Animal and eyes figured. Body length: 80 mm. Distribution: Golfo de Panamá; Indo-Pacific (van der Spoel, 1976). Shell and anatomy figured. Include off Hawaii in distribution (Seapy, 1987). Animal figured (Lalli & Gilmer, 1989).

Family PTEROTRACHEIDAE  
Genus *Pterotrachea* Forskål, 1775

- 854 *Pterotrachea coronata* Neibuhr, 1775, Forskål, MS. Distribution: off Baja California, México (30°N-27°N) (Dales, 1953). Anatomy and eye figured (van der Spoel, 1972). Anatomy figured (Thiriot-Quévroux, 1973). Distribution: Golfo de California, México; Indo-Pacific (Abbott, 1974). Extend distribution north to California (Keen & Coan, 1975). Author changed. Synonyms: *Pterotrachea challengerii*, *P. intermedia* and *P. microptera*, all Tesch, 1906. Animal, eyes and penis figured. Body length: 260 mm. Distribution: Canada (50°N) to Chile (25°S); Atlantic; Mediterranean; Indian Ocean (van der Spoel, 1976). Include off Hawaii in distribution (Seapy, 1985). Animal figured (Seapy & Young, 1986). Include off Costa Rica in distribution (Sanchez Nava & Segura Puertas, 1987). Veliger shell figured (Lalli & Gilmer, 1989).
- 855 *Pterotrachea hippocampus* Philippi, 1836. Distribution: off Baja California, México (32°N-27°N) (Dales, 1953). Not yet reported from the Panamic Province (van der Spoel, 1976). Anatomy and eye figured. Length: 84 mm. Include Atlantic in distribution (Pafort-van Iersel, 1983). *Pterotrachea minuta* Bonnevie, 1920 [856] may be a synonym

(Seapy, 1985). Animal, anatomy and eyes figured (Seapy & Young, 1986). Anatomy figured. Include off Hawaii in distribution (Seapy, 1987).

- 856 *Pterotrachea minuta* Bonnevie, 1920. Distribution: off Baja California, México (29°N) (Dales, 1953). Anatomy and eye figured (van der Spoel, 1972). Animal, eye and penis figured. Body length: 50 mm. Distribution: California (35°N) to Perú (10°S); Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). May be a synonym of *Pterotrachea hippocampus* Philippi, 1836 [855] (Seapy, 1985). Radula figured (Lalli & Gilmer, 1989).
- 857 *Pterotrachea scutata* Gegenbaur, 1855. Distribution: off Santa Barbara County, California (35°N) (Dales, 1953). Anatomy and eye figured (van der Spoel, 1972). Synonym: *Firola gegenbauri* Vayssièrè, 1904. Distribution: east coast of the United States; Caribbean; Mediterranean; Indo-Pacific (Abbott, 1974). Add synonym: *Pterotrachea keraudrenii* Smith, 1888. Animal and eyes figured. Body length: 200 mm. Distribution: off the Islas Galápagos, Ecuador; north Pacific; Atlantic; Mediterranean; Indo-Pacific (van der Spoel, 1976). Eyes figured (Seapy & Young, 1986). Include off Hawaii in distribution (Seapy, 1987). Animal figured (Lalli & Gilmer, 1989).

Genus *Firoloida* Lesueur, 1817

- 858 *Firoloida demarestia* Lesueur, 1817. Distribution: off Baja California, México (27°N) (Dales, 1953). Anatomy and eye figured (van der Spoel, 1972). Anatomy, veliger and larval shell figured (Thiriot-Quévroux, 1973). Synonyms: *Firoloida lesueuri* and *F. gaimardi* d'Orbigny, 1835; *F. blainvilleana* and *F. aculeata* Lesueur, 1817; *F. gracilis* and *F. vigilans* Troschel, 1855; *F. liguriae* Issel, 1910; *F. kowalewskyi* Vayssièrè, 1904. Distribution: Golfo de California, México; Caribbean; Bermuda; Indo-Pacific (Abbott, 1974). Delete *F. liguriae* Issel, 1910, as a synonym. Animal, eye, larval shell and egg string figured. Body length: 40 mm. Distribution: west coast of Baja California, México (30°N) to Chile (40°S); Atlantic;

Mediterranean; Indo-Pacific (van der Spoel, 1976). Anatomy figured. Include off Hawaii in distribution (Seapy, 1987). Include off Costa Rica in distribution (Sanchez Nava & Segura Puertas, 1987). Veliger, veliger shell and animal figured (Lalli & Gilmer, 1989).

Suborder PTENOGLOSSA Gray, 1853  
 Superfamily TRIPHOROIDEA Gray, 1847  
 Family CERITHIOPSIDAE  
 H. & A. Adams, 1853  
 Genus *Cerithiopsis* Forbes & Hanley, 1850

- 518 *Cerithiopsis adamsi* Bartsch, 1911. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 519 *Cerithiopsis anaitis* Bartsch, 1918. Distribution: Islas Tres Marías, Nayarit, México, to Panamá (Strong, 1938).
- 522 *Cerithiopsis bristolae* Baker, Hanna & Strong, 1938. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- *Cerithiopsis cassi* Baker, Hanna & Strong, 1938. Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1938).
- 526 *Cerithiopsis eiseni* Strong & Hertlein, 1939. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- *Cerithiopsis grippi* Bartsch, 1917. Length: 4.7 mm. San Diego Bay, California (Bartsch, 1917a). Extend distribution south to Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1938).
- 529 *Cerithiopsis guanacastensis* Hertlein & Strong, 1951. Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).
- 530 *Cerithiopsis guatulcoensis* Hertlein & Strong, 1951. Add Nicaragua to distribution (Hertlein & Strong, 1951). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 531 *Cerithiopsis halia* Bartsch, 1911. Distribution: Bahía Todos Santos, Baja California and Cabo San Lucas, Baja California Sur, México (Bartsch, 1911b).
- 533 *Cerithiopsis kinoi* Baker, Hanna & Strong, 1938. Distribution: off La Paz and Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1938).
- 534 *Cerithiopsis lohri* Jordan, 1936. Delete. Fossil only (Jordan, 1936).
- *Cerithiopsis oxyis* Bartsch, 1911. Distribution: Punta Abreojos, west coast of Baja California Sur, México (Bartsch, 1911b). Extend distribution to Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1938).
- 538 *Cerithiopsis perrini* Hertlein & Strong, 1951. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 540 *Cerithiopsis pupiformis* Carpenter, 1857. Extend distribution to Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1938).
- 542 *Cerithiopsis subgloriosa* Baker, Hanna & Strong, 1938. Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 40 m (F. & L. Poorman, 1988).
- 543 *Cerithiopsis tuberculoides* Carpenter, 1857. Extend distribution to include La Paz and Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1938). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Length: 5.9 mm (Draper, 1987). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Genus *Seila* A. Adams, 1861

- 557 *Seila assimolata* (C.B. Adams, 1852). Extend distribution south to Tumbes, Perú (Peña G., 1970). Lectotype figured. Delete as synonyms: *Cerithiopsis kanoni* and *C. moreleti*, both de Folin, 1867 (*nom. dub.*). Length: 2.6 mm. Distribution: Bahía Todos Santos, west coast of Baja California, México, throughout the Golfo de California and south to the Islas Galápagos, Ecuador, and northern Perú. Depth: intertidal zone to 33 m (DuShane & Draper, 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- *Seila kanoni* (de Folin, 1867). Valid species. Length: 2.7 mm. Distribution: Bahía Tepoca, Sonora, México, to Panamá and Ecuador. Depth: sublittoral zone to 28 m (DuShane & Draper, 1975).

- *Seila montereyensis* Bartsch, 1907. Extend distribution south to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Cotype figured. Length: 12.4 mm. Distribution: Mendocino County, California, to Baja California, and throughout the Golfo de California, México; possibly to Costa Rica. Depth: intertidal zone to 67 m (DuShane & Draper, 1975). Length: 19.6 mm (Draper, 1987).
- *Seila pulmoensis* DuShane & Draper, 1975. Length: 9.6 mm. Distribution: Golfo de California from San Felipe to Cabo San Lucas on the Baja California side and Mazatlán, Sinaloa, México, to Panamá. Depth: intertidal zone to 30 m (DuShane & Draper, 1975). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Family TRIFORIDAE Jousseume, 1884

As a family (Marshall, 1980).

Subfamily EUMETULINAE Thiele 1912

As a subfamily (Golikov & Starobogatov, 1975), a family (Gründel, 1980), and a subfamily (Ponder & Warén, 1988).

Genus *Eumetula* Thiele, 1912

- 552 *Eumetula bimarginata* (C.B. Adams, 1852). Extend distribution north to off La Paz, Baja California Sur, México (Bartsch, 1911b). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 6.5 mm (Draper, 1987).
- 554 *Eumetula intercalaris* (Carpenter, 1865). Extend distribution to the Golfo de California, México (Bartsch, 1911b).

Family TRIPHORIDAE Gray, 1847

Transferred from Cerithiidae by Marshall (1983).

Subfamily TRIPHORINAE

Genus *Triphora* Blainville, 1828

- 572 *Triphora alternata* C.B. Adams, 1852. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution to the Islas Galápagos, Ecuador (J. Hertz, 1976a). Extend distribution south to Manabí Province,

Ecuador (Shasky, 1984d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

- *Triphora bicolor* Bartsch, 1907. As a form of *Triphora inconspicua* [584]. Distribution: Panamá (Bartsch, 1907). As a species. Extend distribution northward to near Santa Rosalía, Baja California Sur, México (Draper, 1972).
- 573 *Triphora chamberlini* Baker, 1926. Distribution: Isla Monserrate, Golfo de California, México. Depth: 4 m (Baker, 1926). Extend distribution northeast to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 574 *Triphora chathamensis* Bartsch, 1907. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 576 *Triphora cookeana* Baker & Spicer, 1935. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 577 *Triphora dalli* Bartsch, 1907. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 9.1 mm (Draper, 1987).
- 578 *Triphora escondidensis* Baker, 1926. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 579 *Triphora evermanni* Baker, 1926. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 580 *Triphora excolpa* Bartsch, 1907. Extend distribution to Bahía la Cholla, Sonora, México (Draper, 1975). Extend distribution to the Islas Galápagos, Ecuador (J. Hertz, 1976a). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 581 *Triphora galapagensis* Bartsch, 1907. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 582 *Triphora hannai* Baker, 1926. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 10.1 mm (Draper, 1987).
- 583 *Triphora hemphilli* Bartsch, 1907. Delete. No records south of Punta Abreojos, Baja California Sur, México (Bartsch, 1907).

- 584 *Triphora inconspicua* C.B. Adams, 1852. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 587 *Triphora oweni* Baker, 1926. Distribution: Puerto Escondido, Baja California Sur, México. Depth: 5 to 11 m (Baker, 1926). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 40 m (F. & L. Poorman, 1988). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).
- 589 *Triphora panamensis* Bartsch, 1907. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972).
- 591 *Triphora peninsularis* Bartsch, 1907. Distribution: Punta Abreojos and La Paz, Baja California Sur, México (Baker, 1926). Extend distribution north to San Diego, California (Abbott, 1974).
- 592 *Triphora postalba* Bartsch, 1907. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 594 *Triphora stearnsi* Bartsch, 1907. Extend distribution north to San Diego, California (Abbott, 1974).
- *Triphora triticea* (Pease, 1861). Length: 3 mm. Distribution: Hawaii; Indian Ocean; Philippines; Okinawa; Amani Islands (Kay, 1979). Marshall (1983) implied that this species may belong to *Nanaphora* Laseron, 1958. Figured. Extend distribution to Isla del Coco, Costa Rica (Shasky, 1986a). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).
- 597 *Triphora vanduzeei* Baker, 1926. Type locality: Isla San José, Golfo de California, México (Baker, 1926). Extend distribution south to Cabo Pulmo, Baja California Sur, México (McLean, 1984d). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- Genus *Viriola* Jousseaume, 1884
- *Viriola samoana* Cernohorsky, 1977. Synonym: *Viriola abbotti* (Baker & Spicer, 1935) (Ponder, 1983). As *V. abbotti*. Length: 8.5 mm. Extend distribution to Isla del Coco, Costa Rica. Also from Samoa and Hawaii (Shasky, 1983d).
- Subfamily METAXIINAE Marshall, 1977  
Transferred from Cerithiidae (Marshall, 1983) and raised to subfamily (Marshall, 1977).  
Genus *Metaxia* Monterosato, 1884
- *Metaxia brunnicephata* (Kay, 1979). Figured. Extend distribution to Isla del Coco, Costa Rica. Depth: 20 to 100 m. Previously known from Hawaii (Shasky, 1984c).
- 555 *Metaxia convexa* (Carpenter, 1857). Synonym: *Metaxia diadema* Bartsch, 1907 [556]. Distribution: Monterey, California, to Panamá (McLean, 1978). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985). Length: 7.6 mm (Draper, 1987).
- 556 *Metaxia diadema* Bartsch, 1907. Delete here. Becomes a synonym of *Metaxia convexa* (Carpenter, 1857) [555] (McLean, 1978).
- Superfamily JANTHINOIDEA  
Family EPITONIIDAE  
Subfamily EPITONIINAE  
Genus *Asperiscala* DeBoury, 1909  
Raised from subgenus (DuShane, 1979b).
- 611 *Asperiscala acapulcana* (Dall, 1917). Holotype figured. Depth: intertidal zone to 30 m. (DuShane, 1974).
- 612 *Asperiscala billeeana* (DuShane & Bratcher, 1965). Holotype figured. Length: 25 mm. Depth: 2 to 14 m (DuShane, 1974). Golfo de Panamá, intertidal zone (DuShane, 1984). Extend distribution to: Maldives Islands; Singapore; Philippines; Australia (DuShane, 1985b). Eggs figured (Page, 1987). Radula and protoconch figured (Page & Willan, 1988).
- 613 *Asperiscala canna* (Dall, 1919). Holotype figured. Length: 22 mm. Intertidal zone and shallow water dredging (DuShane, 1974). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Panamá, intertidal zone (DuShane, 1985c).
- 614 *Asperiscala centronium* (Dall, 1917). Delete here. Becomes synonym of *Asperiscala eutaenia* (Dall, 1917) [617] (DuShane, 1974).
- 615 *Asperiscala cookeana* (Dall, 1917). Holotype figured. Distribution: San Diego, California, to La Paz, Baja California Sur; Isla Espiritu

- Santo, Golfo de California, México (DuShane, 1974). Extend distribution across the Golfo de California to Bahía de Guaymas, Sonora, México (García-Cubas & Reguero, 1987).
- 648 *Asperiscala elenense* (Sowerby, 1844). Subgenus changed from *Nitidiscala*. Holotype figured. Add synonym: *Epitonium thylax* Dall, 1917 [628]. Distribution: Bahía Concepción and Cabo Pulmo, Baja California Sur and Mazatlán, Sinaloa, México, south to Panamá. Intertidal zone (DuShane, 1974). Extend distribution to Payta [sic] Paita, Perú (Shasky, 1991a).
- 616 *Asperiscala emydonesea* (Dall, 1917). Holotype figured. Depth to 72 m (DuShane, 1974).
- 617 *Asperiscala eutaenia* (Dall, 1917). Holotype figured. Add synonym: *Epitonium centronium* (Dall, 1917) [614]. Usually dredged, but found in the intertidal zone (DuShane, 1974). Length: 13.2 mm (Draper, 1987).
- 618 *Asperiscala gradata* (Sowerby, 1844). Syntype figured. Add synonyms: *Epitonium* (?A.) *gaylordianum* Lowe, 1932 [618]; *Scalaria subnodosa* Carpenter, 1856 [659]. Distribution: Panamá and Ecuador (DuShane, 1974). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Panamá, intertidal zone (DuShane, 1985c). Length: 43.2 (Draper, 1987).
- 619 *Asperiscala habeli* (Dall, 1917). Holotype figured. Intertidal zone to 12 m (DuShane, 1974).
- 620 *Asperiscala huffmani* (DuShane & McLean, 1968). Holotype figured (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c).
- 621 *Asperiscala indistincta* (Sowerby, 1844). Holotype figured (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c). Extend distribution north to Laguna de Agiabampo, Sonora/Sinaloa, México (García-Cubas & Reguero, 1987). As *Epitonium* (*Asperiscala*). Include Isla del Coco, Costa Rica, in distribution. Depth: 20 m (Chaney, 1992).
- 622 *Asperiscala longinosanum* (DuShane, 1970). Delete here. Becomes a synonym of *Depressiscala aciculina* (Hinds, 1844) [638] (DuShane, 1974).
- 623 *Asperiscala lowei* (Dall, 1906). Cotype figured. Include the Golfo de California and Panamá in distribution. Depth: 72 to 108 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c). Radula figured (DuShane, 1979b).
- 624 *Asperiscala macleani* (DuShane, 1970). Holotype figured (DuShane, 1974). Extend distribution north to Bahía Escondido, Baja California Sur, México. Depth: 27 to 45 m (Keen & Coan, 1975).
- 625 *Asperiscala minuticosta* (de Boury, 1912). Add synonym: *Epitonium* (A.) *dallasi* Grant & Gale, 1931. Distribution: Isla Cedros, Baja California, south to Bahía Magdalena; east side of the Golfo de California and west coast of México; Islas Galápagos, Ecuador. Depth: 19 to 137 m (DuShane, 1974).
- 653 *Asperiscala obtusa* (Sowerby, 1844). Subgenus changed from *Nitidiscala*. Syntype figured. Add synonym: *Epitonium* (N.) *roberti* Dall, 1918 [656]. Distribution: Golfo de California; west Mexican coast to Colombia. Under rocks at midtide level; dredged in sandy mud to 11 m (DuShane, 1974).
- 626 *Asperiscala regulare* (Carpenter, 1856). Syntype figured. No modern records north of Panamá (DuShane, 1974).
- 627 *Asperiscala rhytidum* (Dall, 1917). Holotype figured. Known only from holotype (DuShane, 1974).
- *Asperiscala textimatta* (DuShane, 1977). Holotype figured. Distribution: Bahía Tenacatita, Jalisco, to Bahía Santiago, Colima, México. Depth: 7 to 27 m (DuShane, 1977). Length: 25.5 mm (Draper, 1987).
- 628 *Asperiscala thylax* (Dall, 1917). Delete here. Becomes synonym of *Asperiscala elenense* (Sowerby, 1844) [648] (DuShane, 1974).
- 629 *Asperiscala tinctoria* (Dall, 1919). Lectotype figured. Extend distribution north to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to 6 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c).
- 630 *Asperiscala venado* (Olsson & Smith, 1951). Holotype figured. Known only from the holotype. Panamá (DuShane, 1974).
- 631 *Asperiscala walkerianum* (Hertlein & Strong, 1951). Holotype figured. Intertidal zone to 23 m (DuShane, 1974).
- 632 *Asperiscala zeteki* (Dall, 1917). Holotype figured (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c).



Genus *Cirsotrema* Mörch, 1852

Raised from subgenus (Olsson, 1971).

- 633 *Cirsotrema togatum* (Hertlein & Strong, 1951). Include the Archiepiélago de las Perlas, Golfo de Panamá, in distribution. Depth: 62 to 70 m (Olsson, 1971). Holotype figured. Distribution: Guaymas, Sonora, to Manzanillo, Colima, México; Costa Rica; Islas Galápagos, Ecuador. Depth: 32 to 113 m (DuShane, 1974). Add throughout the Golfo de California, México, to distribution (DuShane, 1988).
- 634 *Cirsotrema vulpinum* (Hinds, 1844). Depth: dredged 18 to 54 m; diving 9 to 18 m, under ledges (DuShane, 1974). Holotype of synonym, *Cirsotrema pentodesmium* Berry, 1963, figured (C. Hertz, 1984a).

Genus *Hirtoscala* Monterosato, 1890

Raised from subgenus (DuShane, 1985c).

- 635 *Hirtoscala mitraeforme* (Sowerby, 1844). Holotype figured. Depth: 9 to 27 m (DuShane, 1974). Extend distribution south to Panamá, intertidal zone (DuShane, 1985c). Length: 19.4 mm (Draper, 1987).
- 636 *Hirtoscala reflexa* (Carpenter, 1856). Holotype figured. Distribution: Bahía Magdalena, Baja California Sur; throughout the Golfo de California to Nicaragua. Dredged, shallow water to 9 m, rarely taken in the intertidal zone (DuShane, 1974). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 637 *Hirtoscala replicata* (Sowerby, 1844). Lectotype figured. Include Panamá in distribution. Rarely taken alive in the intertidal zone, usually dredged in from 5 to 25 m (DuShane, 1974). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e).

Genus *Nitidiscala* de Boury, 1909

Raised from subgenus (DuShane, 1979).

- 638 *Nitidiscala aciculinum* (Hinds, 1844). Delete here. Genus changed. See *Depressiscala*.
- 640 *Nitidiscala arcana* (DuShane, 1979). Length 9 mm. Distribution: Golfo de California, on

the west side from San Felipe to Puertecitos, Baja California and on the east side of the Gulf from Puerto Peñasco south to Cabo Tepoca, Sonora. Intertidal zone to 18 m. *Epitonium barbarinum* Dall, 1919 [640] is an Atlantic species (DuShane, 1979a).

- 639 *Nitidiscala bakhnanstranum* (Keen, 1962). Delete here. Becomes synonym of *Nitidiscala hindsii* (Carpenter, 1856) [652] (DuShane, 1974).
- *Nitidiscala basicum* (Dall, 1917). Holotype figured. Golfo de California. No modern records. May not be a Panamic species (DuShane, 1974). Delete here. Becomes a synonym of *Gyroskala lamellosa* (Lamarck, 1822) (DuShane, 1987a).
- 641 *Nitidiscala callipeplum* (Dall, 1919). Holotype figured. Extend distribution south to Panamá (DuShane, 1974). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Panamá, intertidal zone (DuShane, 1985c).
- 642 *Nitidiscala colpoicum* (Dall, 1917). Delete here. Becomes a synonym of *Nitidiscala cumingii* (Carpenter, 1856) [645] (DuShane, 1974).
- 643 *Nitidiscala columnella* (Dall, 1917). Holotype figured. Known only from the Golfo de Panamá, in about 54 m (DuShane, 1974).
- 644 *Nitidiscala compradora* (Dall, 1917). Delete here. Becomes a synonym of *Nitidiscala hindsii* (Carpenter, 1856) [652] (DuShane, 1974).
- 645 *Nitidiscala cumingii* (Carpenter, 1856). Extend distribution south to Canas, Perú (Peña G., 1970). Holotype figured. Add synonym: *Epitonium colpoicum* Dall, 1917 [642]. Add Islas Galápagos, Ecuador, to distribution. Intertidal zone to 18 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c). Length: 11 mm (Draper, 1987).
- 646 *Nitidiscala curvilineata* (Sowerby, 1844). Holotype lost. Holotype of synonym *Epitonium imbrex* Dall, 1917, figured. Known only from Panamá, with no recent records (DuShane, 1974).
- *Nitidiscala ducalis* (Mörch, 1875). Syntype figured. Synonym: *Scalaria simillima* Tapparone-Canefri, 1876. May not be a Panamic species (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c).
- 647 *Nitidiscala durhamianum* (Hertlein & Strong,

- 1951). Holotype figured. Depth: 9 to 27 m (DuShane, 1974).
- 648 *Nitidiscala elenense* (Sowerby, 1844). Delete here. Genus changed. See *Asperiscala*.
- 649 *Nitidiscala gradata* (Sowerby, 1844). Delete here. Genus changed. See *Asperiscala*.
- 650 *Nitidiscala hancocki* (DuShane, 1970). Holotype figured. Depth: 26 to 200 m (DuShane, 1974). In line 3 read "Resembling *Epitonium* (*A.*) *habeli* Dall, 1917.." (Keen & Coan, 1975). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 651 *Nitidiscala hexagona* (Sowerby, 1844). Syntype figured. Distribution: Bahía Magdalena, Baja California Sur, Bahía de los Angeles, Baja California, south to Acapulco, México, and Panamá. Intertidal zone to ? (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c).
- 652 *Nitidiscala hindsii* (Carpenter, 1856). Syntype figured. Synonyms: *Epitonium apiculatum*, *E. compradora* [644], *E. cylindricum*, *E. musidora*, *E. pazianum* [654] all of Dall, 1917; *E. bakhanstranum* Keen, 1962 [639]. Distribution: Punta Abreojos, west coast of Baja California, throughout the Golfo de California, México, to Panamá and Perú. Depth: intertidal zone to 198 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c). Distribution: Forrester Island, Alaska, to Perú (DuShane, 1979b).
- 653 *Nitidiscala obtusa* (Sowerby, 1844). Delete here. Genus changed. See *Asperiscala*.
- 654 *Nitidiscala pazianum* (Dall, 1917). Delete here. Becomes synonym of *Nitidiscala hindsii* (Carpenter, 1856) [652] (DuShane, 1974).
- 655 *Nitidiscala polita* (Sowerby, 1844). Depth: 11 to 393 m (DuShane, 1974). Delete here. Genus changed. See *Depressiscala*.
- 656 *Nitidiscala roberti* (Dall, 1917). Delete here. Becomes a synonym of *Asperiscala obtusa* (Sowerby, 1844) [653] (DuShane, 1974).
- *Nitidiscala sawinae* (Dall, 1903). Holotypes of synonyms, *Epitonium berryi* Dall, 1907, *E. rectilaminatum* and *E. acrostephanus* both Dall, 1917, figured. Distribution: British Columbia, Canada, to Bahía Magdalena, Baja California Sur, México. Depth: 18 to 360 m (DuShane, 1979b).
- 657 *Nitidiscala shyorum* (DuShane & McLean, 1968). Holotype figured. Distribution: Bahía Concepción, Baja California Sur, to Manzanillo, Colima, México. Depth: 20 to 25 m (DuShane, 1974). Length: 17.9 mm (Draper, 1987).
- *Nitidiscala skoglundae* (DuShane, 1974). Length: 5 mm. Panamá, midtide zone (DuShane, 1974).
- 658 *Nitidiscala statuminata* (Sowerby, 1844). Lectotype figured. Intertidal zone to 36 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c). Length: 27.3 mm (Draper, 1987).
- 659 *Nitidiscala subnodosum* (Carpenter, 1856). Delete here. Becomes a synonym of *Asperiscala gradata* (Sowerby, 1844) [618] (DuShane, 1974).
- *Nitidiscala suprastrata* (Carpenter, 1857). Syntype figured. Length: 11 mm. Distribution: La Paz, Baja California Sur, to Mazatlán, Sinaloa, México. Depth: intertidal zone to 12 m (DuShane, 1974).
- 660 *Nitidiscala tabogense* (Dall, 1917). Holotype figured. Known only from holotype. Depth: 112 m (DuShane, 1974).
- *Nitidiscala tinctoria* (Carpenter, 1865). Synonyms: *Scalaria ? indianorum* var. *tinctoria* Carpenter, 1864 (lectotype figured); *Scalaria subcoronata* Carpenter, 1864 (holotype figured); *Epitonium* (*N.*) *continuum* T.S. Oldroyd, 1925 (holotype figured); *E. (N.) eelense* Durham, 1937; *E. (Nitidiscala [sic]) tinctorium* var. *bormanni* Strong, 1941 (paratype figured). Length: 15 mm. Radula figured. Distribution: Forrester Island, Alaska, to Bahía Magdalena, Baja California Sur, México (DuShane, 1979b).
- 661 *Nitidiscala willetti* (Strong & Hertlein, 1937). Holotype figured. Extend distribution south to Ecuador. Depth: 14 to 36 m (DuShane, 1974). Include Manabí Province, Ecuador, in distribution (Shasky, 1984d). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- 662 *Nitidiscala zephyrium* (Dall, 1917). Delete here. Becomes a synonym of *Gyroskala lamellosa* (Lamarck, 1822) (DuShane, 1987a).

Genus *Depressiscala* de Boury, 1909

Synonym: *Pictoscala* Dall, 1918 (DuShane, 1974). Raised from subgenus (DuShane, 1979b).

- 638 *Depressiscala aciculina* (Hinds, 1844). Genus changed from *Nitidiscala*. Synonym: *Epitonium longinosanum* DuShane, 1970 [622]. Distribution: west coast of Baja California and Nayarit, México; Central America. Depth: 9 to 54 m (DuShane, 1974). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e).
- 655 *Depressiscala polita* (Sowerby, 1844). Genus changed from *Epitonium* (*Nitidiscala*). Holotypes of synonyms, *E. pedroanum* Willett, 1932; *E. implicatum* Dall & Ochsner, 1928; and *E. appressicostatum* Dall, 1917, figured. Distribution: San Pedro, California, to the Islas Galápagos, Ecuador. Depth: 11 to 393 m (DuShane, 1974). Known in the Islas Galápagos, Ecuador, only as a fossil (Finet, 1985).
- 663 *Depressiscala purpurata* (Dall, 1917). Genus changed from *Epitonium* (*Pictoscala*). Holotype figured. Extend distribution south to northern Perú (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c).

Genus *Gyroscala* DeBoury, 1887  
Raised from subgenus (Kilburn, 1985).

- 662 *Gyroscala lamellosa* (Lamarck, 1822). Panamá, intertidal zone (DuShane, 1985c). Panamic Province synonyms: *Epitonium basicum* and *E. zephyrium* both Dall, 1917 [662]. Worldwide. For full synonymy see DuShane (1987a). Lectotype of synonym, *Scalaria perplexa* Pease, 1867, figured. (DuShane, 1987b).

Genus *Acirsa* Mörch, 1857

- 666 *Acirsa cerralvoensis* (DuShane, 1970). Holotype figured. Depth: 7 to 38 m (DuShane, 1974).
- 667 *Acirsa menesthoides* Carpenter, 1864. Possible paratype figured. Holotype of synonym, *Rissoina berryi* Baker, Hanna & Strong, 1930, [277], figured. Known only from Cabo San Lucas, Baja California Sur, México (DuShane, 1974). Extend distribution northward to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 668 *Acirsa murha* (DuShane, 1970). Holotype figured. Known only from holotype. Depth: 54 m (DuShane, 1974). Extend distribution

north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).

Genus *Alexania* Strand, 1928

- *Alexania floridana* (Pilsbry, 1945). Distribution: Puerto Lobos, Cabo Tepoca, Sonora, México; Panamá Canal (both sides); Florida; Gulf of México area; South Africa; India; Japan. Intertidal zone (Rosewater, 1976).

Genus *Alora* H. Adams, 1861

- 669 *Alora gouldii* (A. Adams, 1857). Holotype lost. Holotype of synonym *Recluzia insignis* Pilsbry & Lowe, 1932, figured. Dredged, 30 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).

Genus *Amaea* H. & A. Adams, 1853

Subgenus *Scalina* Conrad, 1865

Difference between *Scalina* and *Amaea* not justified (Bayer, 1971).

- 670 *Amaea* (*S.*) *brunneopicta* (Dall, 1908). Include Golfo de Panamá, in distribution (Bayer, 1971). Holotype figured. Correct southern distribution to Costa Rica, as species is not found in the Islas Galápagos, Ecuador. Depth: 9 to 72 m (DuShane, 1974). Length 46.6 mm (Draper, 1987). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 671 *Amaea* (*S.*) *deroyae* DuShane, 1970. Holotype figured. Dredged, 36 to 162 m (DuShane, 1974).
- 672 *Amaea* (*S.*) *ferminiana* (Dall, 1908). Holotype figured. Length: 76 mm. Extend distribution south to Perú. Depth to 1333 m (DuShane, 1974). Add synonym: *Epitonium* (*Ferminoscala*) *eleutherium* Pilsbry & Olsson, 1941 (DuShane, 1988).
- 673 *Amaea* (*S.*) *pompholyx* (Dall, 1890). Known only from the holotype. Figured (DuShane, 1974).
- 674 *Amaea* (*S.*) *tehuanaarum* DuShane & McLean, 1968. Holotype figured (DuShane, 1974).

Extend distribution south to Panamá (DuShane, 1985c). Length: 61 mm (Draper, 1987).

Genus *Amaea*, s. l.

- 675 *Amaea contexta* DuShane, 1970. Holotype figured (DuShane, 1974).

Genus *Opalia* H. & A. Adams, 1853

Replace the definition of the subgenus *Opalia*, s. s. with: No Panamic Province species seem to qualify as members of the subgenus *Opalia*, s. s. (Keen & Coan, 1975). Subgenera *Nodiscala* and *Dentiscala* are ill-defined and should be deleted (DuShane, 1979b). *Opalia* are listed alphabetically without regard to subgenus.

- 677 *Opalia colimana* (Hertlein & Strong, 1951). Holotype figured. Subgenus changed to *Nodiscala*. Known only from Manzanillo, Colima, México. Depth: 22 to 55 m (DuShane, 1974). Extend distribution to Mazatlán, Sinaloa, México (J. & C. Hertz, 1983a).
- 678 *Opalia crenatoides* (Carpenter, 1864). Holotype figured. Northern limit of distribution changed to Cabo San Lucas, Baja California, México. Depth: 2 to 5 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c).
- 682 *Opalia crystallina* (Carpenter, 1864). Holotype figured. Synonym: *Opalia espirita* Baker, Hanna & Strong, 1930 [682]. Depth: intertidal zone to 36 m (DuShane, 1974).
- 679 *Opalia diadema* (Sowerby, 1832). Syntype figured. Distribution: Islas Galápagos, Ecuador; Perú, intertidal zone (DuShane, 1974). Extend distribution northward to Panamá (DuShane, 1985c).
- 676 *Opalia exopleura* (Dall, 1917). Holotype figured. Subgenus changed to *Dentiscala*. Distribution: Bahía Concepción to Cabo San Lucas, Baja California Sur; Mazatlán, Sinaloa to Manzanillo, Colima, on the Mexican mainland (DuShane, 1974). Returned to genus *Opalia* (DuShane, 1979b). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal zone (F. &

L. Poorman, 1988).

- 680 *Opalia funiculata* (Carpenter, 1857). Lectotype figured. Delete ?*Scala gereti* DeBoury, 1913 as a synonym. Add Ecuador, including the Islas Galápagos, to the distribution. Intertidal zone, with records of dead specimens down to 30 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c). Add Tumbes Province, Perú to distribution (DuShane, 1979b). Length: 22.6 mm (Draper, 1987).
- *Opalia gereti* (de Boury, 1913). Holotype figured. Length: 4 mm. Known only from the holotype, from Acapulco, Guerrero, México (DuShane, 1974).
- 681 *Opalia infrequens* (C.B. Adams, 1852). Genus changed from *Rissoina* [282]. Synonyms: *Opalia bullata* Carpenter, 1864 [681]; *Scalaria crosseana* Tapparone-Canefri, 1876; *Opalia mazatlanica* Dall, 1908 [683]; *O. tremperi* Bartsch, 1927; *Epitonium ordenanum* Lowe, 1932. Extend distribution south to Panamá. Intertidal zone to 36 m (DuShane, 1974).
- 683 *Opalia mazatlanica* Dall, 1908. Delete here. Becomes a synonym of *Opalia infrequens* (C.B. Adams, 1852) [681] (DuShane, 1974).
- 684 *Opalia mexicana* Dall, 1908. Holotype figured. Subgenus changed to *Dentiscala*. Length: 20 mm. Distribution: Jalisco to Guerrero, México (DuShane, 1974). Extend distribution south to Panamá, intertidal zone (DuShane, 1985c). Extend distribution north to Mazatlán, Sinaloa, México (J. & C. Hertz, 1983a). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988).
- *Opalia paulula* DuShane, 1974. Holotype figured. Length: 3.5 mm. Bahía Cuastecomate, Jalisco, México. Depth: 11 m (DuShane, 1974). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 685 *Opalia sanjuanensis* (Lowe, 1932). Holotype figured. Distribution: Agua Chale (south of San Felipe), Baja California, to Santa Rosalía, Baja California Sur; Manzanillo, Colima, México; Playa Venado, Panamá. Depth: intertidal zone to 36 m (DuShane, 1974).
- 686 *Opalia spongiosa* Carpenter, 1864. Holotype figured. Holotype of synonym, *Opalia retiporosa* Carpenter, 1864, figured. Depth: 18 to 72 m (DuShane, 1974).

Genus *Sthenorytis* Conrad, 1862  
Correct date (DuShane, 1974). Raised from subgenus (DuShane, 1979b).

- 664 *Sthenorytis diana* (Hinds, 1844). Holotype figured. Add synonym: *Sthenorytis hertleini* Olsson, 1964. Extend distribution south to Ecuador. Depth: 65 to 146 m (DuShane, 1974). Panamá, intertidal zone (DuShane, 1985c).
- 665 *Sthenorytis turbinus* (Dall, 1908). Holotype figured (DuShane, 1974). Length: 50 mm (Wagner & Abbott, 1990).

#### Family JANTHINIDAE

Genus *Janthina* Röding, 1798

- 689 *Janthina prolongata* Blainville, 1822. Animal and radula figured. Length: 39 mm (Lalli & Gilmer, 1989).

Genus *Recluzia* Petit, 1853

- 690 *Recluzia palmeri* (Dall, 1871). Floats and egg capsules described. Distribution: near Puertecitos, Baja California; Playa Cachori (south of Guaymas), Sonora, to south of Bahía Matenchén, Nayarit, México (L. Poorman, 1980c). Length: 34.5 mm (Draper, 1987).

#### Family ACLIDIDAE

Genus *Aclis* Lovén, 1846

Moved from Eulimidae (Ponder & Warén, 1988).

[No changes at the species level.]

#### Superfamily EULIMOIDEA

Family EULIMIDAE Philippi, 1853

Considered the only family in the Eulimoidea (Warén, 1980). Author of Eulimidae corrected from H. & A. Adams, 1853 (Warén, 1992).

Genus *Eulima* Risso, 1826

Subgenus *Eulima*, s. s.

- 691 *Eulima (E.) acuta* (Sowerby, 1834). Also recorded from the Caribbean (Woodring, 1970). Delete here. Genus changed. See *Hypermastus*.

- 692 *Eulima (E.) barthelowi* (Bartsch, 1917). Subgenus added (Warén, 1992).
- 693 *Eulima (E.) burragei* (Bartsch, 1917). Delete here. Genus changed. See *Eulimostraca*.
- 755 *Eulima (E.) chathamensis* (Bartsch, 1917). Genus changed from *Sabinella* by Warén (1992).
- 694 *Eulima (E.) elegantissima* de Folin, 1867. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Include the Islas Galápagos in distribution (Finet, 1991).
- 695 *Eulima (E.) fuscostrigata* Carpenter, 1864. Subgenus added (Warén, 1992). Extend distribution south to the Golfo de Panamá (Koch, 1992c).
- 697 *Eulima (E.) hemphilli* (Bartsch, 1917). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Delete here. As a synonym of *Turveria schwengelae* (Bartsch, 1938) (Warén & Crossland, 1991). As a synonym of *Microeulima terebralis* (Carpenter, 1857) (Warén, 1992).
- 698 *Eulima (E.) hua* (Bartsch, 1926). Subgenus added (Warén, 1992).
- 699 *Eulima (E.) inca* (Bartsch, 1926). Subgenus added (Warén, 1992).
- 702 *Eulima (E.) lapazana* (Bartsch, 1917). Distribution: Bahía Agua Verde to Isla Cerralvo, Baja California Sur, México. Depth: 18 to 48 m (Bartsch, 1917). Length: 10.3 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Subgenus added (Warén, 1992).
- 756 *Eulima (E.) meridionalis* (Bartsch, 1917). Genus changed from *Sabinella* by Warén (1992).
- 703 *Eulima (E.) panamensis* (Bartsch, 1917). Subgenus added (Warén, 1992).
- 704 *Eulima (E.) paria* (Bartsch, 1926). Subgenus added (Warén, 1992).
- 705 *Eulima (E.) proca* de Folin, 1867. Delete here. Becomes a synonym of *Microeulima terebralis* (Carpenter, 1857) (Warén, 1992).
- 735 *Eulima (E.) recta* C.B. Adams, 1852. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution north to the Puerto Peñasco, Sonora, México, area (Draper, 1975). Genus changed. Subgenus added (Warén, 1992).

- 706 *Eulima (E.) salsa* (Bartsch, 1926). Subgenus added (Warén, 1992).
- 707 *Eulima (E.) townsendi* (Bartsch, 1917). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 12.2 mm (Draper, 1987). Subgenus added (Warén, 1992).
- 708 *Eulima (E.) varians* Sowerby, 1834. Subgenus added (Warén, 1992).

Genus *Microeulima* Warén, 1992

- *Microeulima terebralis* (Carpenter, 1857). Synonyms: *Eulima proca* de Folin, 1867 [705]; *Strombiformis hemphilli* Bartsch, 1917 [697]; *Leiostraca schwengelae* Bartsch, 1938 (holotype figured). Length: 3.28 mm. Distribution: Isla Cedros, west coast of Baja California, México, to Ecuador. Depth: intertidal to 25 m (Warén, 1992).

Genus *Melanella* Bowdich, 1822

Subgenus *Balcis* Gray, 1847

*Balcis* as a subgenus (Warén, 1983).

- 709 *Melanella (B.) abreojosensis* Bartsch, 1917. Delete. Distribution is north of the Panamic Province (Bartsch, 1917b).
- 710 *Melanella (B.) adamantina* (de Folin, 1867).
- 711 *Melanella (B.) baldra* Bartsch, 1917. Length: 7.8 mm (Draper, 1987).
- 712 *Melanella (B.) bipartita* (Mörch, 1859).
- 713 *Melanella (B.) capa* Bartsch, 1926.
- *Melanella (B.) catalinensis* Bartsch, 1917. Length: 5.2 mm. Distribution: off Santa Rosa Island, California, to Punta San Hipólito, Baja California Sur, México (Bartsch, 1917b). Anatomy figured. Distribution: Santa Barbara, California, to Mazatlán, Sinaloa, México (Brand & Munoz Ley, 1980).
- 714 *Melanella (B.) corintonis* (Hertlein & Strong, 1951).
- 715 *Melanella (B.) cosmia* Bartsch, 1917.
- 716 *Melanella (B.) dalli* Bartsch, 1917.
- 717 *Melanella (B.) drangai* (Hertlein & Strong, 1951).
- 718 *Melanella (B.) elenensis* Bartsch, 1924.
- 719 *Melanella (B.) elodia* (de Folin, 1867).
- 720 *Melanella (B.) falcata* (Carpenter, 1865). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).

- 721 *Melanella (B.) gibba* (de Folin, 1867). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Distribution: North Carolina and the Gulf of México (Abbott, 1974). Extend distribution north to the Puerto Peñasco, Sonora, México, area (Draper, 1975). Length: 3.5 mm (Draper, 1987). Extend distribution south to Ecuador (Koch, 1992c).

- 722 *Melanella (B.) gracillima* (Reeve, 1865).

- *Melanella (B.) halia* Bartsch, 1917. Figured. Distribution: Punta Abreojos, Baja California Sur, and throughout the Golfo de California, México, to Salinas, Ecuador. Depth: 14 to 16 m (Koch, 1992c).

- 723 *Melanella (B.) hastata* (Sowerby, 1834). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972).

- 724 *Melanella (B.) hemphilli* Bartsch, 1917.

- 725 *Melanella (B.) iota* (C.B. Adams, 1852).

- 726 *Melanella (B.) lastra* Bartsch, 1917. Distribution: San Pedro, California, to Bahía Magdalena, Baja California Sur, México (Bartsch, 1917b).

- 727 *Melanella (B.) linearis* (Carpenter, 1857). Delete here. Genus changed. See *Eulimostraca*.

- 728 *Melanella (B.) mexicana* Bartsch, 1917. Include Acapulco, Guerrero, México, in distribution (Bartsch, 1917b). Include Laguna de Agiabampo, Sonora/Sinaloa, México, in distribution (García-Cubas & Reguero, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988). Length: 8.7 mm (Draper, 1987).

- 729 *Melanella (B.) ochsneri* Bartsch, 1917.

- *Melanella (B.) ogasawarana* (Pilsbry, 1905). Extend distribution from Japan to Isla del Coco, Costa Rica (Shasky, 1987c).

- 730 *Melanella (B.) olssoni* Bartsch, 1924.

- 757 *Melanella (B.) opalina* (de Folin, 1867). Genus changed from *Sabinella* by Warén (1992).

- 731 *Melanella (B.) panamensis* Bartsch, 1917. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Delete here. Genus changed. See *Eulimostraca*.

- 732 *Melanella (B.) parva* (Reeve, 1866).  
 --- *Melanella (B.) peninsularis* Bartsch, 1917. Distribution: San Diego, California, to Bahía Magdalena, Baja California Sur, México (Bartsch, 1917b).
- 733 *Melanella (B.) producta* (Carpenter, 1864). Include Panamá in distribution (Bartsch, 1917b).
- 734 *Melanella (B.) pusilla* (Sowerby, 1834).
- 735 *Melanella (B.) recta* (C.B. Adams, 1852). Delete here. Genus changed. See *Eulima*.
- 736 *Melanella (B.) rexta* (Carpenter, 1857). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974).
- *Melanella (B.) rutila* (Carpenter, 1864). Distribution: British Columbia, Canada, to Bahía Magdalena, Baja California Sur, México. Depth: 18 to 543 m (Bartsch, 1917b).
- 737 *Melanella (B.) solitaria* (C.B. Adams, 1852).
- 738 *Melanella (B.) tia* Bartsch, 1926.
- 739 *Melanella (B.) townsendi* Bartsch, 1917.
- 740 *Melanella (B.) yod* (Carpenter, 1857). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 2.5 mm (Draper, 1987). Extend distribution north to Puerto Peñasco, Sonora, México (Koch, 1992c).
- Genus *Cythnia* Carpenter, 1864
- 741 *Cythnia asteriaphila* Carpenter, 1864. Delete. Not a eulimid, but a rissoellid with a peg on the operculum (Warén, 1983).
- Genus *Eulimostraca* Bartsch, 1917
- 742 *Eulimostraca bartschi* Strong & Hertlein, 1937. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Holotype figured. Length: 1.8 mm. Extend distribution to off Corrientes, México (C. & J. Hertz, 1982). Probably belongs to genus *Microeulima* Warén, 1992 (Warén, 1992).
- 693 *Eulimostraca burragei* (Bartsch, 1917). Genus changed. Synonym: *Melanella panamensis* Bartsch, 1917 [731]. Distribution: Bahía Concepción, Baja California Sur, México, and Golfo de Panamá. Depth: 5 to 110 m (Warén, 1992).
- 743 *Eulimostraca galapagensis* Bartsch, 1917. Holotype figured. Length: 3.8 mm. Extend distribution to Corinto, Ecuador (C. & J. Hertz, 1982). Include Manabí Province, Ecuador, in distribution (Shasky, 1984a). Paratype figured. Depth: 27 to 72 m (Warén, 1992).
- 727 *Eulimostraca linearis* (Carpenter, 1857). Include off La Paz and Isla Cerralvo, Baja California Sur, México in distribution (Bartsch, 1917b). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Genus changed from *Melanella*. Length: 1.84 mm (Warén, 1992).
- *Eulimostraca macleani* Warén, 1992. Length: 6.97 mm. Known only from the type lot from Bahía Herradura, Puntarenas Province, Costa Rica. Depth: 23 m (Warén, 1992).
- Genus *Eulimetta* Warén, 1992
- *Eulimetta pagoda* Warén, 1992. Length: 2.32 mm. Distribution: Punta Final, Baja California, México, to Puntarenas Province, Costa Rica. Depth: 3 to 44 m (Warén, 1992).
- Genus *Mucronalia* A. Adams, 1860
- 745 ?*Mucronalia bathymetrae* (Dall, 1908). Delete. *Nom. dub.* (Warén, 1980).
- Genus *Niso* Risso, 1826  
 Synonym: *Neovolusia* Emerson, 1965 (Warén, 1983).
- Subgenus *Niso*, s. s.
- 748 *Niso (N.) emersoni* McLean, 1970. Length: 18.3 mm (Draper, 1987).
- 753 *Niso (N.) excolpa* Bartsch, 1917. Delete subgenus *Neovolusia* (Warén, 1983).
- 749 *Niso (N.) hipolitensis* Bartsch, 1917. As genus *Eulimostraca*. Holotype figured. Extend distribution south to Costa Rica (C. & J. Hertz, 1982). As *Niso*. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). As genus *Niso* (Warén, 1992).
- 754 *Niso (N.) imbricata* (Sowerby, 1834). Holotype right figure in Keen (1971). Add

Islas Revillagigedo, México to distribution (Emerson, 1971). Delete subgenus *Neovolusia* (Warén, 1983).

751 *Niso* (*N.*) *lomana* Bartsch, 1917. Depth: 183 m (Skoglund, 1988).

759 *Niso* (*N.*) *rangii* (de Folin, 1867). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Genus changed from *Scalenostoma*. Synonym: *S. babylonia* Bartsch, 1912 [758] (holotype figured). Shell and protoconch figured. Length: 3.8 mm. Distribution: outer coast of Baja California Sur, México, from about 27°N, to Ecuador and including Isla del Coco, Costa Rica (Warén, 1992).

752 *Niso* (*N.*) *splendidula* (Sowerby, 1834). Length: 41.2 mm (Wagner & Abbott, 1990).

#### Genus *Scalenostoma* Deshayes, 1863

758 *Scalenostoma babylonia* (Bartsch, 1912). Delete here. Becomes a synonym of *Niso rangii* (de Folin, 1867) [759] (Warén, 1992).

759 *Scalenostoma rangii* (de Folin, 1867). Delete here. Genus changed. See *Niso*.

--- *Scalenostoma subulata* (Broderip, 1832). See Warén (1980) for complete synonymy. Length: 31 mm. Distribution: circumtropical in shallow water (Warén, 1980). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1983d). In living coral at 25 m. Male and female figured (Warén, 1992).

#### Genus *Sabinella* Monterosato, 1890

755 *Sabinella chathamensis* Bartsch, 1917. Delete here. Genus changed. See *Eulima*.

756 *Sabinella meridionalis* Bartsch, 1917. Delete here. Genus changed. See *Eulima*.

757 *Sabinella opalina* (de Folin, 1867). Delete here. Genus changed. See *Melanella*.

--- *Sabinella shaskyi* Warén, 1992. As *Rosenia nidorum* Pilsbry, 1956 [761]. Distribution: Mulegé and Cabo Pulmo, Baja California Sur and Islas Tres Marias, off Nayarit, México (Shasky, 1967). Shell reported by Shasky (1967) is an undescribed *Sabinella* (Warén, 1983). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). As a new species. Length: 3.6 mm. Host: *Eucidaris thourarsi*. Distribution: Isla San Pedro

Nolasco, central Golfo de California, to Cuastecomate, Jalisco, México; Isla del Coco, Costa Rica; Manabí Province and the Islas Galápagos, Ecuador. Depth: 5 to 45 m (Warén, 1992).

761 *Sabinella troglodytes* (Thiele, 1925). Synonym: *Mucronalia nidorum* Pilsbry, 1956 [761] (Warén, 1983). Delete. Distribution is outside of the Panamic Province. See *Sabinella shaskyi* Warén, 1992, for Panamic Province species (Warén, 1992).

#### Genus *Stilifer* Broderip, 1832

##### Subgenus *Stilifer*, s. s.

760 *Stilifer* (*S.*) *astericola* Broderip, 1832. Protoconch figured. Length: 9 mm. Extend distribution to Hawaii (Warén, 1980).

##### Subgenus *Pelseneeria* Kohler & Vaney, 1908

761 *Stilifer* (*P.*) *nidorum* (Pilsbry, 1956). Delete here. Genus changed. See *Sabinella*.

#### Genus *Turveria* Berry, 1956

762 *Turveria encopendema* Berry, 1956. Figured on host (Draper, 1982). Protoconch figured. Extend distribution to include Bahía San Luis Gonzaga, Baja California, and Bahía La Paz, Baja California Sur, México (Warén & Crossland, 1991).

--- *Turveria pallida* Warén, 1992. Synonym: *Turveria schwengelae* Warén & Crossland, 1991, non Bartsch, 1938. Host: *Encope grandis*. Length: 5.8 mm. Distribution: Bahía San Luis Gonzaga, Baja California, and Bahía Concepción, Baja California Sur, México (Warén, 1992).

--- *Turveria schwengelae* (Bartsch, 1938). Synonym: *Strombiformis hemphilli* Bartsch, 1917 [697]. Genus changed from *Leiostraca*. Protoconch figured. Length: 5.8 mm. Extend distribution into the Golfo de California at Bahía San Luis Gonzaga, Baja California, and Bahía Concepción, Baja California Sur, México (Warén & Crossland, 1991). Delete here. Becomes a synonym of *Microeulima terebralis* (Carpenter, 1857). *Turveria schwengelae* Warén & Crossland, 1991, non Bartsch, 1938, becomes a synonym of *Turveria*



*pallida* Warén, 1992 (Warén, 1992).

Genus *Hypermastus* Pilsbry, 1899

- 691 *Hypermastus acutus* (Sowerby, 1834). Genus provisionally changed from *Eulima*. Holotype figured. Known only from the type locality of Golfo de Montijo, Panamá (Warén & Crossland, 1991).

Genus *Thyca* H. & A. Adams, 1854

Transferred from Capulidae (Warén, 1980).

Subgenus *Bessomia* Berry, 1959

- 835 *Thyca (B.) callista* Berry, 1959. Male shell figured. Second host reported. Length: 10.5 mm. Distribution: the east coast of Baja California Sur from Isla Cerralvo to Cabo San Lucas; Bahía San Carlos, Sonora; Mazatlán, Sinaloa, to Bahía de las Banderas, Nayarit, México; Panamá (Bertsch, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Holotype figured (C. Hertz, 1984a). Add to distribution: Puerto Escondido, Baja California Sur, México (DuShane, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Add to distribution: Mulegé, Baja California Sur, México (Bertsch, 1985). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985).

Suborder NEOGASTROPODA

Superfamily MURICOIDEA

Family MURICIDAE

Subfamily MURICINAE

Genus *Haustellum* Schumacher, 1817

As a subgenus of *Murex* by Vokes (1988). As a genus (Ponder & Vokes, 1988).

- 975 *Haustellum elenensis* (Dall, 1909). Extend distribution south to Tumbes, Perú (Peña G., 1970). Lectotype of synonym, *Murex plicatus* Sowerby, 1834, figured. Length: 90 mm (D'Attilio & Hertz, 1979). Protoconch figured (Myers and D'Attilio, 1986). Distribution: Golfo de Nicoya, Costa Rica, south to Ecuador. Keen (1971) figure 975 is *Murex (H.) ruthae* Vokes, 1988, not *M. elenensis* (Dall, 1909) (Vokes, 1988).
- 977 *Haustellum lividus* (Carpenter, 1857). Valid

species (Vokes, 1984b). Length: 78.8 mm (Wagner & Abbott, 1989a).

- 976 *Haustellum recurvirostris* (Broderip, 1833). Length: 50 mm. Distribution: north only to Mazatlán, Sinaloa and La Paz, Baja California Sur, México. BMNH 1964347 figured (D'Attilio & Hertz, 1979). BMNH 1964347 designated as lectotype (Vokes, 1988).
- *Haustellum ruthae* (Vokes, 1988). Distribution: Golfo de California, México. Keen (1971) figure 975 is *Murex ruthae*, not *Haustellum elenensis* (Vokes, 1988). Length: 105.4 mm (Draper, 1987).
- 978 *Haustellum tricornis* (Berry, 1960). Valid species. Extend distribution south to Costa Rica (D'Attilio & Hertz, 1979). Holotype figured (C. Hertz, 1984a). As a subspecies of *Murex lividus* Carpenter, 1857 [1977] (Vokes, 1984a). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Length: 76.6 mm (Wagner & Abbott, 1990).

Genus *Chicoreus* Montfort, 1810

Subgenus *Phyllonotus* Swainson, 1833

Genus changed from *Hexaplex* to *Phyllonotus* by Vokes (1971). As *Chicoreus* (Vokes, 1984b). *Phyllonotus* as a subgenus (Vokes, 1988).

- 979 *Chicoreus (P.) brassica* (Lamarck, 1822). Delete here. Genus changed. See *Hexaplex*.
- 980 *Chicoreus (P.) erythrostomus* (Swainson, 1831). Include Isla Isabel, off Nayarit, México, in distribution (Llera Gonzales & Ortea Rato, 1981). Restrict distribution to the Golfo de California (Vokes, 1983). Protoconch figured (Myers & D'Attilio, 1986).
- *Chicoreus (P.) eversoni* D'Attilio, Myers & Shasky, 1987. Length: 189 mm. Endemic to Isla del Coco, Costa Rica. Depth: 66 m (D'Attilio, Myers & Shasky, 1987).
- 982 *Chicoreus (P.) peratus* (Keen, 1960). Protoconch figured (Myers & D'Attilio, 1986).
- 981 *Chicoreus (P.) regius* (Swainson, 1821). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Protoconch figured (Myers & D'Attilio, 1986). Extend distribution north to Bahía de Guaymas, Sonora, México (García-Cubas & Reguero, 1987). Length: 185 mm (Wagner &

Abbott, 1989b).

Genus *Hexaplex* Perry, 1810

Genus changed from *Muricanthus* by Vokes (1971). Subgenus *Muricanthus* Swainson, 1840, used by Vokes (1984b) then abandoned (Vokes, 1988).

- 999 *Hexaplex ambiguus* (Reeve, 1845). As a synonym of *Muricanthus radix* (Gmelin, 1791) [1003] (Radwin & D'Attilio, 1976). Valid species (Vokes, 1983). Synonym: *Murex callidinus* Berry, 1958 [1000] (Vokes, 1988). Length: 197 mm (Wagner & Abbott, 1990).
- 979 *Hexaplex brassica* (Lamarck, 1822). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Protoconch figured (Myers & D'Attilio, 1986). Length: 210 mm (Wagner & Abbott, 1989b).
- 1000 *Hexaplex callidinus* (Berry, 1958). As a synonym of *Muricanthus radix* (Gmelin, 1791) [1003] (Radwin & D'Attilio, 1976). As a valid species (Vokes, 1983). Holotype figured (C. Hertz, 1984a). Delete here. Becomes a synonym of *Hexaplex ambiguus* (Reeve, 1845) [999] (Vokes, 1988).
- 1001 *Hexaplex nigrinus* (Philippi, 1845). As a synonym of *Muricanthus radix* (Gmelin, 1791) [1003] (Radwin & D'Attilio, 1976). Valid species (Vokes, 1983). Found live at La Jolla, California (Farmer, 1987). Length: 199.9 mm (Wagner & Abbott, 1989a).
- 1002 *Hexaplex princeps* (Broderip, 1833). Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Delete *Murex norrisii* Reeve, 1846, as a synonym (D'Attilio, 1986). Length: 165 mm (Wagner & Abbott, 1989a).
- 1003 *Hexaplex radix* (Gmelin, 1791). Extend distribution south to Tumbes, Perú (Peña G., 1970). Synonyms: *Murex nitidus* Broderip, 1933; *M. ambiguus* Reeve, 1845 [999]; *M. nigrinus* Philippi, 1845 [1001]; *M. callidinus* Berry, 1958 [1000] (Radwin & D'Attilio, 1976). Extend distribution north to Isla Isabel, off Nayarit, México (Llera Gonzales &

Ortea Rato, 1991). *M. ambiguus*, *M. callidinus* and *M. nigrinus* as valid species (Vokes, 1983). Protoconch figured (Myers & D'Attilio, 1986). Distribution confined to the Golfo de Panamá (Vokes, 1988). Length: 172 mm (Wagner & Abbott, 1990).

Genus *Poirieria* Jousseau, 1880

Subgenus *Paziella* Jousseau, 1880

- 1008 *Poirieria* (*P.*) *galapagana* (Emerson & D'Attilio, 1970). Genus changed from *Paziella* to *Nipponotrophon* by Radwin & D'Attilio (1976). Changed to *Paziella* (*Paziella*) by Vokes (1983). Extend distribution north to Isla Danzante, Golfo de California, México (Skoglund, 1983). Changed to *Poirieria* (*Paziella*) by Vokes (1984b). Delete Isla Danzante distribution; shell reported by Skoglund (1983) is probably an undescribed *Muricopsis* (Vokes, 1988).

Subgenus *Pazinotus* Vokes, 1970

- *Poirieria* (*P.*) *adventus* (Poorman, 1980). Length: 18.3 mm. Off Bahía San Carlos, Sonora, México. Depth: 100 m (L. Poorman, 1980b). Genus changed from *Pazinotus* (Vokes, 1983). Extend distribution south and across the Golfo de California to off Isla Danzante, México (Skoglund, 1991e).

Genus *Pterynotus* Swainson, 1833

Subgenus *Purpurellus* Jousseau, 1880

- 1010 *Pterynotus* (*P.*) *macleani* (Emerson & D'Attilio, 1969). *Purpurellus* as genus (Radwin & D'Attilio, 1976). Extend distribution to Perú (Fair, 1976). *Purpurellus* as a subgenus (Vokes, 1983). Length: 37 mm. Extend distribution north to Bahía San Carlos area, Sonora, México. Depth: 18 m (McClincy, 1991).
- 1011 *Pterynotus* (*P.*) *pinniger* (Broderip, 1833). *Purpurellus* as a genus (Radwin & D'Attilio, 1976). *Purpurellus* as a subgenus (Vokes, 1983). Length: 80.8 mm (Wagner & Abbott, 1990). Depth: 20 m (McClincy, 1991). Extend distribution north to Bahía de los Angeles, Baja California, México (Buck, 1992).

Genus *Aspella* Mörch, 1877Moved from *Aspelininae* by Vokes (1975).

- 1012 *Aspella hastula* (Reeve, 1844). Extend distribution north to Isla del Coco, Costa Rica (Shasky, 1989e).
- *Aspella pollux* Radwin & D'Attilio, 1976. Length: 25 mm. Distribution: southern Golfo de California, México, to Costa Rica (Radwin & D'Attilio, 1976). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).
- 1013 *Aspella pyramidalis* (Broderip, 1833). Extend distribution south to Colombia (Radwin & D'Attilio, 1976). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 21.9 mm (Draper, 1987). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal area (F. & L. Poorman, 1988).
- *Aspella strepta* Vokes, 1985. Length: 11.5 mm. Endemic to the Península Azuero, Panamá (Vokes, 1985).

Genus *Dermomurex* Monterosato, 1890Transferred from *Aspelininae* and raised from subgenus (Vokes, 1975).Subgenus *Dermomurex s. s.*

- *Dermomurex (D.) gunteri* Vokes, 1985. Length: 20 mm. Endemic to the Península Azuero, Panamá. Intertidal zone, dead (Vokes, 1985).
- 1014 *Dermomurex (D.) indentatus* (Carpenter, 1857). Distribution confirmed to Panamá. Intertidal area (Shasky, 1975). Length: 35.7 mm (Wagner & Abbott, 1990).
- 1016 *Dermomurex (D.) obeliscus* (A. Adams, 1853). Extend distribution to Costa Rica (Radwin & D'Attilio, 1976). Extend distribution south to Panamá. Intertidal zone (Vokes, 1985). Protoconch figured (Myers and D'Attilio, 1986). Length: 34.7 mm (Draper, 1987).

Subgenus *Gracilimurex* Thiele, 1929

- 1017 *Dermomurex (G.) bakeri* (Hertlein & Strong, 1951). Genus changed from *Aspella* (Vokes,

1975). Text limits distribution to the Golfo de California, but figured specimens are from Manzanillo, Colima, México (Vokes, 1985). Length: 24.7 mm (Draper, 1987).

Subgenus *Takia* Kuroda, 1953

- 1015 *Dermomurex (T.) myrakeenae* (Emerson & D'Attilio, 1970). Subgenus changed to *Takia* by Vokes (1975). *Takia* as a genus (Fair, 1976). As subgenus (Vokes, 1984b). Protoconch figured (Myers & D'Attilio, 1986).

Subgenus *Trialatella* Berry, 1964

- 1019 *Dermomurex (T.) cunninghamae* (Berry, 1964). Genus changed from *Aspella*. Holotype figured (Vokes, 1975). Extend distribution south to Panamá and depth to 100 m (Vokes, 1985). Length: 22.2 mm (Draper, 1987).

Genus *Attiliosa* Emerson, 1968

- 1021 *Attiliosa nodulosa* (A. Adams, 1855). Synonym: *Coralliophila incompta* Berry, 1960 [1021]. Genus changed from *Peristernia*. Syntype figured (Bullock, 1976). Radula figured (Radwin & D'Attilio, 1978). Holotype of *Coralliophila incompta* figured (C. Hertz, 1984a).

Genus *Calotrophon* Hertlein & Strong, 1951  
Subgenus *Calotrophon s. s.*

- 1023 *Calotrophon (C.) turritus* (Dall, 1919). Add subgenus (Keen & Coan, 1975). Holotype of synonym, *Hertleinella leucostephes* Berry, 1958, figured (C. Hertz, 1984a).

## Subfamily MURICOPSINAE

Genus *Homalocantha* Mörch, 1852

- 984 *Homalocantha oxyacantha* (Broderip, 1833). Radula figured (D'Attilio & Bertsch, 1980). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Protoconch figured (Myers & D'Attilio, 1986). Length: 76.5 mm (Wagner & Abbott, 1990).
- 983 *Homalocantha tortuus* (Broderip in Sowerby, 1834). Synonym: *Murex multicrispata* Dunker, 1869 [983] (Fair, 1976).

Genus *Murexiella*

Clench &amp; Pérez Farfante, 1945

*Murexiella* as a subgenus of *Favartia* by Ponder in 1972 (D'Attilio, 1987a). As a genus (Vokes, 1988).

- 985 *Murexiella diomedaea* (Dall, 1908). Extend distribution north to off Isla Cedros on the west coast of Baja California, México (Vokes, 1970). Length: 41.2 mm. Extend distribution north to Guaymas, Sonora, México. Depth: 100 m (L. & F. Poorman, 1981). Protoconch figured. Extend distribution across Golfo de California, México, to off Isla Danzante. Figured (Hertz & D'Attilio, 1985). Include Isla del Coco, Costa Rica, in distribution (Chaney, 1992).
- 986 *Murexiella dipsacus* (Broderip, 1833). Delete here. Genus changed. See *Murexsul*.
- 987 *Murexiella exigua* (Broderip, 1833). Remove "?" preceding genus (Vokes, 1984b). Synonym: *Murexiella radicata* (Hinds, 1844) [994] (Vokes, 1988).
- 988 *Murexiella humilis* (Broderip, 1833). Synonyms: *Murexiella keenae* [989] and *M. laurae* [991] both of Vokes, 1970 (Radwin & D'Attilio, 1976). *M. keenae* and *M. laurae* as valid species (L. Poorman, 1980a). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). *M. keenae* as a synonym of *M. humilis*. Syntype, lectotype and protoconch figured (D'Attilio & Myers, 1987). Length: 34.4 mm (Draper, 1987).
- 989 *Murexiella keenae* Vokes, 1970. Delete here. Becomes a synonym of *Murexiella humilis* (Broderip, 1833) [988] (Radwin & D'Attilio, 1976). Valid species (L. Poorman, 1980a). As a synonym of *M. humilis* by D'Attilio & Myers (1987). Length: 40.7 mm (Draper, 1987).
- 990 *Murexiella lappa* (Broderip, 1833). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988). Synonyms: *Murexiella dipsacus* (Broderip, 1833) [986]; *M. radicata* (Hinds, 1844) [944] (Radwin & D'Attilio, 1976). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). *M. radicata* as a synonym of *M. exigua* (Broderip, 1833). *Murexsul dipsacus* a valid species (Vokes, 1988).
- 991 *Murexiella laurae* Vokes, 1970. Delete here. As a synonym of *Murexiella humilis* (Broderip, 1833) [988] (Radwin & D'Attilio, 1976). Valid species (L. Poorman, 1980a). Valid species. Distribution: Manzanillo, Colima, México, to Ecuador including the Islas Galápagos (D'Attilio & Myers, 1987).
- *Murexiella mildredae* Poorman, 1980. Length: 19.7 mm. Off Bahía San Carlos, Sonora, México. Depth: 100 m (L. Poorman, 1980b). Extend distribution to Bahía de los Angeles, Baja California, México, and depth to 183 m (Skoglund, 1983).
- 992 *Murexiella minuscula* (M. Smith, 1947). Possible synonym: *Murexiella lappa* (Broderip, 1833) (Fair, 1976). As a valid species (Vokes, 1983).
- *Murexiella norrisii* (Reeve, 1845). Valid species (Vokes, 1971). Redescription. Protoconch figured. Length: 40.3 mm. Distribution: Ecuador (D'Attilio, 1986). Syntype and lectotype figured. (D'Attilio & Myers, 1987).
- 993 *Murexiella perita* (Hinds, 1844). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Probable holotype and protoconch figured. Distribution: Bahía Magdalena, Baja California Sur, and Guaymas, Sonora, México, to Panamá (D'Attilio, 1987a). Length: 27.4 mm (Draper, 1987).
- 994 *Murexiella radicata* (Hinds, 1844). Delete here. As a synonym of *Murexiella lappa* (Broderip, 1833) [990] (Fair, 1976) (Radwin & D'Attilio, 1976). As a synonym of *M. exigua* (Broderip, 1833) [987] (Vokes, 1988).
- 995 *Murexiella radwini* Emerson & D'Attilio, 1970. Radula figured (Radwin & D'Attilio, 1971). Extend distribution north to Isla del Coco, Costa Rica (Shasky, 1989e).
- 996 *Murexiella santarosana* (Dall, 1905). Delete. Occurs north of the Panamic Province. No recent records on the Pacific side of Baja California south of the central region (McLean, 1978).
- *Murexiella venustula* Poorman, 1983. Length: 19.6 mm. Protoconch figured. Endemic to the Islas Galápagos, Ecuador (L. Poorman, 1983).
- 997 *Murexiella vittata* (Broderip, 1833). Extend

distribution south to Tumbes, Perú (Peña G., 1970). Synonyms: *Murex lepidus* Reeve, 1845; *M. taeniatus* Sowerby, 1860 (Radwin & D'Attilio, 1976). Delete the Islas Galápagos, Ecuador, from distribution (Finet, 1985). Length: 34.9 mm (Draper, 1987).

Genus *Murexsul* Iredale, 1915

- 986 *Murexsul dipsacus* (Broderip, 1833). Genus changed from *Murexiella*. Holotype figured (Vokes, 1984b).
- 998 *Murexsul jacquelinae* Emerson & D'Attilio, 1969. Genus changed to *Murexiella* by Radwin & D'Attilio (1976). As *Murexsul* by Vokes (1984b).

Genus *Muricopsis*

Bucquoy, Dautzenberg & Dollfus, 1892

- 1004 *Muricopsis armatus* (A. Adams, 1854). Protoconch figured (Myers & D'Attilio, 1986). Length: 43 mm (Draper, 1987). Extend distribution south to Panamá (Vokes, 1988).
- 1005 *Muricopsis jaliscoensis* Radwin & D'Attilio, 1970. Protoconch and radula figured (Radwin, 1974b). Extend distribution south to Panamá (D'Attilio, 1980). Length: 29.1 mm (Draper, 1987).
- 1006 *Muricopsis paucillus* (A. Adams, 1854). Protoconch and radula figured (Radwin, 1974). Extend distribution to Central America (Radwin & D'Attilio, 1976). Length: 16.2 mm (Draper, 1987).
- *Muricopsis tulensis* Radwin & D'Attilio, 1976. Length: 7.8 mm. Distribution: Cabo Pulmo to Cabo San Lucas, Baja California Sur, México (Radwin & D'Attilio, 1976). Protoconch figured (Myers & D'Attilio, 1986).
- *Muricopsis westonensis* Myers & D'Attilio, 1990. Endemic to Isla del Coco, Costa Rica. Length: 21.6 mm. Depth: 9 to 40 m (Myers & D'Attilio, 1990).
- 1007 *Muricopsis zeteki* Hertlein & Strong, 1951. Radula figured (Radwin & D'Attilio, 1971). Protoconch figured (Radwin, 1974b). Add Islas Galápagos, Ecuador, to distribution (Radwin & D'Attilio, 1976). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Extend distribution north to San Felipe, Baja California, México (Gemmell,

Hertz & Myers, 1980). Length: 31.4 mm (Draper, 1987).

Genus *Maxwellia* Baily, 1950

Raised from subgenus (Vokes, 1971).

- 1018 *Maxwellia angermeyerae* (Emerson & D'Attilio, 1965). Correct spelling from *angermayerae*. Genus changed from *Aspella* by Vokes (1971).

Genus *Bizetiella* Radwin & D'Attilio, 1972

- 1020 *Bizetiella carmen* (Lowe, 1935). Genus changed from *Attiliosa*. Protoconch and radula figured (Radwin & D'Attilio, 1972). Length: 15.8 mm (Draper, 1987).
- *Bizetiella micaela* Radwin & D'Attilio, 1972. Length: 9 mm. Distribution: Bahía Tenacatita to Bahía Cuastecomate, Jalisco, México. Protoconch and radula figured (Radwin & D'Attilio, 1972). Extend distribution south to Isla Salango, Ecuador (Shasky, 1984d). Length: 11.8 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e).
- *Bizetiella shaskyi* Radwin & D'Attilio, 1972. Length: 13.5 mm. Distribution: Cabo Pulmo, Baja California Sur; Islas Tres Marías and Bahía de las Banderas, Nayarit, México; Archipiélago de las Perlas, Panamá; Islas Galápagos, Ecuador. Protoconch and radula figured (Radwin & D'Attilio, 1972). Extend distribution to Moorea, French Polynesia (Shasky, 1983b). Extend distribution to Isla Salango, Ecuador (Shasky, 1984d). Length: 14 mm (Draper, 1987).

Genus *Favartia* Jousseume, 1880

Subgenus *Favartia*, s. s.

- *Favartia (F.) cocosensis* Myers & D'Attilio, 1990. Endemic to Isla del Coco, Costa Rica. Length: 9 mm. Depth: 7 to 27 m (Myers & D'Attilio, 1990).
- *Favartia (F.) garretti* (Pease, 1868). Extend distribution to include La Cruz de Huanacastle, Nayarit, México, and Isla del Coco, Costa Rica. Previously known only from the Hawaiian Islands (Shasky, 1983d). Delete. New species in press (Shasky, 1987c). See *Favartia cocosensis* Myers & D'Attilio,

1990. Delete La Cruz de Huanacastle, Nayarit, from distribution (Shasky, 1991b).
- 1028 *Favartia (F.) incisa* (Broderip, 1833). Subgenus assigned (Vokes, 1983).
- 1029 *Favartia (F.) peasei* (Tryon, 1880). Delete. A western Pacific species. Left figure only in Keen (1971) is this species (D'Attilio & Myers, 1985). See *Pygmaepterys poormani* (Radwin & D'Attilio, 1976) for the Panamic Province species.
- *Favartia (F.) shaskyi* D'Attilio & Myers, 1988. Length: 23 mm. Endemic to Isla del Coco, Costa Rica. Depth: 15 to 24 m (D'Attilio & Myers, 1988).

Subgenus *Caribiella* Perrilliat, 1972

*Caribiella* as a genus (Fair, 1976). As a subgenus of *Favartia* by Vokes (1983).

- 1027 *Favartia (C.) erosa* (Broderip, 1833). Extend distribution to the Islas Galápagos, Ecuador (Radwin & D'Attilio, 1976). Add subgenus (Vokes & D'Attilio, 1980a). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution to Manabí Province, Ecuador (Shasky, 1984d). Figured (D'Attilio, 1988). Protoconch figured (Myers & D'Attilio, 1990).
- *Favartia (C.) purdyae* Vokes & D'Attilio, 1980. Length: 16.5 mm. Radula figured. Islas Galápagos, Ecuador, intertidal zone (Vokes & D'Attilio, 1980a). Protoconch figured (Myers & D'Attilio, 1986). Extend distribution north to Isla del Coco, Costa Rica (Shasky, 1989e).

Genus *Pygmaepterys* Vokes, 1978

Raised from subgenus (Vokes & D'Attilio, 1980b). Moved from Muricinae by D'Attilio & Myers (1985).

- 1029 *Pygmaepterys poormani* (Radwin & D'Attilio, 1976). Extend distribution north to the Guaymas area, Sonora, México. Depth: 31 m (as *Ocenebra peasei* Tryon, 1880 [1029]) (DuShane & Poorman, 1967). Extend distribution south to Tumbes, Perú (as *O. peasei*) (Peña G., 1970). Length: 20 mm. Off Bahía San Carlos, Sonora, México, and Archipiélago de las Perlas, Panamá (Radwin & D'Attilio, 1976). As *Favartia (Pygmaepterys) peasei* (Tryon, 1880) with *F.*

*poormani* Radwin & D'Attilio, 1976, as a synonym (Vokes, 1984a). *Pygmaepterys poormani* as a valid species. Holotype figured. Right figure [1029] (Keen, 1971) is *P. poormani*. The left figure is *Favartia peasei*, a western Pacific species (D'Attilio & Myers, 1985).

Genus *Acanthotrophon*

Hertlein & Strong, 1951

Raised from subgenus and transferred from Trophoninae to Muricinae (Radwin & D'Attilio, 1976). Transferred from Muricinae to Muricopsinae (Radwin & D'Attilio, 1978; Vokes, 1980).

- 1041 *Acanthotrophon carduus* (Broderip, 1833). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Panamá, intertidal area (Shasky, 1975). Radula figured (Radwin & D'Attilio, 1978). Variable species (Vokes, 1980). Length: 34 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 to 100 m (F. & L. Poorman, 1988).
- 1044a *Acanthotrophon panamensis* (Olsson, 1971). Moved from *Austrotrophon* in Thaididae and may be a synonym of *Acanthotrophon sorenseni* Hertlein & Strong, 1951 [1043] (Vokes, 1988).
- 1042 *Acanthotrophon sentus* Berry, 1969. Radula figured (Radwin & D'Attilio, 1978). Extend distribution to Isla del Coco, Costa Rica (Vokes, 1980). Holotype figured (C. Hertz, 1984a). Extend distribution to Manabí Province, Ecuador (Shasky, 1984d).
- 1043 *Acanthotrophon sorenseni* (Hertlein & Strong, 1951). Extend distribution north to near Bahía San Carlos, Sonora, México (L. Poorman, 1977). Holotype figured. Extend distribution to Isla Tiburón, off Sonora, México (Vokes, 1980). Length: 35.6 mm (Draper, 1987).

Subfamily ERGALATAXINAE

Genus *Pascuala* Dall, 1908

Synonym: *Evokesia* Radwin & D'Attilio, 1972 (Vokes, 1984b).

- 1092 *Pascuala ferruginosa* (Reeve, 1846). Extend

distribution south to Tumbes, Perú (Peña G., 1970). Genus changed from *Morula*. Protoconch and radula figured (Radwin & D'Attilio, 1972). Needs new name (Vokes, 1984b). Length: 29.7 mm (Draper, 1987).

- 1022 *Pascuala rufonotata* (Carpenter, 1864). Genus changed from *Attiliosa*. Protoconch and radula figured. Distribution: Cabo Pulmo to Cabo San Lucas, Baja California Sur; Islas Tres Marías to Manzanillo, Colima; Islas Revillagigedo, México; Islas Galápagos, Ecuador (Radwin & D'Attilio, 1972). Extend distribution to Manabí Province, Ecuador (Shasky, 1984d). Length: 17.2 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 30 m (F. & L. Poorman, 1988).

Genus *Phyllocoma* Tapparone-Canefri, 1881

- 1030 *Phyllocoma scalariformis* (Broderip, 1833). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e).

Genus *Ergalatax* Iredale, 1931

- 1031 *Ergalatax buxeus* (Broderip, 1833). Genus changed from *Ocenebra* by Vokes (1984b).

Genus *Xanthochorus* Fischer, 1888

- 1097 *Xanthochorus broderipii* (Michelotti, 1841). Subfamily changed from Rapaninae by Vokes (1984b).

Subfamily TROPHONINAE

Genus *Trophonopsis*

Bucquoy & Dautzenberg, 1882

- *Trophonopsis diazi* (Durham, 1942). Length: 25.9 mm. Endemic to Canal Sal si Puedes, Golfo de California, México. Depth: 1573 m (Durham, 1942).
- *Trophonopsis hubbsi* Rokop, 1972. Length: 19.2 mm. Off Cabo Colonet, Baja California, México. Depth: 3599 to 3676 m (Rokop, 1972). Listed by Vokes (1983) as occurring in the Panamic Province. Delete. No record of occurrence south of Cabo Colonet (Vokes,

pers. comm., 1989).

- *Trophonopsis lorenzoensis* (Durham, 1942). Length: 23.3 mm. Endemic to Canal Sal si Puedes, Golfo de California, México. Depth: 1573 m (Durham, 1942).

Subfamily TYPHINAE

Classification follows D'Attilio and Hertz (1988), modified by Ponder & Warén (1988).

Genus *Haustellotyphis* Jousseau, 1880

Raised from subgenus (D'Attilio, 1975).

- 1048 *Haustellotyphis cumingii* (Broderip, 1833). Figured (D'Attilio, 1975). Extend distribution north to Manzanillo, Colima, México (Radwin & D'Attilio, 1976). Length: 21.7 mm (Draper, 1987). Radula figured (D'Attilio & Hertz, 1988). Two types of protoconchs figured (C. Hertz, 1990c).

Genus *Talityphis* Jousseau, 1882

Raised from subgenus (Radwin & D'Attilio, 1976).

- 1049 *Talityphis latipennis* (Dall, 1919). Shell and radula figured (D'Attilio & Hertz, 1988). Holotype figured (Vokes, 1988). Length: 43.1 mm (Wagner & Abbott, 1989d).

Genus *Typhisala* Jousseau, 1881

Genus changed from *Typhis* by D'Attilio (1975).

- 1050 *Typhisala clarki* (Keen & Campbell, 1964). Extend distribution to San Felipe, Baja California, México. Intertidal zone. Reported as *Typhis coronatus* (Broderip, 1833) (Gemmell, 1970). Egg capsules and larval shell figured (Gemmell, 1974). Radula figured. Shell growth morphology (Gemmell & D'Attilio, 1979). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 27.2 mm (Draper, 1987).
- 1052 *Typhisala grandis* (A. Adams, 1855). Figured (D'Attilio, 1975). Extend distribution south to Panamá (Radwin & D'Attilio, 1976). Protoconch figured (D'Attilio, 1987b). Length: 40 mm (Draper, 1987). Radula figured. (D'Attilio & Hertz, 1988).

Genus *Typhisopsis* Jousseau, 1880  
 Raised from subgenus (D'Attilio, 1975).

- 1051 *Typhisopsis coronatus* (Broderip, 1833).  
 Figured (D'Attilio, 1975). Protoconch figured  
 (D'Attilio, 1987b). Radula figured (D'Attilio  
 & Hertz, 1988).

Subfamilial assignment undetermined.

Genus *Cinclidotyphis* DuShane, 1969

- 1053 *Cinclidotyphis myrae* DuShane, 1969. Radula  
 figured (Radwin & D'Attilio, 1971). Shell  
 figured (D'Attilio, 1975). Moved from  
 Typhinae. Extend distribution north to San  
 Blas, Nayarit, México (D'Attilio, 1982).  
 Length: 20.4 mm (Draper, 1987). Radula and  
 shell figured (D'Attilio & Hertz, 1988).

Genus *Distichotyphis* Keen & Campbell, 1964

- 1054 *Distichotyphis vema* Keen & Campbell, 1964.  
 Figured (D'Attilio & Hertz, 1988).

Subfamily TRIPTEROTYPHINAE

Genus *Pterotyphis* Jousseau, 1880

- 1055 *Pterotyphis fimbriatus* (A. Adams, 1854).  
 Distribution confirmed north to Bahía de las  
 Banderas, Nayarit, México (L. Poorman, 1977).  
 Extend distribution south to Playa Jacó,  
 Puntarenas Province, Costa Rica (Hemmen &  
 Hemmen, 1980). Moved from subfamily  
 Typhinae (D'Attilio, 1982). Extend  
 distribution south to Veraguas Province,  
 Panamá (Avilés E., 1984). Length: 33 m  
 (Draper, 1987). Figured (D'Attilio & Hertz,  
 1988).

Genus *Tripterotyphis* Pilsbry & Lowe, 1932  
 Moved from Typhinae. Raised from subgenus  
 (D'Attilio, 1975).

- 1056 *Tripterotyphis arcana* (DuShane, 1969).  
 Length: 21.6 mm (Draper, 1987). Figured  
 (D'Attilio & Hertz, 1988).  
 1057 *Tripterotyphis fayae* (Keen & Campbell, 1964).  
 Extend distribution north in Baja California  
 Sur, México, to Cabo Pulmo (D'Attilio &  
 Hertz, 1984). Length: 25.9 mm (Draper,  
 1987). Radula figured (D'Attilio & Hertz, 1988).

- 1058 *Tripterotyphis lowei lowei* (Pilsbry, 1931).  
 Figured (D'Attilio, 1975). Extend distribution  
 to Isla Smith, Bahía de los Angeles, México  
 (J. Hertz, 1977d). Add to distribution: Puerto  
 Escondido, Baja California Sur, México, and  
 the Islas Galápagos, Ecuador. Also found in  
 the Solomon Islands. A subspecies,  
*Tripterotyphis lowei colemani* (Ponder, 1982),  
 is known from Australia (D'Attilio, 1979).  
 Length: 20.3 mm (Draper, 1987). Radula  
 figured. (D'Attilio & Hertz, 1988). Include  
 Isla del Coco, Costa Rica, in distribution  
 (Shasky, 1989e).

Subfamily THAIDINAE

Ocenebrinae as a synonym (Vokes, 1988).

Genus *Eupleura* H. & A. Adams, 1853

- 1024 *Eupleura muriciformis* (Broderip, 1833).  
 Extend distribution south to Máncora, Perú  
 (Peña G., 1970). Delete *Ranella triquetra*  
 Reeve, 1844, as a synonym (Radwin &  
 D'Attilio, 1976). Include Isla Gorgona,  
 Colombia, in distribution (Cantera et al.,  
 1979). Length: 59 mm (Draper, 1987).  
 1025 *Eupleura nitida* (Broderip, 1833). Extend  
 distribution south to Chimbote, Perú (Peña  
 G., 1970). Length: 23 mm (Draper, 1987).  
 1026 *Eupleura pectinata* (Hinds, 1844). Figured  
 (Radwin & D'Attilio, 1976).  
 ---- *Eupleura triquetra* (Reeve, 1844). Valid  
 species. Figured. Distribution: Cabo San  
 Lucas, Baja California Sur, México, to Panamá  
 (Radwin & D'Attilio, 1976). Length: 59 mm  
 (Draper, 1987).

Genus *Ocenebra* Gray, 1847

- 1031 *Ocenebra buxea* (Broderip, 1833). Delete  
 here. Genus changed. See *Ergalatax*.  
 1033 *Ocenebra lugubris* (Broderip, 1883). Genus  
 changed from *Ceratostoma* (Vokes, 1971).  
 Synonyms: *Murex monoceros* d'Orbigny, 1841,  
*non* Sowerby, 1841; *M. fontainei* Tryon, 1880  
 [1032]. Extend distribution to Ecuador and  
 Perú (Radwin & D'Attilio, 1976). Length:  
 38.1 mm (Draper, 1987).

Genus *Ceratostoma* Herrmannsen, 1846

- 1032 *Ceratostoma fontainei* (Tryon, 1880). Delete



here. Becomes a synonym of *Ocenebra lugubris* (Broderip, 1883)[1033] (Radwin & D'Attilio, 1976).

- 1033 *Cerastostoma lugubre* (Broderip, 1833). Delete here. Genus changed. See *Ocenebra*.
- 1034 *Cerastostoma nuttalli* (Conrad, 1837). Synonym: *Cerastostoma monoceros* (Sowerby, 1841) [1034] (Radwin & D'Attilio, 1976).
- 1035 *Cerastostoma unicombe* (Reeve, 1849). The second sentence should begin: Reeve's figure, not . . . (Keen & Coan, 1975).

Genus *Pteropurpura* Jousseau, 1880  
Subgenus *Pteropurpura*, s. s.

- 1036 *Pteropurpura* (*P.*) *erinaceoides* (Valenciennes, 1832). Genus changed to *Ocenebra* by Radwin & D'Attilio (1976). As *Pteropurpura* by D'Attilio & Myers (1983). Length: 62 mm (Draper, 1987).
- 1037 *Pteropurpura* (*P.*) *centrifuga centrifuga* (Hinds, 1844). As *Centrifuga centrifuga*. Radula figured. *Centrifuga swansoni* (Hertlein & Strong, 1951) as a separate species (Olsson, 1971). Synonyms: *Pterynotus swansoni* Hertlein & Strong, 1951; *Pteropurpura deroyana* Berry, 1968 [1038]. Extend distribution to the Islas Galápagos, Ecuador (Radwin & D'Attilio, 1976). Subgenus changed from *Centrifuga* (D'Attilio & Myers, 1983). Protoconch figured (Myers & D'Attilio, 1986). Length: 97.5 mm (Wagner & Abbott, 1990).
- 1038 *Pteropurpura* (*P.*) *centrifuga deroyana* Berry, 1968. As a synonym of *Pteropurpura centrifuga* (Hinds, 1844) [1037] (Radwin & D'Attilio, 1976). Subgenus changed from *Centrifuga* (D'Attilio & Myers, 1983). Holotype figured (C. Hertz, 1984a). *Pteropurpura deroyana* as a subspecies of *P. centrifuga* (Hinds, 1844) (Vokes, 1988). Length: 58.5 mm (Wagner & Abbott, 1989c).
- *Pteropurpura* (*P.*) *macroptera* (Deshayes, 1839). Synonyms: *Murex carpenteri* Dall, 1899; *M. petri* Dall, 1900. Distribution: Monterey, California, to Bahía Todos Santos, Baja California, México (Radwin & D'Attilio, 1976). Extend distribution into the Golfo de California off Isla Smith, Bahía de los Angeles, Baja California, México. Depth: 183 m (Skoglund, 1983). Protoconch figured (Myers & D'Attilio, 1986). Length: 75.6 mm

(Wagner & Abbott, 1990).

Subgenus *Calcitrapessa* Berry, 1959  
Moved from *Muricinae* by Vokes (1971).

- 1009 *Pteropurpura* (*C.*) *leeana* (Dall, 1890). Genus changed from *Pterynotus* to *Calcitrapessa* by Fair (1976). Genus changed from *Pterynotus* to *Pteropurpura* by Radwin & D'Attilio (1976). *Calcitrapessa* as a genus (D'Attilio & Myers, 1983). As a subgenus of *Pteropurpura* by Vokes (1983, 1984b). Length: 81 mm (Wagner & Abbott, 1990).

Genus *Pterorytis* Conrad, 1862

- 1039 *Pterorytis hamatus* (Hinds, 1844). Synonym: *Murex lugubris* Broderip in Tryon, 1888, non Broderip, 1833. Length: 38.6 mm. Radula figured. Redescription (Emerson, 1985).

Genus *Vitularia* Swainson, 1840

- 1040 *Vitularia salebrosa* (King & Broderip, 1832). Protoconch figured. Extend distribution to the Islas Galápagos, Ecuador (Radwin & D'Attilio, 1976). Extend distribution to Manabí Province, Ecuador (Shasky, 1984d). Length: 106.9 mm (Draper, 1987). Synonyms: *Vitularia ecuadorana* Marks, 1951; *V. linguabison* Vokes, 1967. Extend distribution south to Súa, Ecuador (Vokes, 1988). Radulae figured (D'Attilio, 1991). Unable to confirm Islas Galápagos distribution (Finet, 1991). Egg capsules figured (Jackson, 1992).

Genus *Mancinella* Link, 1807

Raised from subgenus (Kool, 1986).

- 1074 *Mancinella speciosa* (Valenciennes, 1832). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 55.4 mm (Draper, 1987).
- 1075 *Mancinella triangularis* (Blainville, 1832). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 32.9 mm (Draper,

1987). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991).

- 1096 *Mancinella tuberculata* (Sowerby, 1835). Genus changed from *Neorapana* (Wu, 1979). Anatomy and operculum figured (Wu, 1985). Length: 114 mm (Draper, 1987). Extend distribution south to Costa Rica (Buck, 1990). Delete distribution to Costa Rica (C. Hertz, 1990b).

Genus *Stramonita* Schumacher, 1817  
Raised from subgenus (Kool, 1987).

- 1077 *Stramonita chocolata* (Duclos, 1832). Radula figured (Radwin & D'Attilio, 1971). Length: 93.5 mm (Draper, 1987).
- 1078 *Stramonita delessertiana* (d'Orbigny, 1841). Extend distribution south to Pisco, Perú (Peña G., 1970). Possible synonym of *Thais* (*S.*) *haemastoma* Linnaeus, 1767 [1076] (Marincovich, 1973). Delete. Becomes a synonym of *Thais* (*T.*) *kiosquiformis* (Duclos, 1832) [1078] (Vokes, pers. comm., 1992).
- 1076 *Stramonita haemastoma* (Linnaeus, 1758). As *Thais haemastoma*. Synonym: *Purpura biserialis* (Blainville, 1832) [1076]. Distribution: Isla Cedros, Baja California, México, to Valparaiso, Chile; eastern and western Atlantic (Marincovich, 1973). Protoconch figured (Bandel, 1975). Anatomy figured (Houston, 1976). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 89.1 mm (Draper, 1987). Genus changed from *Thais*. Radula figured (Kool, 1987).

Genus *Thais* Röding, 1798  
Subgenus *Thaisella* Clench, 1947

- 1079 *Thais* (*T.*) *kiosquiformis* (Duclos, 1832). Length: 69.6 mm (Draper, 1987). Synonym: *Purpura delessertiana* d'Orbigny, 1841 [1078] (Vokes pers. comm., 1992).

Subgenus *Tribulus* H. & A. Adams, 1853

- 1080 *Thais* (*T.*) *planospira* (Lamarck, 1822). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include

Isla del Coco, Costa Rica in distribution (Everson, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 70.8 mm (Wagner & Abbott, 1990).

Subgenus *Vasula* Mörch, 1860

- 1081 *Thais* (*V.*) *melones* (Duclos, 1832). Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 56.9 mm (Draper, 1987).

Subgenus not assigned

- 1083 *Thais brevidentata* (Wood, 1828). Genus changed from *Acanthina* (Wu, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Anatomy and operculum figured (Wu, 1985). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 36 mm (Draper, 1987).

Genus *Acanthina* Fischer de Waldheim, 1809

- 1083 *Acanthina brevidentata* (Wood, 1828). Delete here. Genus changed. See *Thais*.
- 1082 *Acanthina lugubris angelica* I. Oldroyd, 1918. Anatomy and egg capsules figured (Houston, 1976). As a subspecies. Anatomy, radula and operculum figured. Distribution: Bahía Magdalena, throughout the Golfo de California and the Islas Tres Marías, México. Hybrids of *Acanthina lugubris lugubris* (Sowerby, 1822) [1084], with *A. l. angelica* occur throughout most of the range and include Isla Socorro, México (Wu, 1985). Length: 43.4 mm (Draper, 1987).
- 1084 *Acanthina lugubris lugubris* (Sowerby, 1822). Synonym: *Acanthina tyrianthina* Berry, 1957 [1085]. Anatomy, operculum and radula figured. Distribution: San Diego, California to Cabo San Lucas, Baja California Sur; Isla Socorro; Mazatlán, Sinaloa, México. Hybrids of *A. l. lugubris* with *A. l. angelica* I. Oldroyd, 1918 [1082], occur throughout most of the range (Wu, 1985). Delete the Islas Galápagos, Ecuador, from distribution (Finet, 1985). As *A. tyrianthina* Berry, 1957. Extend

distribution north to Bahía Kino, Sonora, México (López Rivas & Escalante Cavazos, 1987). Length: 47.2 mm (Draper, 1987).

- 1085 *Acanthina tyrianthina* Berry, 1957. Extend distribution south to Sonsonate, El Salvador (Hernandez, 1979). Holotype figured (C. Hertz, 1984a). Delete here. Becomes a synonym of *Acanthina lugubris lugubris* (Sowerby, 1822) [1084] (Wu, 1985).

Genus *Cymia* Mörch, 1860

- 1086 *Cymia tecta* (Wood, 1828). Synonym: *Purpura callosa* Sowerby, 1834, non Lamarck, 1822 (Anon., 1975). Extend distribution north to Nicaragua (Montoya, López & López, 1987).

Genus *Plicopurpura* Cossmann, 1908

- 1087 *Plicopurpura columellaris* (Lamarck, 1822). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Synonym: *Purpura pansa* Gould, 1853 [1088] (Wellington & Kuris, 1983). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Delete synonym. Anatomy discussed (Castillo Rodríguez & García-Cubas, 1987). Genus changed from *Purpura*. Radula and egg capsules figured (Kool, 1988).
- 1088 *Plicopurpura patula pansa* (Gould, 1853). Extend distribution south to Paita, Perú (Peña G., 1970). Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). As a subspecies of the Atlantic *Purpura patula* (Linnaeus, 1758). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). As a synonym of *Purpura columellaris* (Lamarck, 1822) [1087] (Wellington & Kuris, 1983). As a species. Length: 106.8 mm (Draper, 1987). Anatomy discussed (Castillo Rodríguez & García-Cubas, 1987). Extend distribution north to the Bahía San Carlos area, Sonora, México (F. & L. Poorman, 1988). Radula figured. Genus changed from *Purpura*. As a subspecies of *Plicopurpura patula* (Linnaeus, 1758). Anatomy figured (Kool, 1988).

Genus *Drupa* Röding, 1798

Subgenus *Drupa*, s. s.

- *Drupa (D.) morum morum* Röding, 1798. See Emerson & Cernohorsky (1973) for full synonymy. Radula figured. Length: 49 mm. Distribution: Red Sea and east Africa to the eastern Pacific including L'île Clipperton [France]. Intertidal area (Emerson & Cernohorsky, 1973).

- 1089 *Drupa (D.) ricinus ricinus* (Linnaeus, 1758). Probable type specimen figured. Synonym: *Drupa albolabris* (Blainville, 1832) [1089]. See Emerson & Cernohorsky (1973) for full synonymy. Radula figured. Length: 35 mm. Extend distribution to the Islas Galápagos, Ecuador (Emerson & Cernohorsky, 1973). Length: 40 mm (Wagner & Abbott, 1990).

Genus *Morula* Schumacher, 1817

Subgenus *Morula*, s. s.

- 1090 *Morula (M.) aspera* (Lamarck, 1816). Delete here. Becomes a synonym of *Morula uva* (Röding, 1798) [1091] (Radwin & D'Attilio, 1972).
- 1092 *Morula (M.) ferruginosa* (Reeve, 1846). Delete here. Genus and family changed. See *Pascula*.
- 1093 *Morula (M.) lugubris* (C.B. Adams, 1852). Delete here. Genus changed. See *Trachypollia*.
- 1091 *Morula (M.) uva* (Röding, 1798). Synonym: *Morula aspera* (Lamarck, 1816) [1090] (Radwin & D'Attilio, 1972). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1989e).

Genus *Nassa* Röding, 1798

- *Nassa francolinus* (Bruguière, 1789). Extend distribution to L'île Clipperton [France] (Emerson, 1978). Distribution: Indian Ocean (Kay, 1979).

Genus *Trachypollia* Woodring, 1928

- 1093 *Trachypollia lugubris* (C.B. Adams, 1852). Genus changed from *Morula* and subfamily to Ocenebrinae. Protoconch and radula figured. Distribution: Redondo Beach, California, to Panamá (Radwin & D'Attilio, 1972). Include Isla del Malpelo, Colombia, in distribution (Birkeland, et al., 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to Manabí

Province, Ecuador (Shasky, 1984d). Length: 23 mm (Draper, 1987).

Subfamily RAPANINAE

Genus *Austrotrophon* Dall, 1902

Moved from Muricidae by Vokes (1983). Raised from subgenus (Vokes, 1988).

- 1044 *Austrotrophon cerrosensis* (Dall, 1891). Extend distribution into the Golfo de California off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Extend distribution across the Golfo de California and north to off Isla Smith, Bahía de los Angeles, Baja California, México. Depth: 183 m (Skoglund, 1988). Length: 74.7 mm (Wagner & Abbott, 1990).
- 1044a *Austrotrophon panamensis* (Olsson, 1971). Delete here. Genus and subfamily changed. See *Acanthotrophon*.
- 1045 *Austrotrophon pinnatus* (Dall, 1902).

Genus *Forreria* Jousseaume, 1880

Subgenus *Zacatrophon*

Hertlein & Strong, 1951

- 1046 *Forreria* (Z.) *beebei* (Hertlein & Strong, 1948). Transferred from Muricidae by Vokes (1983). Length: 76.8 mm (Draper, 1987). Genus changed. Holotype and radula figured. Mature shells with foliate varices. Distribution: southwestern end of Baja California Sur; Isla San Marcos to the Gorda Banks on the Baja side of the Golfo de California; Guaymas, Sonora on the mainland side of the Golfo de California, México (Myers & Hertz, 1990).

Genus *Neorapana* Cooke, 1918

- 1094 *Neorapana grandis* (Sowerby, 1835, ex Gray, MS). Length: 94.3 mm (Draper, 1987).
- 1095 *Neorapana muricata* (Broderip, 1832). Extend distribution south to Máncora, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 103.6 mm (Draper, 1987). Include Islas Galápagos, Ecuador, in distribution (Shasky, 1989a). Include Isla del Coco, Costa Rica, in distribution (Chaney, 1992).
- 1096 *Neorapana tuberculata* (Sowerby, 1835). Delete

here. Genus changed. See *Mancinella*.

Family CORALLIOPHILIDAE

Genus *Coralliophila* H. & A. Adams, 1853

Subgenus *Coralliophila*, s. s.

- 1060 *Coralliophila* (C.) *macleani* Shasky, 1970. Include Cabo San Lucas, Baja California Sur, México, in distribution (Shasky, 1970). Length: 24.3 mm (Draper, 1987). Extend distribution south to Bahía Chamela, Jalisco, México (Roman Contreras, Cruz Abrego & Ibañez Aguirre, 1991).
- *Coralliophila* (C.) *rocasuciaae* Myers & D'Attilio, 1990. Endemic to Isla del Coco, Costa Rica. Length: 9.3 mm. Depth: 7 to 27 m (Myers & D'Attilio, 1990).
- 1061 *Coralliophila* (C.) *violacea* (Kiener, 1836). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1983d). Protoconch figured (as *Coralliophila neritoidea* (Lamarck, 1816)[1061]) (D'Attilio & Myers, 1984). Synonym: *C. neritoides* [sic] *neritoidea* (Lamarck, 1816). Length: 36 mm (Kay, 1979). See Cernohorsky (1985) for full synonymy. Distribution: tropical Indo-Pacific (Cernohorsky, 1985).

Subgenus *Pseudomurex* Monterosato, 1872

- 1063 *Coralliophila* (P.) *costata* (Blainville, 1832). Delete here. Genus changed. See *Babelomurex*.
- 1064 *Coralliophila* (P.) *nux* (Reeve, 1846). Extend distribution south to Tumbes, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Types figured (Kosuge & Suzuki, 1985). Length: 35.9 mm (Draper, 1987).
- 1065 *Coralliophila* (P.) *orcuttiana* Dall, 1919. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Type figured (Kosuge & Suzuki, 1985). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985). Extend distribution north to off Punta San Antonio, Sonora, México. Length: 38.3 mm (Draper, 1987).
- 1066 *Coralliophila* (P.) *parva* (E. A. Smith, 1877). Protoconch figured (D'Attilio, 1972). Type figured (Kosuge & Suzuki, 1985). Length: 26.6 mm (Draper, 1987).

Genus *Babelomurex* Coen, 1922

Raised from subgenus (D'Attilio & Myers, 1984).

- 1063 *Babelomurex costata* (Blainville, 1832). Protoconch figured (D'Attilio, 1972). Genus changed from *Coralliophila* (D'Attilio & Myers, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985). Length: 34.4 mm (Draper, 1987).
- *Babelomurex deroyorum* D'Attilio & Myers, 1984. Protoconch figured. Length: 28.8 mm. Off Isla Isabela, Islas Galápagos, Ecuador. Depth: 75 to 100 m (D'Attilio & Myers, 1984).
- 1068 *Babelomurex hindsii* (Carpenter, 1857). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985). Length: 43.4 mm (Wagner & Abbott, 1990). Extend distribution to Guayas Province, Ecuador (Skoglund, 1990b).
- 1069 *Babelomurex santacruzensis* (Emerson & D'Attilio, 1970). Type figured (Kosuge & Suzuki, 1985). Length: 44.4 mm (Wagner & Abbott, 1990). As *Latiaxis* (*Babelomurex*). Extend distribution north to Isla del Coco, Costa Rica, and minimum depth to 100 m (Chaney, 1992).

Genus *Coralliobia* (H. & A. Adams, 1853)  
As a subgenus of *Coralliophila* by Kosuge & Suzuki (1985). As a genus (Emerson, 1991).

- 1070 *Coralliobia cumingii* (H. & A. Adams, 1864). Delete. See *Reliquiaecava robillardi* (Liénard, 1890).
- *Coralliobia fimbriata* (A. Adams, 1854). An Indo-West Pacific species found on L'île Clipperton [France]. May be a synonym of *Reliquiaecava robillardi* (Liénard, 1870) (Emerson 1991).

Genus *Magilus* Montfort, 1810

- *Magilus robillardi* (Liénard, 1870). Extend distribution to L'île Clipperton [France] (Emerson, 1978). Delete here. Genus changed. See *Reliquiaecava*.

Genus *Quoyula* Iredale, 1912

- 1071 *Quoyula madreporarum* (Sowerby, 1834). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include in distribution: L'île Clipperton [France]; Islas Revillagigedo, México; Colombia; Adriatic Sea; eastern Atlantic Ocean (Emerson, 1983). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). As genus *Coralliophila*. Synonym: *Quoyula monodonta* (Blainville, 1832) [1072] (Kosuge & Suzuki, 1985). Length: 29.3 mm (Draper, 1987). As *Quoyula*. Add to distribution: Bahía Balandra to Cabo Pulmo, Baja California Sur; Bahía Jaltemba, Nayarit; Barra de Navidad, Jalisco, México; Panamá; Colombia; Ecuador (Emerson, 1991).
- 1072 *Quoyula monodonta* (Blainville, 1832). Line 1: correct date is 1832 [not 1882] (Keen & Coan, 1975). Extend distribution south to Isla Gorgona, Colombia (Cantera, et al., 1979). Delete here. Becomes a synonym of *Coralliophila madreporarum* (Sowerby, 1834) [1071] (Kosuge & Suzuki, 1985).

Genus *Reliquiaecava* Massin, 1987

- *Reliquiaecava robillardi* (Liénard, 1870). As *Coralliophila* (*Coralliobia*) *cumingii* (H. & A. Adams, 1864) [1070]. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Extend distribution to the Islas Galápagos, Ecuador. *C. robillardi* distribution restricted to Mauritius (Kosuge & Suzuki, 1985). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e). Genus changed from *Leptoconchus*. Embryonic shell, protoconch and anatomy figured (Massin, 1987). Possible synonyms: *Campulotus cumingii* H. & A. Adams, 1864 [1070]; *Concholepas* (*Coralliobia*) *fimbriata* A. Adams, 1854 (Emerson, 1991).

Genus *Rhizochilus* Steenstrup, 1850

- *Rhizochilus* sp. aff. *R. antipathus* Steenstrup, 1850. Off Cabo Haro, Guaymas, Sonora, México (L. Poorman, 1981c). Add Isla la Plata, Ecuador, to distribution (Emerson, 1991).

## Family BUCCINIDAE

## Subfamily BUCCININAE

Genus *Colubraria* Schumacher, 1817

Transferred from Colubrariidae (Abbott, 1974).

Subgenus *Colubraria*, s. s.

- 969 *Colubraria* (*C.*) *lucasensis* Strong & Hertlein, 1937. Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 42.5 mm (Draper, 1987). Include Isla la Plata, Ecuador, in distribution (Shasky, 1988a).
- 970 *Colubraria* (*C.*) *ochsneri* Hertlein & Allison, 1968. Extend distribution south to Isla del Malpelo, Colombia (Birkeland, et al., 1975). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 971 *Colubraria* (*C.*) *procera* (Sowerby, 1832). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 80.2 mm (Draper, 1987).

Genus *Bailya* Smith, 1944

- 1098 *Bailya anomala* (Hinds, 1844). Extend distribution south to Playas del Coco, Guanacaste, Costa Rica (Spight, 1976). Length: 20.6 mm (Draper, 1987). Extend distribution south to Isla del Coco, Costa Rica (Shasky, 1989e).

Genus *Bayerius* Olsson, 1971

- 1347 *Bayerius fragilissimus* (Dall, 1908). Genus changed from *Fusinus*. Radula figured. Distribution: off Panamá and Ecuador. Depth: 2877 to 3200 m (Olsson, 1971).

Genus *Caducifer* Dall, 1904

- 1099 *Caducifer biliratus* (Reeve, 1846). As *Colubraria* (*Monostiolium*) *biliratus* (Reeve, 1846) (Abbott, 1974). Length: 35.8 mm (Draper, 1987). Remove subgenus. Genus uncertain (Watters & Finlay, 1989).
- 1100 *Caducifer cinis* (Reeve, 1846). Length: 34.3 mm (Draper, 1987). Remove subgenus. Genus uncertain (Watters & Finlay, 1989).
- 1102 *Caducifer nigricostatus* (Reeve, 1846). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution

north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Remove subgenus. Genus uncertain (Watters & Finlay, 1989). Delete distribution to off Bahía San Carlos (Poorman, pers. comm., 1991).

Genus *Monostiolium* Dall, 1904

Raised from subgenus (Watters & Finlay, 1989).

- 1101 *Monostiolium crebristriatum* (Carpenter, 1856). Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 25.2 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 40 to 100 m (F. & L. Poorman, 1988). Holotype figured (Watters & Finlay, 1989).
- 1103 *Monostiolium pictum* (Reeve, 1844). Syntype figured (Cernohorsky, 1975b).

Genus *Cantharus* Röding, 1798

Synonym: *Muricantharus* Olsson, 1971 (Cernohorsky, 1975b).

Subgenus *Cantharus*, s. s.

- 1104 *Cantharus* (*C.*) *panamicus* (Hertlein & Strong, 1951). Radula figured. Extend distribution south to Buenaventura, Colombia. Depth: 60 to 91 m (Olsson, 1971).
- 1105 *Cantharus* (*C.*) *rehderi* Berry, 1962. Holotype figured (C. Hertz, 1984a). Include Isla del Coco, Costa Rica, in distribution (Chaney, 1992).
- 1106 *Cantharus* (*C.*) *shaskyi* Berry, 1959. Holotype figured (C. Hertz, 1984a). Length: 47.3 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- Subgenus *Pollia* Gray in Sowerby, 1834  
Synonym: *Gemophos* Olsson & Harbison, 1953 (Cernohorsky, 1975b).
- 1107 *Cantharus* (*P.*) *berryi* McLean, 1970.
- 1108 *Cantharus* (*P.*) *elegans* (Griffith & Pidgeon, 1834, ex Gray, MS). Length: 64.9 mm

- (Draper, 1987).
- *Cantharus (P.) fumosus* (Dillwyn, 1817). Distribution: throughout the Indo-Pacific. Length: 7.8 mm. Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1988b).
- 1109 *Cantharus (P.) gemmatus* (Reeve, 1846). Extend distribution south to Tumbes, Perú (Peña G., 1970). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 38.3 mm (Draper, 1987).
- 1110 *Cantharus (P.) janellii* (Kiener, 1835-36).
- 1111 *Cantharus (P.) lautus* (Reeve, 1846).
- 1112 *Cantharus (P.) pagodus* (Reeve, 1846). Extend distribution south to Tumbes, Perú (Peña G., 1970). Length: 57.6 mm (Draper, 1987).
- 1113 *Cantharus (P.) pastinaca* (Reeve, 1846). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).
- 1114 *Cantharus (P.) ringens* (Reeve, 1846). Extend distribution south to Tumbes, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 29.4 mm (Draper, 1987).
- 1115 *Cantharus (P.) sanguinolentus* (Duclos, 1833). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 32.1 mm (Draper, 1987).
- 1116 *Cantharus (P.) vibex* (Broderip, 1833). Extend distribution south to Máncora, Perú (Peña G., 1970). Length: 37.5 mm (Draper, 1987).
- Subgenus *Solenosteira* Dall, 1890  
Changed from genus (Abbott, 1974; Cernohorsky, 1975b).
- 1117 *Cantharus (S.) anomala* (Reeve, 1847). Delete here. Becomes a form of *Cantharus pallidus* (Broderip & Sowerby, 1829) [1123] (Abbott, 1974).
- 1118 *Cantharus (S.) capitanea* (Berry, 1957). Delete. Becomes a synonym of *Cantharus pallidus* (Broderip & Sowerby, 1829) [1123] (Abbott, 1974).
- 1119 *Cantharus (S.) fusiformis* (Blainville, 1832).
- 1120 *Cantharus (S.) gatesi* (Berry, 1963). Extend distribution south to the Golfo de Fonseca, El Salvador (Hernandez, 1979). Holotype figured (C. Hertz, 1984a). Length: 76.7 mm (Wagner & Abbott, 1990). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).
- 1121 *Cantharus (S.) macrospira* (Berry, 1957). Egg capsules figured (Gemmell, 1973). Eggs figured (Houston, 1978). Holotype figured (C. Hertz, 1984a). Extend distribution south to Laguna de Agiabampo, Sonora/Sinaloa, México (García-Cubas & Reguero, 1987). Length: 78.6 mm (Wagner & Abbott, 1990).
- 1122 *Cantharus (S.) mendozana* (Berry, 1959). Holotype figured (C. Hertz, 1984a). Length: 84.6 mm (Draper, 1987).
- 1123 *Cantharus (S.) pallidus* (Broderip & Sowerby, 1829). Distribution confirmed to Tumbes, Perú (Peña G., 1970). Synonyms: *Pyrula lignaria* Reeve, 1847; *Fusus turbinelloides* Reeve, 1848; *Hanetia capitanea* Berry, 1957 [1118]; *Cantharus (P.) anomala* Reeve, 1847 [1117] as a form of *C. pallidus*. Distribution: Baja California, México, to Ecuador (Abbott, 1974). Holotype of synonym, *Hanetia capitanea*, figured (C. Hertz, 1984a). Length: 69.3 mm (as *S. capitanea*) (Wagner & Abbott, 1990).
- Genus *Clivipollia* Iredale, 1929
- *Clivipollia costata* (Pease, 1860). Synonym: *Peristernia thaanumi* Pilsbry & Bryan, 1918. Holotype figured. Length: 16.5 mm. Distribution: Hawaii (Cernohorsky, 1975b). Extend distribution to L'île Clipperton [France] (as *Peristernia thaanumi*) (Emerson, 1978).
- *Clivipollia fragarius* (Wood, 1828). Distribution: throughout the Indo-West Pacific (Kay, 1979). As *Cantharus*. Synonyms: *Turbinella carolinae* Kiener, 1841; *Ricinula bella* Reeve, 1846. Length: 26.5 mm. Extend distribution to Isla del Coco, Costa Rica (Shasky, 1987a).
- Genus *Engina* Gray, 1839
- 1125 *Engina jugosa* (C.B. Adams, 1852). Probably does not occur in the Islas Galápagos, Ecuador (Finet, 1985). Length: 27.6 mm (Draper, 1987).

- 1125a *Engina macleani* Olsson, 1971. Holotype figured. Depth: 275 m (Olsson, 1971).
- 1127 *Engina maura* (Sowerby, 1832). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 24.4 mm (Draper, 1987).
- 1128 *Engina pulchra* (Reeve, 1846). Syntype figured. Delete ?*Columbella livida* Sowerby, 1832 as a synonym. Extend distribution to the Islas Galápagos, Ecuador (Cernohorsky, 1975b). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979).
- 1129 *Engina pyrostoma* (Sowerby, 1832). Delete *Engina earlyi* Bartsch & Rehder, 1939, as a synonym (Cernohorsky, 1975b).
- 1124 *Engina solida* Dall, 1917. *Engina fusiformis* Stearns, 1894 [1124] is preoccupied (Cernohorsky, 1975b). Length: 25.1 mm (Draper, 1987).
- 1130 *Engina tabogaensis* Bartsch, 1931. Extend distribution south to Tumbes, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 15.6 mm (Draper, 1987).

Genus *Macron* H. & A. Adams, 1853

- 1131 *Macron aethiops* (Reeve, 1847). Synonym: *Macron orcutti* Dall, 1918 [1132] (Abbott, 1974). Length: 98.6 mm (Draper, 1987). Distribution: Playa San Ramón (30°45'N), to 10 miles north of Cabo San Lucas, Baja California Sur, México (DuShane, 1989).
- 1132 *Macron orcutti* Dall, 1918. Delete here. Becomes a synonym of *Macron aethiops* (Reeve, 1847) [1131] (Abbott, 1974).

Genus *Metula* H. & A. Adams, 1853

Synonyms: *Acamptochetus* Cossmann 1901; *Antemetula* Rehder, 1943; *Colubrarina* Kuroda, Habe & Oyama, 1971 (Emerson, 1986).

- 1133 *Metula amosi* Vanatta, 1913. Synonyms: *Buccinum clathratum* A. Adams & Reeve, 1850, *non* Kiener, 1834, *non* Anton, 1839 (holotype figured); *Metula knudseni* Kilburn, 1975. Type locality restricted to Balboa, Panamá (Emerson, 1986). Length: 56.3 mm (Draper, 1987).

- *Metula ellena* Olsson & Bayer, 1972. Length: 22.8 mm. Trawled off Mazatlán, Sinaloa, México (Olsson & Bayer, 1972). Extend distribution south to Bahía Cocos, Guanacaste Province, Costa Rica. Depth: 9 to 24 m (Skoglund, 1990a).
- 1134 *Metula metula* (Hinds, 1844). Delete. Not Panamic (Emerson, 1986).
- *Metula optima* Olsson & Bayer, 1972. Length: 32 mm. Golfo de Panamá. Depth: 77 to 79 m. Known only from the holotype (Olsson & Bayer, 1972).

Genus *Neoterion* Pilsbry & Lowe, 1932

- 1135 *Neoterion ariel* (Pilsbry & Lowe, 1932). Changed to Nassariidae (Keen & Coan, 1975). *Radula* figured. Reinstated in the Buccinidae. Extend distribution to south of Quepos, Puntarenas Province, Costa Rica (D'Attilio, 1981). Placement in the Buccinidae confirmed (Cernohorsky, 1981).

Genus *Northia* Gray, 1847

- 1136 *Northia northiae* (Griffith & Pidgeon, 1834, *ex* Gray, MS). Extend distribution south to Tumbes, Perú (Peña G., 1970). Extend distribution south to the Golfo de Fonseca, El Salvador (Hernandez, 1979). Length: 95 mm (Wagner & Abbott, 1990).
- 1137 *Northia pristis* (Deshayes *in* Lamarck, 1844). Length: 93.2 mm (Wagner & Abbott, 1990).

Genus *Antillophos* Woodring, 1928

Raised from subgenus (Abbott, 1974).

- 1138 *Antillophos veraguensis* (Hinds, 1843). Length: 36.3 mm (Draper, 1987).

Genus *Phos* Montfort, 1810

Subgenus *Cymatophos* Pilsbry & Olsson, 1941

- 1139 *Phos* (*C.*) *crassus* Hinds, 1843. Length: 59.8 mm (Draper, 1987).
- 1140 *Phos* (*C.*) *dejanira* (Dall, 1919). Length: 29.1 mm (Draper, 1987).
- 1142 *Phos* (*C.*) *gaudens* Hinds, 1844. Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L.



Poorman, 1988). Length: 29.1 mm (Wagner & Abbott, 1990).

- 1143 *Phos (C.) minusculus* Dall, 1917. Length: 22.8 mm (Draper, 1987).

Subgenus *Metaphos* Olsson, 1964

- 1144 *Phos (M.) articulatus* Hinds, 1844. Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include off Bahía San Carlos, Sonora, México, in distribution (F. & L. Poorman, 1988). Length: 49.7 mm (Wagner & Abbott, 1990).

- 1145 *Phos (M.) laevigatus* (A. Adams, 1851). Length: 63 mm (Wagner & Abbott, 1990).

Subgenus *Strombinophos*  
Pilsbry & Olsson, 1941

- 1141 *Phos (S.) fusoides* (C.B. Adams, 1852). As *Strombinophos*. Radula figured. Depth: 11 to 46 m (Olsson, 1971). Subgenus changed from *Cymatophos* (Keen & Coan, 1975).

Genus *Trajana* Gardner, 1948

- 1147 *Trajana acapulcana* (Pilsbry & Lowe, 1932). Holotype figured. Delete here. Becomes synonym of *Trajana perideris* (Dall, 1910) [1148] (Cernohorsky, 1981).

- 1148 *Trajana perideris* (Dall, 1910). Holotype figured. Synonyms: *Trajana acapulcana* (Pilsbry & Lowe, 1932) [1147]; *Triton nassoides* Reeve 1844. Length: 30 mm. Distribution: Golfo de California to the Golfo de Tehuantepec, México. Depth: 17 to 91 m (Cernohorsky, 1981). Length: 35.7 mm (Draper, 1987).

Genus *Triumphis* Gray, 1857  
Subgenus *Triumphis*, s. s.

- 1149 *Triumphis (T.) distorta* (Wood, 1828). Extend distribution south to Tumbes, Perú (Peña G., 1970). Length: 47.4 mm (Draper, 1987).

Subgenus *Nicema* Woodring, 1964

- 1150 *Triumphis (N.) subrostrata* (Wood, 1828). Length: 50 mm (Draper, 1987).

Genus *Truncaria* Adams & Reeve, 1848

- 1151 *Truncaria filosa* (Adams & Reeve, 1846). Synonym: *Cominella brunneocincta* Dall, 1896 [1151] (Olsson, 1971). Length: 42.3 mm (Wagner & Abbott, 1990).

Subfamily MELONGENINAE Gill, 1871

Genus *Melongena* Schumacher, 1817

- 1290 *Melongena patula* (Broderip & Sowerby, 1829). Extend distribution south to Tumbes, Perú (Peña G., 1970). Length: 259 mm (Draper, 1987).

Subfamily NASSARIINAE Iredale, 1916

Genus *Nassarius* Dumèril, 1806

Correct date of Dumèril from 1805. Synonym: *Arcularia* Link, 1807 (Keen & Coan, 1975). Subgenus *Phrontis* H. & A. Adams, 1853, to be used for Keen (1971) numbers 1316 through 1321 (Anon., 1975). All species as *Nassarius* s. l. (Cernohorsky, 1975a).

- 1291 *Nassarius angulicostis* (Pilsbry & Lowe, 1932). Delete here. Becomes a synonym of *Nassarius nodicinctus* (A. Adams, 1852) [1307] (Cernohorsky, 1975a).

- *Nassarius anguliferus* (A. Adams, 1852). Syntype figured. May be a synonym of *Nassarius pagodus* (Reeve, 1844) [1309]. Distribution: Islas Galápagos, Ecuador. Depth: 18 m (Cernohorsky, 1975a). Delete here. Becomes a synonym of *N. pagodus* [1309] (Nesbitt & Pitt, 1986).

- 1316 *Nassarius baihyi* (Pilsbry & Lowe, 1932). Delete subgenus (Keen & Coan, 1975). Length: 15.9 mm (Draper, 1987).

- 1320 *Nassarius brunneostomus* (Stearns, 1893). Egg capsules figured (as *Nassarius moestus*) (Gemmell, 1973b). Synonym: *Nassa ciniscula* var. *beltrani* Mari, 1928 (Anon, 1975). *Nassarius moestus* (Hinds, 1844) [1320] is a tropical Indo-west Pacific species, and not Panamic (Cernohorsky, 1975a). Egg capsules figured (as *N. moestus*) (Skoglund, 1977). Length: 17.2 mm (Draper, 1987).

- *Nassarius caelolineatus* Nesbitt & Pitt, 1986. Length: 11.7 mm. Distribution: known only from the Islas Galápagos, Ecuador (Nesbitt & Pitt, 1986).

- 1292 *Nassarius catallus* (Dall, 1908). Holotype

- figured. Syntype of synonym, *Nassa hanleyana* Marrat, 1880, *non* Dunker, 1847, figured. Lectotype of *Alectrion polistes* Dall, 1917, figured (Cernohorsky, 1975a). Length: 31.3 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 1317 *Nassarius complanatus* (Powys, 1835). Extend distribution south to Tumbes, Perú (Peña G., 1970). Delete subgenus (Keen & Coan, 1975). Syntype figured. Synonym: *Buccinum gemma* Philippi, 1849. Possible synonym: *Arcularia iodes* Dall, 1917 [1318]. Extend distribution to northern Chile (Cernohorsky, 1975a). Length: 12.3 mm (Draper, 1987).
- 1306 *Nassarius coppingeri* (E.A. Smith, 1881). Holotype figured (Cernohorsky, 1975a). Synonym: *Nassarius miser* (Dall, 1908) [1306]. Distribution: Baja California, México, to Panamá and southern Chile. Depth: 55 to 590 m (Cernohorsky, 1976b). Extend distribution north to off Palos Verdes Peninsula, Los Angeles County, California (Howley, 1983).
- 1296 *Nassarius exilis* (Powys, 1835). Syntype figured. Extend distribution to Chile (Cernohorsky, 1975a). Extend distribution north to Nicaragua (Montoya, López & López, 1987).
- 1297 *Nassarius exsarcus* (Dall, 1908). Holotype and eggs figured. Depth: 549 m (Cernohorsky, 1975a).
- 1298 *Nassarius fontainei* (d'Orbigny, 1841). Extend distribution north to Panamá (Avilés E., 1981).
- 1299 *Nassarius gallegosi* Strong & Hertlein, 1937. Length: 23.7 mm (Draper, 1987).
- 1300 *Nassarius gemmulosus* (C.B. Adams, 1852). Synonyms: *Nassa decorata* Marrat, 1880 (syntype figured); *Nassarius cara* Pilsbry & Olsson, 1941 (Cernohorsky, 1975a). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 7.9 mm (Draper, 1987).
- 1303 *Nassarius howardae* Chace, 1958. Length: 33.3 mm (Draper, 1987).
- 1304 *Nassarius insculptus* (Carpenter, 1864). Length: 26.7 mm (Draper, 1987).
- 1318 *Nassarius iodes* (Dall, 1917). Delete subgenus (Keen & Coan, 1975). Possibly a synonym of *Nassarius complanatus* (Powys, 1835) [1317] (Cernohorsky, 1975a). Egg capsules figured (Skoglund, 1977). Length: 15.1 mm (Draper, 1987).
- 1305 *Nassarius limacinus* (Dall, 1917). Extend distribution south to Chiapas, México. Depth: 60 to 70 m (Shasky, 1966). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1319 *Nassarius luteostomus* (Broderip & Sowerby, 1829). Delete subgenus (Keen & Coan, 1975). Add synonym: *Nassa xanthostoma* Gray, 1839 (Cernohorsky, 1975a). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 27.7 mm (Draper, 1987).
- 1322 *Nassarius myristicatus* (Hinds, 1844). Holotype figured (Cernohorsky, 1975a). Length: 32.4 mm (Wagner & Abbott, 1990).
- 1295 *Nassarius nassiformis* (Lesson, 1842). Synonyms: *Nassa polygonata* Reeve, 1853 (syntype figured); *N. rufolineata* Marrat, 1880 (Cernohorsky, 1975a). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Synonym: *Nassa corpulenta* C.B. Adams, 1852 [1295]. *Cancellaria nassiformis* Lesson, 1842, is not a cancellarid but an earlier name for *Nassa corpulenta* C.B. Adams, 1852, and as such must either be employed as the current name or rejected by petition to the ICZN (Petit, 1984). *Cancellaria nassiformis* Lesson, 1842 is a *nomen oblitum* because it has not been used for 50 years, and therefore need not be used as the senior synonym (Cernohorsky, 1986). In order to invoke the 50 year rule, a petition must be made to the ICZN to suppress *C. nassiformis* Lesson, 1842, and this has not been done (Petit, 1987). Include Islas Galápagos, Ecuador, in distribution (Shasky, 1989a).
- 1307 *Nassarius nodicinctus* (A. Adams, 1852). Syntype figured (Cernohorsky, 1975a). Egg capsules figured (as *N. angulicostis*) (Skoglund, 1977). Extend distribution south to Manabí Province, Ecuador (as *Nassarius angulicostis*) (Shasky, 1984d). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Synonym: *N. angulicostis* (Pilsbry & Lowe, 1932) [1291]. Not Galapagan (Nesbitt & Pitt, 1986).
- 1313 *Nassarius nucleolus* (Philippi, 1846). *Nassarius*

- taeniolatus* (Philippi, 1845) [1313] is probably a synonym of *N. gayii* (Kiener, 1834) from Chile (Cernohorsky, 1975a). Egg capsules figured (as *N. taeniolatus*) (Skoglund, 1977). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- 1308 *Nassarius onchodes* (Dall, 1917). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- 1309 *Nassarius pagodus* (Reeve, 1844). Delete *Nassa angulifera* A. Adams 1852 as synonym (Cernohorsky, 1975a). *Nassa angulifera* as a synonym (Nesbitt & Pitt, 1986). Length: 25.9 mm (Draper, 1987).
- *Nassarius perpinguis* (Hinds, 1844). Holotype figured. Synonyms: *Nassa corrugata* A. Adams, 1852 (holotype figured); *N. intastriata* Conrad, 1855; *N. interstriata* Conrad, 1856; *N. perpinguis* var. *bifasciata* Berry, 1908; *Alectrion (Hima) gwatkinianus* Melvill, 1918 (holotype figured). Length: 33 mm. Type locality: Bahía Magdalena, Baja California Sur, México. Persian Gulf and eastern seas localities are in error (Cernohorsky, 1975a). Distribution: Point Reyes, California to Isla Cedros, central Baja California, México (McLean, 1978).
- 1310 *Nassarius planocostatus* (A. Adams, 1852). Delete. Not Panamic (Keen & Coan, 1975).
- 1294 *Nassarius scabriusculus* (Powys, 1835). Extend distribution southward to Paita, Perú (Peña G., 1970). Syntype figured. Synonym: *Nassa collaria* C.B. Adams, 1852 [1294] (Cernohorsky, 1975a). Extend distribution north to Laguna de Yavaros, Sonora, México (as *Nassarius collarius*) (García-Cubas & Reguero, 1987). Length: 13.3 mm (Draper, 1987).
- 1312 *Nassarius shaskyi* McLean, 1970. Extend distribution to the Islas Galápagos, Ecuador (Nesbitt & Pitt, 1986). Length: 28.2 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- 1311 *Nassarius stimpsonianus* (C.B. Adams, 1852). Keen (1971) figure 1311 is this species. Synonyms: *Nassa fuscata* A. Adams, 1852 (holotype figured); *N. lauta* Marrat, 1880 (syntype figured) (Cernohorsky, 1975a). See Keen (1971) number 1294 for *Nassarius scabriusculus*.
- *Nassarius striatus* (C.B. Adams, 1852). Length: 11.9 mm. Distribution: Isla Taboga, Bahía de Panamá (C.B. Adams, 1852). Holotype figured (Turner, 1956). Tentatively accepted as a valid species (Cernohorsky, 1984).
- 1321 *Nassarius tiarula* (Kiener, 1841). Delete subgenus (Keen & Coan, 1975). Synonym: *Nassa tegula* Reeve, 1853 (syntype figured). Extend distribution north to San Francisco Bay, California (Cernohorsky, 1975a). Egg capsules figured (Skoglund, 1977). Length: 22.9 mm (Draper, 1987).
- 1313a *Nassarius townsendi* (Dall, 1890). Holotype figured (Cernohorsky, 1975a). Known only from the holotype (Nesbitt & Pitt, 1986).
- 1314 *Nassarius versicolor* (C.B. Adams, 1852). Synonyms: *Nassa rufocincta* A. Adams, 1852 (holotype figured); *N. albipunctata* Reeve, 1852 (holotype figured); *N. picturata* Marrat, 1880. Delete *N. striata* C. B. Adams, 1852, as a synonym. Add Islas Galápagos, Ecuador, to distribution (Cernohorsky, 1975a). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 15.8 mm (Draper, 1987).
- 1315 *Nassarius wilsoni* (C.B. Adams, 1852). Extend distribution south to Tumbes, Perú (Keen & Coan, 1975).

## Subfamily FASCIOLARIINAE

Genus *Pleuroploca* Fischer, 1884

Raised from subgenus (Abbott, 1974).

- 1323 *Pleuroploca granosa* (Broderip, 1832).
- 1324 *Pleuroploca princeps* (Sowerby, 1825). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 404 mm (Draper, 1987).
- 1325 *Pleuroploca salmo* (Woods, 1828). Length: 163.5 mm (Wagner & Abbott, 1990).

Genus *Latirus* Montfort, 1810

As Peristerniinae by Bullock (1974).

- 1327 *Latirus centrifugus* (Dall, 1915). Length: 65 mm (Draper, 1987).
- 1328 *Latirus concentricus* (Reeve, 1847). Panamá, intertidal zone (Shasky, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos,

- Ecuador, in distribution (Finet, 1985). Length: 65.6 mm (Draper, 1987).
- 1329 *Latirus hemphilli* Hertlein & Strong, 1951. Length: 81.1 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 40 m (F. & L. Poorman, 1988).
- 1330 *Latirus mediamericus* Hertlein & Strong, 1951. Panamá, intertidal zone (Shasky, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 86.7 mm (Draper, 1987).
- 1331 *Latirus praestantior* Melville, 1892. Length: 91.2 mm (Wagner & Abbott, 1988b).
- 1332 *Latirus rudis* (Reeve, 1847). Genus changed. See *Leucozonia*.
- 1333 *Latirus sanguineus* (Wood, 1828). Length: 75.3 mm (Wagner & Abbott, 1990).
- 1334 *Latirus socorroensis* Hertlein & Strong, 1951. Length: 51.3 mm (Wagner & Abbott, 1990).
- 1335 *Latirus tumens* Carpenter, 1856. Radula figured. Extend distribution south to Isla La Plata, Ecuador (Olsson, 1971). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 108.8 mm (Draper, 1987).

Genus *Leucozonia* Gray, 1847  
As *Peristerniinae* by Bullock (1974).

- 1336 *Leucozonia cerata* (Wood, 1828). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Probably does not occur in the Islas Galápagos, Ecuador (Finet, 1985). Length: 90.1 mm (Draper, 1987).
- 1332 *Leucozonia rudis* (Reeve, 1847). Extend distribution south to Máncora, Perú (Peña G., 1970). Genus changed from *Latirus* (Bullock, 1974). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- 1338 *Leucozonia tuberculata* (Broderip, 1833). Extend distribution north to Isla del Coco, Costa Rica (Montoya, 1983). Length: 47.5 mm (Draper, 1988).

Genus *Opeatostoma* Berry, 1958  
As *Peristerniinae* by Bullock (1974).

- 1339 *Opeatostoma pseudodon* (Burrow, 1815). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 67.2 mm (Wagner & Abbott, 1990).

Genus *Fusinus* Rafinesque, 1815  
Petition filed with the ICZN to retain *Fusus* Bruguière, 1789, with *Fusinus* Rafinesque, 1815, as a junior synonym (Petit & Wilson, 1991). Synonym: *Falsifusus* Grabau, 1904 (Vaught, 1989).

Subgenus *Fusinus*, s. s.

- 1340 *Fusinus* (*F.*) *dupetitthouarsi* (Kiener, 1840). As *Falsifusus*. Keen (1971) right figure 1340 only. Left figure is *Fusinus turris* (Valenciennes, 1832). Holotype and protoconch figured. Distribution: head of the Golfo de California, México, south to northern Perú. Depth: intertidal zone to 200 m (L. Poorman, 1981b). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). As *Fusinus* by Vaught (1989). Length: 273 mm (Wagner & Abbott, 1990).
- 1341 *Fusinus* (*F.*) *irregularis* (Grabau, 1904). Length: 233.5 mm (Draper, 1987).
- *Fusinus* (*F.*) *turris* (Valenciennes, 1832). Syntype and protoconch figured. Keen (1971) figure 1340, left, is *F. turris*. Distribution: head of the Golfo de California, México, south to northern Perú. Depth: intertidal zone to 200 m (L. Poorman, 1981b).

Subgenus *Aptyxis* Troschel, 1868

- 1342 *Fusinus* (*A.*) *cinereus* (Reeve, 1847). Syntype of *Fusinus cinereus coronadoensis* Lowe, 1935, figured. Lectotype of *F. c. sonoraensis* Lowe, 1935, figured (C. Hertz, 1986). Length: 40.1 mm (Draper, 1987). Extend distribution south to off Nayarit, México (Reguero & García-Cubas, 1987).
- 1343 *Fusinus* (*A.*) *felipensis* Lowe, 1935. Length: 28 mm (Draper, 1987).

Subgenus *Barbarofusus*  
Grabau & Shimer, 1909

- 1344 *Fusinus* (*B.*) *colpoicus* Dall, 1915. Length: 93.7 mm (Draper, 1987). Extend distribution south to off Nayarit, México (Reguero & García-Cubas, 1987).

Subgenus *Fusinus*, s. l.

- 1345 *Fusinus allyni* McLean, 1970. Minimum

- depth: 100 m (Chaney, 1992).
- 1346 *Fusinus ambustus* (Gould, 1853). Egg capsules figured (Gemmell, 1973a). Extend distribution south to La Libertad, El Salvador (Hernandez, 1979). Paratypes of synonyms, *Fusinus hertleini albescens* and *F. h. brunneocincta* both Lowe, 1935, figured (C. Hertz, 1986). Length: 71 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 25 to 35 m (F. & L. Poorman, 1988).
- *Fusinus consagensis* Poorman, 1981. Radula and protoconch figured. Length: 68.7 mm. Distribution: north of Isla Tiburón, Golfo de California, México. Depth: 20 to 30 m (L. Poorman, 1981a).
- 1347 *Fusinus fragilissimus* (Dall, 1908) Delete here. Genus changed. See *Bayerius*.
- 1348 *Fusinus fredbakeri* Lowe, 1935. Extend distribution south to near Santa Rosalía, Baja California Sur, México (Draper, 1972). In last line, read: coast of México [not "to"] (Keen & Coan, 1975). Length: 59.6 mm (Draper, 1987).
- *Fusinus humboldti* Poorman, 1981. Radula and protoconch figured. Length: 22.1 mm. Known only from the Islas Galápagos, Ecuador. Depth: 400 m (L. Poorman, 1981a).
- *Fusinus magnapex* Poorman, 1981. Protoconch and radula figured. Length: 25.4 mm. Distribution: off Todos Santos, Baja California Sur, México. Depth: 160 to 220 m (L. Poorman, 1981a).
- 1349 *Fusinus panamensis* Dall, 1908. Extend distribution south to Paíta, Perú (Peña G., 1970). Include off Bahía San Carlos, Sonora, México, in distribution (F. & L. Poorman, 1988).
- *Fusinus paulus* Poorman, 1981. Radula figured. Length: 19.2 mm. Known only from the type locality, west of Cabo San Lucas, Baja California Sur, México. Depth: 150 m (L. Poorman, 1981a).
- 1350 *Fusinus rufocaudatus* (Dall, 1896). Delete here. Genus changed. See *Exilioidea*.
- *Fusinus sonorae* Poorman, 1981. Protoconch figured. Length: 56.1 mm. Distribution: Guaymas, Sonora; Isla Partida, off Baja California, México. Depth: 100 to 120 m (L. Poorman, 1981a). Extend distribution across the Golfo de California and north to off Isla Smith, Bahía de los Angeles, Baja California, México. Depth: 183 m (Skoglund, 1988).
- 1351 *Fusinus zacae* Strong & Hertlein, 1937. Extend distribution north to off Bahía San Carlos, Sonora, México (L. Poorman, 1977). Length: 73 mm (Draper, 1987).

## Family COLUMBELLIDAE

Genus *Columbella* Lamarck, 1799

- 1153 *Columbella aureomexicana* (Howard, 1963). Length: 26.1 mm (Draper, 1987).
- 1155 *Columbella fuscata* Sowerby, 1832. Egg capsules and anatomy figured (Houston, 1976). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 24.1 mm (Draper, 1987). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988).
- 1156 *Columbella haemastoma* Sowerby, 1832. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 to 35 m (F. & L. Poorman, 1988).
- 1157 *Columbella labiosa* Sowerby, 1822. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 23.7 mm (Draper, 1987).
- 1158 *Columbella major* Sowerby, 1832. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 33.3 mm (Draper, 1987).
- 1159 *Columbella paytensis* Lesson, 1830. Length: 28 mm (Draper, 1987).
- 1160 *Columbella socorroensis* Shasky, 1970. Length: 20.7 mm (Draper, 1987).
- 1161 *Columbella sonsonatensis* (Mörch, 1860). Extend distribution north to Caleta Saladita (near Guaymas), Sonora, México (Myhre, 1972). In line 2 read: [not *Deshayes in Laborde & Linant, 1843*]; *Columbella aglaomorpha* Tomlin & Salisbury, 1928 (Keen & Coan, 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (as *C. festiva*

- Kiener, 1841) (Finet, 1985). Length: 10 mm (Draper, 1987).
- 1162 *Columbella strombiformis* Lamarck, 1822. Anatomy figured (Houston, 1976). Length: 31.8 mm (Draper, 1987).
- Genus *Aesopus* Gould, 1860  
Subgenus *Aesopus*, s. s.
- *Aesopus* (*A.*) *chrysalloides* (Carpenter, 1864). Distribution: Santa Monica to San Diego, California (McLean, 1978). Extend distribution south to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- 1163 *Aesopus* (*A.*) *sanctus* Dall, 1919. *Aesopus stearnsi* (Tryon, 1883) is a cognate species in the Atlantic (Radwin, 1977a). Distribution confirmed to Bahía de los Angeles, Baja California, México (J. Hertz, 1978b). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- Subgenus *Ithiaesopus*  
Olsson & Harbison, 1953
- 1164 *Aesopus* (*I.*) *arestus* (Dall, 1919). Extend distribution to the Bahía San Carlos area, Sonora, México (F. & L. Poorman, 1988).
- Genus *Anachis* H. & A. Adams, 1853  
Subgenus *Anachis*, s. s.
- 1170 *Anachis* (*A.*) *lyrata* (Sowerby, 1832). Radula figured. Include the western Atlantic in distribution (Radwin, 1977a). Synonym: *Columbella veleda* Duclos, 1846 (Radwin, 1977b). Extend distribution north to Nicaragua (Montoya, López & López, 1987).
- 1171 *Anachis* (*A.*) *scalarina* (Sowerby, 1832). Radula figured (Radwin, 1977a). Length: 25 mm (Draper, 1987).
- Subgenus uncertain.
- *Anachis lillianae* Whitney, 1978. Length: 7 mm. Distribution: upper Golfo de California, México, to Costa Rica. No subgenus given (Whitney, 1978).
- Genus *Costoanachis* Sacco, 1890.  
Raised from subgenus. Synonym:
- Glyptanachis* Pilsbry & Lowe, 1932 (Radwin, 1974a).
- 1172 *Costoanachis adelinae* (Tryon, 1883). Extend distribution south to Sayulita, Nayarit, México (Keen & Coan, 1975).
- 1198 *Costoanachis atramentaria* (Sowerby, 1844).
- 1173 *Costoanachis berryi* (Shasky, 1970). Include Islas Tres Marias, Nayarit, México, in distribution (Shasky, 1970). Extend distribution north to Bahía Kino, Sonora, México (López Rivas & Escalante Cavazos, 1987).
- 1174 *Costoanachis boivini* (Kiener, 1841).
- 1175 *Costoanachis coronata* (Sowerby, 1832). *Costoanachis hannana* Hertlein & Strong, 1951, [1184] as a subspecies (Abbott, 1974). Anatomy figured (Houston, 1976). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 20 mm (Draper, 1987).
- 1176 *Costoanachis costellata* (Broderip & Sowerby, 1829).
- 1177 *Costoanachis decimdentata* (Pilsbry & Lowe, 1932).
- 1178 *Costoanachis fayae* (Keen, 1971). Length: 8 mm (Draper, 1987).
- 1179 *Costoanachis fluctuata* (Sowerby, 1832). Length: 20.3 mm (Draper, 1987).
- 1180 *Costoanachis fulva* (Sowerby, 1832).
- 1181 *Costoanachis fusidens* (Dall, 1908).
- 1182 *Costoanachis gilva* (Menke, 1847).
- 1183 *Costoanachis gracilis* (C.B. Adams, 1852).
- 1184 *Costoanachis hannana* (Hertlein & Strong, 1951). As a subspecies of *Costoanachis coronata* (Sowerby, 1832) [1175] (Abbott, 1974).
- 1199 *Costoanachis hilli* (Pilsbry & Lowe, 1932). Anatomy figured (Houston, 1976). Length: 10.7 mm (Draper, 1987).
- 1200 *Costoanachis lentiginosa* (Hinds, 1844).
- 1185 *Costoanachis moesta* (C.B. Adams, 1852). Extend distribution south to Tumbes, Perú (Peña G., 1970).
- 1186 *Costoanachis nigricans* (Sowerby, 1844). Extend distribution south to Tumbes, Perú (Peña G., 1970).
- 1187 *Costoanachis nigrofusca* (Carpenter, 1857). Anatomy figured (Houston, 1976).
- 1188 *Costoanachis oerstedii* (von Martens, 1897).
- 1189 *Costoanachis ritteri* (Hertlein & Strong, 1951).

- 1190 *Costoanachis rugosa* (Sowerby, 1832). Extend distribution south to Tumbes, Perú (Peña G., 1970). Extend distribution north to the Golfo de Fonseca, El Salvador (Hernandez, 1979). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 21.4 mm (Draper, 1987).
- 1201 *Costoanachis rugulosa* (Sowerby, 1844). Extend distribution south to Paita, Perú (Peña G., 1970). Extend distribution north to Playas del Coco, Guanacaste Province, Costa Rica (Spight, 1976).
- 1191 *Costoanachis sanfelipensis* (Lowe, 1935). Anatomy figured (Houston, 1976).
- 1192 *Costoanachis spadicea* (Philippi, 1846).
- 1193 *Costoanachis teevani* (Hertlein & Strong, 1951). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 1194 *Costoanachis treva* (Baker, Hanna & Strong, 1938). Extend distribution south to Manzanillo, Colima, México (Keen & Coan, 1975). Extend distribution north to Bahía de Guaymas, Sonora, México (García-Cubas & Reguero, 1987).
- 1195 *Costoanachis varia* (Sowerby, 1832). Egg capsules figured (Gemmell, 1973a). Anatomy figured (Houston, 1976). Delete *Columbella veleda* Duclos, 1846, as a synonym (Radwin, 1977b). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Extend distribution south to Esmeraldas, Ecuador (Baldazzi, Di Cecco & Tiberi, 1986). Length: 24.8 mm (Draper, 1987). Extend distribution to the Caribbean (Diaz & Mittnacht, 1989).
- 1196 *Costoanachis varicosa* (Gaskoin, 1852). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 1197 *Costoanachis vexillum* (Reeve, 1858). Length: 21.6 mm (Draper, 1987).
- Genus *Parvanachis* Radwin, 1968  
Raised from subgenus (Radwin, 1974a).
- 1202 *Parvanachis albonodosa* (Carpenter, 1857). Extend distribution north to Bahía de Guaymas, Sonora, México (García-Cubas & Reguero, 1987).
- 1203 *Parvanachis dalli* (Bartsch, 1931). Extend distribution south to Tumbes, Perú (Peña G., 1970).
- 1204 *Parvanachis diminuta* (C.B. Adams, 1852). Length: 5.8 mm (Draper, 1987).
- 1205 *Parvanachis gaskoini* (Carpenter, 1857).
- 1206 *Parvanachis guerreroensis* (Strong & Hertlein, 1937).
- 1207 *Parvanachis milium* (Dall, 1916). Synonyms: *Anachis reedi* Bartsch, 1928 [1210]; *A. strongi* Bartsch, 1928 [1212] (Skoglund, 1986). Length: 5.7 mm (Draper, 1987).
- *Parvanachis mullineri* (Poorman, 1983). Length: 5 mm. Protoconch figured. Distribution: Playa Novillero, Nayarit, to Bahía Santiago, Colima, México. Depth: 8 to 33 m (L. Poorman, 1983). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1208 *Parvanachis pardalis* (Hinds, 1843). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1209 *Parvanachis pygmaea* (Sowerby, 1832). Extend distribution south to Tumbes, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- 1210 *Parvanachis reedi* (Bartsch, 1928). Delete here. Becomes a synonym of *Parvanachis milium* (Dall, 1916) [1207] (Skoglund, 1986).
- 1211 *Parvanachis sinaloa* (Strong & Hertlein, 1937).
- 1212 *Parvanachis strongi* (Bartsch, 1928). Delete here. Becomes a synonym of *Parvanachis milium* (Dall, 1916) [1207] (Skoglund, 1986).
- Genus *Zafrona* Iredale, 1916  
Raised from subgenus (Radwin, 1974a).
- 1213 *Zafrona incerta* (Stearns, 1892). Figured by J. Hertz (1976c) incorrectly as *Mitrella guttata*. See J. Hertz (1976d) for correction. *Anachis* (Z.) *pulchella* (Blainville, 1829) is cognate species in the western Atlantic (Radwin, 1977a).
- Genus *Bifurcium* Fischer, 1884
- 1215 *Bifurcium bicanaliferum* (Sowerby, 1832). Length: 17.1 mm (Draper, 1987).
- Genus *Cosmioconcha* Dall, 1913
- 1216 *Cosmioconcha modesta* (Powys, 1835). Radula figured (Radwin, 1978).
- 1217 *Cosmioconcha palmeri* (Dall, 1913). Extend

distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 29.8 mm (Draper, 1987).

- 1219 *Cosmioconcha pergracilis* (Dall, 1913). Distribution confirmed to off Nayarit, México (Reguero & García-Cubas, 1987).

Genus *Decipifus* Olsson & McGinty, 1958

- 1221 *Decipifus dictynna* (Dall, 1919). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988).
- 1224 *Decipifus macleani* Keen, 1971. Extend distribution across the Golfo de California to Bahía la Cholla, Sonora, México. Length: 9 mm (Draper, 1987).

Genus *Mazatlaniana* Dall, 1900

- 1227 *Mazatlaniana cosentini* (Philippi, 1836). As *Mazatlaniana aciculata* (Lamarck, 1822). Synonyms: *Terebra cosentini* Philippi, 1836; *T. nodosoplicata* Dunker, 1853; *Mazatlaniana hesperia* Pilsbry & Lowe, 1932 [1227]. Distribution: Isla Guadalupe and Bahía Magdalena, Baja California Sur, México, to Zorritos, Perú; Atlantic (Radwin, 1978). As *M. cosentini*. Synonyms: *Buccinum aciculatum* Lamarck, 1822; *B. pulchellum* Calcara, 1845; *Terebra nodosoplicata* Dunker, 1853; *Mazatlaniana hesperia* Pilsbry & Lowe, 1932. Not Mediterranean (Bouchet & Gofas, 1983).
- 1226 *Mazatlaniana fulgurata* (Philippi, 1846). Extend distribution south to Máncora, Perú (Peña G., 1970). Extend distribution to the western Atlantic (Radwin, 1977a). Add synonym: *Aesopus goforthi* Dall, 1912. Radula figured. Distribution: Cabo San Lucas, Baja California Sur; Bahía Bacochibampo and Guaymas, Sonora, México, to Panamá; western Atlantic (Radwin, 1978). Length: 21.4 mm (Draper, 1987).

Genus *Microcithara* Fischer, 1884

- 1228 *Microcithara cithara* (Reeve, 1859). Extend distribution north to Sonsonate, El Salvador (Hernandez, 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

1229 *Microcithara harpiformis* (Sowerby, 1832). Extend distribution north to Punta Mita, Nayarit, México (L. Poorman, 1977).

- 1230 *Microcithara uncinata* (Sowerby, 1832). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e).

Genus *Mitrella* Risso, 1826

- 1232 *Mitrella caulerpae* Keen, 1971. Extend distribution across the Golfo de California and north to the Bahía San Carlos area, Sonora, México (F. & L. Poorman, 1988).
- 1233 *Mitrella delicata* (Reeve, 1859). Delete here. Becomes a synonym of *Mitrella ocellata* (Gmelin, 1791) [1239] (Radwin, 1978).
- 1235 *Mitrella dorma* Baker, Hanna & Strong, 1938. Extend distribution south to off Nayarit, México (Reguero & García-Cubas, 1987). Length: 10.6 mm (Draper, 1987).
- 1237 *Mitrella elegans* (Dall, 1871) Delete. Not Panamic (Radwin, 1978).
- 1238 *Mitrella granti* Lowe, 1935. Extend distribution south to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 1240 *Mitrella harfordi* Strong & Hertlein, 1937. Extend distribution north to the Guaymas, Sonora, México, area (DuShane & Poorman, 1967). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1241 *Mitrella lalage* Pilsbry & Lowe, 1932. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution south to Nicaragua (Montoya, López & López, 1987). Length: 8.2 mm (Draper, 1987).
- *Mitrella loisae* Pitt & Kohl, 1979. Length: 5.3 mm. Distribution: Puntarenas Province, Costa Rica, to Tumbes Province, Perú (Pitt & Kohl, 1979).
- 1242 *Mitrella millepunctata* (Carpenter, 1864). Extend distribution north to Bahía Kino, Sonora, México (López Rivas & Escalante Cavazos, 1987).
- 1239 *Mitrella ocellata* (Gmelin, 1791). Protoconch figured (Bandel, 1975). Anatomy figured (as *Mitrella guttata*) (Houston, 1976). Synonyms: *Buccinum cribrarium* Lamarck, 1822;



*Columbella guttata* Sowerby, 1832 [1239]; *Mitrella delicata* (Reeve, 1859) [1233]. Radula figured. Distribution: central Golfo de California, México, to Panamá; western Atlantic; Africa (Radwin, 1978). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to Manabí Province, Ecuador (as *M. delicata* and *M. guttata*) (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985). Length: 15.5 mm (Draper, 1987).

1244 *Mitrella santabarbarensis* (Gould & Carpenter, 1857). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

1245 *Mitrella xenia* (Dall, 1919). The type may be an adventitious specimen of the Mediterranean *Mitrella scripta* (Linnaeus, 1758) (Keen & Coan, 1975).

Genus *Nitidella* Swainson, 1840

---- *Nitidella baileyi* (Bartsch & Rehder, 1939). Figured as *Mitrella elegans* (Dall, 1871) (J. Hertz 1976c). Hertz figure (1976c) corrected by Radwin to *Mitrella ocellata baileyi* (Bartsch & Rehder, 1939) (J. Hertz, 1976d). As *Nitidella*. A valid species. Islas Galápagos, Ecuador (Radwin, 1978).

Genus *Nassarina* Dall, 1889

Subgenus *Nassarina*, *s. s.*

1246 *Nassarina (N.) vespera* Keen, 1971. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Subgenus *Cigclirina* Woodring, 1928

1247 *Nassarina (C.) helenae* Keen, 1971. Protoconch figured. Does not fit in subgenus *Cigclirina* (Gemmell, Hertz & Myers, 1980). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Radwinia* Shasky, 1970

Raised from subgenus (Radwin, 1974a).

1249 *Radwinia tehuantepecensis* (Shasky, 1970).

Genus *Steironepion* Pilsbry & Lowe, 1932

Raised from subgenus (Radwin, 1977a).

1250 *Steironepion hancocki* (Hertlein & Strong, 1939).

1251 *Steironepion melanosticta* (Pilsbry & Lowe, 1932). Extend distribution across the Golfo de California to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution south to Playas del Coco, Guanacaste, Costa Rica (Spight, 1976). *Steironepion monilifera* (Sowerby, 1844) is a cognate species in the Atlantic (Radwin, 1977a) Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985).

1252 *Steironepion tincta* (Carpenter, 1864). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Zanassarina* Pilsbry & Lowe, 1932

Raised from subgenus (Radwin, 1974a).

1253 *Zanassarina anitae* (Campbell, 1961). Extend distribution across the Golfo de California to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Holotype and protoconch figured (Gemmell, Hertz & Myers, 1980).

1254 *Zanassarina atella* (Pilsbry & Lowe, 1932). Extend distribution south to Paita, Perú (Peña G., 1970).

1255 *Zanassarina conspicua* (C.B. Adams, 1852). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

1256 *Zanassarina cruentata* (Mörch, 1860).

1257 *Zanassarina pammicra* (Pilsbry & Lowe, 1932).

1258 *Zanassarina penicillata* (Carpenter, 1864). Length: 6.2 mm (Draper, 1987).

1259 *Zanassarina poecila* (Pilsbry & Lowe, 1932).

1260 *Zanassarina whitei* (Bartsch, 1928). Extend distribution north to Nicaragua (Montoya, López & López, 1987).

Genus *Parametaria* Dall, 1916

1261 *Parametaria dupontii* (Kiener, 1849-50). Anatomy figured (Houston, 1976). Length: 30.5 mm (Draper, 1987).

1262 *Parametaria macrostoma* (Reeve, 1858, *ex*

Anton, MS). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 26.7 mm (Draper, 1987).

Genus *Ruthia* Shasky, 1970

- 1264 *Ruthia mazatlanica* Shasky, 1970. Include Caleta de los Angeles, Bahía Tenacatita, Jalisco, México, in distribution (Shasky, 1970). Extend distribution southward to Nicaragua (Montoya, López & López, 1987).

Genus *Strombina* Mörch, 1852  
Subgenus *Strombina*, s. s.

- 1266 ?*Strombina* (*S.*) *bonita* Strong & Hertlein, 1937. Holotype figured. Not a *Strombina*. Perhaps it could be assigned to the subgenus *Costoanachis*. No positive suggestion made (Jung, 1989).
- 1275 *Strombina* (*S.*) *lanceolata* (Sowerby, 1832). Extend distribution south to Paita, Perú (Peña G., 1970). Lectotype and protoconch figured. Restrict distribution to the Islas Galápagos, Ecuador. Length: 39.2 mm (Jung, 1989).

Subgenus *Costangula* Jung, 1989

- 1265 *Strombina* (*C.*) *angularis* (Sowerby, 1832). Subgenus changed. Holotype and protoconch figured. Holotype of synonym, *Strombina subangularis* Lowe, 1935, figured. Length: 38.5 mm. Extend distribution south to Bahía Octavia, Colombia. Depth: a few feet to 300 m. A variant, with prominent spiral sculpture and convex spire whorls, occurs across the midsection of the Golfo de California from off Isla Tiburón to off the entrance of Bahía de los Angeles, Baja California, México (Jung, 1989).

Subgenus *Lirastrombina* Jung, 1989

- 1267 *Strombina* (*L.*) *carmencita* Lowe, 1935. Subgenus changed. Holotype and protoconch figured. Length: 39.2 mm. Distribution: Isla Tiburón, Golfo de California, México to Bahía de Panamá, Panamá. Depth: 9 to 165 m (Jung, 1989).
- 1269 *Strombina* (*L.*) *colpoica* Dall, 1916. Subgenus

changed. Protoconch figured. Length: 32.5 mm. Restrict distribution from Guaymas, Sonora, México, to San José, Guatemala. Depth: 31 to 84 m (Jung, 1989).

- 1276 *Strombina* (*L.*) *lilacina* Dall, 1916. Subgenus changed. Holotype and protoconch figured. Length: 24 mm. Depth: 35 to 120 m. Correct Keen (1971) figure 1276, left, from *Strombina lilacina* to *S. pulcherrima* (Sowerby, 1832) [1281] (Jung, 1989).
- 1278 *Strombina* (*L.*) *marksi* Hertlein & Strong, 1951. Subgenus changed. Holotype and protoconch figured. Distribution: Arena Bank to Los Frailes, Baja California Sur, México. Depth: 36 to 100 m (Jung, 1989).
- 1280 *Strombina* (*L.*) *pavonina* (Hinds, 1844). Subgenus changed. Lectotype and protoconch figured. Length: 29.5 mm. Extend distribution north to Guaymas, Sonora, and to off Bahía Concepción, Baja California Sur, México. Depth: 3 to 100 m (Jung, 1989).
- 1281 *Strombina* (*L.*) *pulcherrima* (Sowerby, 1832). Subgenus changed. Holotype and protoconch figured. Length: 33 mm. Extend distribution south to Panamá. Depth: intertidal zone to 91 m. Keen (1971) figure 1276, left, is this species (Jung, 1989).
- 1284 *Strombina* (*L.*) *solidula* (Reeve, 1859). Subgenus changed. Lectotype and protoconch figured. Length: 21 mm. Depth: intertidal zone to 73 m (Jung, 1989).

Subgenus *Recurvina* Jung, 1989

- 1272 *Strombina* (*R.*) *fusinoidea* Dall, 1916. Subgenus changed. Lectotype and protoconch figured. Length: 51.4 mm. Extend distribution south to Perú. Depth: 4 to 278 m (Jung, 1989).
- *Strombina* (*R.*) *paenoblita* Jung, 1989. Holotype figured. Length: 50.7 mm. Distribution: Panamá to Bahía Independencia, Perú. Depth: 9 to 41 m. Keen (1971) figure 1275, left, is this species (Jung, 1989).
- 1282 *Strombina* (*R.*) *recurva* (Sowerby, 1832). Radula figured (Radwin, 1978). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Subgenus changed. Lectotype and protoconch figured. Length: 40.6 mm. Restrict distribution from Bahía de las Banderas, Nayarit, México, to Caleta la Cruz, northern Perú. Depth: intertidal zone to 128 m (Jung, 1989).

Subgenus *Spiralta* Jung, 1986

- 1271 *Strombina* (*S.*) *elegans* (Sowerby, 1832). Distribution: Golfo de Tehuantepec, México, to central Ecuador (Keen & Coan, 1975). Subgenus changed (Jung, 1986). Lectotype and protoconch figured. Southern distribution to Isla Salango, Ecuador. Depth: 5 to 90 m (Jung, 1989).
- 1277 *Strombina* (*S.*) *maculosa* (Sowerby, 1832). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985). Subgenus changed (Jung, 1986). Synonym: *Strombina paceaana* Dall, 1916 [1279]. Lectotype and protoconch figured. Length: 37.5 mm. Distribution: west coast of Baja California and throughout the Golfo de California, México; south to Isla Salango and the Islas Galápagos, Ecuador. Depth: intertidal zone to 110 m (Jung, 1989).
- 1279 *Strombina* (*S.*) *paceaana* Dall, 1916. Subgenus changed (Jung, 1986). Holotype figured. Delete here. Becomes a synonym of *Strombina* (*S.*) *maculosa* (Sowerby, 1832) [1277] (Jung, 1989).

Genus *Cotonopsis* Olsson, 1942

Raised from subgenus (Jung, 1989).

Subgenus *Cotonopsis*, s. s.

- *Cotonopsis* (*C.*) *crassiparva* Jung, 1989. Protoconch figured. Length: 24.2 mm. Known only from the Islas Galápagos, Ecuador. Depth: 18 to 200 m (Jung, 1989).
- 1285 *Cotonopsis* (*C.*) *deroyae* (Emerson & D'Attilio, 1969). Holotype and protoconch figured. Length: 56.5 mm. Distribution confined to off the coast of Isla Santa Cruz, Islas Galápagos, Ecuador. A variant has been found near Tumbes, Perú (Jung, 1989). Include Isla del Coco, Costa Rica, in distribution (Chaney, 1992).
- 1286 *Cotonopsis* (*C.*) *edentula* (Dall, 1908). Extend distribution south to central Ecuador (Keen & Coan, 1975). Lectotype and protoconch figured. Length: 41 mm. Include Isla del Cocos, Costa Rica in distribution and restrict southern distribution to the Golfo de Panamá. Depth: 22 to 183 m (Jung, 1989). Delete distribution to Isla del Coco, Costa Rica

(Chaney, 1992).

- *Cotonopsis* (*C.*) *jaliscana* Jung, 1989. Protoconch figured. Length: 28.8 mm. Distribution: southern Sinaloa to southern Jalisco, México. Depth: intertidal zone to 73 m (Jung, 1989).
- 1287 *Cotonopsis* (*C.*) *mendezana* (Shasky, 1970). Extend distribution north to Bahía de las Banderas, Nayarit, México (Shasky, 1970). Holotype and protoconch figured. Length: 32.5 mm. Extend distribution north to Sinaloa, México. Depth: 27 to 110 m (Jung, 1989).
- *Cotonopsis* (*C.*) *panacostaricensis* (Olsson, 1942). Protoconch figured. Length: 32 mm. Distribution: Costa Rica to Isla Gorgona, Colombia. Depth: 40 to 183 m (Jung, 1989).
- *Cotonopsis* (*C.*) *skoglundae* Jung, 1989. Length: 36.9 mm. Known only from off Isla Danzante, Golfo de California, México. Depth: 122 to 183 m (Jung, 1989).
- *Cotonopsis* (*C.*) *suteri* Jung, 1989. Length: 47.8 mm. Distribution: west coast of Baja California Sur and the southern part of the Golfo de California to Oaxaca, México. Depth: 25 to 110 m. A variant that is somewhat smaller and has a different protoconch is found from Mazatlán, Sinaloa, México to Isla del Caño, Costa Rica (Jung, 1989).

Subgenus *Turrina* Jung, 1989

- 1274 *Cotonopsis* (*T.*) *hirundo* (Gaskoin, 1852). Extend distribution north to Puerto Peñasco, Sonora, México, and to the Islas Galápagos, Ecuador (Keen & Coan, 1975). Length: 21.6 mm (Draper, 1987). Genus and subgenus changed. Holotype and protoconch figured. Length: 18.5 mm. Distribution: west coast of Baja California Sur and the southern part of the Golfo de California, México, to Cabo Pasado, Ecuador. Depth: 2 to 236 m (Jung, 1989).
- *Cotonopsis* (*T.*) *radwini* Jung, 1989. Protoconch figured. Length: 24.5 mm. Distribution: southern Chiapas, México, to the Golfo de Fonseca, El Salvador. Depth: 16 to 82 m (Jung, 1989).
- 1288 *Cotonopsis* (*T.*) *turrina* (Sowerby, 1832). Intertidal zone, Panamá (Shasky, 1975).

Extend distribution north to off Nayarit, México (Reguero & García-Cubas, 1987). Genus and subgenus changed. Synonym: *Strombina elegans* Li, 1930, non Sowerby, 1832 (syntype figured). Lectotype and protoconch figured. Length: 35.6 mm. Distribution: El Salvador to Panamá. Depth: intertidal zone to 24 m (Jung, 1989).

Genus *Clavistrombina* Jung, 1989

- 1268 *Clavistrombina clavulus* (Sowerby, 1834). Genus changed. Lectotype and protoconch figured. Length: 25.3 mm. Extend distribution to northern Perú. Depth: intertidal to 46 m (Jung, 1989).

Genus *Sincola* Olsson & Harbison, 1953  
Subgenus *Sinuina* Jung, 1989

- 1283 *Sincola* (*S.*) *sinuata* (Sowerby, 1875). Distribution confirmed to Nicaragua (Montoya, López & López, 1987). Genus and subgenus changed. Neotype and protoconch figured. Length: 19.7 mm. Distribution: Jalisco, México to El Salvador. Depth: 4 to 55 m (Jung, 1989).

Subgenus *Dorsina* Jung, 1989

- 1270 *Sincola* (*D.*) *dorsata* (Sowerby, 1832). Intertidal zone, Panamá (Shasky, 1975). Length: 30.8 mm (Draper, 1987). Genus and subgenus changed. Lectotype and protoconch figured. Distribution: west coast of Baja California Sur and throughout the Golfo de California, México, to northern Perú. Depth: intertidal zone to 88 m (Jung, 1989).
- 1273 *Sincola* (*D.*) *gibberula* (Sowerby, 1832). Subgenus changed to *Sincola*. Extend distribution northward to Laguna de San Ignacio, Baja California Sur, México (Keen & Coan, 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Genus and subgenus changed. Lectotype and protoconch figured. Length: 14.6 mm. Distribution: west coast of Baja California Sur and throughout the Golfo de California, México, to northern Perú. Depth: intertidal zone to 165 m (Jung, 1989).

Genus *Bifurcium* Fischer, 1884

- 1215 *Bifurcium bicanaliferum* (Sowerby, 1832). As a subgenus of *Strombina* by Jung (1986). As a genus. Lectotype and protoconch figured. Length: 12.5 mm. Distribution: from the southern Golfo de California, México, to northern Perú; the Islas Galápagos, Ecuador. Depth: intertidal zone to 55 m (Jung, 1989).

Family VOLUTIDAE

Subfamily VOLUTINAE

Genus *Voluta* Linnaeus, 1758

- *Voluta musica demarcoi* Olsson, 1965. Dead shell found at PoneLOYA, Nicaragua. Previously known distribution: east coast of Central America from México to Panamá (López & López, 1982).

Subfamily LYRIINAE

Pilsbry & Olsson, 1954

Genus *Enaeta* H. & A. Adams, 1853

Tentatively placed in Volutomitridae by Poppe (1987). Placement in Volutidae confirmed (Poppe & Goto, 1992).

- 1352 *Enaeta barnesii* (Gray, 1825). Genus changed from *Lyria* by Abbott (1974). Panamá, intertidal zone (Shasky, 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 41.7 mm (Wagner & Abbott, 1990).
- 1353 *Enaeta cumingii* (Broderip, 1832). Genus changed from *Lyria* by Abbott (1974). Delete *Voluta cylleniformis* Sowerby, 1844, as a synonym. Not Panamic (Keen & Coan, 1975). Figured (J. Hertz, 1982). Length: 39.3 mm (Draper, 1987).

Subfamily CALLIOTECTINAE

Genus *Calliotectum* Dall, 1890

- 1355 *Calliotectum vernicosum* Dall, 1890. Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).

Subfamily ODONTOCYMBIOLINAE

Clench & Turner, 1964

Subfamily assigned (Weaver & duPont, 1970).

Genus *Tractolira* Dall, 1896

Anatomy discussed. Placement in

Odontocymbiolinae confirmed (Harasewych, 1987).

- 1356 *Tractolira sparta* Dall, 1896. Length: 64 mm. Figured. Distribution: off Ensenada, Baja California, México, to Panamá. Depth: 2926-4024 m (Rokop, 1972).

Family HARPIDAE

As Harpidae Bronn, 1849 (Hughes & Emerson, 1987). As Harpidae Bronn, 1849 (Emerson & Hughes, 1988).

Subfamily HARPINAE

Genus *Harpa* Röding, 1798

- 1357 *Harpa crenata* Swainson, 1822. Extend distribution south to Tumbes, Perú (Peña G., 1970). Extend distribution north to Guaymas, Sonora, México (Rehder, 1973). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 107.3 mm (Wagner & Abbott, 1990).

- *Harpa gracilis* Broderip & Sowerby, 1829. Length: 35.4 mm. Distribution: L'île Clipperton [France]; Ellice Island to the Tuamotus, Pacific (Rehder, 1973).

Subfamily MORUMINAE

Hughes & Emerson, 1987

Genus *Morum* Röding, 1798

Transferred from Cassidae (as Cassidae) by Hughes (1986).

Subgenus *Morum*, s. s.

- 950 *Morum (M.) tuberculosum* (Reeve, 1842, ex Sowerby, MS). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Anatomy and radula figured (Hughes, 1986). Length: 45 mm (Wagner & Abbott, 1990).

Family TURBINELLIDAE

Genus *Exilioidea* Grant & Gale, 1931

Moved from the Buccinidae by Bouchet & Warén (1988).

- 1350 *Exilioidea rufocaudatus* (Dall, 1896). Figured. Length: 29.7 mm. Distribution: off Cabo Colonet, Baja California, México, to Panamá. Depth: 2378 to 3658 m (Rokop, 1972). Genus changed from *Fusinus*. Holotype and

radula figured (Bouchet & Warén, 1988).

Suborder MURICOIDEI Rafinesque, 1815

Superfamily OLIVOIDEA Latreille, 1825

Raised from family and placed as a suborder (Kantor, 1991).

Family OLIVIDAE

Subfamily OLIVINAE

Genus *Oliva* Bruguière, 1789

Subgenus *Porphyria* Röding, 1798

- 1364 *Oliva (P.) porphyria* (Linnaeus, 1758). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Subgenus changed. Add synonyms: *Oliva porphyritica* Martini, 1773; *O. tentoria* Link, 1807; *O. leveriana* Perry, 1811 (Petuch & Sargent, 1986). Length: 134.5 mm (Draper, 1987).

Subgenus *Strephona* Mörch, 1852

The following species placed in *Strephona* by Petuch & Sargent (1986).

- *Oliva (S.) davisae* Durham, 1950. As a valid species. Length: 35 mm. Distribution: Golfo de California, México, deeper water (Petuch & Sargent, 1986).
- *Oliva (S.) faxi* Stingley, 1984. Length: 40 mm. Known only from Isla del Coco, Costa Rica. Depth: 15 to 18 m (Stingley, 1984). Redescription and color photos (Shasky, 1984b).
- 1360 *Oliva (S.) incrassata* [Lightfoot, 1786]. Add synonyms: *Oliva nivea* Pilsbry, 1910; *O. burchorum* Zeigler, 1969 (Zeigler, 1969). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Color forms: *O. nivea* Pilsbry, 1910; *O. burchorum* Zeigler, 1969. Delete synonym *O. subangulata* Lamarck, 1811 (Petuch & Sargent, 1986). Length: 95 mm (Draper, 1987).
- *Oliva (S.) ionopsis* Berry, 1969. Holotype figured (C. Hertz, 1984a). As a valid species. Length: 55 mm. Distribution: Golfo de California, México, deeper waters (Petuch & Sargent, 1986).
- 1361 *Oliva (S.) julieta* Duclos, 1835. Delete synonyms: *Oliva graphica* and *O. porcea* Marrat in Sowerby, 1870 (Petuch & Sargent,

- 1986). Length: 59.2 mm (Wagner & Abbott, 1990).
- 1362 *Oliva (S.) kaleontina* Duclos, 1835. Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Extend distribution north to Puerto Escondido, Baja California Sur, México (Buck, 1989). Delete distribution to Puerto Escondido (C. Hertz, 1989b). Length: 42.2 mm (Wagner & Abbott, 1990).
- *Oliva (S.) kerstitchi* da Motta, 1985. Length: 27 mm. Distribution: Cabo San Lucas, Baja California Sur, México, and the coast of west México (da Motta, 1985). Known only from the Golfo de California (Petuch & Sargent, 1986). Delete here. Becomes a synonym of *Oliva polpasta* Duclos, 1833 [1363] (Koch, 1992b).
- *Oliva (S.) obesina* Duclos, 1835. As a valid species. Length: 40 mm. Distribution: restricted to the Golfo de California, México (Petuch & Sargent, 1986).
- *Oliva (S.) olsoni* Petuch & Sargent, 1986. Length: 36 mm. Distribution: Golfo de Panamá. Depth: 60 m (Petuch & Sargent, 1986).
- *Oliva (S.) peruviana* Lamarck, 1811. Extend distribution north to Máncora, Perú (Peña G., 1970). Color forms: *Oliva (S.) peruviana coniformis* Philippi, 1848; *O. p. fulgurata* Martens, 1869; *O. p. livida* Johnson, 1911; *O. p. subcastanea* Vanatta, 1915. Distribution: southern Perú to Chile (Petuch & Sargent, 1986). Length: 52 mm (Draper, 1987).
- 1363 *Oliva (S.) polpasta* Duclos, 1833. Extend distribution south to Máncora, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Color form: *Oliva (S.) polpasta callosa* Li, 1930. Delete *O. davisae* Durham, 1950, as a synonym (Petuch & Sargent, 1986). Length: 40.1 mm (Draper, 1987). Synonym: *O. kerstitchi* da Motta, 1985 (Koch, 1992b).
- *Oliva (S.) radix* Petuch & Sargent, 1986. Length: 38 mm. Distribution: off Isla la Plata, Ecuador. Depth: 75 mm (Petuch & Sargent, 1986).
- *Oliva (S.) rejecta* Burch & Burch, 1962. As a valid species. Synonym: *Oliva punctata* Marrat, 1870, *non* Röding, 1798. Length: 50 mm. Distribution: restricted to the Golfo de California, México, in shallow water (Petuch & Sargent, 1986).
- 1365 *Oliva (S.) spicata* (Röding, 1798). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Holotype of synonym, *Oliva ionopsis* Berry, 1969, figured (C. Hertz, 1984a). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Synonyms: *Oliva litterata* and *O. arachnoidea* Röding, 1798; *O. oblongata* Marrat, 1870. Color forms: *O. (S.) spicata araneosa* Lamarck, 1811; *O. s. fuscata* Marrat, 1871; *O. s. interincta* Carpenter, 1857. Delete as synonyms: *O. venulata* Lamarck, 1811; *O. obesina*, *O. oriola*, and *O. pindarina* Duclos, 1835; *O. subangulata* Philippi, 1848; *O. cumingii* Reeve, 1850; *O. melchersi* Menke, 1851; *O. punctata* and *O. violacea* Marrat in Sowerby, 1870; *O. hemphilli* and *O. perfecta* Johnson, 1911; *O. rejecta* Burch & Burch, 1962; *O. ionopsis* Berry, 1969 (Petuch & Sargent, 1986). Length: 85 mm (Draper, 1987).
- *Oliva (S.) spicata deynzeræ* Petuch & Sargent, 1986. Length: 55 mm. Known only from Isla del Coco, Costa Rica. Depth: 20 m (Petuch & Sargent, 1986).
- *Oliva (S.) spicata melchersi* Menke, 1851. Length: 55 mm. Distribution: restricted to the Golfo de California, México, in shallow water (Petuch & Sargent, 1986).
- 1366 *Oliva (S.) splendidula* Sowerby, 1825. Note correct spelling of specific name. Extend distribution south to Isla Gorgona, Colombia (Cantera, et al., 1979). Length: 52.3 mm (Wagner & Abbott, 1990). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).
- *Oliva (S.) subangulata* Philippi, 1848. As a valid species. Length: 35 mm. Distribution: southern half of the Golfo de California, México, in shallow water (Petuch & Sargent, 1986).
- *Oliva (S.) subangulata corteziana* Petuch & Sargent, 1986. Length: 32 mm. Distribution: off Isla Angel de la Guarda, Golfo de California, México. Depth: 20 m (Petuch & Sargent, 1986).
- *Oliva (S.) truncata* Marrat, 1867. Holotype figured. Length: 35 mm. Distribution: Costa Rica to Ecuador, both offshore and in shallow

water (Petuch & Sargent, 1986).

- *Oliva (S.) venulata* Lamarck, 1811. As a valid species. Synonym: *Oliva perfecta* Johnson, 1911. Color forms: *O. (S.) venulata harpularia* Lamarck, 1811; *O. v. ustulata* Lamarck, 1811; *O. v. hemphilli* Johnson, 1915. Length: 40 mm. Distribution: west coast of Baja California and the Golfo de California, México, shallow water (Petuch & Sargent, 1986).
- *Oliva (S.) venulata cumingii* Reeve, 1830. Length: 40 mm. Distribution: southern part of the Baja California side of the Golfo de California, México (Petuch & Sargent, 1986).
- *Oliva (S.) venulata pindarina* Duclos, 1835. Length: 35 mm. Distribution: restricted to the Golfo de California, México (Petuch & Sargent, 1986).
- *Oliva (S.) violacea* Marrat, 1867. As a valid species. Length: 45 mm. Distribution: restricted to the Golfo de California. Depth: intertidal zone to 35 m (Petuch & Sargent, 1986).

Subgenus *Strephonella* Dall, 1909

- 1367 *Oliva (S.) undatella* Lamarck, 1811. Extend distribution south to Tumbes, Perú (Peña G., 1970). Note date change from 1810. Color forms: *Oliva (S.) undatella nedulina* Duclos, 1835; *O. u. tenebrosa* Wood, 1825 (Petuch & Sargent, 1986). Length: 16.2 mm (Draper, 1987).
- *Oliva (S.) undatella ecuadoriana* Petuch & Sargent, 1986. Length: 24 mm. Distribution: Colombia to northern Perú (Petuch & Sargent, 1986).

Subfamily AGARONIINAE Olsson, 1956  
Genus *Agaronia* Gray, 1839

- 1368 *Agaronia griseoalba* (von Martens, 1897). As *Agaronia murrha* Berry, 1953 [1368]. Extend distribution south to Dominical, Puntarenas Province, Costa Rica (López & Montoya, 1985b). Length: 33.9 mm (Draper, 1987). Radula figured. Synonym: *Agaronia murrha* Berry, 1953 [1368]. Distribution: Guatemala to Canoa, Manabí Province, Ecuador (López, Montoya & López, 1988).
- *Agaronia jesuitarum* A. López, Montoya & J.

López, 1988. Length: 22 mm. Known only from Nicaragua (López, Montoya & López, 1988).

- *Agaronia nica* A. López, Montoya & J. López, 1988. Length: 25 mm. Distribution: Sayulita, Nayarit, México, to Puntarenas, Costa Rica (López, Montoya & López, 1988).
- 1369 *Agaronia propatula* (Conrad, 1849). Distribution: Bahía de los Angeles, Baja California, México, to Panamá (López, Montoya & López, 1988). Correct distribution to Caleta de los Angeles, Bahía Tenacatita, Jalisco, México, to Panamá (Skoglund, 1989b).
- 1370 *Agaronia testacea* (Lamarck, 1811). Length: 66 mm (Draper, 1987). Delete *Oliva testacea griseoalba* von Martens, 1897, as a synonym. Holotype of *O. philippi* von Martens, 1897, figured. Distribution: Golfo de California to Panamá (López, Montoya & López, 1988).

Family OLIVELLIDAE Troschel, 1869

Raised from subfamily (Kantor, 1991).

Genus *Olivella* Swainson, 1840

Subgenus *Olivella*, s. s.

- 1371 *Olivella (O.) alba* (Marrat in Sowerby, 1871). Length: 9.7 mm (Draper, 1987).
- 1372 *Olivella (O.) altatae* Burch & Campbell, 1963. Extend distribution north to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).
- 1376 *Olivella cocosensis* Olsson, 1956. Shell figured. Depth: 18 to 36 m, in sand (Shasky, 1984a).
- 1377 *Olivella (O.) dama* (Wood, 1828, ex Mawe, MS). Length: 26 mm (Wagner & Abbott, 1990).
- *Olivella (O.) drangai* Olsson, 1956. Length: 10 mm. Distribution: Islas Galápagos, Ecuador. Depth: 9 m (Olsson, 1956).
- 1378 *Olivella (O.) fletcheriae* Berry, 1958. Holotype figured (C. Hertz, 1984a). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985).
- 1379 *Olivella (O.) gracilis* (Broderip & Sowerby, 1829). Extend distribution south to Paita, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in

distribution (Finet, 1985). Length: 26.2 mm (Draper, 1987).

1384 *Olivella (O.) tergina* (Duclos, 1835). Length: 18.2 mm (Draper, 1987).

1385 *Olivella (O.) walkeri* Berry, 1958. Holotype figured (C. Hertz, 1984a). Extend distribution south to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).

Subgenus *Callianax* H. & A. Adams, 1853

1386 *Olivella (C.) intorta* Carpenter, 1857. As a synonym of *Olivella pedroana* (Conrad, 1856) (Abbott, 1976). Extend distribution across the Golfo de California to Laguna de Yavaros, Sonora, México (García-Cubas & Reguero, 1987).

Subgenus *Dactylidella* Woodring, 1928

1387 *Olivella (D.) anazora* (Duclos, 1835). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).

1388 *Olivella (D.) cymatilis* Berry, 1963. Holotype figured (C. Hertz, 1984a).

Subgenus *Dactylidia* H. & A. Adams, 1853

1389 *Olivella (?D.) zonalis* (Lamarck, 1811). Length: 8.5 mm (Draper, 1987).

Subgenus *Lamprodoma* Swainson, 1840

1390 *Olivella (L.) volutella* (Lamarck, 1811). Extend distribution south to Tumbes, Perú (Peña G., 1971). Length: 33.5 mm (Draper, 1987).

Subgenus *Minioliva* Olsson, 1956

1391 *Olivella (M.) inconspicua* (C.B. Adams, 1852). Depth: 60 to 70 m (Shasky, 1966).

Subgenus *Niteoliva* Olsson, 1956

1392 *Olivella (N.) morrisoni* Olsson, 1956. Extend distribution north to Mazatlán, Sinaloa, México (J. & C. Hertz, 1983a). Extend distribution south to Isla Gorgona, Colombia (Cosel, 1984).

Subgenus *Zanoetella* Olsson, 1956

1396 *Olivella (Z.) zanoeta* (Duclos, 1835). Length: 25.5 mm (Draper, 1987).

Family VASIDAE

Genus *Vasum* Röding, 1798

1397 *Vasum caestus* (Broderip, 1833). Extend distribution south to Tumbes, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 147.6 mm (Draper, 1987).

Family MARGINELLIDAE

Subfamily MARGINELLINAE

Genus *Prunum* Herrmannsen, 1852

Subgenus *Prunum*, s. s.

1398 *Prunum (P.) curtum* (Sowerby, 1832). Length: 24.4 mm (Draper, 1987).

---- *Prunum (P.) gorgonense* Roth, 1978. Length: 16.2 mm. Distribution: Colombia. Depth: 37 m (Roth, 1978).

---- *Prunum (P.) macleani* Roth, 1978. Radula figured. Length: 36.6 mm. Cabo Pasado to Isla la Plata, Ecuador. Depth: 15 to 91 m (Roth, 1978). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).

1399 *Prunum (P.) sapotilla* (Hinds, 1844). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

1400 *Prunum (P.) woodbridgei* (Hertlein & Strong, 1951). Radula figured (Roth, 1978).

Subgenus *Microspira* Conrad, 1868

---- *Prunum (M.) aletes* Roth, 1978. Length: 15.2 mm. Distribution: Costa Rica to Panamá. Depth: 7 to 77 m (Roth, 1978).

Genus *Dentimargo* Cossmann, 1899

---- *Dentimargo anticlea* (Dall, 1919). Length: 3.5 mm. Distribution: Islas Galápagos, Ecuador (Roth, 1978).

---- *Dentimargo epacrodonta* Roth, 1978. Length: 3.7 mm. Distribution: Panamá. Depth: 26 to 100 m (Roth, 1978).



- 1401 *Dentimargo erema* (Dall, 1919). Change specific name to agree in gender (Keen & Coan, 1975). Delete *Marginella anticlea* Dall, 1919, as synonym. Keen (1971) figure 1401 is probably from the Atlantic and not *D. erema* (Dall, 1919) (Roth, 1978).
- *Dentimargo zetetes* Roth, 1978. Length: 4 mm. Distribution: Costa Rica. Depth: 6 to 55 m (Roth, 1978).

Genus *Persicula* Schumacher, 1817

- 1402 *Persicula accola* Roth & Coan, 1968. Distribution: between Punta Burica and Punta Mariato, Panamá. Depth: intertidal zone to 9 m (Roth & Emerson, 1982). Extend distribution to mainland Panamá at Ensenada de Santa Catalina, Veraguas Province (Avilés E., 1984).
- 1403 *Persicula bandera* Coan & Roth, 1965. Length: 13.3 mm (Draper, 1987).
- 1404 *Persicula hilli* (M. Smith, 1950). Length: 18.1 mm (Draper, 1987).
- 1405 *Persicula imbricata* (Hinds, 1844). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 14.9 mm (Draper, 1987).
- *Persicula pulchella* (Kiener, 1834). Distribution: Madagascar (Dautzenberg, 1932). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1983c).
- *Persicula tessellata* (Lamarck, 1822). Holotype figured. Length: 18.4 mm. Distribution: Panamá. Depth to 3 m (Roth & Emerson, 1982).

Genus *Volvarina* Hinds, 1844Subgenus *Volvarina*, s. s.

- *Volvarina (V.) innexa* Roth, 1978. Length: 5.3 mm. Distribution: Islas Galápagos, Ecuador. Depth: 9 to 37 m. Known only from the holotype (Roth, 1978).
- 1407 *Volvarina (V.) nyssa* Roth & Coan, 1971. Radula figured. Length: 5.7 mm. Distribution: Islas Galápagos, Ecuador. Depth: intertidal zone (Roth & Coan, 1971).
- 1408 *Volvarina (V.) taeniolata taeniolata* Mörch, 1860. Include the Islas Galápagos, Ecuador, in distribution (J. Hertz, 1977c). Length: 10 mm (Draper, 1987).

## Subfamily CYSTISCINAE

Genus *Cystiscus* Stimpson, 1865

- 1411 *Cystiscus politulus* (Dall, 1919). Extend distribution south to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).

Genus *Granula* Jousseume, 1875

- 1412 *Granula achenea* Roth & Coan, 1971. Length: 2.6 mm. Isla del Coco, Costa Rica. Depth: 24.5 m (Roth & Coan, 1971).
- 1413 *Granula insularum* Roth & Coan, 1971. Length: 2.5 mm. Distribution: Islas Galápagos, Ecuador. Depth: intertidal zone (Roth & Coan, 1971). Extend distribution to Manabí Province, Ecuador (Shasky, 1984d).
- 1414 *Granula minor* (C.B. Adams, 1852). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Delete distribution to off Bahía San Carlos (Poorman, pers. comm., 1991).
- 1415 *Granula polita* (Carpenter, 1857). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1985).

## Family MITRIDAE

## Subfamily MITRINAE

Genus *Mitra* Lamarck, 1798Subgenus *Mitra*, s. s.

- 1420 *Mitra (M.) fultoni* E. A. Smith, 1892. Extend distribution north to Catalina Island, Los Angeles County, California (Keen & Coan, 1975). Subgenus changed from *Atrimitra* (Cernohorsky, 1976a). Extend distribution south to Isla del Coco, Costa Rica (Montoya, 1983). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 90 m (F. & L. Poorman, 1988).
- *Mitra (M.) mitra* (Linnaeus, 1758). Length: 170 mm. Include East Africa to Polynesia and Hawaii in distribution. Depth: intertidal zone to 60 m (Cernohorsky, 1976a). Extend distribution to Costa Rica and the Islas Galápagos, Ecuador (Sphon, 1976). Extend

- distribution to Isla Gorgona, Colombia (Cosel, 1977). Extend distribution to Panamá (Emerson, 1983). Include Isla del Coco, Costa Rica, in distribution (Emerson, 1991).
- *Mitra (M.) orientalis* Griffith & Pidgeon, 1834. Length: 73 mm. Distribution: Ancón, Ecuador, to Chile. See Cernohorsky (1976) for full synonymy.
- 1418 *Mitra (M.) papalis* (Linnaeus, 1758). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e).
- 1427 *Mitra (M.) semigranosa* von Martens, 1897. Subgenus changed. Holotype figured (Cernohorsky, 1976a).
- Subgenus *Dibaphus* Philippi, 1847
- *Mitra (D.) edentula* Swainson, 1823. Synonym: *Dibaphus philippi* Crosse, 1858. Distribution: L'île Clipperton [France]; Indian Ocean; Hawaiian Islands (Cernohorsky, 1976a).
- Subgenus *Fusimitra* Conrad, 1855
- 1421 *Mitra (F.) swainsonii swainsonii* Broderip, 1836. Extend distribution south to Tumbes, Perú (Peña G., 1970). Subgenus changed. Add subspecies. Holotype figured. Holotype of synonym, *Mitra mexicana* Dall, 1919, figured (Cernohorsky, 1976a). Length: 150 mm (Wagner & Abbott, 1990).
- Subgenus *Nebularia* Swainson, 1840
- 1419 *Mitra (N.) belcheri* Hinds, 1843. Subgenus changed. Syntype figured. Synonym: *Mitra cyclica* Olsson, 1942 (Cernohorsky, 1976a). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 80 m (F. & L. Poorman, 1988).
- 1423 *Mitra (N.) crenata* Broderip, 1836. Extend distribution across the Golfo de California to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Subgenus changed from ?*Strigatella* to *Mitra*. Extend distribution to Islas Galápagos, Ecuador (Sphon, 1976). Lectotype figured. Subgenus changed to *Nebularia* (Cernohorsky, 1976a). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- 1422 *Mitra (N.) effusa* Broderip, 1836. Subgenus changed from *Isara*. Extend distribution north to Mulegé, Baja California Sur, México (Cernohorsky, 1976a). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979).
- *Mitra (N.) ferruginea* Lamarck, 1811. Synonyms: *Voluta vitulina* Dillwyn, 1817; *Mitra martiniana* Menke, 1829; *Chrysame lemma* Iredale, 1929 (holotype figured). *Radula* figured. Length: 58 mm. Distribution: Gulf of Aden to Polynesia, the Hawaiian Islands and L'île Clipperton [France]. Depth: intertidal zone to 27 m (Cernohorsky, 1976a). Extend distribution to Isla del Coco, Costa Rica. Figured (Shasky, 1984c).
- 1424 *Mitra (N.) gausapata* Reeve, 1845. Subgenus changed from *Strigatella* to *Mitra* (Sphon, 1976). Subgenus changed from *Mitra* (Cernohorsky, 1976a). Length: 37.2 mm (Wagner & Abbott, 1990).
- 1425 *Mitra (N.) inca* d'Orbigny, 1841. Synonym: *Mitra nucleola* Lamarck, ?1811. Subgenus changed. Holotype figured (Cernohorsky, 1976a).
- 1426 *Mitra (N.) lens* Wood, 1828. Subgenus changed from *Strigatella* to *Mitra*. Extend distribution to Islas Galápagos, Ecuador (Sphon, 1976). Synonym: *Mitra lignaria* Reeve, 1844 [1430]. Subgenus changed from *Mitra* (Cernohorsky, 1976a). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 68.6 mm (Draper, 1987).
- 1432 *Mitra (N.) muricata* Broderip, 1836. Add subgenus. Lectotype figured. Lectotype of synonym, *Mitra rupicola* Reeve, 1844 [1433], figured. Holotypes of synonym, *M. (Chrysame) echyra* Melvill, ?1925, and *M. (Scabricola) marshalli* Bartsch, 1931 [1431], figured. Distribution: Mazatlán, Sinaloa, México, to Ecuador (Cernohorsky, 1976a). Include Isla Gorgona, Colombia, in distribution (as *M. rupicola*) (Cosel, 1984). Delete *M. rupicola* as a synonym (Salisbury, 1992b).
- 1433 *Mitra (N.) rupicola* Reeve, 1844. As a synonym of *Mitra (N.) muricata* Broderip, 1836 [1432] (Cernohorsky, 1976a). As a valid species with *M. lignaria* Reeve, 1844 [1430] as a synonym (Salisbury, 1992a,b).

1428 *Mitra (N.) sphoni* Shasky & Campbell, 1964. Changed from *Mitra* (?*Strigatella*) to genus *Subcancilla*. Extend distribution to Islas Galápagos, Ecuador (Sphon, 1976). As *Mitra* (*Nebularia*). Include in distribution: Cabo Pulmo, Baja California Sur; Islas Tres Marias, México (Cernohorsky, 1976a). Second specimen reported from the Islas Galápagos (Cernohorsky, 1978). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 28.8 mm (Draper, 1987).

Subgenus *Strigatella* Swainson, 1840

- *Mitra (S.) litterata* Lamarck, 1811. Synonyms: *Columbella bizonalis* Lamarck, 1822; *C. hebraea* Lamarck, 1822; *Mitra leopardina* Küster, 1839; *M. maculosa* Reeve, 1844 (lectotype figured). Length: 31 mm. Distribution: Red Sea and the Gulf of Oman to Polynesia and the Hawaiian Islands (Cernohorsky, 1976a). Extend distribution to L'île Clipperton [France] (Emerson, 1978).
- 1429 *Mitra (S.) tristis* Broderip, 1836. Extend distribution south to Tumbes, Perú (Peña G., 1970). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 35.6 mm (Draper, 1987).

Subgenus *Mitra, s. l.*

- 1430 *Mitra lignaria* Reeve, 1844. Delete here. As a synonym of *Mitra (N.) lens* Wood, 1828 [1426] (Cernohorsky, 1976a). As a synonym of *M. (N.) rupicola* Reeve, 1844 [1433] (Salisbury, 1992a).
- 1431 *Mitra marshalli* Bartsch, 1931. Delete here. Becomes a synonym of *Mitra (N.) muricata* Broderip, 1836 [1432] (Cernohorsky, 1976a).
- 1433 *Mitra rupicola* Reeve, 1844. Delete here. Subgenus changed. See *Mitra (Nebularia)*.

Subfamily IMBRICARIINAE

Genus *Subcancilla* Olsson & Harbison, 1953

- 1434 *Subcancilla attenuata* (Broderip, 1836). Synonyms: *Subcancilla hindsii* (Reeve, 1844) [1440]; *S. directa* (Berry, 1960) [1436] (Abbott, 1974). Extend distribution north to Playas del

Coco, Guanacaste Province, Costa Rica (Spight, 1976). Holotype of synonym, *S. directa* (Berry, 1960), figured (C. Hertz, 1984a). Tentatively as genus "Ziba." Lectotype figured. Synonyms: *Mitra gigantea* var. *hindsii* Reeve, 1844; *Subcancilla directa* (Berry, 1960) [1436] (holotype figured). Length: 52 mm. Distribution: Guaymas, Sonora, south throughout the Golfo de California, México, to Salinas, Ecuador. Depth: 9 to 91 m (Cernohorsky, 1991). *Ziba* not applicable to Panamic species (Salisbury, 1991a). Synonym: *Subcancilla lindsayi* (Berry, 1960) [1441] (Salisbury, 1992a).

- 1435 *Subcancilla calodinota* (Berry, 1960). As a synonym of *Subcancilla erythrogramma* (Tomlin, 1931) [1435] (Abbott, 1974). As a valid species. Holotype figured (C. Hertz, 1984a). Length: 41.3 mm (Draper, 1987). Tentatively as genus "Ziba." Holotype figured. Synonyms: *Subcancilla hindsii* Keen, 1971, non Reeve, 1844 [1440]; *S. lindsayi* (Berry, 1960) [1441] (holotype figured). Distribution: Golfo de California, México, to Panamá. Depth: 13 to 61 m (Cernohorsky, 1991). *Ziba* not applicable to Panamic species (Salisbury, 1991a). Delete *Subcancilla lindsayi* (Berry, 1960) [1441] as a synonym (Salisbury, 1992a).
- 1436 *Subcancilla directa* (Berry, 1960). Delete here. Becomes a synonym of *Subcancilla attenuata* (Broderip, 1836) [1434] (Abbott, 1974).
- *Subcancilla edithreae* Sphon, 1976. Radula figured. Length: 22.6 mm. Islas Galápagos, Ecuador. Depth: 3 to 6 m (Sphon, 1976). Tentatively as genus "Ziba." Holotype figured. Depth: 3 to 30 m (Cernohorsky, 1991). *Ziba* not applicable to Panamic species (Salisbury, 1991a).
- 1437 *Subcancilla erythrogramma* (Tomlin, 1931). Synonym: *Subcancilla calodinota* (Berry, 1960) [1435] (Abbott, 1974). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 35.4 mm (Draper, 1987). Tentatively as genus "Ziba." Synonym: *Subcancilla welkerorum* Whitney, 1977 (holotype figured). Delete *S. calodinota* (Berry, 1960) [1435], as a synonym. Lectotype and radula figured. Distribution: Cabo Tepoca, Sonora México, to Salango, Ecuador,

- including the Islas Galápagos and Isla del Coco, Costa Rica. Depth: intertidal zone to 165 m (Cernohorsky, 1991). *Ziba* not applicable to Panamic species (Salisbury, 1991a).
- 1438 *Subcancilla funiculata* (Reeve, 1844). Delete here. Becomes a synonym of *Subcancilla sulcata* (Swainson in Sowerby, 1825) [1444] (Cernohorsky, 1991).
- 1439 *Subcancilla gigantea* (Reeve, 1844, ex Swainson, MS). Panamá, intertidal zone (Shasky, 1975). Extend distribution north to off Nayarit, México (Reguero & García-Cubas, 1987). Extend distribution north to Nicaragua (Montoya, López & López, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Length: 118 mm (Wagner & Abbott, 1990). Tentatively as genus "*Ziba*." Lectotype figured. Synonym: *Mitra (Tiara) gigantea polystira* Pilsbry & Olsson, 1941 (holotype figured). Depth: intertidal zone to 60 m (Cernohorsky, 1991). *Ziba* not applicable to Panamic species (Salisbury, 1991a)
- 1440 *Subcancilla hindsii* (Reeve, 1844). As a synonym of *Subcancilla attenuata* (Broderip, 1836) [1436] (Abbott, 1974). Length: 43.7 mm (Wagner & Abbott, 1990). As a synonym of "*Ziba*" *calodinota* (Berry, 1960) [1435] (Cernohorsky, 1991). As a valid species (Salisbury, 1991b).
- 1441 *Subcancilla lindsayi* (Berry, 1960). Holotype figured (C. Hertz, 1984a). Delete here. As a synonym of "*Ziba*" *calodinota* (Berry, 1960) [1435] (Cernohorsky, 1991). As a synonym of *Subcancilla attenuata* (Broderip, 1836) [1434] (Salisbury, 1992a).
- 1442 *Subcancilla malleti* (Petit de la Saussaye, 1852). Length: 32.8 mm (Draper, 1987). Delete here. Becomes a synonym of *Subcancilla sulcata* (Swainson in Sowerby, 1825) [1444] (Cernohorsky, 1991).
- 1443 *Subcancilla phorminx* (Berry, 1969). Holotype figured (C. Hertz, 1984a). Extend distribution north to off Nayarit, México (Reguero & García-Cubas, 1987). Length: 52.1 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Tentatively as genus "*Ziba*." Holotype figured.
- Distribution: Cabo San Lucas, Baja California Sur, to Acapulco, Guerrero, México. Depth: 64 to 82 m (Cernohorsky, 1991). *Ziba* not applicable to Panamic species (Salisbury, 1991a).
- 1444 *Subcancilla sulcata* (Swainson in Sowerby, 1825). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Synonyms: *Mitra funiculata* Reeve, 1844 [1438] (lectotype figured); *M. malleti* (Petit de la Saussaye, 1852) [1442] (holotype figured). Radula figured. Distribution: Guaymas, Sonora, south throughout the Golfo de California to Ecuador, including the Islas Galápagos. Depth: intertidal zone to 112 m (Cernohorsky, 1991). Delete distribution to the Islas Galápagos (Finet, 1991).
- *Subcancilla welkerorum* Whitney, 1977. Length: 32 mm. Off Guaymas, Sonora, México (Whitney, 1977). Delete here. Becomes a synonym of *Subcancilla erythrogramma* (Tomlin, 1931) [1437] (Cernohorsky, 1991).
- Family COSTELLARIIDAE McDonald, 1860  
Genus *Thala* H. & A. Adams, 1853
- 1445 *Thala gratiosa* (Reeve, 1845). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979).
- 1446 *Thala jeancateae* Sphon, 1969. Length: 22 mm. Radula figured (Sphon, 1976). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1989c).
- 1447 *Thala solitaria* (C.B. Adams, 1852). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988). Delete distribution to off Bahía San Carlos (Poorman, pers. comm., 1991).
- Superfamily CANCELLARIOIDEA  
Raised by Ponder (1973).  
Family CANCELLARIIDAE  
Subfamily CANCELLARIINAE  
Genus *Cancellaria* Lamarck, 1799  
Subgenus *Cancellaria*, s. s.
- 1448 *Cancellaria (C.) albida* Hinds, 1843. Length: 27 mm (Draper, 1987).

---- *Cancellaria (C.) corrosa* Reeve, 1856. Taken off Oaxaca, México. Depth: 73 m (Petit, pers. comm., 1982). A Panamic-Pacific species (Petit & Harasewych, 1990).

1450 *Cancellaria (C.) decussata* Sowerby, 1832. Panamá, intertidal zone (Shasky, 1975). Length: 31.5 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 120 m (F. & L. Poorman, 1988).

---- *Cancellaria (C.) emydis* Dall & Ochsner, 1928. Valid species (Petit, 1983b). Delete. Known only as a fossil (Petit, pers. comm., 1989).

1451 *Cancellaria (C.) gemmulata* Sowerby, 1832. Panamá, intertidal zone (Shasky, 1975). Delete *Cancellaria (C.) emydis* Dall & Ochsner, 1928 as a synonym (Petit, 1983b). Length: 24 mm (Draper, 1987).

1452 *Cancellaria (C.) obesa* Sowerby, 1832. Synonym: *Cancellaria ovata* Sowerby, 1832 [1453] (Abbott, 1974). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 59 mm (Draper, 1987).

1453 *Cancellaria (C.) ovata* Sowerby, 1832. Delete here. Becomes a synonym of *Cancellaria obesa* Sowerby, 1832 [1452] (Abbott, 1974).

1454 *Cancellaria (C.) urceolata* Hinds, 1843. Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 41.3 mm (Draper, 1987). Include Guayas Province, Ecuador, in distribution (Skoglund, 1990b).

1455 *Cancellaria (C.) ventricosa* Hinds, 1843. Extend distribution north to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

#### Subgenus *Bivetia* Jousseaume, 1887

1459 *Cancellaria (B.) cremata* Hinds, 1843. Delete here. Becomes a synonym of *Cancellaria indentata* Sowerby, 1832 [1460] (Petit, 1983b).

1460 *Cancellaria (B.) indentata* Sowerby, 1832. Add synonym: *Cancellaria (B.) cremata* Hinds, 1843 [1459] (Petit, 1983b). Length: 37.7 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

1461 *Cancellaria (B.) jayana* Keen, 1958. Panamá, intertidal zone (Shasky, 1975). Synonym: *Cancellaria clathrata* A. Adams, 1855, non Lamarck, 1822 (Petit, pers. comm., 1982). Length: 29.5 mm (Draper, 1987).

#### Subgenus *Bivetiella* Wenz, 1943

1462 *Cancellaria (B.) pulchra* Sowerby, 1832. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 37.1 mm (Draper, 1987). Include Islas Galápagos, Ecuador, in distribution (Shasky, 1989a). Include Isla del Coco, Costa Rica, in distribution (Chaney, 1992).

#### Subgenus *Bivetopsia* Jousseaume, 1887

1463 *Cancellaria (B.) chrysostoma* Sowerby, 1832. Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).

1464 *Cancellaria (B.) haemostoma* Sowerby, 1832. Length: 30 mm (Draper, 1987).

#### Subgenus *Euclia* H. & A. Adams, 1854

1465 *Cancellaria (E.) balboae* Pilsbry, 1931. Panamá, intertidal zone (Shasky, 1975). Length: 45 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).

1466 *Cancellaria (E.) cassidiformis* Sowerby, 1832. Length: 65.7 mm (Draper, 1987).

#### Subgenus *Massyla* H. & A. Adams, 1858

1468 *Cancellaria (M.) corrugata* Hinds, 1843. Length: 28.4 mm (Draper, 1987).

1471 *Cancellaria (M.) cumingiana* Petit de la Saussaye, 1844. Extend distribution south to Máncora, Perú (Peña G., 1970). Subgenus changed. May be a synonym of *Cancellaria (M.) obtusa* Deshayes, 1830 [1472] (Petit, 1983b).

1472 *Cancellaria (M.) obtusa* Deshayes, 1830. Subgenus changed. *Cancellaria cumingiana* Petit de la Saussaye, 1844 [1471] may be a synonym (Petit 1983b).

#### Subgenus *Pyrucilia* Olsson, 1932

1473 *Cancellaria (P.) bulbulus* Sowerby, 1832. Panamá, intertidal zone (Shasky, 1975). Extend distribution north to the Golfo de Fonseca, El Salvador (Hernandez, 1979).

Extend distribution north to San Blas, Nayarit, México, and south to off Playas de Villamil, Guayas Province, Ecuador (Petit, pers. comm., 1982). Length: 49 mm (Wagner & Abbott, 1988a).

- 1474 *Cancellaria (P.) solida* Sowerby, 1832. Panamá, intertidal zone (Shasky, 1975). Length: 84 mm (Draper, 1987).

Subgenus *Crawfordina* (Dall, 1891)

- 1477 *Cancellaria (C.) io* Dall, 1908. Subgenus changed. Distribution: San Diego, California, to the Golfo de Panamá. Depth: 1183 m (Abbott, 1974).

Subgenus *Progabbia* Dall, 1918.

- *Cancellaria (P.) cooperi* (Gabb, 1865). Length: 90 mm. Distribution: Monterey, California, to Isla San Benito, central Baja California, México (McLean, 1978). Radula figured. Parasitic on the Pacific electric ray *Torpedo californica* Ayers (O'Sullivan, McConnaughey & Huber, 1987). Extend distribution into the Golfo de California off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Egg capsules, embryos and larvae figured (Pawlik, O'Sullivan & Harasewych, 1988).

Genus *Admetula* Cossmann, 1889

- 1456 *Admetula deroyae* (Petit, 1970). Genus changed. A similar Caribbean species is *Admetula vossi*, Petit, 1976 (Petit, 1976).

Genus *Agatrix* Petit, 1967

Raised from subgenus (Petit, 1976).

- 1457 *Agatrix strongi* (Shasky, 1961). Extend distribution north to off Isla Danzante, Golfo de California, México. Depth: 200 m. (Petit, pers. comm., 1982). Extend distribution north to Bahía de los Angeles, Baja California, México. Depth: 183 m (Skoglund, 1988).

Genus *Aphera* H. & A. Adams, 1854

Raised from subgenus (Petit, pers. comm., 1982).

- 1458 *Aphera tessellata* (Sowerby, 1832). Panamá, intertidal zone (Shasky, 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1979). Length: 26 mm (Draper, 1987).

Genus *Axelella* Petit, 1988

Synonym: *Olssonella* Petit, 1970 (Petit, 1988)

- 1481 *Axelella campbelli* (Shasky, 1961). Length: 21 mm (Draper, 1987). Extend distribution south to Bahía Cocos, Guanacaste Province, Costa Rica (Skoglund, 1990a).
- 1482 *Axelella funiculatum* (Hinds, 1843). Extend distribution south to Isla Gorgona, Colombia (Cosel, 1984). Length: 29 mm (Draper, 1987).

Genus *Hertleinia* Marks, 1949

As a synonym of *Narona* by Petit (1975). As a genus (Petit, 1983a).

- 1467 *Hertleinia mitriformis* (Sowerby, 1832). Panamá, intertidal zone (Shasky, 1975). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution north to Nicaragua (Montoya, López & López, 1987). Length: 37 mm (Draper, 1987).

Genus *Narona* H. & A. Adams, 1854

Raised from subgenus. Synonym: *Panarona* Petit, 1975 (Petit, 1983a).

- 1469 *Narona clavatula* (Sowerby, 1832). Panamá, intertidal zone (Shasky, 1975). Length: 41.3 mm (Draper, 1987).
- 1470 *Narona exopleura* (Dall, 1908). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

Genus *Perplicaria* Dall, 1890

- 1479 *Perplicaria clarki* M. Smith, 1947. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Sveltia* Jousseaume, 1887

Raised from subgenus (Petit, pers. comm., 1989).

1476 *Sveltia centrota* (Dall, 1896). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

--- *Sveltia gladiator* (Petit, 1976). Length: 52.1 mm. Islas Galápagos, Ecuador. Depth: 200 m (Petit, 1976).

Genus *Trigonostoma* Blainville, 1827  
Subgenus *Extractrix* Korobkov, 1955

1480 *Trigonostoma (E.) milleri* Burch, 1949. Taken by shrimpers working out of Guaymas, Sonora, México (Petit, pers. comm., 1982). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 24.5 mm (Draper, 1987).

Subgenus *Ventriolia* Jousseaume, 1887

1483 *Trigonostoma (V.) breve* (Sowerby, 1832). Length: 38 mm (Wagner & Abbott, 1990). Extend distribution north to Bahía Carizal, Colima, México (Skoglund, 1991c).

1484 *Trigonostoma (V.) bullatum* (Sowerby, 1832). Synonym: *Cancellaria dalli* Bartsch, 1915 (Petit, 1976). Length: 60 mm (Wagner & Abbott, 1989e).

1485 *Trigonostoma (V.) elegantulum* M. Smith, 1947. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1980). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 17.5 mm (Draper, 1987).

1486 *Trigonostoma (V.) goniosstoma* (Sowerby, 1832). Add synonym: *Trigonostoma (V.) pygmaeum* (C. B. Adams, 1852) [1487] (Petit, 1983b). Length: 38.1 mm (Wagner & Abbott, 1990).

1487 *Trigonostoma (V.) pygmaeum* (C.B. Adams, 1852). Delete here. Becomes synonym of *Trigonostoma (V.) goniosstoma* (Sowerby, 1832) [1486] (Petit, 1983b).

1488 *Trigonostoma (V.) tuberculosum* (Sowerby, 1832). Length: 60 mm (Draper, 1987).

Subfamily PLESIOTRITONINAE

Beu & Maxwell, 1987

Genus *Tritonoharpa* Dall, 1908

Transferred from Colubrariidae and raised from subgenus (Beu & Maxwell, 1987).

972 *Tritonoharpa siphonata* (Reeve, 1844). Genus changed from *Colubraria*. Lectotype and protoconch figured. Holotype of synonym, *Colubraria aphrogenia* Pilsbry & Lowe, 1932, figured. Extend distribution south to Bahía Santa Elena, Ecuador. Depth to 55 m (Beu & Maxwell, 1987). Length: 33.5 mm (Draper, 1987).

973 *Tritonoharpa vexillata* Dall, 1908. Synonym: *Colubraria xavieri* Campbell, 1961 [974]. Holotype and protoconch figured. Extend distribution to Cabo San Lucas, Baja California Sur, México. Depth: 100 m (Beu & Maxwell, 1987).

974 *Tritonoharpa xavieri* (Campbell, 1961). Second specimen found near type locality at a depth of 100 m (F. & L. Poorman, 1981). Delete here. Becomes a synonym of *Tritonoharpa vexillata* Dall, 1908 [973] (Beu & Maxwell, 1987).

Superfamily CONOIDEA

Family CONIDAE

Genus *Conus* Linnaeus, 1758

Subgenus *Conus*, s. s.

--- *Conus (C.) bartschi* Hanna & Strong, 1949. Radular tooth figured (Nybakken, 1970c). Valid species. Depth: 80-150 feet (Kerstitch, 1979). *Conus interruptus* Wood, 1828, is probably an earlier name that should be suppressed as both a *nomen oblitum* and as a *nomen dubium* (Tucker, 1979). Synonym: *C. andrangae* Schwengel, 1955. Length: 50 mm. Distribution: Golfo de California, México, to Costa Rica (Walls, 1979). Holotype figured. Extend distribution south to Ecuador including the Islas Galápagos (Coomans, Moolenbeek & Wils, 1982). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). See *C. interruptus* as a synonym of *C. brunneus* Wood, 1828 [1489].

1489 *Conus (C.) brunneus* Wood, 1828. Radular tooth figured (Nybakken, 1970a). Delete *Conus bartschi* Hanna & Strong, 1949, as a synonym (Kerstitch, 1979). Delete *C. andrangae* Schwengel, 1955 as a synonym (Walls, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Coomans, Moolenbeek &

- Wils, 1982). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 77 mm (Draper, 1987). Holotype designated. Synonym: *C. interruptus* Wood, 1828 (Kohn, 1988).
- 1490 *Conus (C.) chaldaeus* (Röding, 1798). Valid species. Lectotype figured (Kohn, 1975). Extend distribution to Costa Rica (Anders, 1978). Synonym: *Conus judaeus* Bergh, 1895. Length: 41 mm (Walls, 1979). Extend distribution to Panamá and Colombia (Emerson, 1983). Correct spelling from *C. chaldeus*. Type locality designated as the Moluccas (Coomans, Moolenbeek & Wils, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Two types of radular teeth figured (Nybakken, 1990). Include Isla del Coco, Costa Rica, in distribution (Emerson, 1991).
- 1491 *Conus (C.) diadema* Sowerby, 1834. Radular tooth figured (Nybakken, 1970c). Egg capsules pink, of squarish shape (Keen & Coan, 1975). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Include L'île Clipperton [France] in distribution (Coomans, Moolenbeek & Wils, 1985). Length: 67.1 mm (Draper, 1987). Extend distribution north to the Bahía San Carlos area, Sonora, México (F. & L. Poorman, 1988). Lectotype designated and figured (Kohn, 1992).
- 1492 *Conus (C.) ebraeus* Linnaeus, 1758. Include Playa Jacó, Puntarenas Province, Costa Rica, in distribution. Intertidal (Sutton, 1975). Synonym: *Conus quadratus* Perry, 1811. Length: 62 mm (Walls, 1979). Include Isla del Coco, Costa Rica, in distribution (Shasky, 1989e). Radular tooth figured (Nybakken, 1990). Add to distribution: Guatemala; Golfo de Montijo, Panamá (Emerson, 1991).
- 1493 *Conus (C.) gladiator* Broderip, 1833. Radular tooth figured (Nybakken, 1970c). Extend distribution south to Máncora, Perú (Peña G., 1970). Length: 37 mm (Walls, 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Lectotype designated and figured (Kohn, 1992).
- 1494 *Conus (C.) princeps* Linnaeus, 1758. Radular tooth figured (Nybakken, 1970c). Length: 130 mm (Walls, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Holotype of synonym, *Conus apogrammatum* Dall, 1910, figured (Coomans, Moolenbeek & Wils, 1981). Isla Gorgona specimens are all *C. p.* form *lineolatus* Valenciennes, 1832 (Cosel, 1984). Holotype of synonym, *C. lineolatus*, figured (Lauer & Richard, 1989).
- 1495 *Conus (C.) tiaratus* Sowerby, 1833, ex Broderip, MS. Radular tooth figured (Nybakken, 1970c). Distribution confirmed to L'île Clipperton [France] (Perrin, 1977). Delete *Conus inconstans* Smith, 1877, as a synonym (Walls, 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 43.9 mm (Draper, 1987). Distribution confirmed to the Bahía San Carlos area, Sonora, México. Intertidal (F. & L. Poorman, 1988). Lectotype designated and figured (Kohn, 1992).
- Subgenus *Asprella* Schaufuss, 1869
- 1496 *Conus (A.) arcuatus* Broderip & Sowerby, 1829. Radular tooth figured (Nybakken, 1970c). Depth: 10 to 84 m (Nybakken, 1971). Synonym: *Conus lizardensis* Crosse, 1865 (Walls, 1979). Neotype designated (Coomans, Moolenbeek & Wils, 1981). Extend distribution south to Esmeraldas, Ecuador (Baldazzi, Di Cecco & Tiberi, 1986). Length: 52.3 mm (Draper, 1987).
- 1497 *Conus (A.) emersoni* Hanna, 1963. Paratype figured (Walls, 1979).
- Subgenus *Chelyconus* Mörch, 1852
- 1498 *Conus (C.) californicus* Reeve, 1844, ex Hinds, MS. Radular tooth figured (Nybakken, 1970c). Length: 40 mm (Walls, 1979).
- 1499 *Conus (C.) orion* Broderip, 1833. Radular tooth figured (Nybakken, 1970c). Intertidal zone in Panamá (Shasky, 1975). Length: 41 mm (Walls, 1979). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).
- 1500 *Conus (C.) purpurascens* Sowerby, 1833, ex Broderip, MS. Egg capsules and larval



development (Nybakken, 1970b). Radular tooth figured (Nybakken, 1970c). Extend distribution south to Máncora, Perú (Peña G., 1970). Extend distribution to L'île Clipperton [France] (Perrin, 1977). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 84 mm (Walls, 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Lectotype designated and figured (Kohn, 1992).

- 1501 *Conus (C.) vittatus* Hwass in Bruguière, 1792. Radular tooth figured (Nybakken, 1970c). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 55 mm (Draper, 1987). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).

Subgenus *Cylinder* Montfort, 1810

Synonym: *Cylindrus* Deshayes, 1824 (Keen & Coan, 1975).

- 1502 *Conus (C.) dalli* Stearns, 1873. Radular tooth figured (Nybakken, 1970c). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Lectotype figured. Extend distribution south to southern Colombia (Coomans, Moolenbeek & Wils, 1985). Length: 83 mm (Draper, 1987).

- 1503 *Conus (C.) lucidus* Wood, 1828. Radular tooth figured (Nybakken, 1970c). Intertidal zone in Panamá (Shasky, 1975). Delete *Conus loomisi* Dall & Ochsner, 1928, as a synonym. Length: 60 mm (Walls, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Holotype designated (Kohn, 1988).

Subgenus *Leptoconus* Swainson, 1840

- *Conus (L.) dispar* Sowerby, 1833. As a valid species. Radular tooth figured (Nybakken, 1970c). Lectotype designated and figured (Kohn, 1992).
- *Conus (L.) emarginatus* Reeve, 1844. Valid

species. Keen (1971) left figure 1507 is *Conus emarginatus* (Coomans, Moolenbeek & Wils, 1986). Length: 98.3 mm (Draper, 1987). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b).

- 1504 *Conus (L.) gradatus* Wood, 1828, ex Mawe, MS. Radular tooth figured. Indistinguishable from *Conus regularis* Sowerby, 1833 [1507] (Nybakken, 1970c). Shell figured. Distribution: Isla Cedros, México, to Panamá; L'île Clipperton [France]. Two large (61 mm) specimens taken in the Golfo de Panamá. Depth: 28-119 m (Nybakken, 1971). Synonyms: *C. scalaris* Valenciennes, 1832 [1508]; *C. regularis* [1507], *C. dispar*, *C. syriacus* all of Sowerby, 1833; *C. monilifer* Broderip, 1833; *C. ferrugatus* Sowerby, 1834; *C. angulatus* A. Adams, 1854; *C. magdalenensis* Bartsch & Rehder, 1939; *C. gradatus thaanumi* Schwengel, 1955; *C. recurvus helenae* Schwengel, 1955. Length: 84 mm (Walls, 1979). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). *Nomen dubium* (Kohn, 1988). Type designated. Type locality: Isla San Pedro Martír, Golfo de California, México. Delete as synonyms: *Conus scalaris* Valenciennes, 1832 [1508]; *C. regularis* [1507] and *C. dispar* Sowerby, 1833; *C. monilifer* Broderip, 1833; *C. angulatus* A. Adams, 1854; *C. magdalenensis* Bartsch & Rehder, 1939; *C. gradatus thaanumi* Schwengel, 1955; *C. recurvus helenae* Schwengel, 1955. Length: 40 mm. Distribution: Islas San Pedro Martír and San Pedro Nolasco; off Bahía San Carlos, Sonora, México (da Motta, 1989). Delete. *Nomen dubium* (Kohn, 1992).
- 1505 *Conus (L.) poormani* Berry, 1968. Radular tooth figured (Nybakken, 1970c). Extend depth to 84 m (Nybakken, 1971). Length: 65 mm (Walls, 1979). Holotype figured (C. Hertz, 1984a). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988).
- 1506 *Conus (L.) recurvus* Broderip, 1833. Extend distribution south to Ecuador (Emerson & Olds, 1962). Radular tooth figured (Nybakken, 1970c). Depth: 18 to 210 m (Nybakken, 1971). Correct number on text figure, Keen (1971), from 1506 to 1507 (Keen & Coan, 1975). Include Isla del Coco, Costa

- Rica, in distribution (Montoya, 1983). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Delete *Conus emarginatus* Reeve, 1844, as a synonym. *C. recurvus* as a synonym of *C. regularis* Sowerby, 1833 [1507] (Coomans, Moolenbeek & Wils, 1986). Lectotype designated and figured. Tentatively as a synonym of *C. regularis* Sowerby, 1833 [1507] (Kohn, 1992).
- 1507 *Conus (L.) regularis* Sowerby, 1833. Radular tooth figured (Nybakken, 1970c). Left text figure, Keen (1971), is *Conus recurvus*. Text figure [1506] is *C. regularis* (Keen & Coan, 1975). As a synonym of *C. gradatus* Wood, 1829 [1504] (Walls, 1979). Synonym: *C. recurvus* Broderip, 1833 [1506]. Holotype figured (Coomans, Moolenbeek & Wils, 1986). Length: 75 mm (Draper, 1987). As a valid species with *C. regularis* form *recurvus* Broderip, 1833 (holotype figured) and *C. regularis* form *scalarissimus* da Motta, 1988 (holotype figured) (da Motta, 1989). Lectotype designated and figured. Specimen referred to as a holotype by Coomans, Moolenbeek & Wils (1986) is actually a lectotype. Tentative synonym: *C. recurvus* Broderip, 1833 [1506] (Kohn, 1992).
- 1508 *Conus (L.) scalaris* Valenciennes, 1832. Delete *Conus dispar*, Sowerby, 1833, as a synonym. Radular tooth figured (Nybakken, 1970c). As a synonym of *C. gradatus* Wood, 1828 [1504] (Walls, 1979). Length: 84 mm (Draper, 1987). Delete. *Nomen dubium* (da Motta, 1989).
- 1509 *Conus (L.) virgatus* Reeve, 1849. Radular tooth figured (Nybakken, 1970c). Delete *Conus sanguinolentus* Reeve, 1849, non Quoy & Gaimard, 1834, as a synonym (Walls, 1979). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 81.2 mm (Draper, 1987).
- Subgenus *Lithoconus* Mörch, 1852
- 1510 *Conus (L.) archon* Broderip, 1833. Radular tooth figured (Nybakken, 1970c). Synonym: *Conus granarius* Kiener, 1845 (Walls, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 92.9 mm (Draper, 1987). Extend distribution south to Guayas Province, Ecuador (Skoglund, 1990b). Lectotype designated and figured (Kohn, 1992).
- 1512 *Conus (L.) tessulatus* Born, 1778. Synonym: *Cucullus pavementum* Röding, 1798. Length: 65 mm (Walls, 1979). Extend distribution to Cabo Pulmo, Baja California Sur, and Isla Clarión, México; L'île Clipperton [France]; Panamá (Emerson, 1983). Extend distribution north to Bahía de Guaymas, Sonora, México (García-Cubas & Reguero, 1987). Include Isla del Coco, Costa Rica, (Shasky 1989d) and Islas Galápagos, Ecuador in distribution (Shasky, 1989a). Extend distribution north in the Golfo de California to off La Paz, México. Intertidal zone, Archipiélago de las Perlas, Panamá (Emerson, 1991).
- Subgenus *Pyrucnus* Olsson, 1967
- 1511 *Conus (P.) fergusonii* Sowerby, 1873. Extend distribution south to Tumbes, Perú (Peña G., 1970). Two radular types noted (Nybakken, 1970c, 1971). Delete *Conus xanthicus* Dall, 1910, and *C. chrysocestus* Berry, 1968, as synonyms. Changed from subgenus *Lithoconus*. Keen (1971) figure 1511, right, is the holotype of *C. chrysocestus* Berry, 1968 (McLean & Nybakken, 1979). Synonyms: *C. fulvocinctus* Crosse, 1873; *C. consanguineus* E.A. Smith, 1880 (Walls, 1979). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 170 mm (Draper, 1987). *C. fergusonii* Sowerby, 1873, conserved over *C. fulvocinctus* Crosse, 1872, by the ICZN (Anon., 1988). Two radular types figured (Nybakken, 1990). Lectotype designated and figured (Kohn, 1992).
- 1513 *Conus (P.) patricius* Hinds, 1843. Include the Islas Galápagos in distribution (as *Conus pyriformis* Reeve, 1843) (Dall, 1910). Extend distribution north to Acapulco, Guerrero, México (Emerson & Hertlein, 1964). Radular tooth figured (Nybakken, 1970c). Depth: 16 m (Nybakken, 1971). Distribution confirmed to the Golfo de Fonseca, El Salvador (Hernandez, 1979). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 150 mm (Draper, 1987). Extend distribution north to the Golfo de California, México. Two types of radula teeth figured (Nybakken, 1988).

Subgenus *Stephanoconus* Mörch, 1852

- 1514 *Conus* (*S.*) *nux* Broderip, 1833. Radular tooth figured (Nybakken, 1970c). Extend distribution to L'île Clipperton [France] (Perrin, 1977). As a synonym of *Conus sponsalis* Hwass in Bruguière, 1792 (Walls, 1979). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). A valid species (Lauer & Richard, 1989). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 29.7 mm (Draper, 1987). Lectotype designated and figured (Kohn, 1992).

Subgenus *Ximeniconus*

Emerson &amp; Old, 1962

- *Conus* (*X.*) *mahogani* Reeve, 1843. Distribution confirmed to Máncora, Perú (Peña G., 1970). Radular tooth figured (Nybakken, 1970c). A valid species. Keen (1971) right figure 1517 is *Conus mahogani* Reeve (Chaney, 1987). Length: 50.4 mm (Draper, 1987). Extend distribution to the Islas Galápagos, Ecuador (Finet, 1991).
- 1515 *Conus* (*X.*) *perplexus* Sowerby, 1857. Radular tooth figured (Nybakken, 1970c). In the last line read: *Cylinder* [not *Cylindrus*] (Keen & Coan, 1975). As a synonym of *Conus puncticulatus* Hwass in Bruguière, 1792 (Walls, 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 36.7 mm (Draper, 1987). As a valid species. Lectotype selected and figured. Type locality is restricted to the Golfo de Panamá (Emerson & Sage, 1988). Validity of species confirmed (Lauer & Richard, 1989).
- 1516 *Conus* (*X.*) *tornatus* Sowerby, 1833, ex Broderip, MS. Radular tooth figured (Nybakken, 1970c). Length: 44.8 mm (Nybakken, 1971). Intertidal zone in Panamá (Shasky, 1975). Lectotype designated and figured (Kohn, 1992).
- 1517 *Conus* (*X.*) *ximenes* Gray, 1839. Radular tooth figured (Nybakken, 1970c). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Delete *Conus mahogani* Reeve, 1843, as a synonym and delete the right figure 1517 in Keen

(1971). The left figure is *C. ximenes* (Chaney, 1987). Length: 61 mm (Draper, 1987). Lectotype designated and figured (Kohn, 1992).

*Conus*, *s.l.*

- *Conus angulatus* A. Adams., 1854. Valid species. Holotype figured. Type locality: Puerto Peñasco, Sonora, México. Distribution: off west coast of México (da Motta, 1989).
- *Conus baccatus* Sowerby, 1877. Holotype figured (Röckel, 1985). Synonym: ?"*Conus albomaculatus*, Reeve", Kiener, 1846. Type locality restricted to the Golfo de Chiriquí, Panamá. Holotype figured. Length: 26.9 mm (Emerson & Sage, 1988).
- *Conus kerstitchi* Walls, 1978. Length: 46 mm. Nayarit, México (Walls, 1978). Distribution: Cabo San Lucas, Baja California Sur; Islas Tres Marias, Nayarit, México. Depth: 75 m (Walls, 1979). Holotype figured (da Motta, 1989).
- *Conus kohni* McLean & Nybakken, 1979. Length: 52.5 mm. Known only from the Islas Galápagos, Ecuador (McLean & Nybakken, 1979). As a synonym of *Conus xanthicus* Dall, 1910 (Walls, 1980). As a valid species (Tucker, 1985).
- *Conus monilifer* Broderip, 1833. Valid species. Distribution: Golfo de Nicoya, Costa Rica, to Salango, Ecuador (da Motta, 1989).
- *Conus orbignyi* Audouin, 1831. Synonym: *Conus planicostatus* Sowerby, 1833. Length: 70 mm. Distribution: off Baja California Sur, México, deep water; Indo-Pacific; southern Africa; China Sea; Philippines; Australia (Walls, 1979).
- *Conus xanthicus* Dall, 1910. Valid species. Holotype figured. Synonym: *Conus chrysocestus* Berry, 1968. Length: 54 mm. Keen (1971) right figure 1511 is the holotype of *C. chrysocestus*. Distribution: Morro Colorado, Sonora, México, to Colombia; Islas Revillagigedo, México; Islas Galápagos, Ecuador. Depth: 50 to 140 m (McLean & Nybakken, 1979). Synonym: *C. kohni* McLean & Nybakken, 1979 (Walls, 1980). Delete *C. kohni* as a synonym (Tucker, 1985). Length: 67 mm (Draper, 1987).

## Family TEREBRIDAE

Genus *Terebra* Bruguière, 1789

- 1518 *Terebra adairensis* Campbell, 1964. Holotype figured. Delete here. Becomes a synonym of *Terebra roperi* Pilsbry & Lowe, 1932 [1561] (Bratcher & Cernohorsky, 1987).
- 1519 *Terebra affinis* Gray, 1834. Lectotype figured. Synonyms: *Terebra striata* Quoy & Gaimard, 1833; *T. pertusa* Sowerby (*pars*) Kiener, 1839; *T. puncticulata* Deshayes, 1859; *T. peasii* Deshayes, 1859. Length: 58 mm. Distribution: Red Sea; throughout tropical Indo-Pacific: Golfo de California, México. Depth: intertidal zone to 100 m (Bratcher & Cernohorsky, 1987).
- 1520 *Terebra albocincta* Carpenter, 1857. Lectotype figured. Delete here. Becomes a synonym of *Terebra armillata* Hinds, 1844 [1522] (Bratcher & Cernohorsky, 1987).
- 1521 *Terebra allyni* Bratcher & Burch, 1970. Holotype figured. Extend distribution south to Costa Rica (Bratcher & Cernohorsky, 1987). Length: 78.7 mm (Wagner & Abbott, 1989e).
- 1521a *Terebra argosyia* Olsson, 1971. Holotype figured. Length: 71.4 mm. Known from a single specimen from Isla la Plata, Ecuador. Depth: 37 m (Olsson, 1971). Protoconch figured. Extend distribution north to Islas Cébaco and Gobernadora, Panamá (Bratcher, 1991). Protoconch figured. Distribution: Guaymas, Sonora, México, to Ecuador (Koch, 1992a).
- 1522 *Terebra armillata* Hinds, 1844. Add Islas Galápagos, Ecuador, to distribution (Bratcher & Burch, 1971). Lectotype figured. Add synonym: *Myurella albocincta* Carpenter, 1857 [1520]. Length: 67 mm. Distribution: southern California to Perú; Islas Galápagos, Ecuador. Depth: intertidal to 110 m (Bratcher & Cernohorsky, 1987). Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988).
- 1523 *Terebra balaenorum* Dall, 1908. Holotype figured. Delete here. Becomes a synonym of *Terebra specillata* Hinds, 1844 [1565] (Bratcher & Cernohorsky, 1987).
- 1524 *Terebra berryi* Campbell, 1961. Add Isla del Coco, Costa Rica to distribution. Depth: intertidal zone to 37 m (Bratcher & Burch, 1971). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Holotype figured (Bratcher & Cernohorsky, 1987).
- 1525 *Terebra brandi* Bratcher & Burch, 1970. Holotype figured. Protoconch figured. Depth: 20 m (Bratcher & Cernohorsky, 1987).
- 1526 *Terebra bridgesi* Dall, 1908. Holotype figured. Extend distribution south to Ecuador. Depth: intertidal zone to 26 m (Bratcher & Cernohorsky, 1987). Length: 13.5 mm (Draper, 1987).
- 1527 *Terebra brunneocincta* Pilsbry & Lowe, 1932. Holotype figured. Delete here. Becomes a synonym of *Terebra larvaeformis* Hinds, 1844 [1547] (Bratcher & Cernohorsky, 1987).
- *Terebra carolae* Bratcher, 1979. Distribution: west coast of Baja California, México. Depth: 54 m (Bratcher, 1979). Length: 60 mm (Bratcher & Cernohorsky, 1987).
- 1528 *Terebra churea* Campbell, 1964. Holotype figured. Distribution: Golfo de California, intertidal zone (Bratcher & Cernohorsky, 1987).
- 1529 *Terebra corintoensis* Pilsbry & Lowe, 1932. Add Isla del Coco, Costa Rica, to distribution (Bratcher, 1986). Holotype figured (Bratcher & Cernohorsky, 1987). Length: 19.1 mm (Draper, 1987). Extend distribution into the Golfo de California off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988).
- 1530 *Terebra cracilenta* Li, 1930. Holotype figured. Delete here. Becomes a synonym of *Terebra tuberculosa* Hinds, 1844 [1570] (Bratcher & Cernohorsky, 1987).
- 1531 *Terebra crenifera* Deshayes, 1859. Holotype figured (Bratcher & Cernohorsky, 1987).
- 1532 *Terebra crenulata* (Linnaeus, 1758). Add synonyms: *Buccinum varicosum* Gmelin, 1791; *Terebra crenulata* var. *booleyi* Melvill & Sykes, 1898. Length: 140 mm (Bratcher & Cernohorsky, 1987). Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988). Include L'île Clipperton [France] in distribution (Emerson, 1991).
- 1533 *Terebra dislocata* (Say, 1822). Lectotype figured. Synonyms: *Strioterebrum onslowensis* Petuch, 1974; *S. weisbordi* Gibson-Smith & Gibson-Smith, 1984. Length: 64 mm (Bratcher & Cernohorsky, 1987).

- 1535 *Terebra elata* Hinds, 1844. Holotype figured. Delete synonyms: *Terebra belcheri* E.A. Smith, 1873; *T. guayaquilensis* E.A. Smith, 1880; *T. ira* Pilsbry & Lowe, 1932. Keen (1971) [1535], left figure is *T. guayaquilensis* (Bratcher, 1979). Probably does not occur in the Islas Galápagos, Ecuador (Finet, 1985). Add synonym: *T. montijoensis* Pilsbry & Lowe, 1932 [1552]. Length: 27 mm. Distribution: southern México to Ecuador, intertidal zone (Bratcher & Cernohorsky, 1987). Include Isla del Coco, Costa Rica, in distribution. Depth: 17 to 33 m (Montoya & Kaiser, 1988).
- 1536 *Terebra formosa* Deshayes, 1857. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Holotype figured. Distribution: Guaymas, Sonora, México, to Perú (Bratcher & Cernohorsky, 1987). Length: 123 mm (Wagner & Abbott, 1990).
- 1537 *Terebra frigata* Hinds, 1844. Lectotype figured. Delete synonym *Terebra galapagina* Dall & Ochsner, 1928 (Bratcher & Cernohorsky, 1987).
- 1534 *Terebra glauca* Hinds, 1844. Holotype figured. Synonym: *Terebra dorotheae* Bratcher & Burch, 1970 [1534] (Bratcher, 1979). Synonym: *T. radula* Hinds, 1844. Length: 47 mm. Distribution: Golfo de California to Ecuador including the Islas Galápagos (Bratcher & Cernohorsky, 1987). Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988).
- *Terebra guayaquilensis* (E.A. Smith, 1880). Valid species. Keen (1971) left figure 1535 is *Terebra guayaquilensis*. Synonyms: *T. belcheri* E.A. Smith, 1873; *T. ira* Pilsbry & Lowe, 1932 (Bratcher, 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Holotype figured. Length: 76 mm. Distribution: west coast of Baja California, México, to Ecuador. Depth: intertidal zone to 80 m (Bratcher & Cernohorsky, 1987). Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988).
- 1539 *Terebra grayi* E.A. Smith, 1877. Delete. Not Panamic. Restricted to West Africa (Bratcher & Cernohorsky, 1987).
- 1540 *Terebra hancocki* Bratcher & Burch, 1970. In line 5, for "smaller than" read: larger than (Keen & Coan, 1975). Holotype figured (Bratcher & Cernohorsky, 1987). Length: 76.5 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988).
- 1541 *Terebra hertleini* Bratcher & Burch, 1970. Holotype figured. Delete here. Becomes a synonym of *Terebra jacquelinae* Bratcher & Burch, 1970 [1545] (Bratcher & Cernohorsky, 1987).
- 1542 *Terebra hindsii* Carpenter, 1857. Lectotype figured. Delete here. Becomes a synonym of *Terebra interincta* Hinds, 1844 [1543] (Bratcher & Cernohorsky, 1987).
- 1543 *Terebra interincta* Hinds, 1844. Lectotype figured. Synonyms: *Terebra hindsii* Carpenter, 1857 [1542]; *T. malonei* Vanatta, 1925; *Myurella rufocinerea* Carpenter, 1857 [1562] (Bratcher & Cernohorsky, 1987). Length: 65.2 mm (Draper, 1987).
- 1544 *Terebra iola* Pilsbry & Lowe, 1932. Holotype figured (Bratcher & Cernohorsky, 1987).
- 1545 *Terebra jacquelinae* Bratcher & Burch, 1970. Holotype figured. Synonym: *Terebra hertleini* Bratcher & Burch, 1970 [1541] (Bratcher & Cernohorsky, 1987).
- 1546 *Terebra laevigata* Gray, 1834. Delete. Not Panamic (Bratcher & Cernohorsky, 1987).
- 1547 *Terebra larvaeformis* Hinds, 1844. Extend distribution south to Máncora, Perú (Peña G., 1970). Lectotype figured. Add synonyms: *Terebra brunneocincta* Pilsbry & Lowe, 1932 [1527]; *T. varicosa* Hinds, 1844. Depth: intertidal zone to 146 m (Bratcher & Cernohorsky, 1987). Length: 76.4 mm (Draper, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 10 m (F. & L. Poorman, 1988).
- 1548 *Terebra lucana* Dall, 1908. Lectotype figured. Length: 86 mm (Bratcher & Cernohorsky, 1987). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 1549 *Terebra maculata* (Linnaeus, 1758). In line 5, length is 300 mm [not m] (Keen & Coan, 1975). Add synonyms: *Terebra maculosa* Pfeiffer, 1840; *T. maculata confluens* Dautzenberg, 1935; *T. roosevelti* Bartsch & Rehder, 1939; *T. maculata roosevelti* Bartsch & Rehder, 1939 [1550]. Distribution: Red Sea; throughout the tropical Indo-Pacific to tropical eastern Pacific. Depth: subtidal zone to 210 m (Bratcher & Cernohorsky, 1987).

- Include in distribution: L'île Clipperton [France]; Panamá (Emerson, 1991).
- 1550 *Terebra maculata roosevelti* Bartsch & Rehder, 1939. Holotype figured. Delete here. Becomes a synonym of *Terebra maculata* Linnaeus, 1758 [1549].
- 1551 *Terebra mariato* Pilsbry & Lowe, 1932. Holotype figured. Length: 9 mm. Distribution: Manzanillo, Colima, México, to Panamá. Subtidal zone (Bratcher & Cernohorsky, 1987).
- 1552 *Terebra montijoensis* Pilsbry & Lowe, 1932. Holotype figured. Delete here. Becomes a synonym of *Terebra elata* Hinds, 1844 [1535] (Bratcher & Cernohorsky, 1987).
- 1553 *Terebra ninfæ* Campbell, 1961. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Holotype figured. Length: 9 mm (Bratcher & Cernohorsky, 1987).
- 1554 *Terebra ornata* Gray, 1834. Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988). Length: 102 mm (Wagner & Abbott, 1990).
- 1555 *Terebra panamensis* Dall, 1908. Holotype figured. Length: 49 mm. Extend distribution south to Perú (Bratcher & Cernohorsky, 1987). Extend distribution into the Golfo de California off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- *Terebra pedroana* Dall, 1908. Holotype figured. Length: 47 mm. Distribution: Santa Monica, California, to southern Baja California, México (Bratcher & Cernohorsky, 1987). Length: 61.2 mm (Draper, 1987).
- *Terebra peruviana* Peña G., 1971, ex Weyrauch, MS. Length: 32.2 mm. Puerto Pizarro, Perú (Peña G., 1971).
- 1538 *Terebra petiveriana* Deshayes, 1857. Holotype figured. Length: 46 mm. Synonyms: *Terebra aspera* Hinds, 1844; *T. radula* Hinds, 1844. Delete *T. glauca* Hinds, 1844 [1538] as a synonym (Bratcher, 1979). Add synonym: *Strioterebrum gatunensis kugleri* Rutsch & Petuch, 1981. Delete synonym *Terebra radula* Hinds, 1844. Add to distribution: Cartagena, Colombia; West Indies. Depth: 46 m (Bratcher & Cernohorsky, 1987). Two distinct protoconch types reported (Koch, 1991).
- 1556 *Terebra plicata* Gray, 1834. Holotype figured (Bratcher & Cernohorsky, 1987).
- 1557 *Terebra polyphenus* Pilsbry & Lowe, 1932. Holotype figured. Known only from the holotype (Bratcher & Cernohorsky, 1987).
- 1558 *Terebra puncturosa* Berry, 1959. Extend distribution into the Golfo de California at Cabo Tepoca, Sonora, México (Skoglund, 1974). Correct date from 1961. Holotype figured (C. Hertz, 1984a).
- 1559 *Terebra purdyae* Bratcher & Burch, 1970. Holotype figured. Delete here. Becomes a synonym of *Terebra shyana* Bratcher & Burch, 1970 [1564] (Bratcher & Cernohorsky, 1987).
- *Terebra rancheria* Bratcher, 1988. Length: 16.9 mm. Off Isla Rancheria, Golfo de Chiriquí, Panamá. Depth: 3.5 m (Bratcher, 1988).
- 1560 *Terebra robusta* Hinds, 1844. Extend distribution south to Esmeraldas, Ecuador (Baldazzi, Di Cecco & Tiberi, 1986). Delete synonym: *Terebra macrospira* Li, 1930. Extend depth to 110 m (Bratcher & Cernohorsky, 1987). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988).
- 1561 *Terebra roperi* Pilsbry & Lowe, 1932. Holotype figured. Synonym: *Terebra adairensis* Campbell, 1964 [1518] (Bratcher & Cernohorsky, 1987).
- 1562 *Terebra rufocinerea* (Carpenter, 1857). Lectotype figured. Delete here. Becomes a synonym of *Terebra intertineta* Hinds, 1844 [1543] (Bratcher & Cernohorsky, 1987).
- 1563 *Terebra sanjuanensis* Pilsbry & Lowe, 1932. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Holotype figured. Length: 26 mm. Extend distribution north to Sinaloa, México. Depth: 7 to 27 m (Bratcher & Cernohorsky, 1987).
- 1564 *Terebra shyana* Bratcher & Burch, 1970. Holotype figured. Synonym: *Terebra purdyae* Bratcher & Burch, 1970 [1559]. Extend distribution south to Perú and the Islas Galápagos, Ecuador. Depth: 146 m (Bratcher & Cernohorsky, 1987).
- 1565 *Terebra specillata* Hinds, 1844. Lectotype figured. Add synonyms: *Terebra balaenorum* Dall, 1908 [1523]; *T. pulchella* Deshayes, 1857 (Bratcher & Cernohorsky, 1987). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (F. &

L. Poorman, 1988).

- 1567 *Terebra stohleri* Bratcher & Burch, 1970. Holotype figured. Add Islas Galápagos, Ecuador, to distribution (Bratcher & Cernohorsky, 1987).
- 1566 *Terebra strigata* Sowerby, 1825. Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Extend distribution south to Perú (Bratcher & Cernohorsky, 1987). Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988). Length: 164 mm (Wagner & Abbott, 1990).
- 1568 *Terebra subnodosa* Carpenter, 1857. Delete. Dubious species (Bratcher & Cernohorsky, 1987).
- 1569 *Terebra tiarella* Deshayes, 1857. Lectotype figured (Bratcher & Cernohorsky, 1987). Holotype of synonym, *Terebra fitchi* Berry, 1958, figured (C. Hertz, 1984a).
- 1570 *Terebra tuberculosa* Hinds, 1844. Holotype figured. Add synonyms: *Terebra cracilentia* Li, 1930 [1530]; *T. tenuis* Li, 1930. Extend distribution south to Ecuador and depth to 110 m (Bratcher & Cernohorsky, 1987). Length: 73 mm (Wagner & Abbott, 1990).
- 1571 *Terebra variegata* Gray, 1834. Extend distribution south to Máncora, Perú (Peña G., 1970). Extend distribution into the Golfo de California at Cabo Tepoca, Sonora, México (Skoglund, 1974). Holotype figured. Add the Islas Galápagos, Ecuador, to the distribution. Depth to 300 m (Bratcher & Cernohorsky, 1987). Length: 101.6 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Montoya & Kaiser, 1988).

Genus *Hastula* H. & A. Adams, 1853  
Subgenus *Hastula*, s. s.

- 1572 *Hastula (H.) albula* (Menke, 1843). Add Islas Clarión and Soccoro, México, to distribution (Bratcher & Burch, 1971). Extend distribution to the Bahía San Carlos area, Sonora, México. Depth: 12 m (Bratcher, 1986). Add synonym: ?*Terebra (Hastula) casta* var. *natalensis* E.A. Smith, 1903 (Bratcher & Cernohorsky, 1987).

Subgenus *Impages* E.A. Smith, 1873

- 1573 *Hastula (I.) cinerea* (Born, 1778). As *Hastula luctuosa* (Hinds, 1884) [1573]. Include Isla

Gorgona, Colombia, in distribution (Cantera et al., 1979). Subgenus added. Holotype figured. Synonyms: *Terebra luctuosa* [1573] and *T. laurina* Hinds, 1844; *T. jamaicensis* C.B. Adams, 1850; *T. acuminata* "Gray" in Reeve, 1860; *T. exacuminata* Sacco, 1891. Length: 68 mm. Distribution: Bahía Tenacatita, Jalisco, México, to Ecuador; Florida and Texas to Brazil; West Africa (Bratcher & Cernohorsky, 1987).

#### Family TURRIDAE

##### Subfamily PSEUDOMELATOMINAE

##### Genus *Pseudomelatoma* Dall, 1918

- 1574 *Pseudomelatoma penicillata* (Carpenter, 1864). *Pseudomelatoma sticta* Berry, 1956 (holotype figured), is probably a synonym (C. Hertz, 1984b). Holotype figured. Holotypes of synonyms *P. sticta* and *Drillia moesta* var. *maculata* Williamson, 1905, figured. Syntypes of synonym *Pleurotoma (Drillia) digna* E.A. Smith, 1877, figured. Type of synonym *Drillia eburnea* Carpenter, 1865, figured. Distribution: Monterey, California, to Buenavista, Baja California Sur, in the Golfo de California, México (J. Hertz, 1986). Anatomy figured (Kantor, 1990).

##### Genus *Hormospira* Berry, 1958

- 1575 *Hormospira maculosa* (Sowerby, 1834). Radula figured. Extend depth to 117 m (Olsson, 1971). Egg capsules figured (C. & J. Hertz, 1975). Length: 60.3 mm (Wagner & Abbott, 1990).

##### Genus *Tiariturris* Berry, 1958

- 1576 *Tiariturris libya* (Dall, 1919). Length: 52 mm (Draper, 1987).
- 1576a *Tiariturris spectabilis* Berry, 1958. Holotype figured (C. Hertz, 1984a). Length: 88.6 mm (Wagner & Abbott, 1989e).

Subfamily DRILLINAE Morrison, 1966  
Clavinae as a synonym (Cernohorsky, 1985).  
Genus *Calliclava* McLean, 1971

- 1577 *Calliclava aegina* (Dall, 1919). Length: 22.3 mm (Draper, 1987).

- 1584 *Calliclava palmeri* (Dall, 1919). Extend distribution south to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).
- 1586 *Calliclava subtilis* McLean & Poorman, 1971. Extend distribution north to Bahía Cocos, Guanacaste Province, Costa Rica. Depth: 9 to 30 m (Skoglund, 1990a).

Genus *Elaeocyma* Dall, 1918

- 1590 *Elaeocyma ricaudae* Berry, 1969. Extend distribution into the Golfo de California at Bahía Pulmo, Baja California Sur, and south to off Salina Cruz, Oaxaca, México (Anon., 1970). Holotype figured (C. Hertz, 1984a).

Genus *Kylix* Dall, 1919

- 1595 *Kylix hecuba* (Dall, 1919). Extend distribution south to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 1599 *Kylix paziana* (Dall, 1919). Extend distribution south to off Nayarit, México (Reguero & García-Cubas, 1987).

Genus *Imaclava* Bartsch, 1944

- 1605 *Imaclava unimaculata* (Sowerby, 1834). Length: 63.7 mm (Draper, 1987).

Genus *Leptadrillia* Woodring, 1928

- 1607 *Leptadrillia firmichorda* McLean & Poorman, 1971. Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).

Genus *Drillia* Gray, 1838  
Subgenus *Drillia*, s. s.

- 1615 *Drillia (D.) acapulcana* (Lowe, 1935). Length: 28 mm (Draper, 1987).
- 1618 *Drillia (D.) clavata* (Sowerby, 1834). Extend distribution north to off Punta Mita, Nayarit, México. Depth: 4 to 5 m (Skoglund, 1991d).
- 1619 *Drillia (D.) cunninghamae* McLean & Poorman, 1971. Extend distribution south to off Nayarit, México (Reguero & García-Cubas, 1987). Extend distribution across the Golfo de California to off Isla Danzante.

Depth: 60 to 90 m (Skoglund, 1991d).

- 1621 *Drillia (D.) roseola* (Hertlein & Strong, 1955). Length: 34.3 mm (Draper, 1987).
- 1622 *Drillia (D.) macleani* Tucker, 1992. Name preoccupied (Keen & Coan, 1975). Extend distribution north to Bahía Cocos, Guanacaste Province, Costa Rica. Depth: 9 to 30 m (Skoglund, 1990a). Synonym: *Drillia sinuosa* McLean & Poorman, 1971, *non* Bellardi, 1877 (Tucker, 1992).
- 1623 *Drillia (D.) tumida* McLean & Poorman, 1971. Length: 16.1 mm (Draper, 1987).

Subgenus *Clathrodrillia* Dall, 1918

- 1626 *Drillia (C.) berryi* McLean & Poorman, 1971. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Extend distribution north and across the Golfo de California to Isla Smith, Bahía de los Angeles, Baja California, México. Depth: 183 m (Skoglund, 1988).
- 1627 *Drillia (C.) salvadorica* (Hertlein & Strong, 1951). Length: 42.5 mm (Draper, 1987). Extend distribution south to off Golfito, Puntarenas Province, Costa Rica. Depth: 6 to 7 m (Skoglund, 1991d).

Genus *Cerodrillia* Bartsch & Rehder, 1939

- 1634 *Cerodrillia cybele* (Pilsbry & Lowe, 1932). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).

Genus *Splendrillia* Hedley, 1922

- 1638 *Splendrillia lalage* (Dall, 1919). Holotype of synonym, *Elaeocyma baileyi* Berry, 1969, figured (C. Hertz, 1984a).

Genus *Iredalea* Oliver, 1915

- 1639 *Iredalea ella* (Pilsbry & Lowe, 1932). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1640 *Iredalea perfecta* (Pilsbry & Lowe, 1932). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

Genus *Bellaspira* Conrad, 1868



- 1641 *Bellaspira acclivicosta* McLean & Poorman, 1971. Length: 21.5 mm (Draper, 1987).  
 1643 *Bellaspira melea* Dall, 1919. Depth: 183 m (Skoglund, 1988).

## Subfamily TURRINAE

Genus *Gemmula* Weinkauff, 1875

- 1646 *Gemmula hindsiana* Berry, 1958. Protoconch figures (as *Gemmula gemmata* (Reeve) (Shuto, 1975). Holotype figured (C. Hertz, 1984a). Length: 23.4 mm (Draper, 1987).

Genus *Polystira* Woodring, 1928Add synonym: *Oxytropa* Glibert, 1955 (Keen & Coan, 1975).

- 1647 *Polystira nobilis* (Hinds, 1843). Length: 118.3 mm (Draper, 1987).  
 1648 *Polystira oxytropis* (Sowerby, 1834). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Holotypes of synonyms, *Pleuroliria parthenia* Berry, 1957 and *P. artia* Berry, 1957, figured (C. Hertz, 1984a). Length: 71 mm (Wagner & Abbott, 1990).  
 1649 *Polystira picta* (Reeve, 1843, *ex* Beck, MS). Extend distribution southward to Esmeraldas Province, Ecuador (Baldazzi, Di Cecco & Tiberi, 1986). Length: 69.2 mm (Draper, 1987).

Subfamily COCHLESPIRINAE Powell, 1942  
Turriculinae preoccupied (Cernohorsky, 1972).Genus *Knefastia* Dall, 1919

- 1656 *Knefastia dalli* Bartsch, 1944. Length: 72.8 mm (Draper, 1987).  
 1657 *Knefastia funiculata* (Kiener, 1840, *ex* Valenciennes, MS). Length: 71.4 mm (Draper, 1987).  
 1659 *Knefastia olivacea* (Sowerby, 1833). Protoconch figured (Shuto, 1975). Length: 68.5 mm (Wagner & Abbott, 1990).  
 1661 *Knefastia tuberculifera* (Broderip & Sowerby, 1829). Extend distribution south to Nicaragua (Abbott, 1974). Length: 88 mm (Wagner & Abbott, 1990).  
 1662 *Knefastia walkeri* Berry, 1958. Holotype figured (C. Hertz, 1984a). Length: 83.9 mm (Draper, 1987).

Genus *Pyrgospira* McLean, 1971

- 1663 *Pyrgospira obeliscus* (Reeve, 1843). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984). Length: 38.9 mm (Wagner & Abbott, 1990).

Genus *Aforia* Dall, 1889Subgenus *Aforia*, *s. s.*

- 1664 *Aforia* (*A.*) *goodei* (Dall, 1890). Add subgenus (Sysoev & Kantor, 1987). Length: 116.6 mm (Draper, 1987).

Subgenus *Steiraxis* Dall, 1896

Changed from genus (Sysoev &amp; Kantor, 1987).

- 1665 *Aforia* (*S.*) *aulaca* (Dall, 1896). Radula figured (Olsson, 1971). Extend distribution to northern California (Rokop, 1972). Length: 60 mm. A subspecies, *Aforia* (*S.*) *aulaca alaskana* Sysoev & Kantor, 1987, is confined to the Gulf of Alaska (Sysoev & Kantor, 1987).

Subfamily CRASSISPIRINAE

Genus *Crassispira* Swainson, 1840Subgenus *Crassispira*, *s. s.*

- 1675 *Crassispira* (*C.*) *incrassata* (Sowerby, 1834). Length: 63.5 mm (Draper, 1987).  
 1676 *Crassispira* (*C.*) *maura* (Sowerby, 1834). Length: 72.6 mm (Draper, 1987).

Subgenus *Glossispira* McLean, 1971

- 1677 *Crassispira* (*G.*) *harfordiana* (Reeve, 1843). Length: 38.8 mm (Draper, 1987).

Subgenus *Burchia* Bartsch, 1944

- 1678 *Crassispira* (*B.*) *semiinflata* (Grant & Gale, 1931). Delete. Distribution is north of the Panamic Province (Grant & Gale, 1931).  
 1679 *Crassispira* (*B.*) *unicolor* (Sowerby, 1834). Length: 27.9 mm (Draper, 1987).

Subgenus *Crassiclava* McLean, 1971

- 1680 *Crassispira* (*C.*) *cortezii* Shasky & Campbell,

1964. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 28 mm (Draper, 1987).

- 1681 *Crassispira* (*C.*) *turricula* (Sowerby, 1834). Length: 53.1 mm (Draper, 1987).

Subgenus *Crassispirella*  
Bartsch & Rehder, 1939

- 1683 *Crassispira* (*C.*) *brujae* Hertlein & Strong, 1951. Extend distribution north to the Guaymas area, Sonora, México (DuShane & Poorman, 1967).

- 1684 *Crassispira* (*C.*) *chacei* Hertlein & Strong, 1951. Length: 38 mm (Draper, 1987).

- 1685 *Crassispira* (*C.*) *discors* (Sowerby, 1834). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974).

- 1686 *Crassispira* (*C.*) *epicasta* Dall, 1919. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth to 100 m (DuShane & Poorman, 1967). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Subgenus *Dallspira* Bartsch, 1950

- 1692 *Crassispira* (*D.*) *cerithoidea* (Carpenter, 1857). Extend distribution south to Isla del Coco, Costa Rica (Shasky, 1989e).

Subgenus *Striospira* Bartsch, 1950

- 1697 *Crassispira* (*S.*) *adana* (Bartsch, 1950). Extend distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

- 1699 *Crassispira* (*S.*) *kluthi* E. K. Jordan, 1936. Length: 17.1 mm (Draper, 1987).

- 1700 *Crassispira* (*S.*) *nigerrima* (Sowerby, 1834). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).

Subgenus *Monilispira* Bartsch & Rehder, 1939

- 1704 *Crassispira* (*M.*) *currini* McLean & Poorman, 1971. Correct spelling from *currani* (Keen & Coan, 1975).

- 1706 *Crassispira* (*M.*) *pluto* Pilsbry & Lowe, 1932. Length: 20.9 mm (Draper, 1987).

Genus *Hindsiclava* Hertlein & Strong, 1955

- 1708 *Hindsiclava andromeda* (Dall, 1919). Holotype of synonym, *Turrigemma torquifer* Berry, 1958, figured (C. Hertz, 1984a). Length: 58.5 mm (Draper, 1987). Extend distribution across Golfo de California to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

- 1711 *Hindsiclava resina* (Dall, 1908). Extend distribution northward to Isla del Coco, Costa Rica (Montoya, 1983).

Genus *Lioglyphostoma* Woodring, 1928

- 1714 *Lioglyphostoma ericea* (Hinds, 1843). Length: 17.3 mm (Draper, 1987). Depth: 183 m (Skoglund, 1988).

Genus *Miraclathurella* Woodring, 1928

- 1719 *Miraclathurella bicanalifera* (Sowerby, 1834). Extend distribution north to San Felipe, Baja California, México (Gemmell, Hertz & Myers, 1980).

Genus *Carinodrillia* Dall, 1919

- 1721 *Carinodrillia adonis* Pilsbry & Lowe, 1932. Length: 30.6 mm (Draper, 1987).

- 1723 *Carinodrillia dichroa* Pilsbry & Lowe, 1932. Length: 29.3 mm (Draper, 1987).

- 1725 *Carinodrillia hexagona* (Sowerby, 1834). Radula figured [as *Knefastia? pilsbryi* (Lowe, 1935)] (Olsson, 1971).

- 1726 *Carinodrillia lachrymosa* McLean & Poorman, 1971. Length: 21.4 mm (Draper, 1987).

Genus *Buridrillia* Olsson, 1942

- *Buridrillia deroyorum* Emerson & McLean, 1992. Operculum and radula figured. Length: 57.3 mm. Distribution: Islas Galápagos, Ecuador. Depth: 310 to 365 m (Emerson & McLean, 1992).

Subfamily STRICTISPIRINAE  
Genus *Strictispira* McLean, 1971

- 1728 *Strictispira stillmani* Shasky, 1971. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Subfamily ZONULISPIRINAE

Genus *Compsodrillia* Woodring, 1928

- 1734 *Compsodrillia alcestis* (Dall, 1919). Synonym: *Carinodrillia dariena* Olsson, 1971 (Keen & Coan, 1975). Length: 43.5 mm (Olsson, 1971). Protoconch figured (Gemmell, Hertz & Myers, 1980).
- 1735 *Compsodrillia bicarinata* (Shasky, 1961). Length: 50.8 mm (Draper, 1987).
- 1736 *Compsodrillia duplicata* (Sowerby, 1834). Length: 58 mm (Draper, 1987).
- 1737 *Compsodrillia excentrica* (Sowerby, 1834). Length: 28.3 mm (Draper, 1987).
- 1739 *Compsodrillia haliplexa* (Dall, 1919). Length: 35 mm (Draper, 1987).
- 1740 *Compsodrillia jaculum* (Pilsbry & Lowe, 1932). Extend distribution north to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967).
- 1742 *Compsodrillia opaca* McLean & Poorman, 1971. Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

Genus *Pilsbryspira* Bartsch, 1950Subgenus *Pilsbryspira*, s. s.

- 1747 *Pilsbryspira* (*P.*) *aterrima* (Sowerby, 1834). Extend distribution south to Tumbes, Perú (Peña G., 1970).
- 1750 *Pilsbryspira* (*P.*) *collaris* (Sowerby, 1834). Extend distribution south to Tumbes, Perú (Peña G., 1970).

Subgenus *Nymphispira* McLean, 1971

- 1755 *Pilsbryspira* (*N.*) *bacchia* (Dall, 1919). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1756 *Pilsbryspira* (*N.*) *nymphia* (Pilsbry & Lowe, 1932). Length: 20.3 mm (Draper, 1987). Radula figured (Kantor & Taylor, 1991).

## Subfamily BORSONIINAE

Genus *Cruziturricula* Marks, 1951

- 1764 *Cruziturricula arcuata* (Reeve, 1843). Depth to 119 m (Olsson, 1971). Length: 71.9 mm (Draper, 1987).

Genus *Ophiidermella* Bartsch, 1944

- *Ophiidermella* sp. As *Ophioderma* [sic] *cancellata* (Carpenter, 1864). Extend distribution to Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Poorman record is probably an undescribed *Ophiidermella* (Poorman, pers. comm., 1991).

Genus *Microdrillia* Casey, 1903

As a synonym of *Drilliola* Cossmann, 1903 (Bouchet & Warén, 1980). As a valid genus (Kilburn, 1986).

[No changes at the species level.]

Genus *Mitromorpha* Carpenter, 1865

As Mitromorphinae with Mitrolumninae as a synonym (Cernohorsky, 1972). As Borsoniinae by Kilburn (1986).

Subgenus *Mitrolumna*

Bucquoy, Dautzenberg & Dollfus, 1883

As a subgenus. Synonym: *Cymakra* Gardner, 1937 (Kilburn, 1986).

- 1771 *Mitromorpha* (*M.*) *baileyi* (McLean & Poorman, 1971).
- 1772 *Mitromorpha* (*M.*) *granata* (McLean & Poorman, 1971). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).
- 1768 *Mitromorpha* (*M.*) *keanae* (Emerson & Radwin, 1969).
- 1769 *Mitromorpha* (*M.*) *mitriformis* (Shasky, 1961). Distribution confirmed to the Islas Galápagos, Ecuador (Finet, 1985). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Depth: 183 m (Skoglund, 1988).

## Subfamily CLATHURELLINAE

Genus *Clathurella* Carpenter, 1857

- 1776 *Clathurella rigida* (Hinds, 1843). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).

Genus *Nannodiella* Dall, 1919

- 1777 *Nannodiella fraternalis* (Dall, 1919). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1778 *Nannodiella nana* (Dall, 1919). Extend

distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 5.4 mm (Draper, 1987).

Genus *Glyphostoma* Gabb, 1872  
Subgenus *Glyphostoma*, s. s.

1784 *Glyphostoma* (*G.*) *thalassoma* (Dall, 1908). Extend distribution to Bahía de los Angeles, Baja California, México. Depth: 183 m (Skoglund, 1988).

Subgenus *Euglyphostoma* Woodring, 1970

1785 *Glyphostoma* (*E.*) *candida* (Hinds, 1843). Depth: 183 m (Skoglund, 1988).

Genus *Strombinoturris*  
Hertlein & Strong, 1951

1787 *Strombinoturris crockeri* Hertlein & Strong, 1951. Extend distribution north to Guaymas area, Sonora, México (DuShane & Poorman, 1967). Radula figured. As *Brachytoma stromboides* (Sowerby, 1832) with *S. crockeri* and *Pleurotoma sumatrensis* de la Saussaye, 1852, as synonyms (Olsson, 1971). *Brachytoma stromboides* applies to an Indo-Pacific species (Keen, 1971, p. 854).

Subfamily MANGELIINAE  
Genus *Kurtziella* Dall, 1918  
Subgenus *Kurtziella*, s. s.

1789 *Kurtziella* (*K.*) *plumbea* (Hinds, 1843). Radula figured. Extend distribution north to south central Alaska (Shimek, 1983). Length: 15.1 mm (Draper, 1987).

Subgenus *Kurtzina* Bartsch, 1944

1793 *Kurtziella* (*K.*) *cyrene* (Dall, 1919). Length: 5.8 mm (Draper, 1987).

Genus *Glyptaesopus* Pilsbry & Olsson, 1941

1796 *Glyptaesopus xenicus* (Pilsbry & Olsson, 1932). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Euclathurella* Woodring, 1928

1802 *Euclathurella acclivicalis* McLean & Poorman, 1971. Extend distribution north to Guaymas, Sonora, México, and south to Manabí Province, Ecuador (Shasky, 1984d).

1803 *Euclathurella carissima* (Pilsbry & Lowe, 1932). Extend distribution north to Bahía la Cholla, Sonora, México (Draper, 1975). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Platycythara* Woodring, 1928

1805 *Platycythara curta* (Dall, 1919). Add to distribution: intertidal zone, near Panamá City, Panamá (Shasky, 1989d).

1806 *Platycythara electra* (Dall, 1919). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Thelecythara* Woodring, 1928

1807 *Thelecythara dushanae* McLean & Poorman, 1971. *Thelecythara dominguez* Gibson-Smith & Gibson-Smith, 1983, is a cognate species from Venezuela (Gibson-Smith & Gibson-Smith, 1983).

1808 *Thelecythara floridana* Fargo, 1953. Extend distribution to include Venezuela (Gibson-Smith & Gibson-Smith, 1983).

Genus *Kurtzia* Bartsch, 1944

1813 *Kurtzia granulatisima* (Mörch, 1860). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Agathotoma* Cossmann, 1899  
Subgenus *Agathotoma*, s. s.

1819 *Agathotoma* (*A.*) *neglecta* (C.B. Adams, 1852). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 20 to 35 m (F. & L. Poorman, 1988).

Subgenus *Vitricythara* Fargo, 1953

1822 *Agathotoma* (*V.*) *klasmidia* Shasky, 1971. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 6.5 mm (Draper, 1987).

1823 *Agathotoma* (*V.*) *secalis* Shasky, 1971. Extend

distribution north to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

Genus *Pyrgocythara* Woodring, 1928

- 1829 *Pyrgocythara helena* (Dall, 1919). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1831 *Pyrgocythara phaethusa* (Dall, 1919). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Extend distribution northwest to San Felipe, Baja California, México (Gemmell, Hertz & Myers, 1980).
- 1832 *Pyrgocythara scammoni* (Dall, 1919). Include Bahía la Cholla, Sonora, México, in distribution (Draper, 1975). Extend distribution south to off Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

Genus *Ithythythara* Woodring, 1928

- 1835 *Ithythythara penelope* (Dall, 1919). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Subfamily DAPHNELLINAE

Genus *Daphnella* Hinds, 1844

Synonym: *Paradaphne* Laseron, 1954 (Abbott, 1974).

- 1836 *Daphnella allemani* (Bartsch, 1931). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988).
- 1837 *Daphnella bartschi* Dall, 1919. Add subgenus *Paradaphne* (Lyons, 1972). *Paradaphne* as synonym of *Daphnella* Hinds (Abbott, 1974).
- *Daphnella levicallis* Poorman, 1983. Length: 17.3 mm. Protoconch figured. Distribution: Bahía San Carlos, Sonora and Isla Danzante, Baja California Sur, México. Depth: 80 to 100 m (L. Poorman, 1983).
- 1840 *Daphnella retusa* McLean & Poorman, 1971. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 16.2 mm (Draper, 1987).

Genus *Philbertia* Monterosato, 1884

- 1843 *Philbertia doris* Dall, 1919. Extend distribution south to Manabí Province,

Ecuador (Shasky, 1984d).

Genus *Kermia* Oliver, 1915

- 1846 *Kermia informis* McLean & Poorman, 1971. Extend distribution to Punta Ancón, Ecuador (Shasky, 1975).
- *Kermia felina* (Hinds, 1843). As *Kermia maculosa* (Pease 1860). Extend distribution to Isla Taboga, Golfo de Panamá. An Indo-Pacific species (Shasky, 1983a). As *K. felina* (Hinds). Known from French Polynesia (Emerson, 1991).

Genus *Microdaphne* McLean, 1971

- 1848 *Microdaphne trichodes* (Dall, 1919). Distribution confirmed to Panamá (Emerson, 1983). Distribution: Isla Cedros, México, to Perú. Depth: intertidal to 146 m (Emerson, 1991).

Genus *Pleurotomella* Verrill, 1873

- 1857 *Pleurotomella enora* (Dall, 1908). As *Mangilia*. Extend distribution north to Panamá. Depth to 3200 m (Olsson, 1971).

Genus *Phymorhynchus* Dall, 1908

- 1861 *Phymorhynchus castaneus* (Dall, 1895). Synonym: *Phymorhynchus speciosus* Olsson, 1971 [1864]. Probable synonyms: *P. cingulatus* (Dall, 1890) [1862]; *P. clarinda* (Dall, 1908) [1863] (Bouchet & Warén, 1980).
- 1862 *Phymorhynchus cingulatus* (Dall, 1890). Probably a synonym of *Phymorhynchus castaneus* (Dall, 1895) [1861] (Bouchet & Warén, 1980).
- 1863 *Phymorhynchus clarinda* (Dall, 1908). Probably a synonym of *Phymorhynchus castaneus* (Dall, 1895) [1861] (Bouchet & Warén, 1980).
- 1864 *Phymorhynchus speciosus* Olsson, 1971. Correct page number of note to 854 (Keen & Coan, 1975). Delete here. Becomes a synonym of *Phymorhynchus castaneus* (Dall, 1895) [1861] (Bouchet & Warén, 1980).
- *Phymorhynchus sp.* Two broken specimens cannot be identified to species level. Length: 57 mm. East Pacific Rise at 13°N. Depth:

2635 m (Warén & Bouchet, 1989).

Subclass HETEROBRANCHIA Gray, 1840

Order HETEROSTROPHA Fischer, 1885

Superfamily RISSOELLOIDEA Gray, 1850

Raised by Fretter (1980).

Family RISSOELLIDAE

Moved from Rissoidae (Fretter, 1980; Ponder, 1988).

Genus *Rissoella* J. E. Gray, 1847

232 *Rissoella anguliferens* (de Folin, 1870). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

233 *Rissoella bifasciata* (Carpenter, 1857). Delete here. Genus changed. See *Barleeia*.

235 *Rissoella excolpa* Bartsch, 1920. Delete here. Genus changed. See *Elachisina*.

236 *Rissoella johnstoni* Baker, Hanna & Strong, 1930. Delete here. Genus changed. See *Elachisina*.

237 *Rissoella paupercula* (C.B. Adams, 1852). Delete here. Genus changed. See *Barleeia*.

238 *Rissoella tumens* (Carpenter, 1857). Extend distribution north to the Guaymas, Sonora, México area (DuShane & Poorman, 1967). Figured (J. & C. Hertz, 1983b). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1984a).

Superfamily OMALOGYROIDEA

G.O. Sars, 1878

Raised by Fretter (1980).

Family OMALOGYRIDAE G.O. Sars, 1878

Genus *Omalogyra* Jeffreys, 1867

--- *Omalogyra* sp. Undescribed. Distribution: Guaymas, Sonora, México, to Isla del Coco, Costa Rica; the Islas Galápagos, Ecuador (Shasky, 1989b).

Superfamily ARCHITECTONICOIDEA

Moved from Prosobranchia (Ponder & Warén, 1988).

Family ARCHITECTONICIDAE

Genus *Architectonica* Röding, 1798

Subgenus *Architectonica*, s. s.

--- *Architectonica* (*A.*) *karsteni* Rutsch, 1934.

Synonyms: *Solarium villareloi* Böse, 1906 (*pars*); *Architectonica sexlinearis haughti* Marks, 1951. Diameter, 35.2 mm. Distribution: Golfo de California, México, to Perú. Depth: 20 to 190 m. Previously known only as a fossil species (DeVries, 1985).

425 *Architectonica* (*A.*) *nobilis* Röding, 1798. Protoconch figured (Bandel, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Diameter, 49.5 mm (Draper, 1987). Depth: 183 m (Skoglund, 1988).

Genus *Discotectonica* Marwick, 1931

Raised from subgenus (Robertson, 1976a).

426 *Discotectonica placentalis* (Hinds, 1844). Extend distribution to Bahía de los Angeles, Baja California, México (J. Hertz, 1977f). Diameter: 25.2 mm (Draper, 1987).

Genus *Heliacus* d'Orbigny, 1842

Subgenus *Heliacus*, s. s.

428 *Heliacus* (*H.*) *bicanaliculatus* (Valenciennes, 1832). Length: 17.2 mm (Draper, 1987).

--- *Heliacus* (*H.*) *trochoides* (Deshayes, 1830). Length: 11.8 mm. Distribution: South Africa, across the Indo-Pacific, to Ecuador (Robertson, 1976a,b).

Subgenus *Teretropoma* Rochebrune, 1881

431 *Heliacus* (*T.*) *infundibuliformis perrieri* (Rochebrune, 1881). As *H.* (*Teretropoma*) *perrieri*. Lectotype figured (Bieler, 1985). As a subspecies of *Heliacus* (*T.*) *infundibuliformis* (Gmelin, 1791) (Bieler, 1988).

Subgenus *Torinista* Iredale, 1936

429 *Heliacus* (*T.*) *caelatus* (Hinds, 1844). *Heliacus planispira* Pilsbry & Lowe, 1932 as a subspecies of *H. caelatus*. An eastern Pacific endemic (Robertson, 1976a). Genus changed. Delete. Distribution is outside of the Panamic Province. See *Heliacus planispira* as a valid species (Bieler, 1985; pers. comm., 1992).

--- *Heliacus* (*T.*) *planispira* Pilsbry & Lowe, 1932. Diameter: 4.3 mm. Distribution: Mazatlán,

Sinaloa, México (Pilsbry & Lowe, 1932). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). As a valid species. Add subgenus (Bieler, 1985).

Subgenus unassigned

- *Heliacus* sp. aff. *H. alleryi* (Monterosato, 1878). A possibly undescribed eastern Pacific species (Robertson, 1976a; pers. comm., 1992)

Genus *Pseudotorinia* Sacco, 1892

- 427 *Pseudotorinia architae panamensis* Bartsch, 1918. As a subspecies. An eastern Pacific endemic (Robertson, 1976a). Genus changed (Bieler, Merrill & Boss, 1985).

Genus *Philippia* Gray, 1847

Subgenus *Psilaxis* Woodring, 1928

- *Philippia* (*P.*) *radiata* (Röding, 1798). Length: 12.2 mm. Extend distribution to Isla Gorgona, Colombia. An Indo-west Pacific species (Robertson, 1979). Extend distribution to Canal de Afuera, Golfo de Veraguas, Panamá (Emerson, 1983). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1989e).

Superfamily PYRAMIDELLOIDEA

Family PYRAMIDELLIDAE

Subfamily PYRAMIDELLINAE

Genus *Pyramidella* Lamarck, 1799

Subgenus *Pyramidella*, s. s.

- 1876 *Pyramidella* (*P.*) *hancocki* Strong & Hertlein, 1939. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).

Subgenus *Longchaeus* Mörch, 1875

- 1877 *Pyramidella* (*L.*) *adamsi* Carpenter, 1864. Synonym: *Pyramidella variegatus* Carpenter, 1864 (Abbott, 1974). Length: 20.4 mm (Draper, 1987).
- 1879 *Pyramidella* (*L.*) *conica* C.B. Adams, 1852. Extend distribution north to off Bahía San

Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

- 1880 *Pyramidella* (*L.*) *elenensis* Bartsch, 1924. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 40 m (F. & L. Poorman, 1988).

Subgenus *Pharcidella* Dall, 1889

- 1886 *Pyramidella* (*P.*) *clavulus* (A. Adams in Sowerby, 1854). Synonym: *Pyramidella moffati* Dall & Bartsch, 1906 [1886] (Corgan, 1973b).
- 1884 *Pyramidella* (*P.*) *hastata* (A. Adams in Sowerby, 1854). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 16.5 mm (Draper, 1987). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).
- 1887 *Pyramidella* (*P.*) *panamensis* Dall & Bartsch, 1909. Extend distribution north to Laguna de Yavaros, Sonora, México (García-Cubas & Reguero, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Subfamily ODOSTOMIINAE Pelseener, 1928

Genus *Odostomia* Fleming, 1813

Synonym: *Heida* Dall & Bartsch, 1904 (Abbott, 1974).

Subgenus *Odostomia*, s. s.

- 1894 *Odostomia* (*O.*) *mammillata* Carpenter, 1857. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1977 *Odostomia* (*O.*) *panamensis* Clessin, 1900. Subgenus changed from *Heida* Dall & Bartsch, 1904 (Abbott, 1974).

Subgenus *Amaura* Möller, 1842

- 1895 *Odostomia* (*A.*) *subturruta* Dall & Bartsch, 1909. Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).

Subgenus *Besla* Dall & Bartsch, 1904

- *Odostomia* (*B.*) *caneloensis* Hertlein & Strong, 1951. Length: 1.6 mm. Near Port Parker, Costa Rica (Hertlein & Strong, 1951).

- 1896 *Odostomia (B.) convexa* Carpenter, 1857.  
Extend distribution north to Puerto Peñasco,  
Sonora, México (Lowe, 1935).

Subgenus *Egila* Dall & Bartsch, 1904

- 1958 *Odostomia (E.) lacunata* Carpenter, 1857.  
Extend distribution north to off Bahía San  
Carlos, Sonora, México. Depth: 35 m (F. &  
L. Poorman, 1988).  
1959 *Odostomia (E.) poppei* Dall & Bartsch, 1909.  
Extend distribution south to Manabí Province,  
Ecuador (Shasky, 1984d).

Subgenus *Iolaea* A. Adams, 1867

- 1978 *Odostomia (I.) amianta* Dall & Bartsch, 1907.  
Length: 2.5 mm. Extend distribution north to  
Moss Beach, California. Depth: shore to 73  
m (Abbott, 1974). Extend distribution south  
to Manabí Province, Ecuador (Shasky, 1984d).  
1979 *Odostomia (I.) delicatula* Carpenter, 1864.  
Extend distribution south to Manabí Province,  
Ecuador (Shasky, 1984d).  
1980 *Odostomia (I.) eucosmia* Dall & Bartsch, 1909.  
Delete. Distribution is north of the Panamic  
Province (Dall & Bartsch, 1909).

Subgenus *Ivara* Dall & Bartsch, 1903

- 1981 *Odostomia (I.) terricula* Dall & Bartsch, 1909.  
Delete. Distribution is north of the Panamic  
Province (Dall & Bartsch, 1909).

Subgenus *Pyrgulina* A. Adams, 1863

- 2011 *Odostomia (P.) herrerae* Baker, Hanna &  
Strong, 1928. Include Bahía San Francisquito,  
Baja California, and La Paz, Baja California  
Sur, México, in distribution (Strong, 1949).  
2013 *Odostomia (P.) marginata* (C.B. Adams, 1852).  
Extend distribution south to Manabí Province,  
Ecuador (Shasky, 1984d).

Subgenus *Salassia* de Folin, 1885

- 2014 *Odostomia (S.) gabrielensis* Baker, Hanna &  
Strong, 1928. Extend distribution north to  
Puerto Peñasco, Sonora, México (Lowe, 1935).  
2016 *Odostomia (S.) scalariformis* Carpenter, 1857.  
Extend distribution north to Laguna de

Topolobampo, Sinaloa, México (García-Cubas  
& Reguero, 1987). Extend distribution north  
to off Bahía San Carlos, Sonora, México.  
Depth: 35 m (F. & L. Poorman, 1988).

Subgenus *Salassiella* Dall & Bartsch, 1909

- 2018 *Odostomia (S.) laxa* Dall & Bartsch, 1909.  
Extend distribution south to Cabo San Lucas,  
Baja California Sur, México (Baker, Hanna &  
Strong, 1928). Extend distribution north to  
Catalina Island, California (Abbott, 1974).  
Length: 7.1 mm (Draper, 1987). Extend  
distribution into the Golfo de California off  
Bahía San Carlos, Sonora, México. Depth: 35  
m (F. & L. Poorman, 1988).

Subgenus uncertain

- 2019 *Odostomia gallegosi* Hertlein, 1934. Delete.  
Known only as a fossil species (Hertlein,  
1934).

Genus *Chrysallida* Carpenter, 1857

Raised from subgenus (Fretter & Graham,  
1986).

- 1898 *Chrysallida acrybia* (Dall & Bartsch, 1909).  
Delete. Distribution is north of the Panamic  
Province (Dall & Bartsch, 1909).  
1899 *Chrysallida ata* (Bartsch, 1926).  
1900 *Chrysallida audax* (Baker, Hanna & Strong,  
1928).  
1901 *Chrysallida benthina* (Dall & Bartsch, 1909).  
1902 *Chrysallida capa* (Bartsch, 1926).  
1903 *Chrysallida clathratula* (C.B. Adams, 1852).  
Extend distribution north to near Santa  
Rosalia, Baja California Sur, México (Draper,  
1972). Extend distribution to the Islas  
Galápagos, Ecuador (J. Hertz, 1977a).  
1904 *Chrysallida collea* (Bartsch, 1926).  
1905 *Chrysallida communis* (C.B. Adams, 1852).  
Extend distribution south to Tumbes, Perú  
(Peña G., 1970). Shell figured (Ward, 1989).  
1906 *Chrysallida contrerasi* (Baker, Hanna & Strong,  
1928).  
1907 *Chrysallida corintoensis* (Hertlein & Strong,  
1951).  
1908 *Chrysallida costaricensis* (Hertlein & Strong,  
1951).  
1909 *Chrysallida deceptrix* (Dall & Bartsch, 1909).



- Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 1910 *Chrysallida defolinia* (Dall & Bartsch, 1909).
- 1911 *Chrysallida defolinia contracta* (de Folin, 1872).
- 1912 *Chrysallida defolinia difficilis* (Dall & Bartsch, 1909).
- 1913 *Chrysallida effusa* (Carpenter, 1857).
- 1914 *Chrysallida eiseni* (Jordan, 1936). Delete. Known only as a fossil species (Jordan, 1936).
- 1915 *Chrysallida era* (Bartsch, 1927).
- 1916 *Chrysallida eugena* (Dall & Bartsch, 1909). Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 1917 *Chrysallida evermanni* (Jordan, 1936). Delete. Known only as a fossil species (Jordan, 1936).
- 1918 *Chrysallida excelsa* (Dall & Bartsch, 1909). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1919 *Chrysallida fasciata* (Carpenter, 1857). Extend distribution to Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1928). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972).
- 1920 *Chrysallida guatulcoensis* (Hertlein & Strong, 1951).
- 1921 *Chrysallida hipolitensis* (Dall & Bartsch, 1909). Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 1922 *Chrysallida inconspicua* (C.B. Adams, 1852). Shell figured (Ward, 1989).
- 1923 *Chrysallida lapazana* (Dall & Bartsch, 1909).
- 1924 *Chrysallida licina* (Dall & Bartsch, 1909). Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 1925 *Chrysallida limbaughi* (Hertlein & Allison, 1968).
- 1926 *Chrysallida loomisi* (Dall & Bartsch, 1909).
- 1927 *Chrysallida melitta* (Bartsch, 1924).
- 1928 *Chrysallida nodosa* (Carpenter, 1857).
- 1929 *Chrysallida olssoni* (Bartsch, 1924).
- 1930 *Chrysallida ooniscia* (Dall & Bartsch, 1909). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974).
- 1931 *Chrysallida ovata* (Carpenter, 1857). Extend distribution to Cabo San Lucas, Baja California Sur, México (Baker, Hanna & Strong, 1928). Extend distribution north to Bahía Concepción, Baja California Sur, México (Strong, 1949).
- 1932 *Chrysallida pacha* (Bartsch, 1926).
- 1933 *Chrysallida paupercula* (C.B. Adams, 1852). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972).
- 1934 *Chrysallida promeces* (Dall & Bartsch, 1909). Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 1935 *Chrysallida proxima* (de Folin, 1872).
- 1936 *Chrysallida pulchra* (de Folin, 1872).
- 1937 *Chrysallida quilla* (Bartsch, 1926).
- 1938 *Chrysallida reedi* (Bartsch, 1928).
- 1939 *Chrysallida reigeni* (Carpenter, 1857). Extend distribution north to Puerto Peñasco, Sonora, and San Felipe, Baja California, México (LaFollette, 1977b).
- 1940 *Chrysallida rinella* (Dall & Bartsch, 1909). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985).
- 1941 *Chrysallida rotundata* (Carpenter, 1857).
- 1942 *Chrysallida salinasensis* (Bartsch, 1928).
- 1943 *Chrysallida santamariensis* (Bartsch, 1917).
- 1944 *Chrysallida sorenseni* (Strong, 1949).
- 1945 *Chrysallida swetti* (Strong & Hertlein, 1939).
- 1946 *Chrysallida talama* (Dall & Bartsch, 1909). Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 1947 *Chrysallida taravali* (Bartsch, 1917).
- 1948 *Chrysallida telescopium* (Carpenter, 1857). Extend distribution north to Puerto Peñasco, Sonora, México. Depth: 18 m (Lowe, 1935). Include San Felipe, Baja California, to La Paz, Baja California Sur, México, in distribution (Strong, 1949).
- 1949 *Chrysallida terissa* (Pilsbry & Lowe, 1932).
- 1950 *Chrysallida torrita* (Dall & Bartsch, 1909). Extend distribution north to Bahía San Francisquito, Baja California, México (Strong, 1949).
- 1951 *Chrysallida trimariana* (Pilsbry & Lowe, 1932).
- 1952 *Chrysallida tyleri* (Dall & Bartsch, 1909).
- 1953 *Chrysallida vira* (Bartsch 1926).
- 1954 *Chrysallida virginalis* (Dall & Bartsch 1909). Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 1955 *Chrysallida vizcainoana* (Baker, Hanna & Strong, 1928). Extend distribution north to Bahía Concepción, Baja California Sur, México (Strong, 1949).
- 1956 *Chrysallida woodbridgei* (Hertlein & Strong, 1951).
- 1957 *Chrysallida zeteki* (Bartsch, 1918).

Genus *Eulimastoma* Bartsch, 1916

Raised from subgenus (Corgan, 1971).

Subgenus *Eulimastoma*, s. s.

- 1960 *Eulimastoma* (*E.*) *dotella* (Dall & Bartsch, 1909). Genus changed. Length: 5.5 mm (Corgan, 1971). Extend distribution south to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 1961 *Eulimastoma* (*E.*) *subdotella* (Hertlein & Strong, 1951). Genus changed (Corgan, 1971).

Genus *Herviera* Melvill & Standen, 1897

- *Herviera gliriella* (Melvill & Standen, 1896). Length: 1.6 mm. Distribution: Hawaiian Islands; Line Islands; Lifu (Kay, 1979). Distribution: Islas Partida and Ballena, Golfo de California; Cuastecomate, Jalisco, México; Isla del Coco, Costa Rica (Shasky, 1987b). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).

Genus *Evalea* A. Adams, 1860

Raised from subgenus (Fretter &amp; Graham, 1986).

- 1962 *Evalea donilla* (Dall & Bartsch, 1909). Extend distribution south to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).
- 1963 *Evalea gallegosiana* (Hertlein & Strong, 1951).
- 1964 *Evalea granadensis* (Dall & Bartsch, 1909).
- 1965 *Evalea isthmica* (Strong & Hertlein, 1939).
- 1966 *Evalea lucasana* (Dall & Bartsch, 1909).
- 1967 *Evalea martinensis* (Strong, 1938). Delete. Distribution is north of the Panamic Province (Strong, 1938).
- 1968 *Evalea minutissima* (Dall & Bartsch, 1909). Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 1969 *Evalea palmeri* (Bartsch, 1912).
- 1970 *Evalea parella* (Dall & Bartsch, 1909).
- 1971 *Evalea socorroensis* (Dall & Bartsch, 1909).
- *Evalea straminea* (Carpenter, 1865). Cabo San Lucas, Baja California Sur, México. Type lost *vide* Palmer (1963) (Keen & Coan, 1975).
- 1972 *Evalea tenuis* (Carpenter, 1857). Extend

distribution north to Bahía Concepción, Baja California Sur, México (Strong, 1949). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).

- 1973 *Evalea valeroi* (Bartsch, 1917).

Genus *Ividella* Dall & Bartsch, 1909

Raised from subgenus (McLean, 1984d).

- 1982 *Ividella contabulata* (Mörch, 1860).
- 1983 *Ividella mariae* (Bartsch, 1928). Delete. Known only as a fossil species (Bartsch, 1928).
- 1984 *Ividella mendozae* (Baker, Hanna & Strong, 1928). Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972).
- 1985 *Ividella navisa* (Dall & Bartsch, 1907). Extend distribution north to Monterey, California. Depth: offshore to 128 m (Abbott, 1974). Extend distribution into the Golfo de California to Santa Rosalia, Baja California Sur, México (McLean, 1984d). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 3.1 mm (Draper, 1987). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 1986 *Ividella notabilis* (C.B. Adams, 1852). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).
- 1987 *Ividella pedroana* (Dall & Bartsch, 1909). Delete here. Listed twice. See *Peristichia pedroana* [2021] (Keen & Coan, 1975).
- 1988 *Ividella ulloana* (Strong, 1949). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Genus *Cingulina* A. Adams, 1860Moved from *Turbonilla* and raised from a subgenus (Abbott, 1974).

- 2052 *Cingulina academica* (Strong & Hertlein, 1939).
- 2053 *Cingulina evermanni* (Baker, Hanna & Strong, 1928). Extend distribution south to Manabí

Province, Ecuador (Shasky, 1984d). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).

2054 *Cingulina realejoensis* (Hertlein & Strong, 1951).

2055 *Cingulina urdeneta* Bartsch, 1917. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Menestho* Möller, 1842

Raised from subgenus (Vaught, 1989).

1990 *Menestho aequisculpta* (Carpenter, 1864).

1991 *Menestho callipyrga* (Dall & Bartsch, 1904). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

1992 *Menestho ciguatonis* (Strong, 1949). As *ciguatonis* in Keen (1971).

1993 *Menestho gloriosa* (Bartsch, 1912). Delete. Distribution is north of the Panamic Province (Bartsch, 1912).

1994 *Menestho grammatospira* (Dall & Bartsch, 1903). Extend distribution across the Golfo de California to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).

1995 *Menestho grijalvae* (Baker, Hanna & Strong, 1928). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).

1996 *Menestho navarettei* (Baker, Hanna & Strong, 1928).

1997 *Menestho nicoyana* (Hertlein & Strong, 1951).

1998 *Menestho recta* (de Folin, 1872).

1999 *Menestho sublirulata* (Carpenter, 1857).

2000 *Menestho ziziphina* (Carpenter, 1857).

Genus *Miralda* A. Adams, 1864

Raised from subgenus (Vaught, 1989).

2001 *Miralda aepynota* (Dall & Bartsch, 1909). Extend distribution north to Bahía Concepción, Baja California Sur, México (Strong, 1949). Synonym: *Odostomia planicosta* Baker, Hanna & Strong, 1928 [2002] (Abbott, 1974).

2002 *Miralda aepynota planicosta* (Baker, Hanna & Strong, 1928). Delete here. Becomes a synonym of *Miralda aepynota* (Dall & Bartsch, 1909) [2001] (Abbott, 1974).

2003 *Miralda armata* (Carpenter, 1857). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

2004 *Miralda azteca* (Strong & Hertlein, 1939).

2005 *Miralda exarata* (Carpenter, 1857). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

2006 *Miralda galapagensis* (Dall & Bartsch, 1909).

2007 *Miralda hemphilli* (Dall & Bartsch, 1909). Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).

2008 *Miralda porteri* (Baker, Hanna & Strong, 1928).

2009 *Miralda rhizophorae* (Hertlein & Strong, 1951).

2010 *Miralda terebellum* (C.B. Adams, 1852). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Peristichia* Dall, 1889

2020 *Peristichia hermosa* (Lowe, 1935). Extend distribution south to Bahía Concepción, Baja California Sur, México (Strong, 1949). Extend distribution across the Golfo de California to Bahía la Cholla, Sonora, México (Draper, 1975). Extend distribution south in Sonora, México, to off Bahía San Carlos (F. & L. Poorman, 1988).

2021 *Peristichia pedroana* (Dall & Bartsch, 1909). Extend distribution into the Golfo de California to Bahía Concepción, Baja California Sur, México (Baker, Hanna & Strong, 1928). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Triptychus* Mörch, 1875

2023 *Triptychus incantatus* (Hertlein & Strong, 1939). As *Triptychus pacificus* Corgan, 1973 with *Pyramidella (Triptychus) olssoni* Bartsch, 1926, as a synonym (Corgan, 1973a). Synonyms: *P. (T.) olssoni* Bartsch, 1926, *non* Maury, 1917; *Triptychus pacificus* Corgan, 1973 (LaFollette, 1977a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Extend distribution north to Nayarit, México (McLean, 1984d). Extend distribution

north to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988).

Subfamily TURBONILLINAE Bronn, 1849

Genus *Turbonilla* Risso, 1826

Subgenus *Turbonilla*, s. s.

2027 *Turbonilla* (*T.*) *lucana* Dall & Bartsch, 1909. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

2028 *Turbonilla* (*T.*) *prolongata* Carpenter, 1857. Extend distribution north to Laguna de Yavaros, Sonora, México (García-Cubas & Reguero, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Subgenus *Asmunda* Dall & Bartsch, 1904

2031 *Turbonilla* (*A.*) *turríta* (C.B. Adams, 1852). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Subgenus *Bartschella* Iredale, 1916

2034 *Turbonilla* (*B.*) *subangulata* (Carpenter, 1857). Include Bahía Concepción to La Paz, Baja California Sur, México, in distribution (Baker, Hanna & Strong, 1928). Extend distribution north to Puerto Peñasco, Sonora, México (Lowe, 1935).

2035 *Turbonilla* (*B.*) *vestae* Hertlein & Strong, 1951. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Subgenus *Careliopsis* Mörch, 1875

2037 *Turbonilla* (*C.*) *hannai* Strong, 1938. Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974).

2039 *Turbonilla* (*C.*) *stenogyra* Dall & Bartsch, 1909. Extend distribution south to Salinas, Ecuador (Koch, 1990).

Subgenus *Chemnitzia* d'Orbigny, 1839

2040 *Turbonilla* (*C.*) *aculeus* (C.B. Adams, 1852). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. &

L. Poorman, 1988).

2041 *Turbonilla* (*C.*) *aepynota* Dall & Bartsch, 1909. Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

2044 *Turbonilla* (*C.*) *kelseyi* Dall & Bartsch, 1909. Length: 5.2 mm (Draper, 1987).

2045 *Turbonilla* (*C.*) *muricata* (Carpenter, 1857). Extend distribution north to Isla Monserrate, Golfo de California, México (Baker, Hanna & Strong, 1928). Include La Paz, Baja California Sur, México, in distribution (Strong, 1949). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

2048 *Turbonilla* (*C.*) *paramoea* Dall & Bartsch, 1909. Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974).

2050 *Turbonilla* (*C.*) *sinaloana* Strong, 1949. Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989a).

Subgenus *Cingulina* A. Adams, 1850

2052 *Turbonilla* (*C.*) *academica* Strong & Hertlein, 1939. Genus changed. See *Cingulina*.

2053 *Turbonilla* (*C.*) *evermanni* Baker, Hanna & Strong, 1928. Genus changed. See *Cingulina*.

2054 *Turbonilla* (*C.*) *realejoensis* Hertlein & Strong, 1951. Genus changed. See *Cingulina*.

2055 *Turbonilla* (*C.*) *urdeneta* Bartsch, 1917. Genus changed. See *Cingulina*.

Subgenus *Dunkeria* Carpenter, 1857

2056 *Turbonilla* (*D.*) *andrewsi* Dall & Bartsch, 1909. Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

2063 *Turbonilla* (*D.*) *hipolitensis* Dall & Bartsch, 1909. Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).

2066 *Turbonilla* (*D.*) *sedillina* Dall & Bartsch, 1909. Correct date in Keen (1971) from 1904. Include Isla Cerralvo, Golfo de California, México, in distribution (Dall & Bartsch,

1909). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Subgenus *Mormula* A. Adams, 1864

- 2068 *Turbonilla (M.) coyotensis* Baker, Hanna & Strong, 1928. Include Bahía San Luis Gonzaga, Baja California, México, in distribution (Baker, Hanna & Strong, 1928). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 20 to 40 m (F. & L. Poorman, 1988).
- 2071 *Turbonilla (M.) ignacia* Dall & Bartsch, 1909. Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 2076 *Turbonilla (M.) scammonensis* Bartsch, 1912. Delete. Distribution is north of the Panamic Province (Bartsch, 1912).

Subgenus *Ptycheulimella* Sacco, 1892

- 2080 *Turbonilla (P.) abrojensis* Dall & Bartsch, 1909. Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 2083 *Turbonilla (P.) penascoensis* Lowe, 1935. Extend distribution south to off Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988).

Subgenus *Pyrgiscus* Philippi, 1841

- 2088 *Turbonilla (P.) amiriana* Hertlein & Strong, 1951. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 2090 *Turbonilla (P.) annettae* Dall & Bartsch, 1909. Extend distribution north to near Guaymas, Sonora, México (Koch, 1990).
- 2092 *Turbonilla (P.) auricoma* Dall & Bartsch, 1903. Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1903).
- 2095 *Turbonilla (P.) azteca* Baker, Hanna & Strong, 1928. Date as 1926 in Keen (1971). Include Bahía Concepción, Baja California Sur, México, in distribution (Baker, Hanna & Strong, 1928). Extend distribution south to Puerto Escondido, Baja California Sur, México (Strong, 1949).
- 2096 *Turbonilla (P.) baegeri* Bartsch, 1917. Extend

distribution into the Golfo de California near Santa Rosalía, Baja California Sur, México (Draper, 1972).

- 2097 *Turbonilla (P.) bartolomensis* Bartsch, 1917. Delete. Distribution is north of the Panamic Province (Bartsch, 1917a).
- 2099 *Turbonilla (P.) beali* Jordan, 1936. Delete. Fossil only (Jordan, 1936).
- 2102 *Turbonilla (P.) callipeplum* Dall & Bartsch, 1909. Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972).
- 2103 *Turbonilla (P.) ceralva* Dall & Bartsch, 1909. Extend distribution north to Puerto Peñasco, Sonora, México (Lowe, 1935).
- 2124 *Turbonilla (P.) gruberi* Hertlein & Strong, 1951. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 2127 *Turbonilla (P.) halidoma* Dall & Bartsch, 1909. Extend distribution south to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987).
- 2128 *Turbonilla (P.) histias* Dall & Bartsch, 1909. Distribution: off La Paz, Baja California Sur, México. Depth: 38 m (Dall & Bartsch, 1909). Extend distribution north to Puerto Escondido, Baja California Sur, México (Strong, 1949). Extend distribution to Bahía de los Angeles, Baja California, México. Figured (J. Hertz, 1978b). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- *Turbonilla (?P.) hypocurta* Dall & Bartsch, 1906. Synonym, *Chemnitzia caelata* Carpenter, 1864, figured. Type locality uncertain, perhaps Panamá (Palmer, 1963). Synonyms: *Chemnitzia caelata* Carpenter, 1864, non *Turbonilla caelata* Gould, 1861; *Turbonilla (P.) favilla* Dall & Bartsch, 1909 (Keen & Coan, 1975).
- 2140 *Turbonilla (P.) macra* Dall & Bartsch, 1909. Delete here. Becomes a synonym of *Turbonilla (P.) tenuicula* (Gould, 1853) [2169] (Abbott, 1974).
- 2144 *Turbonilla (P.) marshalli* Dall & Bartsch, 1909. Extend distribution south to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987). Extend distribution north to off Bahía San Carlos, Sonora, México.

- Depth: 35 m (F. & L. Poorman, 1988).
- 2145 *Turbonilla (P.) mayana* Baker, Hanna & Strong, 1928. Include Puerto Peñasco, Sonora, México, in distribution (Lowe, 1935).
- 2152 *Turbonilla (P.) pequensis* Dall & Bartsch, 1909. Delete. Distribution is north of the Panamic Province (Dall & Bartsch, 1909).
- 2154 *Turbonilla (P.) porteri* Baker, Hanna & Strong, 1928. Include Bahía San Luis Gonzaga, Baja California, México, in distribution (Strong, 1949).
- 2158 *Turbonilla (P.) sanctorum* Dall & Bartsch, 1909. Extend distribution north to Puerto Peñasco, Sonora, México (Lowe, 1935).
- 2159 *Turbonilla (P.) sealei* Strong & Hertlein, 1939. Extend distribution north to San Felipe, Baja California, México (Gemmell, Hertz & Myers, 1980).
- 2162 *Turbonilla (P.) striosa* (C.B. Adams, 1852). Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 2169 *Turbonilla (P.) tenuicula* (Gould, 1853). Add synonyms: *Turbonilla (P.) antemunda* and *T. (P.) macra* Dall & Bartsch, 1909 [2140]. Length: 7 mm. Distribution: Monterey, California to Baja California, México (Abbott, 1974).
- 2175 *Turbonilla (P.) uhyssi* Hertlein & Strong, 1951. Extend distribution north to off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).
- 2177 *Turbonilla (P.) vivesi* Hertlein & Strong, 1951. Extend distribution across the Golfo de California to Bahía de Guaymas, Sonora, México (García-Cubas & Reguero, 1987).
- Subgenus *Pyrgolampros* Sacco, 1892
- 2185 *Turbonilla (P.) soniliana* Hertlein & Strong, 1951. Extend distribution north to Bahía la Cholla, Sonora, México (Draper, 1975).
- Subgenus *Strioturbonilla* Sacco, 1892
- 2187 *Turbonilla (S.) asuncionis* Strong, 1949. Delete. Distribution is north of the Panamic Province (Strong, 1949).
- 2201 *Turbonilla (S.) galianoi* Dall & Bartsch, 1909. Delete here. Becomes a synonym of *Turbonilla (S.) stylina* (Carpenter, 1865) [2190] (Abbott, 1974).
- 2202 *Turbonilla (S.) gracilior* (C.B. Adams, 1852). Keen (1971) figure 2212 is this species (Keen & Coan, 1975).
- 2208 *Turbonilla (S.) mexicana* Dall & Bartsch, 1909. Extend distribution north to Bahía Concepción, Baja California Sur, México (Strong, 1949).
- *Turbonilla (S.) montezuma* Bartsch, 1917. Off Bahía Magdalena, Baja California Sur, México. Depth: 25 m (Keen & Coan, 1975).
- 2212 *Turbonilla (S.) nicholsi* Dall & Bartsch, 1909. Keen (1971) figure 2212 is actually *Turbonilla gracilior* (C.B. Adams, 1852) [2202] (Keen & Coan, 1975). Delete here. Becomes a synonym of *T. (S.) stylina* (Carpenter, 1865) [2190] (Abbott, 1974).
- 2216 *Turbonilla (S.) pazana* Dall & Bartsch, 1909. Extend distribution north to Puerto Peñasco, Sonora, México. Depth: 18 m (Lowe, 1935).
- 2220 *Turbonilla (S.) schmitti* Bartsch, 1917. Extend distribution north to Bahía San Francisquito, Baja California, México (Baker, Hanna & Strong, 1928).
- 2190 *Turbonilla (S.) stylina* (Carpenter, 1865). Extend distribution north to Puerto Peñasco, Sonora, México (as *Turbonilla calvini*) (Lowe, 1935). Synonyms: *T. calvini* [2190]; *T. galianoi* [2201]; *T. nicholsi* [2212]; *T. buttoni*; *T. asser*; *T. profundicola*; *T. humerosa*; all of Dall & Bartsch, 1909. Length: 8 mm. Distribution: Monterey, California, to the Golfo de California, México (Abbott, 1974).
- Subfamily CYCLOSTREMELLINAE  
Moore, 1966
- Transferred from the Rissooidea (Robertson, 1973).
- Genus *Cyclostremella* Bush, 1897  
[No changes at the species level.]
- Family AMATHINIDAE Ponder, 1987  
Genus *Cyclothyca* Stearns, 1890  
Transferred from Capulidae (Ponder, 1987).
- 834 *Cyclothyca corrugata* Stearns, 1890. Collected in Costa Rica in March, 1974 (Keen & Coan, 1975). Extend distribution north to La Libertad, El Salvador (Hernandez, 1979). Extend distribution south to the Golfo de Panamá (DuShane, 1985a).

Genus *Iselica* Dall, 1918

As Fossaridae (Abbott, 1974). As Pyramidellidae (McLean, 1978). Related to Amathinidae in the Pyramidelloidea (Ponder, 1987).

- 1890 *Iselica fenestrata* (Carpenter, 1864). Delete here. Becomes a synonym of *Iselica ovoidea* (Gould, 1853) [1893] (McLean, 1978). Syntype figured (Ponder, 1987).
- 1891 *Iselica kochi* Strong & Hertlein, 1939. Extend distribution north to the Puerto Peñasco area, Sonora, México (Draper, 1975).
- 1893 *Iselica ovoidea* (Gould, 1853). Synonym: *Iselica fenestrata* (Carpenter, 1864) [1890]. Distribution: Washington to southern Baja California, México (McLean, 1978). Length: 11.8 mm (Draper, 1987).

## Order GYMNOPHILA

## Superfamily ONCHIDIOIDEA

## Family ONCHIDIIDAE

Genus *Hoffmannola* Strand, 1932

- 2393 *Hoffmannola hansii* Marcus & Marcus, 1967. Extend distribution south to San Agustín, Sonora, México (Marcus & Marcus, 1970).
- 2394 *Hoffmannola lesliei* (Stearns, 1892). Extend distribution north to Bahía Tangola-Tangola, Oaxaca, México (Holguin Quiñones, Doval U. & Flores G., 1987).

## Subclass PULMONATA

## Order BASOMMATOPHORA

## Superfamily MELAMPOIDEA

## Subfamily MELAMPINAE

Genus *Melampus* Montfort, 1810Subgenus *Melampus*, s. s.

- 2398 *Melampus (M.) carolianus* (Lesson, 1842). Extend distribution south to Tumbes, Perú (Peña G., 1970). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983).
- 2399 *Melampus (M.) mousleyi* Berry, 1964. Holotype figured (C. Hertz, 1984a). Length: 11.1 mm (Draper, 1987).
- 2400 *Melampus (M.) olivaceus* Carpenter, 1857. Holotype of synonym, *Melampus olivaceus californianus* Berry, 1964, figured (C. Hertz, 1984a). Extend distribution south to Colombia (von Prahl, Cantera & Contreras,

1990).

Subgenus *Pira* H. & A. Adams, 1855

- 2401 *Melampus (P.) tabogensis* C.B. Adams, 1852. Include Isla Gorgona, Colombia, in distribution (Cantera et al., 1979). Length: 20.5 mm (Draper, 1987). Extend distribution north to the Bahía San Carlos area, Sonora, México. Intertidal zone (F. & L. Poorman, 1988).

Genus *Tralia* Gray in Turton, 1840

- 2408 *Tralia panamensis* (C.B. Adams, 1852). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983).

## Subfamily PEDIPEDINAE

Genus *Pedipes* Férussac, 1821

- 2410 *Pedipes angulatus* C. B. Adams, 1852. Synonym: *Pedipes liratus* Binney, 1860 [2411]. Distribution: southern California to Panamá (Abbott, 1974).
- 2411 *Pedipes liratus* Binney, 1860. Delete here. Becomes a synonym of *Pedipes angulatus* C.B. Adams, 1853 [2410] (Abbott, 1974). In line 3, read Clench (1964) (Keen & Coan, 1975). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d).

Genus *Marinula* King 1832

- 2414 *Marinula concinna* (C.B. Adams, 1852). Extend distribution south to Tumbes, Perú (Peña G., 1970).
- 2415 *Marinula rhoadsi* Pilsbry, 1910. Length: 12.2 mm (Draper, 1987).

## Subfamily ELLOBIINAE

Genus *Ellobium* Röding, 1798

- 2416 *Ellobium stagnalis* (d'Orbigny, 1835). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 31.3 mm (Draper, 1987).

Genus *Sarnia* H. & A. Adams, 1855

- 2419 *Sarnia mexicana* (Berry, 1964). Holotype

figured (C. Hertz, 1984a).

Superfamily SIPHONARIOIDEA

Family SIPHONARIIDAE

Genus *Siphonaria* Sowerby, 1824

---- *Siphonaria lessoni* Blainville, 1827. Length: 17 mm. Distribution: Paita, Perú to Tierra del Fuego, Chile; the Falkland Islands; north on the Atlantic coast to Punta del Este, Uruguay (Marincovich, 1973).

Subgenus *Heterosiphonaria* Hubendick, 1945

2421 *Siphonaria (H.) gigas* Sowerby, 1825. Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). Include Isla Gorgona, Colombia, in distribution (Cantera, et al., 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Egg ring figured (Levings & Garrity, 1986). Length: 83.9 mm (Draper, 1987).

2423 *Siphonaria (H.) palmata* Carpenter, 1857. Extend distribution south to Isla Gorgona, Colombia (Cosel, 1984). Length: 35.8 mm (Draper, 1987).

Genus *Williamia* Monterosato, 1884

2425 *Williamia peltoides* (Carpenter, 1864). Extend distribution north to Crescent City, California (Abbott, 1974). Length: 17.1 mm (Draper, 1987).

Family TRIMUSCULIDAE

Genus *Trimusculus* Schmidt, 1818

2426 *Trimusculus peruvianus* (Sowerby, 1835). Include Isla Gorgona, Colombia, in distribution (Cosel, 1984).

2427 *Trimusculus reticulatus* (Sowerby, 1835). Extend distribution south to Tumbes, Perú (Peña G., 1970). Synonym: *Rowellia radiata* Cooper, 1865. Extend distribution north to Trinidad, California (Abbott, 1974). Length: 26.3 mm (Draper, 1987).

2428 *Trimusculus stellatus* (Sowerby, 1835). Extend distribution north to near Santa Rosalía, Baja California Sur, México (Draper, 1972). Extend distribution south to Manabí Province, Ecuador (Shasky, 1984d). Length: 19.6 mm (Draper, 1987).



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