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FIELD NOTES ON THE SOUTHWARD DISPERSAL OF THE EXOTIC BROWN MUSSEL, *PERNA PERNA*, IN THE WESTERN GULF OF MEXICO

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INTRODUCTION

The natural distributions of over one thousand marine species have been directly altered by human activity (Carlton, 1989). The brown mussel, *Perna perna,* represents a recent biological addition to the western Gulf of Mexico biofouling community. Prior to 1990, the range of the brown mussel included the South Atlantic, portions of the Indian Ocean, and the eastern Mediterranean Sea (Vakily, 1989; Bayne, 1976). The introduction and subsequent proliferation (Figure 1) of this marine mussel in the western Gulf of Mexico is by now familiar to most Texas conchologists, Gulf coast naturalists, marine scientists, beach combers, and fishermen. Hicks and Tunnell first discovered this mussel inhabiting the South Jetty at Port Aransas, Texas, in early 1990 and were the first to document its presence in North American waters (Hicks and Tunnell, 1993). They have been studying its ecology, both in the field and in the laboratory, since that time (Figure 1). Moreover, Hicks and Tunnell speculate that the brown mussel arrived in the Gulf of Mexico as a result of ballast-water transport (Hicks personal communication; Hicks and Tunnell, 1993). At Texas A&M's main campus, we are focusing on the population structure of *P. perna.* Using molecular markers we are working to determine the most probable geographic source of this exotic bivalve. We are testing genetic material from populations within the natural range of *P. perna* and then comparing it to populations from the Texas and Mexican gulf coast. The introduction of *P. perna* to the Texas coast presents an opportunity to investigate and document this invasion as it happens. Using shipping records in conjunction with genetic data, we hope to reconstruct the most likely introduction scenario. Identification of the most likely geographic origin of this species should aid conservationists and marine resource managers concerned with prevention of ballast water introductions. Furthermore, by accurately identifying the anthropogenic source of biological introductions this study can be used by legislators and regulatory agencies charged with enforcement of "no introductions" policy. By demonstrating the ability to identify the source of human-mediated intro-

ductions in coastal regions where ballast water regulations are in effect, we thereby provide a powerful legal tool which can be used to protect the natural marine communities and biodiversity. Historically, biological invasions have proven both economically and ecologically disastrous (Carlton and Geller, 1993; Hamer 1991; Hedgpeth, 1993; Locke et al., 1991; Mills et al., 1994). For example, the European zebra mussel, *Dreissena polymorpha,* was introduced in the mid-1980's to Lake Erie. Its rapid colonization of the entire Great Lakes watershed is an ecological and financial disaster of unprecedented scope and magnitude. The zebra mussel has altered North America's largest aquatic ecosystem irreversibly. Regional municipal water and utility plants have estimated zebra mussel removal costs at over 100 million dollars per year (Anonymous, 1990; Carlton and Geller, 1993; Hamer 1991; Locke et al., 1991; Mills et al., 1994).

Due to similarities between the zebra mussel and *P. perna* in terms of adaptability, fecundity and the capacity to alter the environment, the brown mussel should be closely monitored. Potential threats include health concerns for humans, displacement of endemic species, and biofouling of coastal structures and vessels (Carlton, 1989; Hamer, 1991). Due to paralytic shellfish poisoning (PSP) and accumulation of dangerous levels of pathogenic bacteria, pesticides, and heavy metals in polluted areas (Bayne, 1976), mussels can be highly toxic to humans who consume them. Biofouling of coastal structures such as municipal water and utility intakes, petroleum exploration and production platforms, and navigation buoys leads to expensive cleaning operations and navigational hazards (Carlton, 1989; Hamner, 1991; Locke et al., 1993; Mills et al., 1994).

FIELD SURVEY

Perna perna has been reported on outer wave exposed regions of jetties and groins as far south as Playa Escondida in the southern portion of the Mexican state of Veracruz (Figure 2) (Hicks and Tunnell, 1995). Armed with this information, a Mexican vehicle permit, collection buckets, several gallons of ethanol (tissue preservative), and a four-wheel drive vehicle, we departed in early June, 1996, on a collecting effort that we hoped would take us as far south as the brown mussel had dispersed (Figure 2).

We began our survey at the South Jetty in Port Aransas, Texas. Stopping frequently along the way, we found and collected *P. perna* samples along the Texas coast from Port Aransas to Brazos Santiago Pass, and

along the Mexican Gulf as far south as the town of Tecolutla (Lat. 20° 33' N, Long. 97° OO'W), Mexico, about 170 km north of Veracruz City (Figure 2).

We observed the healthiest looking and most abundant mussels at the Mansfield Pass jetties, Padre Island National Seashore, Texas (Lat. 26° 34'N, Long. 97° 17'W). At Mansfield, we found dense colonies of robust mussels, with individuals of up to 10 cm in length. The condition of the mussels at Brazos Santiago Pass (Lat. 26° 4'N, Long. 97° 9' W) was also very good, although colony density and average shell length were lower (no individuals over 7 cm were observed). There appeared to be some evidence of harvesting, possibly by local fishermen. Continuing southward into Mexico,we did not find mussels as healthy or abundant as those observed at Mansfield and Brazos Santiago Passes in Texas. Well developed jetties at Barra Tuxpan (Lat. 20° 57'N, Long. 97° 26'W) protect the mouth of the Tuxpan River, 150 km south of Tampico, Mexico. Mussels at this locality were small, and beds were poorly developed (Figure 3). There was evidence of recent recruitment, as hundreds of tiny mussels (<l cm) were found amongst the byssal threads of most of the individuals we observed. At Tecolutla, Mexico, the southernmost collection site, *P. perna* occurred at low densities and its distribution was patchy. Size of collected specimens ranged from 2 to 5 cm, with a mean shell length of 3.1 cm (± 0.3). As in Texas, *P. perna* populations in Mexico were found in close association with sea lettuce, *Ulva* sp., and often with oysters, *Crassostrea* sp., periwinkles, *Nodilittorina* spp., and beds of the scorched mussel, *Brachidontes exustus.* Careful examination of suitable hard surfaces in wave swept areas south of Tecolutla, Mexico, revealed mainly *B.exustus* and an absence of *P. perna.* At Veracruz, using snorkeling gear and underwater lights we searched the harbor jetty from the surface down to about six meters. The water clarity was good at this locality (25 m), an indication of oligotrophic conditions, very different from the rich green water of the South Texas coastal habitats where we have seen *P. perna* in well developed beds. We did not find *P. perna* in Veracruz City. However, south of Veracruz City we encountered more promising looking areas, with higher turbidity and suspended organic matter, but no *P. perna.* At Playa Mocambo, there is a series of closely spaced, short (about 50 m) granite groins protecting public beaches but we found no *P. perna.* In the small town of Boca del Rio we hired a launch and motored out to examine the tips of long jetties there at the mouth of the river. Checking both the inside and the outside of these structures, we again found only native mussels: *Petaloconchus varians, B. septifer, B. exustus* and

Isognomon bicolor. Figure 2 depicts the approximate extent of our findings of *P. perna* southward radiation.

CONCLUSIONS AND DISCUSSION

If *P. perna* occurs south of Veracruz City, as reported by Hicks and Tunnell 1995, there is a significant gap in its distribution. This gap appears to extend from Tecolutla to Playa Escondida, Mexico, a distance of about 300 km (Figure 2). The cause for this break in occurrence is presently unkown. However, possible reasons include collection by humans, predation, and disease. Other factors include unsuitable water quality, pollution, unfavorable surface current direction, and insufficient wave energy.

P. Perna is harvested throughout its natural range and is an important food source in both South Africa and South America. We have received reports of human harvest of *P. perna* from South Texas, which may explain observed fluctuations in mussel bed density in populated coastal areas (Hicks personal communication). One of our concerns is in the safety of human consumption of *P. perna*. Federal and state agencies have not yet taken steps to either investigate health concerns or control harvest, creating a potentially dangerous situation. It is presently unknown whether the brown mussel will exhibit seasonal toxicity due to accummulation of algal toxins as occurs in other areas (Hicks and Tunnell, 1993). It is also unknown whether dispersal barriers will arise as *P. perna* approaches the Yucatan Penninsula to the south and the Mississippi River to the north. Although *P. perna* has yet to have a major negative impact, it is likely that it is here to stay, and it should be monitored closely. We plan to continue to study this interesting phenomenon.

I welcome correspondence from any interested Texas conchologists on any topic relating to the presence of the brown mussel in the Gulf of Mexico. I am particularly interested in information regarding any *P. perna* expansion into the apparent "Perna gap", towards the Yucatan, to the northeast of Port O'Connor, and any human health related incidents.

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Figure 1. Map showing introduction route and subsequent radiation events of the brown mussel within the Gulf of Mexico, with approximate dates of documented appearance (Hicks and Tunnell, 1995) Note that range expansion lines from point 4 are projected and have not yet been documented, but are expected to occur within the next five years.

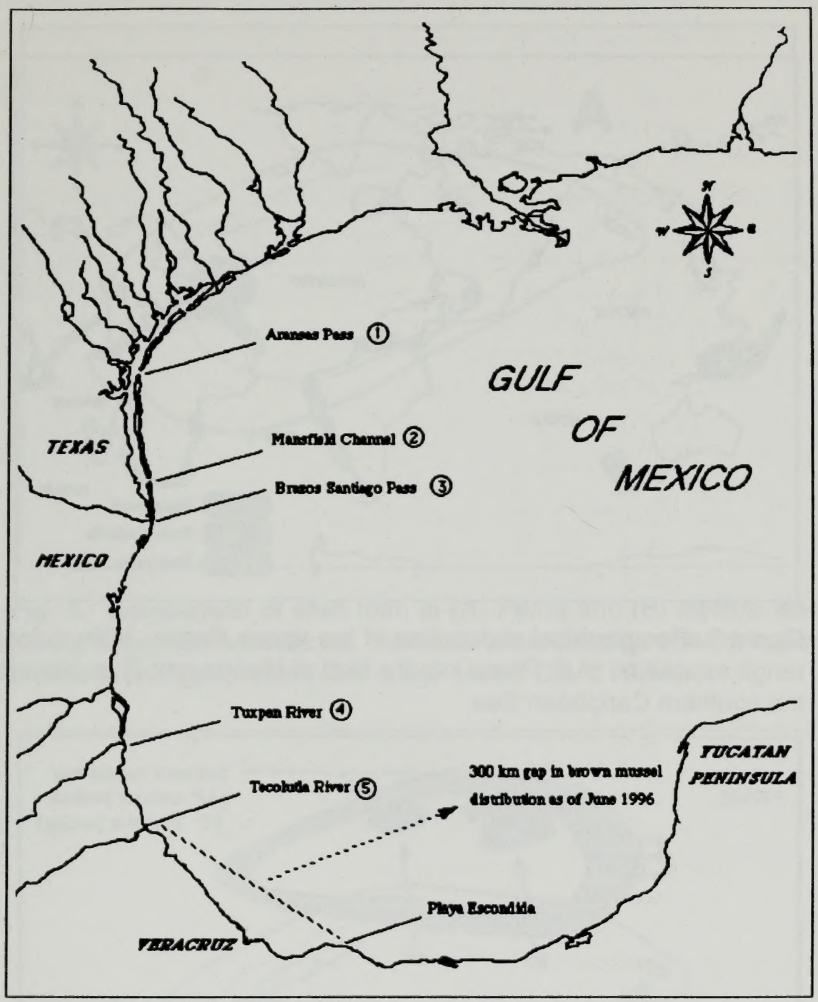


Figure 2. Map depicting Gulf of Mexico localities of samples obtained for genetic analysis (1-5) and approximate location of "Perna gap". Playa Escondida is the furtherest south that *P. perna* has been reported (Hicks and Tunnell, 1995).

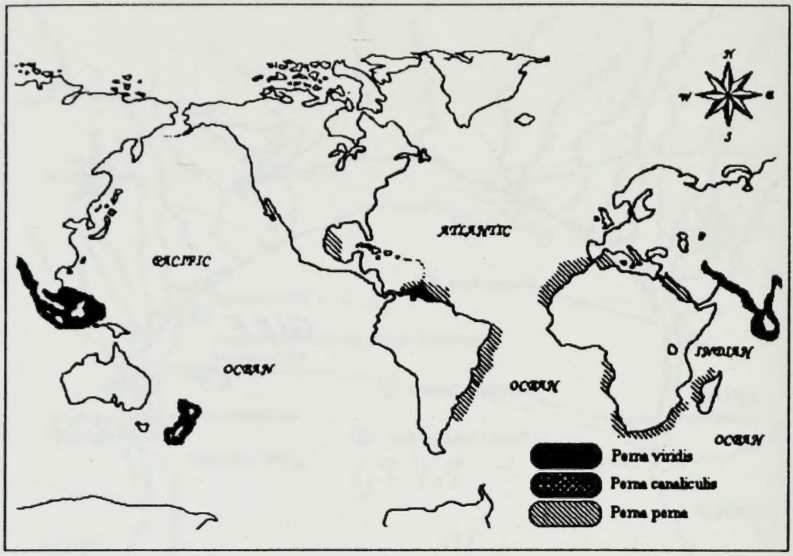


Figure 3. Geographical distribution of the genus *Perna*. Note recent range espansion of *P. Perna* into the Gulf of Mexico and *P. viridis* into the southern Caribbean Sea.

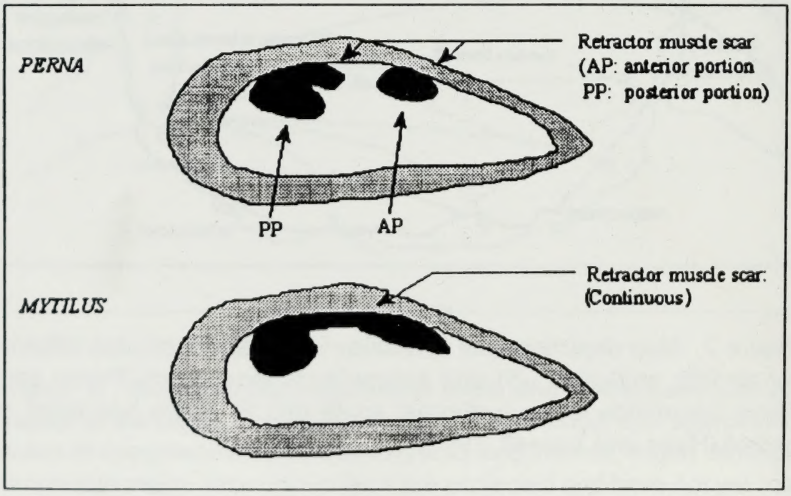


Figure 4. Muscle scar patterns in *Perna* and *Mytilus*, showing a diagnostic feature of genus *Perna* (After Siddall 1980).

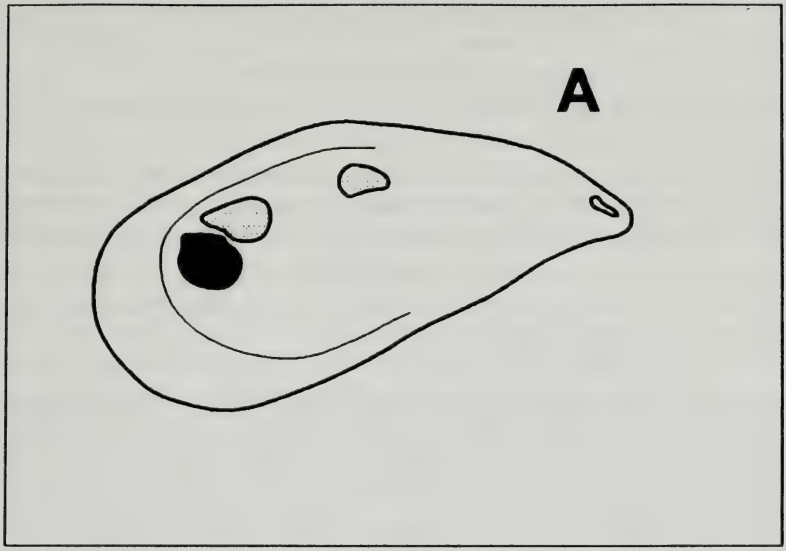
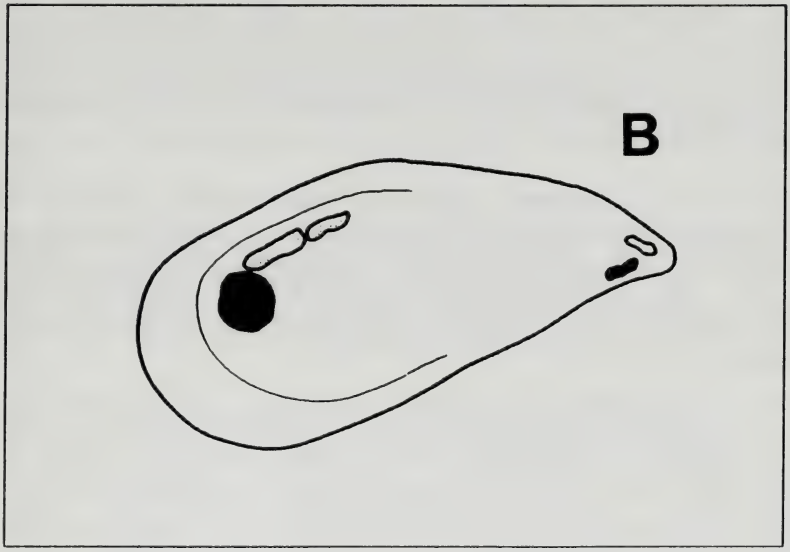


Fig. 5. Comparison of shell form in (A) *Perna* and (B) *Mytilus*, depicting attachment of muscles. Adductor scars (black), retractor scars (shaded) and pallial scars (thin line). (After: David Hicks).



ALEXANIA (EPITONIIDAE) IN TEXAS, AND PARALLELS WITH *RECLUZIA* (JANTHINIDAE)

BY ROBERT ROBERTSON
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Recently, a small, empty gastropod shell, a Ribless Wentletrap, *Alexania floridana* (Pilsbry, 1945)(family Epitoniidae), was discovered in a sample of drift with many juvenile Atlantic Wing Oysters *Pteria colymbus* (Roding, 1798). The *Alexania* was found between the jetties at Fish Pass, Mustang Island, Texas by Mr. Roe Davenport, Jr. on September 25, 1995, and is in his private collection.

Alexania has never been reported from Texas (Pulley, 1952; Andrews, 1971; Abbott, 1974) under this or any other name. On this point I was misunderstood by Jacobson (1966; see Speers, 1966, who *hoped* it might turn up in Texas). Abbott (1974) did speculate about this (Abbott also thought that it could be in North Carolina, but that is unverified). Rosewater (1976) reported *A. floridana* from "the Gulf of Mexico area."

The 2.65 mm shell is juvenile or a small male (assuming that *Alexania*, like *Epitonium*, is protandric, i.e. an individual first becomes male and later female: Robertson, 1981). Alexanias attain a shell length of over 11 mm. The Texas shell was freshly dead because there were dried pieces of purple tissue from the pigmented mantle organ (Robertson, 1985). Also, some of the dried digestive gland was seen through the transparent apex.

Epitoniids are predators or parasites on coelenterates such as sea anemones and stony corals (Robertson, 1983, etc.). The Texas *Alexania* no doubt has one such mode of life, but no information is yet available on this. The genus is not specific to sea anemones of the genus *Aiptasiomorpha* (or *Haliplanella*, or *Diadumene*) as stated by Abbott (1974).

The genus *Alexania* has a convoluted nomenclatural history that was first unraveled by Robertson & Habe (1965), and well summarized by Jacobson (1966). The animal was first described by Tomlin (1926) as a South African cephalaspid opisthobranch and first validly named *Alexania* Strand, 1928. It was then named from Japan as *Habea* (Kuroda, 1943). Lastly, it was named from Florida by Pilsbry (I 945) as *Stenacme* in a new marine (basommatophoran) pulmonate family Stenacmidae.

The epitoniid (prosobranch) natures of *Habea* and *Stenacme* were recognized by Kuroda (1943), Habe (1943), and Robertson & Oyama (1958), the last of whom synonymized them. Later, Robertson & Habe (1965) recognized that *Alexania* is an earlier name for the genus. *Problitora* Iredale (1931), with a southeast Australian type species, seems to be yet another synonym (A. Warén in Kabat, 1991), this time placed in the Naticidae or Littorinidae. The radulae of ptenoglossate prosobranchs, basal opisthobranchs and basal pulmonates have some similarities (Marcus, 1974), and two great malacologists were led astray by these. As a result *Alexania* has been placed in all three classical gastropod subclasses!

Conchologically, *Alexania* is the epitoniid equivalent of the janthinid genus *Recluzia* Petit, 1853, which, like *Janthina*, floats at the surface of the sea with a bubble raft (Laursen, 1953) but preys on the rare floating sea anemone *Minyas* (Abbott, 1968). *Recluzia* is known rarely from Texas and Florida (Abbott, 1963, 1974, Boone, 1984), occurring in March to May at the same Mustang Island. The Epitoniidae and Janthinidae are fairly closely related (Robertson, 1997), the different shells notwithstanding. *Alexania* and *Recluzia* are brown transitional shell forms. The anatomy, like the ptenoglossate radula, is also similar (Thiele, 1928; Pilsbry, 1945). *Alexania* matures sexually (Fig. 1), and thus presumably is not juvenile *Recluzia*.

An *Alexania* shell is rather characterless and resembles those of various other globose, thin, and unsculptured marine and fresh-water gastropods. It was believed that *Alexania* would be easier to find and recognize if the Texas specimen were photographed and described in detail, and if the habitat were also described. These things are done here.

Methods: the shell was studied with a Wild dissecting microscope at magnifications of X25 and X50; it was photographed with a Pentax single lens reflex camera with three sets of extension tubes, an electronic flash held close, and Kodak Tmax 100 film, at f 22.

Description (Fig. 2). Shell nearly globose, low-spired (Note 1), with evenly inflated whorls, thin, fragile, and with an acuminate (or mucronate?) protoconch. *Protoconch* with *Epitonium*- or *Janthina*-like microsculpture (Note 2), translucent or transparent, demarcated by varix. *Teleoconch* nearly smooth and shiny, with faint axial growth lines intermittently more pronounced (Note 3), and faint spiral threads; suture narrowly canaliculate. Aperture swollenly pyriform, with a slight poste-

rior angle; outer lip thin, showing flaky periostracum (Note 4); basal lip and columella confluent with base; outer lip not flared, in side view slightly prosocline; columella lip narrow, its apertural profile slightly sinuous but no fold; slight umbilical chink present. *Color pattern:* protoconch whitish tan, with pale brown varix, and dark orange brown suture; early teleoconch uniformly brown, except near suture, where it grades into whitish tan; last whorl pale tan below suture and on inner base, grading into broad spiral band, darkest brown on lower outer base and low on shoulder.

Length: 2.65 mm
Width: 2.08 mm
Aperture length: 1.71 mm
Aperture width: 1.26 mm
Immersed protoconch length: 0.24 mm
Protoconch whorl no.: ca. 2.4
Teleoconch whorl no.: 2.7

Notes: 1. Low-spired for an epitoniid. 2. Illustrated by Robertson (1971, 1983b), just visible at X50. 3. These intermittent growth lines, possibly grown with a tidal or diurnal cycle (Robertson, 1983a), correspond to the ribs (costae) of *Epitonium*. 4. Andrews (1971) figured a flaky periostracum in *Recluzia*.

The Texas shell, far the smallest *Alexania* I have seen, is presently best identified as *Alexania floridana* (Pilsbry, 1945). It matches the holotype and 24 nontopotypic paratypes of *Stenacme floridanum* (ANSP 180988, 181079, 220257) except that all the Floridian shells lack clearcut spiral brown bands. These could be a juvenile feature, but the large South African and Indian shells are variably banded. The Japanese shells (except *Habea callizona* Habe, 1961) are like the Floridian ones: nearly uniform brown. Thus banding may be unimportant as a taxonomic character. As the name suggests, *Alexania floridana* is Floridian. In May, 1960, I looked in vain for the habitat of *A. floridana* at its type locality ("opposite the inlet known as Baker's Haulover, at the upper end of Biscayne Bay," Miami). The area had already been destroyed by a housing development. The species may still occur at Lake Worth, southeast Florida. It is not known elsewhere in Florida. *A. floridana* is, however, also reliably known from Cuba (Espinosa & Fernández Garcés, 1989), Bimini, Bahamas (USNM 462998; Robertson & Worsfold., in prep.), and, curiously, the Panama Canal (Miraflores and Gatun locks), i.e. near both the Pacific and Caribbean coasts (Rosewater, 1975, 1976). The animals there were subjected to a salinity as low as 5.7% and submergence to 21-24 m. An unidentified *Alexania*

was also reported by Rosewater (1976) from the Gulf of California, Sonora, Mexico (the collector was M.J. Goldsmith). As was pointed out to me by G. Rosenberg, Sunderland's (1989) photo of *"Alexania floridana"* from Jamaica (35 feet) is of *Fossaria cubensis* (Pfeiffer, 1839)(Lymnaeidae; freshwater). *Alexania* is now definitely known from the Indo-Pacific (including *"Problitora"* in southeastern Australia?), the eastern Pacific, and very few places in the western Atlantic.

There possibly is but a single, circumglobal species of *Alexania*, the oldest name for which is *Alexania natalensis* (Tomlin, 1926; type locality "Umbogintwini," 12 mi. Southwest of Durban, Natal, South Afiica). An unidentified one was studied by Robertson (in Robertson & Habe, 1965) in southern India. *Alexania inazawai* and *Habea callizona* Habe are probably color forms of one species; they occur in southern Japan (S. Honshu, Shikoku, and N. Kyushu). Presumably all janthinids and certain species of epitoniids (Robertson, 1994) are also-circumglobal. The habitat in India was intertidal, sand-scoured beachrock with cracks and crevices in which were lodged many small, unidentified, mainly greenish sea anemones (not *Aiptasiomorpha*). The alexanias and some true epitoniums were associated with and fed on these. Commonly, the *Epitonium*-like *Alexania* sand-agglutinated egg capsules were more conspicuous than the snails in the field. These occurred mainly in pairs of small and large individuals (presumably in the male and female phases).

Alexania, like *Janthina* and *Recluzia* may be seasonal. Rosewater's (1985) Panama alexanias were collected in March. My observations in India were made from mid-January to mid-February. In Japan, *Alexania* spawned in June (Habe, 1943). Postlarval *Alexania* may, like *Janthina* be broadly vernal in its occurrence (Wilson & Wilson, 1956; Bayer, 1963), with the teleplanic veligers probably in the plankton for most of the year, and the postlarvae growing, spawning and dying in quick succession. The first Texas shell was beach-collected in late September; it could have been on the beach for some months.

I suggest that during some springtime low tide a collector at Mustang Island look closely in the intertidal (sand-scoured?) rock jetties for sea anemones with which alexanias might be living. Look closely for sand-agglutinated egg capsules! Diligence may be needed, for the animals may be short-lived.

I thank Dr. Gary Rosenberg for bringing to my attention two references, and Dr. John B. Wise and Connie Boone for editorial help and one more reference.

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NOTE ADDED IN PRESS: Colman (1986) reported that a *Recluzia* in Australia has dwarf males that cling to the female's bubble float. The date of collection was not recorded but may be on the specimen label. Do Southern Hemisphere ptenoglossans occur there in the (southern) spring?

Colman, P. , Observations on *Recluzia*. Australian Shell News, no. 53, 5 figs.

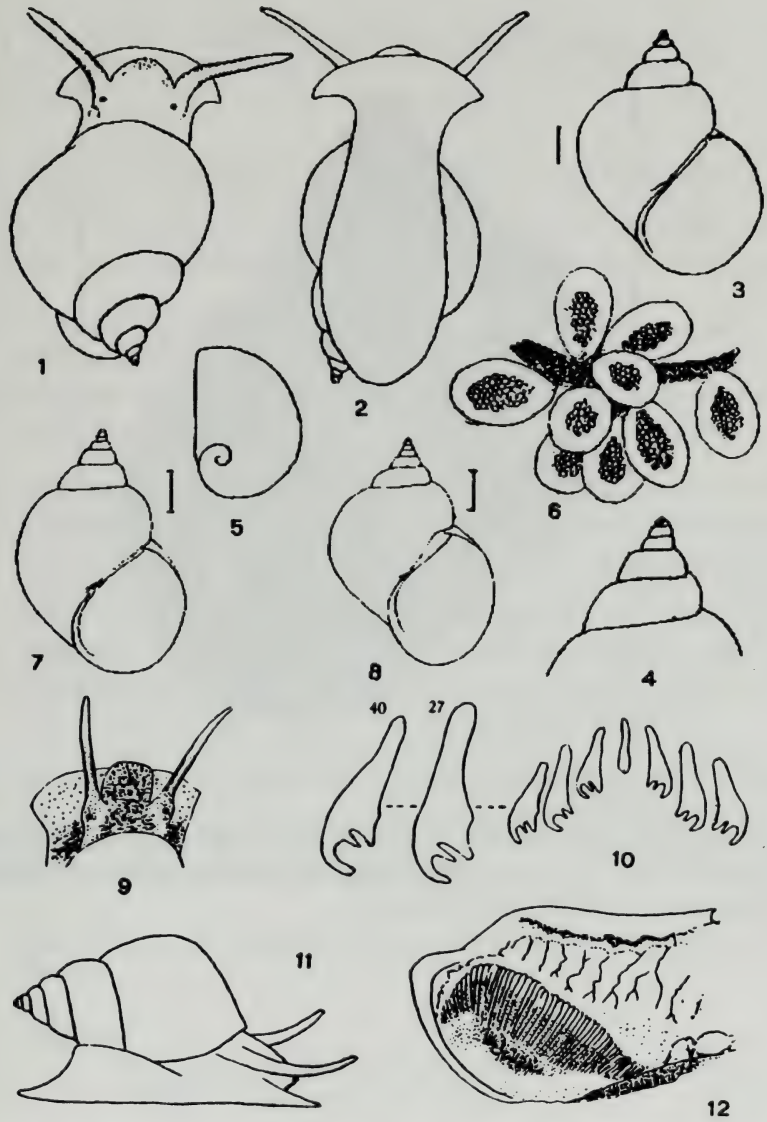

Fig. 1. *Alexania floridana* (Pilsbry, 1945). Copy of original illustrations of *"Stenacme" floridana* (from Pilsbry, 1945).Explanation of Plate 5 Figs. 1-5, 10 are from type specimen, Biscayne Bay. Figs. 6-9, 11, 12 are from Lake Worth, near the south inlet. 1,2, outlines of living animal; 3, shell of type; 4, early whorls of same, more enlarged; 5, operculum; 6, group of egg capsules; 7, 8, extremes of shape of shell; 9, head; 10, group from middle of radula, with 27th and 40th lateral teeth; 11, living animal; 12, palial organs as seen through the mantle. Scale lines for figs. 3, 7, 8 =1 mm. From Nautilus Vol. 58 (4) p. 116.

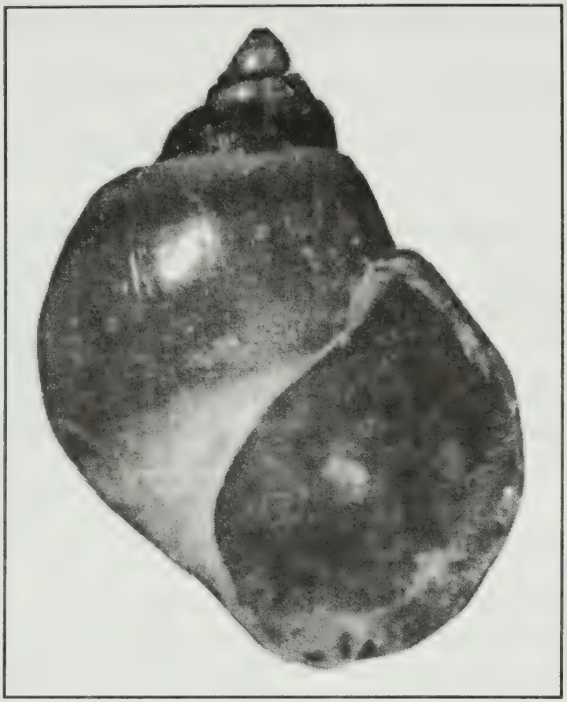

Fig. 2. Shell of an immature or small male *Alexania floridana* (Pilsbry, 1945)(2.7 mm long) from Mustang Island, Texas. Collected by Roe Davenport, Jr. Photo by R. Robertson.

THIRTY-YEAR-OLD BEACH SAMPLE

By H. Odé

A beachdrift sample from South Padre Id., Texas,by the late W. Sutow in August, 1966, was recently given me by Mrs. Mary Sutow. Picking it under the microscope yielded an unusual amount of micromollusks as well as notable numbers of some scarce species on the Texas coast.

The exact location is unknown, but it probably was collected at either the Gulf beach near the jetty or on the drift line along the ship channel near the Coast Guard Station, both areas which produce good drift even today. This report has been edited by Editor C. Boone.

Odé notes a total of over 200 different species, most minute or micro, some represented by valves only or tiny juvenile pairs which may have been live when collected. He remarks that only three small plates of chiton species appeared and no buccinids were found. Some bay species appeared along with rarer offshore material. Nine species of epitoniids, and thirty plus species of pyramidellids were sorted. Some of the latter were not well preserved and crumbled, including what appeared to be *Ebala resticula* and *Rissopetia hummelincki*.

Most of the material has been deposited and cataloged in the Malacology Collections of the Houston Museum of Natural Science. It would be a challenge for collectors today to match the list of species from one sample from one area from South Padre.

The following list presents the species under an alphabetical list by families:

Aclididae

Aclis underwoodae (Bartsch,1947)	2
Henrya goldmani Bartsch, 1947	32

Acteonidae

Rictaxis punctostriatus (C.B.Adams, 1840)	42

Architectonicidae

Heliacus bisulcatus (d'Orbigny, 1842)	2

Arcidae	
Barbatia domingensis (Lamarck, 1814)	2 valves
Anadara chemnitzi (Phillippi, 1851)	31 juv. valve
Anadara transversa (Say, 1822)	3prs., valves
*Noetia ponderosa (Say,*1822)	1 pr.
Bullidae	
Bulla striata Bruguiere, 1792	29
Caecidae	
Elephantulum cooperi (Smith, 1868)	3
Meioceras nitidum (Stimpson, 1851)	11
Bochina johnsoni (Winkley, 1908)	2
Caecum textile deFolin, 1870	2
Calyptraeidae	
Crepidula plana Say, 1822	7
Crepidula convexa Say, 1822	160
Cardiidae	
Laevicardium mortoni (Conrad, 1830)	6
Trachycardium muricatum (Linnaeus, 1758)	11 valves
Cerithidae	
Finella dubia (d'Orbigny, 1842)	3
Alaba incerta (d'Orbigny, 1842)	22
Cerithium lutosum Menke, 1823	81
Cerithiopsidae	
Cerithiopsis fusiformis (C.B. Adams, 1845)	4
Cerithiopsis emersoni (C.B.Adams, 1830)	1
Chamidae	
Arcinella cornuta Conrad, 1866	valves
Chitonidae	
Chiton sp.	3 plates
Columbellidae	
Mitrella multilineata (Dall, 1889)	2
Mitrella lunata (Say, 1826)	99

Corbiculidae	
Polymesoda maritima (d'Orbigny, 1842)	8 valves
Corbulidae	
Varicorbula operculata (Philippi, 1848)	11 valves
Corbula caribaea d'Orbigny, 1842	23 valves
Crassitellidae	
Crassinella lunulata (Conrad, 1834)	7 valves
Dentalidae	
Dentalium eboreum Conrad, 1846	37
Epitoniidae	
Epitonium undeceimocostatum Mörch, 1874	4
Epitonium rupicola (Kurtz, 1866)	8
Epitonium angulatum (Say, 1830)	6
Epitonium sercifilum (Dall, 1889)	13
Epitonium humphreysi (Kiener, 1838)	19
Epitonium tollini Bartsch, 1938	8
Epitonium multistriatum (Say, 1826)	3
Epitonium foliaceicostum (d'Orbigny, 1842)	1
Depressiscala nautlae (Mörch,1874)	1
Eulimidae	
Eulimostraca subcarinata (d'Orbigny, 1842)	2
Eulimostoma hemphilli (Dail, 1884)	4
Melanella sp.	2
Strombiformis bifasciatus (d'Orbigny, 1842)	2
Melanella arcuata C. B Adams, 1850	7
Gadilidae	
Cadulus quadridentatus (Dall, 1881)	35
Hydrobidae	
Hydrobia sp. I	1
Hydrobia sp. 2	39
Hydrobia sp. 3	5
Hydrobia sp. 4	1
Hydrobia sp. 5	88
Kellidae	
Aligena texasiana Harry, 1969	20

Lasaeidae	
Lasaea sp.	1
Leptonidae	
Lepton lepidum (Say, 1826)	6
Littoridinidae	
Texadina barrette (Morrison, 1968)	92
Lucinidae	
Parvilucina multilineata (Tuomey and Holmes, 1857)	43 vals. 25 prs. juv.
Linga amiantus (Dall, 1901)	8 juv. valves
Lucina pectinata (Gmelin, 1791)	4 juv. valves
Mactridae	
Rangia flexuosa (Conrad, 1839)	1 juv. valve
Mactra fragilis Gmelin, 1791	1 juv. pair, 13 valves
Marginellidae	
Prunum apicinum Menke, 1828	4
Melampodidae	
Melampus bidentatus Say, 1822	23
Mesodesmatidae	
Ervilia concentrica (Holmes, 1860)	9 valves
Montacutidae	
Myselllla sp.	1 juv. valve
Mysella sp. 2	6
Mysella planulata (Stimpson, 1851)	2
Neacromya floridana (Dall,1889)	1
Mytilidae	
Crenella cf divaricata (d'Orbigny, 1845)	3 vals.
Musculus lateralis (Say, 1822)	1 juv. valve
Gregariella coralliophaga (Gmelin, 1791)	2 valves
Nassariidae	
Nassarius acutus (Say, 1822)	29

Naticidae	
Tectonatica pusilla (Say, 1822)	12
Nuculanidae	
Nuculana concentrica (Say, 1824)	22 valves
Nuculana unca (Gould, 1862)	36 valves
Nuculidae	
Nucula aegeensis Jeffreys, 1879	3
Olividae	
Olivella dealbata (Reeve, 1850)	60
Ovulidae	
Simnialena marferula Cate, 1973	3
Pectinidae	
Argopecten irradians amplicostatus Dall, 1898	7 juv. valves
Petricolidae	
Petricola lapicida (Gmelin, 1791)	1 juv. valve
Phasinellidae	
Tricolia affinis cruenta Robertson, 1958	20
Potamididae	
Cerithidea pliculosus (Menke, 1829)	79
Pteridae	
Pinctada imbricata Roding, 1798	1 valve
Pyramidellidae	
Odostomia laevigata (d'Orbigny, 1842)	1
Fargoa cf gaudens Corgan, 1967	2
Sayella sp. 1	2
Sayella sp. 2	1
Sayella sp. 3	14
Eulimastoma canaliculata (C.B.Adams, 1850)	4
Perstichia agria Dall, 1889	3
Ebala sp.	1
Boonea impressa (Say, 1821)	27
Boonea seminuda (C.B.Adams, 1834)	12
Odostomia engonia form teres Bush, 1885	2
Odostomia elegans d'Orbigny, 1842	4

Turbonilla aequalis (Say, 1827)		3
Turbonilla toyatani Henderson & Bartsch, 1914		4
Turbonilla sp.		*4*
Turbonilla peilei Dall and Bartsch, 1911		6
Turbonilla reticulata (C.B. Adams, 1850)		14
Odostomia sp.		55
Odostomia gibbosa Bush, 1909		7
Pyramidella orbiculata (Holmes, 1859)		3
Fargoa bushiana (Dall and Bartsch, 1906)		4
Odostomia weberi Morrison, 1965		6
Cyclostremella humilis Bush, 1897		25
Turbonilla sp.		2
Retusidae		
Volvulella persimilis (Mörch, 1875)		10
Rissoidae		
Schwartziella catsebyana (d'Orbigny, 1842)		4
Zebina browniana (d'Orbigny, 1842)		14
Scaphandridae		
Acteocina bidentata (d'Orbigny, 1841)		39
Semelidae		
Abra aequalis (Say, 1822)	many prs.	200
Skeneidae		
Cyclostremiscus pentagonus (Gabb, 1873)		43
Sportellidae		
Ensitellops protexta (Conrad, 1841)		4 valves
Tellinidae		
Strigilla pisiformis (Linnaeus, 1758)		1 valve
Strigilla mirabilis (Philippi, 1841)		1 valve
Macoma constricta (Bruguiere, 1792)		1 juv. pair
Macoma tenta (Say, 1822)	juv. prs.	& 50 valves
Trapeziidae		
Coralliophaga coralliophaga (Gmelin, 1791)		1 valve

Triphoridae	
Triphora nigrocincta (C.E. Adams, 1839)	6
Turridae	
Kurtziella atrostyla (Tryon, 1884)	6
Kurtziella sp.	6
Nannodiella melanitica (Bush, 1885)	20
Pyrgocythara plicosa (C.B. Adams, 1850)	3
Cryoturris cerinella (Dall, 1889)	103
Ungulinidae	
Phyctiderma semiaspera (Philippi, 1836)	1 valve
Diplodonta soror (C.B.Adams, 1852)	1 valve
Veneridae	
Chione grus (Holmes, 1858)	1 pr, valves
Chione clenchi Pulley, 1952	24 valves
Mercenaria campechiensis (Gmelin, 1791)	1 val.
Chione intapurpura (Conrad, 1849)	valves
Vitrinellidae	
Teinostoma parvicallum (Pilsbry & McGinty, 1945)	2
Circulus suppressus (Dall, 1889)	11
Anticlimax pilsbryi McGinty, 1945	3
Teinostoma sp.	1
Vitrinella floridana Pilsbry and McGinty, 1946	41
Teinostoma biscaynense Pilsbry & McGinty, 1945	21
Solariorbis infracarinatus Gabb, 1881	28
Teinostoma megastoma (C. B. Adams, 1850)	22
Vitrinella helicoidea (C. B. Adams, 1859)	1
Solariorbis blakei Rehder, 1944	7

1997 HAROLD W. HARRY AWARD WINNERS

Three graduate students from Texas institutions were awarded monetary gifts in May, 1997 by the Houston Conchology Society.

The first place award of $500.00 was given to Donald A. Yee of Texas Tech University of Lubbock, Texas, for his research to investigate patterns of diversity and habitat association of all species of land snails of Puerto Rico.

Yee is the student of Dr. Michael R. Willig of the Department of Biological Sciences and is working on his Master of Science degree in zoology. He hopes to finish this work by the end of 1998. He is originally from Eastpointe, Michigan where he received his Associates degree from Macomb Community College in 1994. His Bachelor's degree is in biological science. He plans to pursue his studies to securing a Ph.D. in some aspects of community, behavioral, and animal ecology.

A second award of $250.00 was given to Michelle McGrath, student of Dr. J. W. Tunnell, Jr. of Texas A&M University at Corpus Christi, Texas. McGrath's research has been on monitoring the range expansion of *Perna perna* along the Texas coast, a mussel that has invaded the Texas area in recent years.

Placement of articifical substrates along the coast enabled her to collect spatfall. She hopes to complete her work to obtain her Master's degree this fall. Michelle was one of our speakers last spring when we hosted three students from Corpus for a club meeting program. She hopes eventually to teach.

Another second award was made to John Beatty of Angelo State University at San Angelo, Texas. A student pursuing his Master's degree, Beatty is the student of Dr. Ned Strenth, Department of Biology. His research is on the examination of the transitional zone between *Rabdotus alternatus alternatus* and *Rabdotus alternatus hesperius* using allozyme electrophoresis. These are land snails found in Texas.

Beatty is a graduate assistant in the Department of Biology at Angelo State. He is a Texan and received his Bachelor's degree from that university in 1996 and is currently working toward his Master's degree in biology. He is the recipient of the Carr Scholarship award for 1994-1996 and has been on the dean's list his entire college career. With Dr.

Strenth, he presented a paper on the preliminary review of allozyme variation in the land snail, *Holospira pedroana* from Central Mexico at the 99th annual meeting of the Texas Academy of Science.

The research work from each of the three winners is presented in this issue of Texas Conchologist.

The Houston Conchology Society has announced plans to continue the Harold W. Harry award in 1998. We are very pleased to have an increased number of applications this year for the award. Due to two donations to the award fund, the club was able to give three awards in 1997. The basic amount allocated to this award offer is $500.00.

DIVERSITY AND HABITAT ASSOCIATIONS OF LAND SNAILS IN A SUBTROPICAL MONTANE RAINFOREST

DONALD A. YEE
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Land snails in the Luquillo Experimental Forest (LEF) of Puerto Rico are key components in nutrient cycling and decomposition. Quantifying their diversity and patterns of habitat association may generate insight into spatial variation in ecosystem function. This information also is important to understanding the long-term recovery of ecosystems from human and natural disturbance.

During the summer of 1997, land snail diversity and habitat associations will be assessed on a 16 ha grid. All snails will be located on accessible surfaces (i.e., soil, vegetation, rock, and litter) within a three meter radius of each of 160 points within this grid. Abundances of each species of snail will be recorded to determine their spatial distribution. Additionally, a mark-recapture procedure will be used to estimate population sizes for the two most common land snails, *Caracolus caracolla* and *Nenia tridens*. All individuals of these species will be marked with a unique number upon capture. After marking, snails will be released at the point of capture. On subsequent nights, previously marked snails, as well as newly marked individuals, will be recorded. The Lincoln-Peterson, Lincoln-Peterson Modified, and Schnable mark-

recapture estimators will be calculated for each species at each point to determine abundance.

To evaluate patterns of habitat association for snails, numerous taxonomic and structural habitat characteristics will be recorded at each sampling point. These attributes include the composition of surrounding vegetation, vertical structure of the vegetation, attributes of ground cover, and canopy openness. At each point, a 3 m PVC pole, located at each major compass heading 3 m from each sampling point, will be used to define vertical structure and diversity. At every 0.5 m on this pole, a small wooden dowel, 0.5 m in length, will be positioned perpendicularly. For each major compass heading at each height, the taxonomic identity of plants that the dowel touches will be recorded. Additionally, the relative amounts of rock, dead wood, vine, and litter cover will be quantified for each point. Finally, a measure of canopy openness (densiometer) will be recorded at each major compass headings, 3 m from the sampling point.

These data, in combination with density estimators, will be used to determine the relationship between habitat characteristics and snail abundance and diversity. An assessment of this relationship will be made by grouping the 160 points by historical disturbance events (i.e., logging and hurricanes) to evaluate the legacy of natural and anthropogenic disturbance on the population and community attributes of tropical snails.

MONITORING THE RANGE EXPANSION OF THE INTRODUCED BROWN MUSSEL, *PERNA PERNA* (LINNAEUS, 1758) ALONG THE TEXAS COAST AND INTO BAYS AND INLETS

MICHELLE MCGRATH
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Corpus Christi, TX, 78412

Perna perna, the non-indigenous brown mussel, was first observed February 1990 on the south jetties located at Port Aransas, Texas. To date there has been a gradual range expansion southward along the Texas Gulf coast as well as a slower northward expansion. A monitoring program has been initiated in an effort to survey *P. perna* expansion and determine effect of the distribution of *P. perna* on utility, navigational structures, and service lands. Other objectives include determining potential limiting factors and communicating with other agencies and universities on the status of *P. perna.* Research was initiated in June 1995 to monitor the dispersal of *P. perna* along the Texas Gulf coast, including adjacent bay systems. In this study, fourteen sites along the Texas Gulf coast were examined for *P. perna* presence to establish a current base range. Artificial substrates were placed in January 1996, in four areas along the Texas coast along areas of water passage with no existing hard substrates. These areas include Cedar Bayou, Pass Cavallo, San Bernard River, Brazos River, and one area with pre-existing hard substrates, Aransas Pass (control). These substrates consist of four different substrate "types" Including wood, tile, metal and plastic. Therefore, it is my intention to monitor these substrates to collect data which may be used to help manage this non-indigenous, introduced species.

AN EXAMINATION OF THE TRANSITION ZONE BETWEEN *RABDOTUS ALTERNATUS ALTERNATUS* AND *RABDOTUS ALTERNATUS HESPERIUS* (GASTROPODA: PULMONATA) USING ALLOZYME ELECTROPHORESIS

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Rabdotus alternatus is a wide spread land snail that is found in southern Texas and northern Mexico. Two subspecies are currently recognized as occurring in Texas. *Rabdotus alternatus alternatus,* which is characterized by a white shell with brown streaks, is found south on the coastal plains and the lower Rio Grande Valley northwest to eastern Val Verde County (Fullington & Pratt,1974). *Rabdotus alternatus hesperius,* with a predominantly white shell, is found from above Presidio downstream to Val Verde County, Fullington and Pratt (1974:15) proposed that the two subspecies intergrade in "a broad transition zone" in Val Verde County of southwest Texas. Pilsbry (1946:17) had earlier noted that Val Verde specimens appeared to be possible "intergrades." This study was undertaken to determine the nature of enzymatic variation among and between populations of *Rabdotus alternatus* from Val Verde County in comparison with populations from both the upper and lower Rio Grande Valley of Texas.

MATERIALS AND METHODS

Specimens of both subspecies from Brewster, Maverick, Starr, and Val Verde Counties have been collected, frozen in liquid nitrogen, and are currently in the frozen tissue holdings at Angelo State University. Electrophoretic analysis, using cellulose acetate electrophoresis (Hebert & Beaton 1993), will be conducted on tissue samples from as many of the collections as possible. Monies from the award will be used to defray the cost of chemicals involved with the electrophoretic analysis.

PROPOSED RESULTS

My current plans are to present the results of this project during the annual meeting of theTexas Academy of Science in 1998,

Also,if accepted,it is my intention to submit the results of this study to suitable scientific journal for publication.

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ANNOUNCEMENT: DR. HAROLD W. HARRY MEMORIAL AWARD, 1998.

The Houston Conchology Society has established the Dr. Harold W. Harry Memorial Award to support graduate research in malacology at both private and public Texas institutions. As funding permits, an annual stipend of $500.00 will be awarded to a full-time graduate student studying molluscan phylogeny, ecology, physiology, etc. The recipient may use these monies to help defray travel (e. g. meetings, field work, museum visits, etc.) and research expenditures, (e. g. supplies, electron microscope time, etc.)

Interested students must submit a completed application (available from the editor of Texas Conchologist) and a concise, one page proposal, outlining their research. All paperwork must be submitted by March 1, 1998. Announcement of winners will be made by May 15, 1998.

An application for 1998 is enclosed. Write or call the HCS President for more forms or information.

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NEW PUBLICATION POLICIES

The Texas Conchologist, publication of the Houston Conchology Society, Inc., introduces with this issue some policy and publication changes.

This journal began as a monthly meeting newsletter, evolved to a quarterly bulletin and lately has been published 1-3 times yearly.

Beginning with this issue, the editors plan two issues a year to present reearch or serious studies of mollusks from Texas and the Gulf of Mexico. Worldwide papers of local interest will also be considered. Travel reports are acceptable if they are concise and informative. New finds, preferably with photographs, are welcome. The journal will continue to present researched lists of families or genera helpful to malacologists. This publication is not copyrighted.

The editors are pleased in this issue to offer current studies by graduate students from Texas Institutions.

It is also with great pleasure that we present the *Alexania* report by Dr. Robert Robertson.

Dr. Robertson has long been an authority on epitoniids and was involved in the mystery of nomenclature of *Alexania*.

We thank our member Roe Davenport, Jr. for bringing this new find in Texas to our attention.

The Editors

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The Texas Conchologist is the official publication of the Houston Conchology Society, Inc., and is published occasionally at Houston, Texas. It is distributed as part of the dues to all its members.

The Society holds regular meetings the fourth Wednesday in each of the following months: August, September, October, January, February, March, April, and May. In November, the meeting is held the third Wednesday. An annual auction is held in place of the March or April Meeting

Meetings are held at Southside Place Club House, 3743 Garnet, Houston, Texas. Meetings begin at 8:00 p. m.

The Texas Conchologist is published October, and May. It is mailed postpaid to regular members in U.S. postal zones. Overseas members will be charged additional postage. Only one copy will be mailed to a family membership.

Dues extend from the beginning of the fiscal year of June 1 through May 31. However, the May issue of the Texas Conchologist each year is the second issue due on the regular dues year beginning June 1 of the previous year. Memberships will be accepted throughout the year but will receive issues of that fiscal year. Members receive meeting Newsletters and have all other privileges provided by the Society's by-laws.

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Indo-Pacific Taxa of Turbonilids, excluding those along the Americas.

by Dr. Helmer Odé

This is a third list of turbonillid taxa; a fourth list of these for Europe, the Mediterranean and West Africa has also been prepared. This list is more or less complete until about 1980. It includes all recent and fossil taxa I have been able to find. For each mentioned taxon a reference has been given except for a few where pertinent data were not available to me. Much more library work in worldwide libraries would be necesary to supply that information.

As before all species, which were originally reported as *Turbonilla* or another clearly turbonillid genus, are in this list. Also those reported as *Turbonilla*, which probably are not in that genus (*Cingulina*, *Ptycheulimella*), are listed, with the notation "not turbonillid". All names invented by A. Adams, many of which have never been used by later workers, can be found here. Also included are the few living species of circum Antarctic seas.

The reader will soon notice that the majority of names was invented by only a few workers: Nomura named many of the Japanese and Taiwanese species; Saurin those of Thailand; Melvill those of the Persian Gulf and Gulf of Oman; Sowerby, Bartsch and Turton those of South Africa; Laseron those of Australia and Laws those of New Zealand.

Although I have discovered several synonymies which so far escaped notice, no replacement names should be proposed. Until the true generic position of most species can be established on a more satisfactory basis than by shell characters, such arbitrary name changes often create extra taxonomic problems. There is no doubt that further work will considerably shorten the present list even though in the enormous expanse of the Indo-Pacific Ocean still other species await discovery.

Comments by the author reflect his views.

a-adamsiana Nomura, 1936, *Turbonilla (Turbonilla)*, no. 10, p. 61, figs. 66 a, b. Recent, Siogama Bay, Japan.

abbreviata Turton, 1932, *Turbonilla*, p. 100, pl. 22, fig. 728. Recent, Port Alfred, South Africa.

abercrombei Melvill, 1896, *Turbonilla*, p. 114, pl. 8, fig. 7. Recent, India and Gulf of Thailand.

abjunctus Laws, 1937 *Pyrgiscus* p. 176, pl. 34, fig. 3. Tertiary, (Awamoan),Gisborne district, New Zealand.

abseida Dall and Bartsch, 1906, *Turbonilla (Chemnitzia)*, p. 337, pl.21, fig. 4. Recent, Japan.

acer Laws, 1937, *Chemnitzia*, p. 68, pl. 14, fig. 3. Recent, off Otago Heads, New Zealand.

acicularis A. Adams, 1855, *Chemnitzia*, p. 181, no figure. Bohol, Philippines, at 60 fms. Also has been described the variety *similis* Laseron, 1951 (see there). A possible synonym, (some workers disagree) is *Turbonilla macleyana* Tenison Woods, 1877. See there.

aclis A. Adams, 1851, *Pyramidella*, p. 224. Recent, Philippines. See also Yen, 1942, p. 221, pl. 20, fig. 136 and Nomura, 1939, pl. 9, fig. 21, who places it in *Rissosyrnola*.

acosmia Dall and Bartsch, 1906, *Turbonilla* (*Chemnitzia*), p. 329, pl. 20, fig. 5. Mostly reported as Pliocene and Pleistocene fossil from Japan.

acosta Bartsch, 1929, *Turbonilla (Pyrgolampros)*, Vol. 10, p. 136, pl. 4, fig. 5. Russian seas near Vladivostok.

actophora Dall and Bartsch, 1906, *Turbonilla (Chemnitzia)*, p. 338, pl. 20, fig. 6. From Dunker collection, Japan. Pliocene and Recent, North Central Japan.

acutilirata Sowerby, 1892, *Turbonilla*, pl. 1, fig. 32. See *trachealis* Gould, 1861.

adaba Bartsch, 1915, *Turbonilla (Pselliogyra)*, p. 75, pl. 15, fig.5. Recent, Port Alfred, South Africa. Probably Pyrgulinid.

adamsi Clessin, 1902, *Turbonilla*, p. 257, pl. 41, fig. 1. Recent, Hong Kong. Not *Turbonilla adamsi* Cossman, 1912, a replacement name for *Chemnitzia pusilla* C. B. Adams, 1850 from Jamaica, nor *Turbonilla (Cingulina) adamsi* Yokoyama, 1920. (see next).

adamsi Yokoyama, 1920, *Turbonilla (Cingulina)*, p. 83, pl. 5, fig. 17. Pliocene-recent, Japan and Gulf of Thailand.
Probable synonyms: *Cingulina japonica* Clessin, 1900, p. 223, pl. 36, fig. 3 and *Cingulina inequicingulata* Nomura, 1938, p. 9, pl. 3, figs. 29 a, b. *Cingulina* is not turbonillid.

adelaidensis Ludbrook, 1957, *Turbonilla (Chemnitzia)*, p. 45, pl. 3, fig. 13. Pliocene, Adelaide, Australia.

adeps Laws, 1937, Pyrgiscilla, p. 174, pl. 34, fig. 8. Tertiary (Bortonian), New Zealand.

admira Nomura, 1937, *Turbonilla*, p. 67, pl. 14, figs. 79 a, b. Recent, Sagami Bay, Japan.

admirabilis Turton, 1932, *Turbonilla*, p. 98. Replacement name for

Elusa bifasciata Tenison Woods, 1876; not *Turbonilla bifasciata* A. Adams, 1861. See also *Chemnitzia fusca* A. Adams, 1855.

aemilia Thiele, 1925, *Turbonilla*, p. 323, pl. 17, fig. 26, 26a. Recent, Padang, Sumatra.

affinis Turton, 1932, *Turbonilla pellucida* var..., p. 98, pl. 21, fig. 719. See *pellucidus* Sowerby, 1897.

africana Tate, 1867, *Chemnitzia*, p. 153. Neocomian of South Africa. Newton, 1896 lists it as *Turbonilla*, but generic position unclear.

agatha Thiele, 1925, *Turbonilla (Pyrgiscus)*, p. 164, pl. 17, fig. 5. Indian Ocean, station 211. Described from a single specimen.

aglaia Bartsch, 1915, *Turbonilla (Cingulina)*, p. 83, pl. 17, fig. 3. Recent, Port Alfred, South Africa. Not turbonillid.

agrestis Laws, 1937, *Turbonilla*, p. 410, figs. 1, 1a. Not *Turbonilla (Pyrgiscus) agrestis* Aldrich, 1911, from the Eocene of Alabama. See also *paleogenica* Corgan, 1969.

ailhaudi Saurin, 1959, *Chemnitzia*, p. 262, pl. 6, fig. 23. Recent, Nhatrang, Viet Nam and Gulf of Thailand.

alacer Saurin, 1959, *Pyrgiscus*, p. 269, pl. 8, fig. 21. Recent, Nhatrang, Viet Nam.

alba Grabau and King, 1928, *Turbonilla garettiana* var... See *garrettiana* Dall and Bartsch, 1906.

albella A. Adams, 1861, *Turbonilla*, p. 298, no figure. Recent, Shantung, China at 4 fms.

albolapis Laws, 1937, *Pyrgolampros*, p. 168, p. 35, fig. 30. Tertiary (Awamoan), New Zealand.

alma Thiele, 1925, *Turbonilla*, p. 323, pl. 17, fig. 20, 20a. Recent, Sumatra, Indonesia.

alta Clessin, 1900, *Turbonilla*, p. 165, pl. 29, fig. 7. Recent, Nagasaki, Japan. See also Kuroda and Habe, 1952, p. 94.

amalia Thiele, 1925, *Turbonilla*, p. 324, pl. 17, fig. 27. Recent, off Padang, Sumatra.

amanda Thiele, 1925, *Chemnitzia*, p. 255, pl. 4, fig. 15. Recent, Nias off the west coast of Sumatra.

ambigua Saurin, 1961, *Chemnitzia*, p. 255, pl. 4, fig. 15. Recent, Gulf of Thailand (Thuan Yen). Only known from type locality. Not *Turbonilla ambigua* Weinkauf, 1868, which is a replacement name for *Rissoa gracilis* Philippi, 1844 (which is *Odostomia emaciata* Brusina, 1865); nor *Turbonilla ambigua* Deshayes, 1864, p. 571, pl. 21, figs. 20-21, from the Oligocene of the Paris Basin.

ambulatia Laseron, 1951, *Chemnitzia*, p. 322, fig. 93. Recent, Long Reef, Australia.

amicitia Nomura, 1936, *Turbonilla (Pyrgiscus)*, p. 79, pl. 8, fig. 58 a,b. See *mumia* A. Adams, 1861, p. 45, described as a *Chrysallida*, but which may be a *Turbonilla*.

angasi Tenison Woods, 1878, *Turbonilla*. Non vidi. See *mariae* Tenison Woods, 1876.

angea Bartsch, 1915, *Turbonilla (Pyrgolampros)*, p. 77, pl. 9, fig. 3. Recent, Port Alfred, South Africa.

angulifera Yokoyama, 1922, *Turbonilla (Careliopsis)*, p. 106, pl. 5, fig. 15. Pleistocene, Japan. Of doubtful pyramidellid affinity.

angustissima Melvill, 1904, *Turbonilla*, p. 55, pl. 5, fig. 13. Recent, Persian Gulf, Viet Nam. May be a *Nisiturris*, and possibly *Turbonilla gabrieli* Hedley, 1909, p. 449, pl. 42, fig. 74 from Hope Islands, Queensland is the same.

anna Thiele, 1925 *Turbonilla*, p. 159, pl. 16, figs. 8,8a. Recent from 98° 52.3'-O° 39.2' at 750 m.

annamitica Saurin, 1959, *Chemnitzia*, p. 262, pl. 7, fig. 16. Recent, from Nhatrang, Viet Nam.

antiqua Marshall, 1919, *Turbonilla*, p. 228, pl. 15, fig. 10. See *hampdenensis* Allan, 1927. [Not *antiqua* Sacco, 1892, *T. costellatoides var antiqua* from the Italian tertiaries, which is probably *T. scala* Eichwald, 1853].

aoteana Powell, 1930, *Chemnitzia*, p. 545, pl. 87, fig. 15. Recent, New Zealand.

aplini Brazier, 1877, *Turbonilla*, p. 258. Recent, New Guinea. According to Laseron, 1959, p. 218 is *Exesilla*.

approximata Dall and Bartsch, 1906, *Turbonilla (Chemnitzia)*, pl. 20, fig. 1. Recent, Japan. Possibly there are the following synonyms: *Turbonilla (Turbonilla) pseudoapproximata* Nomura, 1936, p. 55, pl. 7, figs. 51 a,b and 56a, b, Siogama Bay, Japan; *Turbonilla (Chemnitzia) subapproximata* Yoyokama, 1920, p. 83, pl. 5, fig. 16. Pliocene of Naganuma, Japan; *Turbonilla (Turbonilla) osyuensis* Nomura, 1936, p. 54, pl. 6, figs. 48 a,b. Recent, Siogama Bay, Japan.

apsa Bartsch, 1915, *Turbonilla (Pyrgiscus)*, p. 81, pl. 16, fig. 4. Recent, Port Alfred, South Africa.

arayai Nomura, 1936, *Turbonilla (Turbonilla)*, p. 74, pl. 12, figs. 102 a,b. Recent, Siogama Bay.

arcana Laws, 1937, *Turbonilla*, p. 413, pl. 32, fig.5. Tertiary (Bortonian) of New Zealand.

archeri Dall and Bartsch, 1904, *Turbonilla (Baldra)*, p. 15, no figure. Recent, Singapore. Type of *Baldra*, Dall and Bartsch, 1904.

arcuata Nomura, 1936, *Turbonilla (Turbonilla)*, p. 59, pl. 8, figs. 62 a,b. Recent, Siogama Bay. Based on a pathologically deformed

specimen sometimes found in Turbonillas.

argentea Sowerby, 1892, *Turbonilla*. Non vidi. See Turton, 1932, p. 94. Recent, South Africa.

arianae Hornung and Mermod, 1924, *Turbonilla*, p. 305, text fig. 22. Recent, Massaua, Red Sea at 30 m.

arrighii Saurin, 1959, *Chemnitzia*, p. 264, pl. 6, fig. 12. Recent, Nhatrang, Viet Nam. Described from a single specimen.

asmundina Saurin, 1959, *Pyrgiscilla*, pl. 9, fig. 12. Recent, Nhatrang, Viet Nam. Only known from type locality.

aspera Kuroda and Habe, 1971, *Paramomula* (with Oyama), p. 279, pl. 64, fig. 5. Recent, Sagami Bay, Japan, at 200 m.

asperodolata Laws, 1940, *Turbonilla*, p. 442, fig. 23. Miocene (Waitotaran) of New Zealand.

asperulata A. Adams, 1860, *Dunkeria*, p. 119, no figure. Not pyramidellid, but *Clathrofenella*.

atossa Bartsch, 1915, *Turbonilla (Pyrgiscus)*, p. 78, pl. 15, fig. 1. Recent, South Africa.

aulica Dall and Bartsch, 1906, *Turbonilla (Mormula)*, p. 345. pl. 22, fig. 7. Replacement name for *Turbonilla varicosa* Dunker, 1860 [not *Turbonilla varicosa* Doderlein, 1862]. Recent, Nagasaki, Japan, and throughout the tropical Pacific. There are several synonyms (see Cernohorsky, 1972): *Turbonilla vitiensis clavus* Pilsbry, 1918, p. 317, pl. 22, fig. 3. Recent, Fidji Islands; *Turbonilla elongata* Pease, 1867, p, 293, pl. 24, fig. 22, type of *Lancea* Pease, 1868 and *Lancella* Dall and Bartsch, 1906, preoccupied by *Chemnitzia elongata* Philippi, 1844 (non vidi) and was named *Turbonilla peasei* Dall and Bartsch, 1906, p. 347; *Mormula excellens* Sowerby, 1907, p. 302, pl. 25, fig. 10, New Caledonia; *Chemnitzia cumingii* Carpenter, 1856, p. 170. Recent "China seas"; *Turbonilla (Pyrgiscus) miyagiensis* Nomura, 1936, p. 86, pl. 11, figs. 85 a,b. Recent, Siogama Bay, Japan; *Turbonilla tokunagai* Yokoyama, 1920, p. 84, pl. 5, fig. 8. Pleistocene, Japan.

aureocincta Kuroda and Habe, 1971, *Mormula* (with Oyama), p. 278, pl. 114, fig. 10. Recent, Sagami Bay. Indistinguishable from figure of *C. flavocincta* C. B.Adams, 1850 from Jamaica given by Clench and Turner, 1950, p. 281.

auricolor Nomura, 1936, *Turbonilla (Pyrgiscus)*, p. 88, pl. 6, figs. 44 a,b, Siogama Bay, Japan.

australis Laseron, 1959, *Egila*, p. 223, figs. 111, 112. Recent, northern Australia. Doubtfully referred to *Egila* and in my opinion turbonillid (*Asmunda*?).

awakinoensis Laws, 1937, *Mormula*, p. 177, pl. 35, fig. 29. Tertiary (Hutchinsonian), New Zealand.

awamoaensis Marshall and Murdoch, 1921, *Turbonilla*, p. 84, pl. 19, fig. 6. Tertiary (Awamoan), New Zealand. Not pyramidellid but *Notacirsa [Epitoniidae]*.

awamoana Laws, 1937, *Turbonilla*, p. 411, pl. 32, fig. 3. Tertiary (Awamoan), New Zealand.

awana Nomura, 1938, *Turbonilla ss.*, p. 87, pl. 15, figs. 132 a,b. Pleistocene of Tiba prefecture, Japan.

awasimulans Laws, 1937, *Turbonilla*, p. 415, pl. 32, fig. 11. Tertiary (Awamoan), New Zealand.

axivarians Laws, 1937, *Chemnitzia zelandica...*, p. 61. See zealandica Hutton, 1873.

badia Pilsbry, 1905, *Turbonilla hiradoensis var...*, p. 30. See *hiradoensis* Pilsbry, 1905.

barrierensis Laws, 1937, *Chemnitzia*, p. 61, figs. 11 and pl. 14, fig. 29. Recent, New Zealand.

barthelemyi Saurin, 1958, *Turbonilla (Turbonilla)*, p. 79, pl. 4, figs. 2,3. Recent, South Viet Nam. Described from a single specimen.

basicincta Saurin, 1959, *Pyrgiscilla*, p. 273, pl. 9, fig. 7. Recent, Viet Nam and Gulf of Thailand.

basicordata Nomura, 1936, *Turbonilla (Turbonilla)*, p. 75, pl. 7, figs. 52 a,b. Recent, Siogama Bay, Japan. This could be an *Asmunda*.

basilica Melvill, 1898, *Turbonilla*, p. 22, pl. 1, fig. 9. Recent, Persian Gulf.

bathybius Barnard, 1963, *Turbonilla*, p. 89 and figure in Barnard, 1969, p. 649. Recent, off East London, South Africa.

batyraphe Sowerby, 1901, *Turbonilla*, p. 213, pl. 22, fig. 18. Recent, South Africa. Probably a *Tragula*, which is in my opinion a pyrgulinid.

baumanni Cox, 1927, *Strioturbonilla*, p. 20, pl. 10, fig. 9. Miocene of Pemba Island, Zanzibar.

becki Turton, 1932, *Turbonilla*, p. 97, pl. 21, fig 705. Recent, Port Alfred, South Africa. Described from a single specimen.

beddomei Petterd, 1884, *Chemnitzia*, p. 136, no figure. See *tasmanica* Tenison Woods,1875.

bella Dall and Bartsch, 1906, *Turbonilla (Lancella)*, p. 346, pl. 22, fig. 6. See *cornelliana* Newcomb, 1870.

belonis Melvill and Standen, 1896, *Turbonilla*, p. 303. Recent, Japan and Pacific Islands. Type of *Amamimormula* Kuroda, 1928. A possible synonym is *Amamimormula torresiana* Laseron, 1959, p. 245, figs. 192, 193 from Murray Island, Australia.

belsantii Saurin, 1959, *Asmunda*, p. 266, pl. 8, fig. 3. Recent, Nhatrang, Viet Nam. Described from a single specimen.

bertha Thiele, 1925, *Turbonilla*, p. 160, pl. 16, fig. 11. Recent. This could be a *Waikura*.

bexleyana Laws, 1937, *Turbonilla*, p. 422, pl. 33, fig. 18. Tertiary (Hutchinsonian), New Zealand.

bicarinata Carpenter, 1856, *Chemnitzia*, p. 170. Recent, Mindanao, Philippines. Only cited by others, never reported found.

bicincta A. Adams, 1860, *Turbonilla*, p. 419, no figure. Recent, Japan.

bifasciata Tenison Woods, 1877, *Elusa*, p. 150, no figure. Recent, Tasmania. See *fusca* A. Adams, 1855. This is not *bifasciata* A. Adams, 1861.

bifasciata A. Adams, 1861, *Turbonilla*, p. 298. Recent, Hula Shan Bay, China. Some authors incorrectly synonymize this with *Chemnitzia fusca* A. Adams, 1860. See also Cooke, 1885.

bifilosa Barnard, 1963, *Turbonilla* (?), p. 90, text figure 15 a. Recent, at 34° 5' S, 25° 55' E, at 67 fms.; described from a single incomplete specimen.

birestis Laseron, 1959, *Pyrgiscilla*, p. 241, fig. 178. Recent, Endeavour Reef, Australia.

bisculpta Nomura, 1937, *Turbonilla*, p. 27, figs. 30 a, b. Recent, Siogama Bay, Japan.

bittiformis Carpenter, 1856, *Chemnitzia*, p. 171, no figure, Recent, Mindanao, Philippines. Apparently never reported found, but only listed by others.

blanda Finlay, 1924, *Turbonilla* (*Pyrgolampros*), p. 522, fig.4. Recent, Otago, New Zealand. Doubtful affinity (*Aclis*?).

boholensis A. Adams, 1855, *Chemnitzia*, p. 180, no figure. Recent, Bohol, Philippines.

bona Nomura, 1937, *Turbonilla* (*Pyrgiscus*), p. 71, pl. 14, figs. 80 a, b. Recent, Sagami Bay, Japan. Described from a single specimen.

bonellii Saurin, 1959, *Chemnitzia*, p. 263, pl. 7, fig. 9. Recent Nhatrang, Viet Nam and Gulf of Thailand. Not *Turbonilla* (*Pyrgiscus*) *bonellii* Pavia, 1975, p. 162, pl. 11, figs. 24 and 27. Introduced as replacement name for *Pyrgostelis columnaris* Bonelli (from the Lower Pliocene of Italy) which is not *Pyrgolydium columnaris* Bonelli as reported by Harmer, 1920.

boninensis Nomura, 1939, *Turbonilla* (*Pyrgiscus*), p. 141, pl. 9, fig. 4. Recent, Titizima, Japan.

bosihoensis Nomura, 1935, *Turbonilla* (*Turbonilla*), p. 224, pl. 10, figs. 37a, b. Pliocene of Taiwan.

bowenensis Laseron, 1959, *Turbonilla*, p. 233, figs. 142, 143. Recent, Bowen, Australia. A possible synonym is *Turbonilla ninona* Laseron, 1959, p. 223, fig. 143, from the Albany Passage, Australia.

brevis Nomura, 1936, *Turbonilla*, p. 85, pl. 9, figs. 67a, b. Post-Pleistocene to Recent in Siogama Bay, Japan. Preoccupied by *Turbonilla brevis* Seguenza, 1880, p. 265, no figure. Astien of southern Italy, with a "variety" *obsoleta* Seguenza. Even older is *Turbonilla brevis* Reuss, 1867, p. 157, pl. 7, fig. 9 from the Miocene of Poland which may be pyrgulinid (? *pygmaea* Grateloup, 1838). There also exists *Turbonilla humboldti brevis* Requien, 1848 from Corsica, which is an *Actaeopyramis* and *Turbonilla* (*Pyrgisculus*). *Scalaris brevis* Cerulli Irelli, 1914, p. 276, figs. 65a, b and 66.

brevisutura Laws, 1937, *Chemnitzia*, p. 68, pl. 14, fig. 35. Tertiary (Hutchinsonian and Awamoan) of New Zealand.

brunneomaculata Melvill, 1897, *Elusa*, p. 13, pl. 6, fig. 5. Recent, Persian Gulf, Gulf of Oman, Karachi. This may be the same as *Elusa rüppelli* Jickeli, 1882 from the Red Sea.

bucknilli Laws, 1937, *Chemnitzia*, p. 56, pl. 13, figs. 14 and 34. Recent, Tauranga, New Zealand.

byorituana Nomura, 1935, *Turbonilla s.s.*, p. 224, pl. 10, figs. 36a, b. Pliocene of Taiwan.

caelata A. Adams, 1864, *Parthenia*, p. 4, no figure. Recent, Japan. In my opinion not turbonillid, but Dall and Bartsch, 1906 placed it in *Babella* which they considered a subgenus of *Turbonilla*. In that case it was preoccupied by *caelata* Gould, 1861 and thus the name was changed to *caelatior* Dall and Bartsch, 1906.

caelata Gould, 1861, *Turbonilla*, p. 406, no figure. Recent, Hong Kong, China.

caelatior Dall and Bartsch, 1906, *Turbonilla* (*Babella*), p. 347, pl. 17, fig. 9 ex Dunker collection (Berlin Museum). Recent, Japan. See also *caelata* A. Adams, 1864.

callista Bartsch, 1915, *Turbonilla* (*Cingulina*), p. 83, pl. 17, fig. 2. Recent, Port Alfred, South Africa. *Cingulina* is not turbonillid.

campbellica Odhner, 1924, *Turbonilla*, p. 33, pl. 1, fig. 23. Recent, Campbell Island, New Zealand.

cancellata Turton, 1932, *Turbonilla*, p. 99, pl. 21, fig. 724. Recent South Africa. Not *Chemnitzia cancellata* Orbigny, 1842, atlas, pl. 17, figs. 1-3 (1853), recent, Cuba, possibly an *Odostomia*; nor *Dunkeria cancellata* Carpenter, 1857, p. 435, Mexico (Pacific), nor *Turbonilla cancellata* Holmes, 1860, p. 85, South Carolina.

candida A. Adams, 1855, *Chemnitzia*, p. 181, no figure. Recent, Philippines, South Africa, Gulf of Suez, Karachi. There is a synonym: *Turbonilla* (*Chemnitzia*) *kraussi* Clessin, 1900, p. 135, pl. 16, fig. 6, replacement name for *Turbonilla lactea* Krauss, 1848, non Linné, 1758. Not *Dunkeria candida* A. Adams, 1861, p. 301, no figure, replaced by *Turbonilla* (*Pyrgisculus*) *candidissima* Dall and Bartsch, 1906; nor *Turbonilla candida* de Folin, 1870, p. 207, pl. 28, fig. 13, from Senegal, West Africa. Melvill reported this species from the Persian Gulf (extremely doubtful in my opinion).

candida A. Adams, 1861, *Dunkeria*, p. 301. See *candida* A. Adams 1855 and *candidissima* Dall and Bartsch, 1906.

candidissima Dall and Bartsch, 1906, *Pyrgisculus*, p. 342, pl. 17, fig. 3.Pleistocene till recent, Nagasaki, Japan. Replacement name for *Dunkeria candida* A. Adams, 1861, p. 301, no figure.

cara Nomura, 1936, *Turbonilla*, p. 72, pl. 12, figs. 97a, b. Recent, Siogama Bay, Japan.

carifa Bartsch, 1915, *Turbonilla* (*Careliopsis*), p. 84, pl. 20, fig. 4. Recent, Port Alfred, South Africa. Not turbonillid.

cerina A. Adams, 1861, *Turbonilla*, p. 297, no figure. Recent, Gulf of Pe-Chili, China.

chabanesi de Folin; 18.., *Dunkeria*, p. 249, pl. 31, fig. 6. Recent, Noumea, New Caledonia.

charbarensis Melvill and Standen, 1901, *Turbonilla* (*Pyrgostelis*), p. 393, pl. 22, fig. 22. Recent, Charbar, Mekran Coast.

charezieuxi Saurin, 1959, *Chemnitzia*, p. 264, pl. 6, fig. 15. Recent, Nahtrang, Viet Nam. Described from a single specimen.

chattonensis Marwick, 1929, *Turbonilla* (*Strioturbonilla*), p. 920, figs. 52, 53, 57, 61. Tertiary of Chatton, New Zealand. Type of *Pyrgiscilla*.

cheverti Hedley, 1901, *Turbonilla*, p. 124, pl. 16, fig. 13. Replacement name for *Turbonilla eximia* Brazier, 1877, p. 258. Recent, New South Wales. Not *Turbonilla eximia* A. Adams, 1860, p. 418, no figure. Recent, Korea.

chilkaensis Preston, 1915, *Chrysallida* (*Mormula*) *humilis var...*, p. 295, figs. 6, 6a. See *humilis* Preston, 1906.

chinensis Clessin, 1900, *Turbonilla*, p. 170, pl. 35, fig. 2. Recent, Makao; reported with wrong gender as "*chinense*".

chitaniana Yokoyama, 1926 *Turbonilla* (*Mormula*), p. 384, pl. 44, fig. 7. Made type of *Mormurella* Nomura, 1939. Is not turbonillid but a synonym is *Plioacirsa martensi* de Boury, 1936(?). (*Epitoniidae*).

chrysostoma "Mart" Couturier, 1907, *Turbonilla*, p. 168. Error for

chrysozona von Martens, 1880. See there.

chrysozona von Martens, 1880, *Chemnitzia*, p. 301, pl. 20, fig. 21. Recent, Mauritius and Madagascar.

chuttina Saurin, 1959, *Asmunda*, p. 266, pl. 8, fig. 11. Recent, Nhatrang, Viet Nam. Described from a single specimen.

cifara Bartsch, 1915, *Turbonilla* (*Mormula*), p. 84, pl. 16, fig. 5. Recent, Port Alfred, South Africa.

cincta A. Adams, 1860, *Turbonilla*, p. 419, no figure. Recent, Mino Sima at 60 fms. Japan.

cingulata Dunker, 1860, *Turbonilla*, p. 239, no figure. Recent, Nagasaki, Japan. Not turbonillid, but is *Cingulina*. A synonym is *Turbonilla* (*Cingulina*) *laticingula* Dall and Bartsch, 1906, p. 344, pl. 21, fig. 3. Recent, Japan.

circumdata Gould, 1861, *Chemnitzia*, p. 407, no figure. Recent, Sydney, Australia. *Cingulina* is not turbonillid. A synonym is *Cingulina circinata* A. Adams, 1860 (p. 414). Recent, Japan. Subsequent authors have split the species in a number of others f. i. *Cingulina brazieri* Angas, 1877. p. 35, pl. 5, fig. 5 and *Terebra hedleyi* Tate, 1901, p. 214, incorrect replacement name for *Cingulina brazieri* Angas;Smith (1904) corrected the error.

circumdata Laws, 1941, *Waikura*, p. 15, pl. 1, fig. 5. Tertiary (Awamoan), New Zealand. Not *circumdata* Gould, 1861.

clara Thiele, 1925, *Turbonilla*, p. 158, pl. 16, figs. 6, 6a. Recent from station 251. Not *Asmunda clara* Saurin, 1959.

clara Saurin, 1959, *Asmunda*, p. 266, pl. 8, fig. 7. Recent, Nhatrang, Viet Nam. Described from a single specimen. Not *Turbonilla clara* Thiele, 1925.

clavus Pilsbry, 1918, *Turbonilla vitiensis*... p. 317, pl. 22, fig. 3. See *aulica* Dall and Bartsch, 1906.

cleo Thiele, 1925, *Turbonilla*, p. 162, pl. 16, figs. 20, 20a. Recent, from station 191, near the island of Siberut (off Sumatra).

clessiniana Nomura, 1938, *Turbonilla s.s.*, p. 56, pl. 10, figs. 80a, b. Recent, Kamakura, Japan.

clifdenica Laws, 1937, *Turbonilla*, p. 416, pl. 33, fig. 20. Tertiary, Clifden, New Zealand.

clivosa Marwick, 1931, *Waikura*, p. 109, fig. 211. Tertiary (Hutchinsonian), New Zealand.

coelata Dunker, *Chemnitzia*; cited by Clessin, 1900, p. 162, pl. 27, fig. 3 (*Bartschella*?) for Dunker 1882, Index Moll. Jap. 84. That publication does not mention that species. In all probability Gould's species was intended. *(caelata).*

coeni Preston, 1905, *Turbonilla*, p. 7, pl. 2, fig. 31. Recent, Kandakulli, Ceylon.

colpodes Melvill, 1910, *Turbonilla*, p. 183, pl. 5, fig. 14. Recent, Persian Gulf at Mussandam.

columna Turton, 1932, *Turbonilla*, p. 93, pl. 20, fig. 680. Recent, Port Alfred, South Africa.

comacum Melvill, 1910, *Pyrgulina*, p. 198, pl. 6, fig. 3. Recent, Gulf of Oman. Probably a *Waikura*.

comitas Laws, 1937, *Turbonilla*, p. 412, pl. 32, fig. 4. Tertiary (Awamoan), New Zealand.

commoda A. Adams, 1860, *Turbonilla*, p. 419, no figure. Recent, Tsu-sima, Japan.

compta A. Adams, 1861, *Turbonilla*, p. 298, no figure. Recent, Hula-Shan Bay, China at 4 fms. [Not *Turbonilla compta* Deshayes, 1864 from the Eocene at Verneuil, France, p. 565, Atlas, pl. 23, figs. 26 and 27].

concinna A. Adams, 1855, *Chemnitzia*, p. 181, no figure. Recent, Bohol, Philippines. [Not *Turbonilla concinna* Pantanelli, 1884, from the Pliocene of Italy].

confusa Brazier, 1877, *Turbonilla*, p. 258; figure in Laseron, 1959, p. 258, fig. 166. Recent, Torres Strait, N.E. Australia to Queensland. A synonym is *Odostomia* (*Turbonilla*) *rhabdoides* Watson, 1886, p. 492, pl. 32, fig. 5. West of Cape York, N.E. Australia.

conica Laseron, 1959, *Turbonilla*, p. 235, figs. 148-149. Recent, Endeavor Reef, Australia. [Not *Turbonilla conica* Briart and Cornet. 1873, p. 16, figs 12a, c, from the Paleocene of Belgium, which possibly is a *Pachysyrnola*; nor *Turbonilla conica* Szöts, 1953, p. 175, pl.4, fig. 41, from the Eocene of Hungary; nor *Turbonilla* (*Pyrgolydium*) *internodula* var. *conica* Harmer, 1920, p. 574, pl. 49, figs. 37,38 from the tertiaries of Great Britain.

cornicera Laseron, 1959, *Exesilla*, p. 216, fig. 93. Recent, Albany Passage, North Australia.

consanguinea Smith, 1891, *Odostomia* (*Turbonilla*), p. 441, pl. 35, fig. 17. Recent, off Sydney, Australia. There is some doubt about this species because other material got mixed with the sample.

constricta Smith, 1891, *Odostomia* (*Turbonilla*), p. 441, pl. 35, fig. 18. Recent, in 410 fms. off Sydney, Australia. There is some doubt about this species because other material got mixed in with the sample [not *Turbonilla constricta* Chapman and Crispin, 1928,

nor *Turbonilla incisa constricta* Bush, 1899, p. 57 from the Western Atlantic].

constricta Chapman and Crispin, 1928, *Turbonilla*, p. 109, pl. 7, fig. 36. Tertiary fossil from a well bore in Victoria.

contracta Nomura, 1938, *Turbonilla s.s.*, p. 115, pl. 22 (9), fig. 6. Pliocene of Taiwan. [Not *Elusa contracta* Saurin, 1959, p. 233, pl. 2, fig. 16. See there.

contracta Saurin, 1959, *Elusa*, p. 233, pl.2, fig. 16. Recent, Nhatrang, Viet Nam. Described from a single speciman. Possibly not turbonillid.

convexiuscula Solikov, 1967, *Turbonilla* (*Strioturbonilla*). Non vidi. Recent, Possiet Bay, Sea of Japan. See also Golikov and Scarlato, 1967, p. 76.

cookiana Laws, 1937, *Chemnitzia*, p. 58 and 67, pl. 13, fig. 15. Recent, Auckland, New Zealand. Cannot be considered homonymous with *Turbonilla* (*Strioturbonilla*) *cookeana* Bartsch, 1912, p. 266, pl. 35, fig. 3 from the Gulf of California.

corgani Eames, 1968, *Turbonilla* (*Terebromilla*), p. 167, no figure. Replacement name for Turbonilla (*Terebromilla*) *terebriformis* Eames, 1951; [Not *Turbonilla corgani* Okutani, 1968, which is a replacement name for *Turbonilla punicea* Okutani, 1964, from Japan. (non Dall, 1884)].

corgani Okutani, 1968, *Turbonilla*, p. 43. Replacement name for *Turbonilla punicea* Okutani, 1964; not *Turbonilla viridaria* var. *punicea* Dall, 1884, p. 332 from Florida.

cornea A. Adams, 1855, *Chemnitzia*, p. 181, no figure. From "Eastern Seas". Never later reported, but only listed by Tryon, 1886, p. 335 and Paetel, 1888, p. 259.

cornelliana Newcomb, 1870, *Proto*, p. 164, fig. 6. Recent, Hawaiian Islands, known also as *T. varicosa* A. Adams, 1855 or *T. decussata* Pease, 1861, non A. Adams, 1861 and *Turbonilla* (*Lancella*) *bella* Dall and Bartsch, 1906. See there.

coromandelica Melvill and Standen, 1898, *Turbonilla*, p. 32, pl. 1, fig. 5. Recent, Madras, India.

corpulens Kisch, 1959, *Turbonilla*, p. 94, one figure, holotype in collection Folin "*Chemnitzidae*" in Museum Nat. Hist. Paris. Recent, Mauritius. There is a "variety": *Turbonilla corpulens* var. *minima* Folin, 1879, Fonds de la Mer III, p. 242.

corrigea Laseron, 1959, *Turbonilla*, p. 234, figs. 145-146. Recent, Darwin, Australia.

costei de Folin, 18.., *Dunkeria*, p. 187, pl. 8, fig. 7. Recent, Mayotte (fide Kisch, 1959, p. 102).

crassa Nomura, 1936, *Turbonilla*, p. 63, pl. 9, figs. 71a, b. Recent, Siogama Bay, Japan. [not *crassus* Saurin, 1959].

crassus Saurin, 1959, *Pyrgiscus*, p. 267, pl. 8, figs. 15, 16. Recent, Nhatrang, Viet Nam. Described from a single specimen. [Not *Turbonilla crassa* Nomura, 1936].

crassicostata "A. Adams" Clessin, 1900, *Turbonilla*, p. 156, pl. 26, fig. 6. Recent, Hong Kong. Not *Turbonilla elegantissima crassecostata* Doderlein, 1862, p. 17 (not spelled *crassicostata*). According to Sacco, 1892, p. 78 this possibly is *Turbonilla costellatoides* var. *dertocolligens* Sacco, 1892.

craticulata A. Adams, 1861, *Dunkeria*, p. 46, no figure. Listed by several workers, but never later reported found. Possibly not pyramidellid. [Not *Turbonilla craticulata* Mörch, 1860, p. 119. Recent, Costa Rica].

crebricosta Marwick, 1931, *Turbonilla* (*Pyrgiscus*), p,. 107, pl. 11, fig. 207. Oligocene of New Zealand.

crenulifera Tate, 1890, *Turbonilla*, p. 126, pl. 1, fig. 2. See *Turbonilla tasmanica* Tenison Woods, 1875.

crichtoni Winckworth, 1940, *Turbonilla*, p. 42, fig. 3. Recent, Madras, India.

cryptolira Laws, 1937, *Striarcana*, p. 180, pl. 35, figs, 18, 23. Recent, Lyall Bay, Wellington, New Zealand.

crystallina Dall and Bartsch, 1906, *Turbonilla* (*Nisiturris*), p. 304, pl. 17, fig. 7; pl. 24, fig. 3. From Dunker Collection, Samoa. In Dunker 1869, p. 78 the name *Chemnitzia crystallina* occurs as *nomen nudum*. Dall and Bartsch made *crystallina* the type of *Nisiturris*.

crystallinula Issel, 1869, *Turbonilla*, p. 176, pl. 1, fig. 18. Recent, Suez, Egypt.

cubitata de Folin, 18.., *Turbonilla*, p. 247, pl. 31, fig. 5. Recent, Carimata (China Seas), *fide* Kisch, 1959, who states that the label in the Paris Museum states: *Chemnitzia cubitata*.

cumingii Carpenter, 1856, *Chemnitzia*, p. 170. See *aulica* Dall and Bartsch, 1906.

cura Nomura, 1937, *Turbonilla*, (*Turbonilla*), p. 67, pl. 14, figs. 81a,b. Recent, Japan; described from a single specimen.

currongae Ludbrook, 1957, *Turbonilla* (*Chemnitzia*), p. 45, pl. 3, fig. 16. Pliocene of South Australia.

cylindrica Saurin, 1959, *Pyrgiscilla*, p. 271, pl. 8, fig. 22. Recent, Nhatrang, Viet Nam.

dactylus Boettger, 1896, *Turbonilla*, p. 54. No data available. Recent, Luzon, Phillippines.

daibutu Nomura, 1938, *Turbonilla tobisimensis* var..., p. 53, pl. 6, figs. 51a, b. See *tobisimensis* Nomura, 1958.

darnleyensis Brazier, 1877, *Turbonilla*, p. 257, no figure. Recent, Torres Strait, Australia.

darwinensis Laseron, 1959, *Turbonilla*, p. 232, figs. 139, 140. Recent, Darwin, Australia.

datei Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 58, pl. 8, figs. 60a, b. Recent, Siogama Bay, Japan.

davidi Marwick, 1943, *Waikura*, p. 191, pl. 27, fig. 28. Tertiary (Awamoan), New Zealand.

dawydoffi Saurin, 1959, *Pyrgiscilla*, p. 270, pl. 9, fig. 6. Recent, Nhatrang,Viet Nam.

deae Nomura, 1937, *Turbonilla* (*Pyrgiscus*), p. 69, pl. 11, figs. 57a, b. Recent Sagami Province, Japan.

debilis A. Adams, 1860, *Turbonilla*, p. 420, no figure. Recent, Mino Sima, Japan, at 65 fms.

decora Smith, 1904, *Turbonilla*, p. 24 and 36, pl. 3, fig. 5. Recent, Port Alfred, South Africa.

decussata A. Adams, 1860, *Couthouyia*, p. 410. No data available. Recent, either Suez, China or Japan. See A. Adams, 1870 (here cited as *Turbonilla*) who refers to Adams, 1860, but I can not find such a reference. See also Cooke, 1885, p. 40; Tryon, 1886, p. 337; Kuroda, 1928, p. 50; and Yokoyama, 1931, p. 53. [Not *Turbonilla decussata* Bonelli,1826 (m. s. Mus. Zool. Turino, no. 3003) which probably is *Turbonilla crenata* Brown, 1827; nor *Turbonilla decussata* Pease, 1861, p. 438, which is *T. cornelliana* Newcomb, 1870; nor *Mormula decussata* Kuroda, 1928. Recent, Japan, for which see *T. hirasei* Kuroda and Habe, 1952].

decussata Pease, 1861, *Turbonilla*, p. 438. Recent, Sandwich Island (=Hawaiian Islands). See *cornelliana* Newcomb, 1870.

decussata Kuroda, 1928, *Mormula*. Name replaced by *Turbonilla hirasei* Kuroda and Habe, 1952. Recent, Japan.

delia Melvill, 1906, *Turbonilla* (*Pyrgostelis*), p. 73, pl. 8, fig. 30. Recent, Persian Gulf; Bushire in 6-10 fms.

delli Powell, 1976, *Turbonilla* (*Planpyrgiscus*), p. 108. Replacement name for *Planpyrgiscus lawsi* Dell, 1956, p. 156, fig. 176. [Not *Chemnitzia lawsi* Powell, 1936]. A name change such as this is only valid if both species belong in the same genus and this is not certain.

deprofundis Barnard, 1963, *Turbonilla*, p. 89. Recent, South Africa, off East London in 400-450 fms. Possibly a *Nisiturris*.

dextra Saurin, 1959, *Turbonilla*, p. 259, pl. 6, fig. 13. Recent, Nhatrang, Viet Nam. Possibly an *Exesilla*.

dipsycha Watson, 1886, *Odostomia* (*Turbonilla*), p. 494, pl. 32, fig. 8. Recent, west of Cape York, Northeast Australia in 28 fms. There is a "variety": *Odostomia* (*Turbonilla*) *dipsycha* var. *incerta* Watson, 1886, p. 494. Recent, Flinders Passage, Cape York in 7 fms.

disculus Velain, 1877, *Turbonilla*, p. 285. Merely a *nomen nudum*. See Kobelt, 1881, p. 22 (*Chemnitzia*) or Tryon, 1886, p. 336, p. 75, fig. 97 (*Turbonilla*).

disparilis Laws, 1940 *Planpyrgiscus*, p. 444, fig. 22. Miocene (Waitotaran), New Zealand.

distincta Turton, 1932, *Turbonilla*, p. 99, pl. 21, fig. 723. Recent, Port Alfred, South Africa.

doliella Laws, 1940, *Evelynella*, p. 155, pl. 14, fig. 12. Upper Oligocene (Hutchinsonian), New Zealand.

dongbaensis Saurin, 1959, *Turbonilla*, p. 259, pl. 6, fig. 11. Recent, Nhatrang, Viet Nam. Described from a single specimen.

dongkhanhi, Saurin, 1959, *Pyrgiscilla*, p. 270, pl. 8, fig. 13. Recent, Nhatrang, Viet Nam. Described from a single specimen.

ducalis Thiele, 1925, *Turbonilla*, p. 158, pl. 16, figs. 4, 4a. Recent, off East Africa (1° 49' N-45° 29 ½' E) in 1134 m.

dunedinensis Laws, 1937, *Chemnitzia*, p. 54 and 67, pl. 13, fig. 1. Recent, Dunedin Harbour, New Zealand.

dunkeri Clessin, 1902, *Turbonilla*, p. 257, pl. 47, fig. 3. Recent, Nagasaki, Japan. For better figure see Dall and Bartsch, 1906, p. 336, pl. 20, fig. 3. Possible synonyms are Turbonilla (*Turbonilla*) *orthoplicatula* Nomura, 1936, p. 74, pl. 12, figs, 101a, b; *Turbonilla pseudomala* Nomura, 1938, p. 29, pl. 4, figs. 33a, b, and *Turbonilla pseudocura* Nomura, 1938, pl. 4, figs. 32a, b, all Recent, Japan.

dunkeriformis Saurin, 1959, *Chemnitzia*, p. 261, pl. 6, fig. 25. Recent. Possibly the same as *Turbonilla* (*Turbonilla*) *s-itoi* Nomura, 1936.

duplicaria Marwick, 1931, *Turbonilla*, p. 107, pl. 11, fig. 205. Miocene of New Zealand. See also *Turbonilla natales* Laws, 1937.

dusiana Nomura, 1937, *Turbonilla* (*Dunkeria*), p. 74, pl. 11, figs. 60a,b. Recent, Sagami Bay, Japan.

ecclesia Preston, 1915, *Chrysallida* (*Mormula*) p. 295, figs. 7, 7a. Not turbonillid. See *humilis* Preston, 1905.

edoensis Yokoyama, 1927, *Turbonilla* (*Chemnitzia*), p. 424, pl. 47, fig. 24. Pleistocene of Tokyo City.

egregia A. Adams, 1864, *Mormula*, p. 2. Recent, Dalaguete, Cebu, Philippines. This may be a *Chrysallida*.

egressa Pilsbry and Johnson, 1917, *Turbonilla* (*Tragula*), p. 178, no figure. A figure is in Pilsbry, 1922, p. 392, pl. 36, fig. 3. Oligocene of Santo Domingo. *Tragula* is not turbonillid.

elizabethae Pilsbry, 1918, p. 314, text figures 9 and 9a. Recent, Oahu. See *lacteola* Preston, 1904.

elongata Pease, 1867, *Turbonilla*, p. 293, pl. 24, fig. 22. See *aulica* Dall and Bartsch, 1906. [Not *Turbonilla* (*Strioturbonilla*) *miocrassulata elongata* Peyrot, 1938, from the Miocene of France].

elsa Thiele, 1925, *Turbonilla*, p. 325, pl. 15, fig. 31. Recent, Padang, Sumatra.

elvira Thiele, 1925, *Turbonilla*, p. 161, pl. 16, fig. 16. Recent, Station 193.

emiliae Melvill, 1896, *Turbonilla*, (*Pyrgostelis*), p. 115, pl. 8, fig. 25. Recent, Bombay, India.

eminuta de Folin, 1879, *Stylopsis*, Fonds de la Mer III, p. 254, pl. 8, fig. 8. Recent, Singapore. Possible synonyms are *Pyrgiscilla inaequistriata* Saurin, 1959, p. 272, pl. 9, fig. 5. Recent, Nhatrang, Viet Nam. Described from a single specimen; and *Turbonilla zetemia* Melvill, 1910, p. 192, pl. 5, fig. 13. Recent, Gulf of Oman.

emma Thiele, 1925, *Turbonilla* (*Pyrgisculus*?), p. 164, pl. 17, fig. 4. Recent, from station 211.

enamelicolor Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 70, pl. 11, figs. 94a, b. Recent, Siogama Bay, Japan.

enelata Melvill, 1910, *Elusa*, p. 179, pl. 4, fig.7. Recent, Bombay, India.

epibathra Melvill, 1906, *Mumiola*, p. 72, pl. 7. fig. 5. Recent, Persian Gulf and Gulf of Oman.

eques Laws, 1937, *Turbonilla*, p. 415, pl. 33, fig. 24. Recent, New Zealand in 60 fms.

erecta Turton, 1932, *Turbonilla*, p. 95, pl. 21, fig. 691. Recent, Port Alfred, South Africa.

erica Thiele, 1925, *Turbonilla* (*Pyrgisculus*), p. 161, pl. 16, fig. 14. Recent, Zanzibar Channel, East Africa.

erna Thiele, 1925 *Turbonilla* (*Pyrgisculus*), p. 161, pl. 16, fig. 3. Recent, from station 199. [Not *Turbonilla* (*Ptycheulimella*) *erna* Bartsch, 1915, which is not turbonillid].

erna Bartsch, 1915, *Turbonilla* (*Ptycheulimella*), p. 75, pl. 16, fig. 2. Recent, Port Alfred, South Africa. [Not turbonillid]. *Chemnitzia eruita* Laws, 1950, possibly is the same.

errabunda Laws, 1937, *Chemnitzia*, p. 53, pl. 13, fig. 5. Recent, Takapuna, New Zealand.

erratica Laws, 1937, *Turbonilla*, p. 421, pl. 33, fig. 21. Tertiary (Awamoan), Pukeuri, New Zealand.

erubescens Tate. 1879, *Turbonilla*, p. 138, pl. 5, fig. 10. See *Chemnitzia fusca* A. Adams, 1855.

eruita Laws, 1950, *Chemnitzia*, p. 24, pl. 5, fig. 4. Lower Pliocene of Otahuhu, New Zealand. Possibly *Turbonilla* (*Pytcheulimella*) *erna* Bartsch, 1915 is the same.

eucosmia Bartsch, 1915, *Rissoina*, p. 131, pl. 20, fig. 2. Listed here because it may be turbonillid (*Babella*?). Not *Turbonilla* (*Pyrgisculus*) *eucosmia* Dall and Bartsch, 1909, p. 128, pl. 12, figs.13, 13a, off La Paz, Mexico, (Lower California)

eucteana Melvill, 1910, *Turbonilla*, p. 183, pl. 4, fig. 11. Recent, Bombay, India.

eugeniae Saurin, 1959, *Chemnitzia*, p. 262, pl. 6, fig. 19. Recent, Nhatrang, Viet Nam.

eulimelloides Nomura, 1936, *Turbonilla* (*Pytcheulimella*), p. 76, pl. 5, figs. 41a, b. Recent, Siogama Bay, Japan. Not turbonillid.

eulimoides de Folin, 18.., *Turbonilla*. Fonds de la Mer, I, p. 250, pl. 31, fig. 7. Recent, Noumea, New Caledonia. See Kisch, 1959, p. 103.

eumenes Melvill, 1910, *Turbonilla*, p. 184, pl. 4, fig. 12. Recent, Bombay, India.

eupellucida Nomura, 1937, *Turbonilla* (*Turbonilla*), p. 27, pl. 7, figs. 28a, b. Recent, Siogama Bay, Japan.

evelynae Laws, 1937, *Pyrgolampros*, p. 167, pl. 35, fig. 16. Tertiary of Clifden, New Zealand.

excavata Saurin, 1961, *Elodiamea*, p. 240, pl. 2, fig. 14. Recent, Gulf of Thailand. Possibly a *Waikura.*

excellens Sowerby, 1907, *Mormula*. See *aulica* Dall and Bartsch, 1906.

exilispira Mellvill, 1918, *Turbonilla*, p. 143, pl. 4, fig. 12. Recent, Karachi, Pakistan.

exilissima Nomura, 1938, *Turbonilla s.s.,* p. 87, pl. 15, figs. 133a, b. Recent, Numa, Japan.

eximia A. Adams, 1860, *Turbonilla*, p. 418, no figure. Recent, Chosan Harbour, Korea. [Not *Turbonilla eximia* Brazier, 1877; see there].

eximia Brazier, 1877, *Turbonilla*, p. 258. Name replaced by *Turbonilla cheverti* Hedley, 1901.

extenuata Marwick, 1931, *Turbonilla* (*Pyrgiscus*), p. 107, pl. 11, fig. 206. Oligocene, Gisborne district, New Zealand. Type of

the subgenus *Planpyrgiscus* Laws, 1937.

fasciata Tenison Woods, 1875, *Dunkeria*, p. 14. Recent, Tasmania. Tenison Woods later suggested (1876, p. 152), that it is an *Alvania*.

felicita Laseron, 1959, *Turbonilla*, p. 235, fig. 153. Recent, off Darwin, North Australia.

feraudi Saurin, 1959, *Pyrgiscilla*, p. 271, pl. 9, fig. 1. Recent, Nhatrang, Viet Nam. Described from a single specimen.

ferruginea A. Adams, 1860, *Dunkeria*, p. 421, no figure. Recent, Sado, Japan, at 30 fms. Not pyramidellid, but *Clathrofenella*.

festiva Marwick, 1943, *Pyrgiscilla*, p. 191, pl. 26, figs. 17 and 19. Tertiary (Awamoan), N.E. Otago, New Zealand. [Not *Turbonilla festiva* Angas, 1877, p. 35, pl. 5, fig. 4, which is *Chemnitzia fusca* A. Adams, 1855, p. 181, from Australia.

festiva Angas, 1877, *Turbonilla*, p. 35, pl. 5, fig. 4. See *Chemnitzia fusca* A. Adams, 1855.

filiola Yokoyama, 1927, *Turbonilla* (*Careliopsis*), p. 453, pl. 51, fig. 16. Pleistocene, Kanagawa Prefecture, Japan. Not turbonillid.

finlayi Laws, 1937, *Finlayola*, p. 311, pl. 44, fig. 12. Tertiary, Oamaru, New Zealand. Type of *Finlayola*.

finlayi Laws, 1937, *Gispyrella*, p. 181, pl. 34, fig. 9. Tertiary, Oamaru, New Zealand. Type of *Gispyrella*.

finlayi Powell, 1926, *Turbonilla*, p. 594, pl. 104. Recent, Awanui Bay, New Zealand.

finlayi Laws, 1941, *Waikura*, p. 16, fig. 14. No further data. New Zealand. Note: all four species named *finlayi* were described in different genera, based merely on shell characters.

fintschi Clessin, 1900, *Turbonilla*, p. 163, pl. 29, fig. 2. Recent, Ralik Islands (in Marshall Islands, Pacific).

fischeri Smith, 1891, *Odostomia* (*Turbonilla*), p. 441, pl. 35, fig. 16. Recent, off Sydney, Australia in 410 fms.

flexicosta Laseron, 1951, *Pyrgiscus*, p. 323, fig. 92. Recent, New South Wales, Australia.

forsteriana Laws, 1937, *Chemnitzia*, p. 56, pl. 13, fig. 16. Recent, off Otago Heads, New Zealand, in 72 fms.

foveolata Preston, 1908, *Turbonilla*, p. 200, pl. 17, fig. 66. Recent, Andaman Islands.

fragilis A. Adams, 1860, *Turbonilla*, p. 419, no figure. Recent, Tsu-Sima, Japan, at 16 fms. [Not *Turbonilla fragilis* Deshayes, 1862, p. 569; atlas pl. 20, figs. 11, 20, which probably is a *Belonidium* from the Eocene of the Paris Basin; not *Turbonilla* (*Ondina*) *fragilis* Dall, 1892, p. 253, pl. 20, fig. 5. Pliocene of South Carolina, renamed *subfragilis* by Cossmann, 1921.

fraterna Melvill, 1910, *Turbonilla*, p. 184, pl. 4, fig. 3. Recent, Gulf of Oman at 156 fms.

fulgurata Nomura, 1938, *Turbonilla s.s.*, p. 117. Pliocene of Taiwan.

fulvizonata Nomura, 1938, *Pyrgiscus*, p. 54, pl. 8, figs. 67a, b. Recent, Kamakura, Japan. Possibly the same as *chrysozona* von Martens, 1880, or *patruelis* Melvill, 1918.

funiculata Saurin, 1961, *Babella*, p. 249, pl. 3, fig. 10. Recent, Kep, Gulf of Thailand. [Not *Turbonilla funiculata* de Folin, 18.., Fonds de la Mer, vol. 1, p. 68, pl. 9, fig.1. Recent, Batavia, Hong Kong and Carimata. (labeled in Paris Museum: *Dunkeria*; *fide* Kisch, 1959, p. 103].

funiculata de Folin, 18.. See previous entry.

fusca A. Adams, 1855, *Chemnitzia*, p. 181. Recent, Port Lincoln, Australia. Ranges from Japan, over Philippines to Tasmania. There are several synonyms: *Turbonilla admiranda* Tate and May, 1900, p. 98; this is a new name for *Elusa bifasciata* Tenison Woods, 1876. Recent, Tasmania; other synonyms are: *Turbonilla erubescens* Tate, 1879, p. 138, pl. 5, fig. 10. Recent, West Australia; and *Turbonilla festiva*, Angas, 1877, p. 35, fig. 4. Recent, Port Jackson, Australia.

fusca A. Adams, 1860, *Dunkeria*, p. 119, no figure. Recent, Tabu-Sima, Sea of Japan at 25 fms. Probably a *Clathrofenella* (Kuroda and Habe, 1952, p. 56).

fusoensis Yokoyama, 1926, *Turbonilla* (*Chemnitzia*), p. 280, pl. 34, fig. 6. Pliocene of Sado Island, Japan.

gabrieli Hedley, 1909, *Turbonilla*, p. 449, pl. 42, fig. 74. See *angustissima* Mellvill, 1904.

galactodes Melvill, 1910, *Turbonilla*, p. 185, pl. 4, fig. 14. Recent, Gulf of Oman at 156 fms.

garrettiana Dall and Bartsch, 1906, *Chemnitzia*, p. 30, pl. 21, fig. 5. Recent, Fiji Islands. Replacement name for *Odostomia sulcata* Garrett, 1873, p. 224, pl. 3, fig. 46. Not a turbonillid, but a *Costasyrnola*. A "variety" *alba*, *Turbonilla garrettiana* var. *alba* was described by Grabau and King, 1928, from China.

gemmula Smith, 1904, *Turbonilla*, p. 24 and 36, fig. 4. Recent, Port Alfred, South Africa.

gemmulata Saurin, 1959, *Chemnitzia*, p. 264, pl. 6, fig. 16. Recent, Nhatrang, Viet Nam. Described from a single specimen.

geraudei Saurin, 1959, *Chemnitzia*, p. 262, pl. 7, fig.1. Recent, Nhatrang, Viet Nam.

gerda Thiele, 1925, *Turbonilla*, p. 323, figs. 24, 24a. Recent, Padang, Sumatra.

gisela Thiele, 1925, *Turbonilla*, p. 160, pl. 16, fig. 12. Recent, from off Nias, Sumatra.

gracilenta Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 82, pl. 11, figs. 84a, b. Recent, Siogama Bay, Japan.

gradatula Mellvill and Standen, 1897, *Elusa*, p. 380 and 412, pl. 11, fig. 84. Recent, Loyalty Islands, Pacific.

grandis Adams and Reeve, 1850 (1848), *Chemnitzia*, p. 52, pl. 11, fig. 7. Recent, "Eastern Seas". [Not *Turbonilla grandis* Verrill, 1885, p. 427. Recent, off Virginia in 1582 fms.].

granti Laws, 1937, *Chemnitzia*, p. 69, pl. 14, fig. 36. Tertiary (Hutchinsonian), New Zealand.

gravicosta Laseron, 1951, *Pyrgiscus*, p. 324, fig. 50. Recent, New South Wales, Australia.

gravis Laseron, 1951, *Chemnitzia*, p. 320, fig. 54. Recent, Patonga Beach, New South Wales.

hadakazimana Nomura, 1938, *Turbonilla s.s.*, p. 26, pl. 1, figs. 3a, b. Recent, Asamusi, Japan.

hadwigis Thiele, 1925, *Turbonilla* (*Elusa*), p. 321, pl. 17, figs. 16, 16a. Recent, off Sumatra.

halaibensis Sturany, 1903, *Elusa*, p. 51, pl. 6, figs. 11a, b. Recent, Red Sea, Egypt.

hamiltoni Laws, 1937, *Chemnitzia raptor*, var..., p. 55, no figure. See *raptor* Laws, 1937.

hampdenensis Allan, 1927, *Turbonilla*, p. 291, foot note. Assigned by Laws, 1937, p. 173, to *Pyrgiscilla*. Replacement name for *Turbonilla antigua* Marshall, 1919, non Sacco, 1892.

hanagaiana Nomura, 1938, *Turbonilla s.s.*, p. 28, pl. 4, figs. 31a, b. Recent, Hanagai, Japan.

hanzawai Nomura, 1935, *Turbonilla* (*Pyrgisculus*), p. 223, pl. 10, figs. 32-33. Pliocene of Taiwan.

haroldi Laws, 1937, *Turbonilla*, p. 420, pl. 33, fig. 14. Recent, off Oamaru, New Zealand. [Not *Turbonilla haroldi* Smith, 1890. Recent from St. Helena, p. 275, pl. 23, fig. 18].

hasimotoi Nomura, 1937, *Turbonilla* (*Turbonilla*), p. 63, pl. 10, figs. 54a, b. Recent, Dusi, Japan. A probable synonym is *Turbonilla* (*Turbonilla*) *mollita* Nomura, 1937, p. 66, pl. 14, figs. 77a, b. Recent, Dusi, Japan.

hastula Saurin, 1961, *Babella*, p. 249, pl. 3, fig. 9. Recent, Gulf of Thailand.

hataiana Nomura, 1937, *Turbonilla* (*Pyrgiscus*), No. 13, pl. 12, figs. 66a, b. Recent, Dusi, Japan.

haugrandis Marwick, 1931, *Turbonilla* (*Chemnitzia*), p. 108, pl. 11, fig. 208. Oligocene of New Zealand. (Awamoan?).

hawera Laws, 1941, *Waikura*, p. 16 and 71, pl. 1, fig. 13. Tertiary (Waitotaran), New Zealand.

hayasakai Nomura, 1938, *Turbonilla s.s.*, p. 116, pl. 22, fig. 4. Pliocene of Taiwan.

hedleyi Laseron, 1951, *Pyrgiscus*, p. 322, fig. 61. Recent, New South Wales, Australia.

helena Bartsch, 1915, *Turbonilla* (*Pyrgiscus*), p. 77, pl. 14, fig. 1. Recent, Port Alfred, South Africa. [Not *Turbonilla helena* Semper, 1861 (non vidi), p. 364, but see Koch and Wiechmann, 1872, p. 102. Tertiary of Europe (Oligocene); nor *Turbonilla helena* Thiele, 1925. See below.

helena Thiele, 1925, *Turbonilla*, p. 322, pl. 17, 19, 19a. Recent, off Padang, Sumatra.

hella Thiele, 1925, *Turbonilla*, p. 324, pl. 18, fig. 2. Recent, off Padang, Sumatra.

hemiorcyta Laws, 1937, *Gispyrella*, p. 182, pl. 34, fig. 7. Tertiary (Awamoan), New Zealand.

hemiplicata Nomura, 1936, *Turbonilla* (*Ptycheulimella*), p. 78, pl. 10, figs. 73a, b. Recent, Japan. Not turbonillid.

hermia, Melvill, 1906, *Turbonilla,* p. 74, pl. 7, fig. 1. Recent, Gulf of Oman.

hertha Thiele, 1925, *Turbonilla*, p. 169, pl. 16, fig. 10. Recent, station 191.

hilda Thiele, 1925, *Turbonilla* (*Pyrgisculus*), p. 324, pl. 18, fig. 1. Recent, off Padang, Sumatra.

hiradoensis Pilsbry, 1915, *Turbonilla*, p. 31, pl. 5, fig. 45. Recent, Japan. There is a color variety: *Turbonilla hiradoensis badia* Pilsbry, p. 31.

hiradokoensis Otuka, 1935, *Turbonilla*, p. 865, pl. 54, figs. 90a, b. Pleistocene, Noto-Peninsula, Japan.

hirasei Kuroda and Habe, 1952, *Turbonilla*, p. 94. New name for *Mormula decussata* Kuroda, 1928, non Adams, 1860.

hofmani Angas, 1877, *Turbonilla*, p. 183. New name for *Turbonilla nitida* Angas, 1867. See *Turbonilla mariae* Tenison Woods, 1876 (1875), p. 144.

homaeotata Watson, 1886, *Odostomia* (*Turbonilla*), p. 490, pl. 32, fig. 3. Recent, Flinders Passage, Cape York, Australia. See also Laseron, 1959, p. 240, figs. 174-176 (*Pyrgiscilla*).

hortensia Thiele, 1925, *Turbonilla*, p. 325, pl. 15, fig. 32. Recent, off Padang, Sumatra. [Not *Elodia hortensiae* Nansouty, 1872, which is an *Odostomella* from Europe (*doliolum* Philippi, 1844)].

hozyoensis Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 83, pl. 4, figs. 120a, b. See *Chrysallida mumia* A. Adams, 1861.

hulda, Thiele, 1925, *Turbonilla* (*Nisiturris*), p. 163, pl. 17, fig. 2. Recent, Station 193.

humilis Preston, 1905, *Pyramidella* (*Mormula*), p. 6, pl. 2, fig. 27. Recent, Ceylon (Sri Lanka). [Not turbonillid, but is *Taphrostomia* Cossmann, 1921. A more recent but superfluous name is *Morrisonietta* Brandt, 1968, introduced for a number of species from Thailand]. The variable *humilis* has received several names: *Chrysallida* (*Mormula*) *humilis* var. *chilkaensis* Preston, 1915, p. 295, figs. 6, 6a. Recent, Chilka Lake, India; *Chrysallida* (*Mormula*) *ecclesia* Preston, 1915, p. 295, figs. 7, 7a. Recent, Chilka Lake, India; *Chrysallida* (*Mormula*) *nadiensis* Preston, 1915, p. 296, figs. 8, 8a. Recent, Chilka Lake, India. See also Annandale, 1924, p. 856 and 867, fig. 10, (*Pyrgulina*) and Annandale and Kemp, 1928, p. 347, (*Pyrgulina*). The type of *Taphrostomia* is *Odostomia sandbergeri* Cossmann, 1921, a replacement name for *Odostomia scalaris* Sandberger, 1860 [non McGillavry, 1843, nor Mörch, 1875]. That of *morrisonietta* is *M. krungtepensis* Brandt, 1968, which lives in brackish to fresh water in Thailand. Together with it Brandt described several very closely related forms parallel to the related forms of *humilis*. Thus both populations produce closely related but quite variable forms. Also the outward appearance of the living animal is quite similar. (See Annandale, 1924, p. 867). The reader should compare the following figures: Kuster Wendenburg, 1973, p. 633, pl. 4, fig. 52, 51 (1), for *Taphrostomia sandbergeri* Cossmann 1921; Brandt, 1969, p. 280, pl. 10, fig. 67 for *Morrisonietta siamensis* Brandt, 1969, and Preston, 1915, p. 295, figs 7, 7a, for *Chrysallida* (*Mormula*) *ecclesia* Preston, 1915.

humilis Yokoyama, 1924, *Turbonilla*, p. 30, pl. 2, fig. 3. Holocene coral bed, Numa, Japan. A possible synonym is *Turbonilla pseudohumilis* Nomura, 1938, p. 87. pl. 15, figs. 131a, b. Fossil, Numa, Japan.

icela Melvill, 1910, *Turbonilla*, p. 185, pl. 11, fig. 15. Recent, Gulf of Oman at 156 fms.

ida Thiele, 1925, *Turbonilla* (*Mormula*) p. 321, pl. 17, figs. 18, 18a. Recent, off Padang, Sumatra.

imbana Yokoyama, 1922, *Turbonilla* (*Chemnitzia*), p. 101, pl. 4, fig. 5. Pleistocene of Shisui, Japan. Probable synonyms are *Turbonilla* (*Turbonilla*) *mira* Nomura, 1937, p. 66, pl. 14, figs. 78a, b. recent, Dusi Japan, and *Turbonilla tosana* Nomura, 1937, p. 84, pl. 6, figs. 17a, b, from the Pliocene of Tonohama, Japan.

imperforata Laseron, 1959, *Tropaeas*, p. 194, figs. 27-30. Not turbonillid. See *Pyramidella subulata* A. Adams, 1855 (1853).

inaequalis Melvill, 1904, *Turbonilla*, p. 162, pl. 10, fig. 10. Recent, Gulf of Oman at 156 fms.

inaequistriata Saurin, 1959, *Pyrgiscilla*, p. 272, pl. 9, fig. 5. See *Stylopsis eminuta* de Folin, 1879.

incerta Watson, 1886, *Odostomia* (*Turbonilla*) *dipsycha*..., p. 144. See *dipsycha* Watson, 1886.

indenta Laseron, 1959, *Pyrgscilla*, p. 171, fig. 171. Recent, Palm Islands, Australia, at 15 fms.

infans Laseron, 1951, *Pyrgiscus*, p.322, fig. 60. Recent, Gunnamatta Bay, Port Hacking, Australia.

infantilis Saurin, 1958, *Pyrgiscus* (*Pyrgiscus*), p. 81, pl. 4, figs. 13, 14. Recent, Pho-Hai, South Viet Nam. Described from a single specimen.

infantula Dall and Bartsch, 1906, *Turbonilla* (*Chemnitzia*), p. 338, pl. 20, fig. 3. Recent, Japan. Described from the type in Berlin Museum. A probable synonym is *Turbonilla* (*Strioturbonilla*) *nihona* Otuka, 1935, p. 863, Pleistocene of Hiradoko, Japan.

infelix Thiele, 1925, *Turbonilla* (*Pyrgiscus*), p. 161, pl. 16, fig. 15. Recent, from Nias channel (Sumatra) in132 m. [Not *infelix* Nomura, 1936. See next entry].

Infelix Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 68, pl. 11, figs, 92a,b. Recent, Siogama Bay, Japan. [Not Thiele, 1925].

informis Laws, 1937, *Chemnitzia*, p. 67, pl. 14, fig. 10. Recent, Takapuna Beach, Auckland, New Zealand. (See also Boreham, 1959, p. 69).

inscitula Yokayama, 1927, *Turbonilla* (*Ptycheulimella*), p. 176, pl. 47, figs. 15-16. Pliocene of Japan. Not turbonillid.

integra Saurin, 1959, *Chemnitzia*, p. 260, pl. 7, fig. 14. Recent, Nhatrang, Viet Nam. Possibly the same as *Turbonilla kidoensis* Yokoyama, 1922.

intersecta Turton, 1932, *Turbonilla*, p. 100, pl. 22, fig. 731. See *Turbonilla prolongata* Turton, 1932.

intexta Marwick, 1931, *Turbonilla* (*Pyrgiscus*), p. 107, pl. 11, fig. 204. Oligocene (Clifdenian), New Zealand.

intuslirata de Folin, 1879, *Turbonilla*, Fonds de la Mer, III, p. 24, pl. 7 bis, fig. 1. Recent, Andaman Islands. Two syntypes in Paris Museum, fide Kisch, 1959, p. 103.

iota Gould, 1861, *Chemnitzia*, p. 106. Recent, Port Jackson, New South Wales, Australia.

iredalei Laseron, 1959, *Mormulasta*, p. 242, figs. 180-182. Recent, Michaelmas Cay, North Australia. Type of *Mormulasta*.

iredalei Laseron, 1959, *Tathrella*, p. 218, fig. 101. Recent, Port Curtis, North Australia.

irena Thiele, 1925, *Turbonilla* (*Chemnitzia*), p. 163, pl. 16, figs. 23, 23a. Recent at station 193.

irma Thiele, 1925, *Turbonilla*, p. 324, pl. 18, fig. 3. Recent, off Padang, Sumatra.

isabella Thiele, 1925, *Turbonilla*, p. 161, pl. 16, figs. 17, 17a. Recent, at station 193.

ishidae Masuda, 1967, *Turbonilla*, p. 11, pl. 2, figs. 34a, b and 35. Miocene of Noto Peninsula, Japan.

isolda Thiele, 1925, *Turbonilla* (*Elusa*), p. 321, pl. 17, fig. 15. Recent, off Padang, Sumatra.

isseli Tryon, 1886, *Turbonilla* (*Cingulina*), p. 339, pl. 76, fig. 64. New name for *Eulimella cingulata* Issel, 1869, Egypt, not Dunker, 1860. Not turbonillid.

itiharana Nomura, 1938, *Turbonilla, s.s.*, p. 86, pl. 14, figs. 122a, b. Fossil from Semata-Noseki, Japan. See also Saurin, 1961, p. 257, pl. 5, fig. 1.

itikawana Nomura, 1938, *Turbonilla s.s.*, p. 85, pl. 13, figs 112a, b. Pleistocene of Itikawa, Japan.

jactura Laws. 1937, *Chemnitzia*, p. 57, pl. 13, fig. 7. Recent, off Oamaru, New Zealand in 50 fms.

josephi Saurin, 1959, *Chemnitzia*, p. 263, pl. 8, fig. 4. Recent, Nhatrang, Viet Nam. Described from a single specimen.

josettae Saurin, 1959, *Pyrgolidium*, p. 267, pl. 8, fig. 4. Recent, Nhatrang, Viet Nam. Described from a single specimen.

julia Melvill, 1910, *Turbonilla*, p. 186, pl. 5, fig.1. Recent, south of Astola Island, Pakistan, in 90 fms.

junghuni Martin, 1906, *Turbonilla*, p. 322, pl. 45, fig. 745. Miocene of Java, Indonesia.

kaawa Laws, 1937, *Chemnitzia*, p. 63, no figure. Miocene (Waitotaran), New Zealand. To be noted is that Laws named three different turbonillids "*kaawa*", all believed to be generically different.

kaawa Laws, 1940, *Evelynella*, p. 155, pl. 14, fig. 12. Miocene (Waitotaran), New Zealand.

kaawa Laws, 1940, *Striodostomia*, p. 157, pl. 14, fig. 4. Miocene (Waitotaran), New Zealand.

kagamigaurana Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 83, pl. 11, figs. 87a, b. Recent, Numa, Japan.

kahoolawensis Pilsbry, 1918, *Turbonilla* (Chemnitzia), p. 314, no figure. See *Chemnitzia lirata* A. Adams, 1855.

kamakurensis Nomura, 1938, *Turbonilla*, p. 55, pl. 9, figs. 70a, b. Recent, Kamakura, Japan.

kanagawana Nomura, 1937, *Turbonilla* (*Turbonilla*), p. 63, pl. 13, figs. 69a, b. Recent, Dusi, Japan.

kauiensis Pilsbry, 1918, *Turbonilla* (*Turbonilla*), p. 314, text fig. 7. See *Chemnitzia lirata* A. Adams, 1855.

kawanoensis Nomura, 1937, *Turbonilla* (*Dunkeria*), p. 142, pl. 9, fig. 15. Pleistocene, Huruga, Japan.

keiskeana Yokoyama, 1927, *Turbonilla* (*Chemnitzia*), p. 423, pl. 47, fig. 19. Pleistocene of Tokyo City. A possible synonym is *Turbonilla otukai* Nomura, 1938, p. 57, pl. 10, figs. 81a, b. Recent, Kamakura, Japan.

kempi Ray, 1968, *Turbonilla*, p. 19. Recent, off Puri, Orissa Coast, Bay of Bengal.

kereruensis Laws, 1937, *Chemnitzia*, p. 52, no figure. Tertiary (Nukumaruan), New Zealand.

kermadecensis Salisbury, 1936, *Turbonilla*, p. 124, pl. 13A, figs. 1,2. Recent, Kermadec Islands.

kesennumana Nomura, 1938, *Turbonilla s.s.*, p. 30, pl. 4, figs. 35a,b. Recent, Kesennuma. Japan.

kidoensis Yokoyama, 1922, *Turbonilla* (*Chemnitzia*), p. 103, pl. 4, fig. 39. Pleistocene of Tega, Japan. Possibly the same as *Chemnitzia integra*, Saurin, 1959.

kingi Laws, 1937, *Chemnitzia*, p. 54, pl. 13, fig. 10. See *Chemnitzia pliocenica* Laws, 1937.

kitcheni Laseron, 1951, *Pyrgiscilla*, p. 324. Recent, Port Jackson, Australia.

komitica Laws, 1937, *Turbonilla*, p. 412, no figure. Miocene (Hutchinsonian), New Zealand.

koruahina Laws, 1937, *Turbonilla*, p. 418, no figure. Tertiary (Waitotaran), New Zealand. Figure in Laws, 1950, p. 24, pl. 3, fig. 4.

kotorai Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 83, pl. 11, figs. 90a, b. Recent, Siogama Bay, Japan.

kraussi Clessin, 1900, *Turbonilla* (*Chemnitzia*), p. 135, pl. 16, fig. 6. See *Chemnitzia candida* A. Adams, 1855.

kugyoi Nomura, 1938, *Turbonilla s.s.*, p. 56, pl. 10, figs. 77a, b. Recent, Kamakura, Japan.

kurodai Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 80, pl. 7, figs. 53a, b. Recent, Siogama Bay, Japan.

kurumana Yokoyama, 1927, *Turbonilla* (*Pytcheulimella*), p. 424, pl. 47, fig. 16. Pleistocene, Tokyo City. Not turbonillid.

kururiensis Nomura, 1939, *Turbonilla s.s.*, p. 135, pl. 9, fig. 13. Recent, Yosino, Japan.

lactea Krauss, 1848, *Chemnitzia* p. , pl. 5, fig. 23. See *Chemnitzia candida* A. Adams, 1855. [Not *Turbo lacteus* Linne, 1758, p. 765, no figure; a European species with innumerable synonyms].

lacteola Preston, 1904, *Styloptygma*, p. 77, pl. 6, figs. 9 and 10. Recent Ceylon (Sri Lanka). Not turbonillid but syrnolid. Synonyms are: *Turbonilla* (*Evaletta*) *elizabethae* Pilsbry, 1918, p. 314, text figures 9 and 9a, Oahu. (See also Kay, 1979, p. 414) and *Turbonilla* (*Evaletta*) *laysanensis* Pilsbry, 1918, p. 315, text fig. 10, Hawaii. (See also Kay, 1979, p. 414).

laevigata Laws, 1937, *Mormula*, p. 178, pl. 35, figs, 20 and 25. Tertiary, Weka Pass, New Zealand.

laevocostata Sowerby, 1892, *Turbonilla*. (non vidi). Recent, South Africa. See E. A. Smith, 1904; Bartsch, 1915, p. 76 and Turton, 1932, p. 94, who misspelled the name *laevicostata*.

laminedentata de, Folin, 18.., *Turbonilla*, p. 253, pl. 8, fig. 7. Recent, Singapore. See Kisch, 1959, p. 103.

lamyi Hedley, 1916, *Chemnitzia*, p. 62, pl. 9, fig. 10. Recent, Lusitania Bay, Macquarie Island (Antarctica). Possibly a *Striarcana*.

lanassae Hornung and Mermod, 1924, *Syrnola* (*Elusa*), p. 293, text figure 8. Recent, Massaua, Red Sea. Here listed because sometimes *Elusa* is used for turbonillids.

langae Saurin, 1959, *Chemnitzia*, p. 261, pl. 6, fig. 22, pl. 8, fig. 1. Recent, Nhatrang, Viet Nam. Described from a single specimen.

latacosta Laseron, 1959, *Exesilla*, p. 217, figs. 96-99. Recent, Palm Islands, Australia.

latelirata de Folin, 1879, *Dunkeria*, Fonds de la Mer III, p. 238, pl. 6, fig. 4. Recent, Andaman Islands. See also Kisch, 1959, p. 102.

laticingula Dall and Bartsch, 1906. *Turbonilla* (*Cingulina*) *cingulata* var..., p. 344, pl. 21, fig. 3. See *cingulata* Dunker, 1860. Not turbonillid.

laticonica Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 72, pl. 12, figs. 99a, b. Recent Siogama Bay, Japan.

latonae Hornung and Mermod, 1924, *Syrnola (Elusa?)*, p. 292, text fig. 7. Recent, off Massaua, Red Sea, at 30 fms. Possibly turbonillid.

laura Thiele, 1925, *Turbonilla*, p. 163, pl. 17, fig. 1. Recent, Station 193.

lawsi Powell, 1936, *Chemnitzia*, p. 210, pl. 54, fig. 8. Recent, off Three Kings Island, New Zealand in 92 m. [Not *Planpyrgiscus lawsi*

Dell, 1956 which was renamed *Turbonilla* (*Planpyrgiscus*) *delli* Powell, 1976; see there].

lawsi Dell, 1956, (*Planpyrgiscus*), p. 156, fig. 176. See *delli* Powell, 1976.

laysanensis Pilsbry, 1918, *Turbonilla* (*Evaletta*); see *Styloptygma lacteola* Preston, 1904.

lerichei Saurin, 1959, *Chemnitzia*, p. 261, pl. 4, fig. 14. Recent, Nhatrang, Viet Nam.

lillingtoniana Laws, 1937, *Chemnitzia*, p. 65, pl. 14, fig. 29. Recent, off Cape Saunders, New Zealand.

linearis Laseron, 1959, *Pyrgiscilla*, p. 241, fig. 179. Recent, Darwin, North Australia. Described from a single incomplete specimen. Possibly the same as *Pyrgiscilla otoconsors*, Laws, 1937.

linjaica Melvill and Standen, 1901, *Turbonilla*, p. 393, pl. 22, fig. 23. Recent, Persian Gulf at 3.5 fms.

liraecostata Tenison Woods, 1877, *Turbonilla*, p. 101, no figure. Fossil from Tasmania (Table Cape).

lirata A. Adams, 1855, *Chemnitzia*, p. 181, no figure. Recent, Ceylon (Sri Lanka). Synonyms are (see also Kay, 1979, p. 414, fig 133F, but who erroneously states: described from Japan, instead of Ceylon). *Turbonilla* (*Chemnitzia*) *kahoolawensis*, Pilsbry, 1918, p. 314, no figure. Recent, Hawaii; *Turbonilla* (*Turbonilla*) *kauiensis* Pilsbry, 1918, p. 314, text fig. 7. Recent, Kauai; and *Turbonilla* (*Chemnitzia*) *oblectamentum* Pilsbry, 1918, p. 313, text fig. 8. Recent Oahu.

liratula Turton, 1932, *Turbonilla*, p. 96, pl. 21, fig. 698. Recent, Port Alfred, South Africa.

livida Sowerby, 1901, *Elusa*, p. 210, pl. 22, fig.8. Recent, Philippines. Not turbonillid. A possible synonym is *Herviera isidella* Melvill and Standen, 1899, p. 186. Recent, from the Loyalty Islands..

locuples Laws, 1937, *Mormula*, p. 176, pl. 35, fig. 19. Tertiary (Awamoan), New Zealand.

lucina Nomura, 1938, *Turbonilla s.s.*, p. 26, pl.2, figs. 19a, b. Recent, Siogama Bay, Japan.

ludovica Nomural, 1938, *Turbonilla*, p. 325, pl. 18, fig. 5. Recent, off Padang, Sumatra. Perhaps an *Asmunda*.

lydia Thiele, 1925, *Turbonilla* (*Nisiturris*), p. 322, pl. 17, figs. 22, 22a. Recent, off Sumatra.

mabutii Nomura, 1938, *Turbonilla* (*Pyrgiscus*, p. 22, pl. 2, figs. 12a, b. Recent, Japan.

macandreae A. Adams, 1870, *Mormula*, p. 127, no figure. Recent, Gulf of Suez. See also Cooke, 1885, p. 40; Tryon, 1886, p. 312. Also spelled *macandrewi* (Melvill and Standen, 1901, p. 391;Smith, 1903, p. 387; Turton, 1932, p. 93). Recent, Red Sea, Persian Gulf, South Africa. [Not *Turbonilla macandreae* H. Adams, 1870, which is a replacement name for *Turbonilla speciosa* H. Adams, 1869 (non A. Adams, 1860, Japan) from the Atlantic coast of Spain and which Nordsieck, 1972, p. 128, pl. 6, fig. 3, made the type of *Magniturbonilla*].

macies Laws, 1937, *Turbonilla*, p. 417, pl. 33, fig. 15. Oligocene (Hutchinsonian), New Zealand.

macilenta A. Adams, 1860, *Turbonilla*, p. 418, no figure. Recent, Korea, at 7 fms.

macleyana Tenison Woods, 1877, *Turbonilla*, p. 151; no figure. See *Chemnitzia acicularis* A. Adams, 1855.

macphersoni Marwick, 1931, *Turbonilla*, (*Pyrgiscus*), p. 108, fig. 209. Tertiary (Awamoan), New Zealand.

maia Bartsch, 1915, *Turbonilla* (*Pyrgiscus*), p. 80, pl. 14, fig. 3. Recent. Port Alfred, South Africa.

makaoensis Clessin, 1900, *Turbonilla*, p. 169, pl. 35, fig. 1. Recent, Macao, China.

mala Nomura, 1937, *Turbonilla* (*Turbonilla*), p. 68, pl. 14, figs. 82a, b. Recent, Sagami Bay, Japan.

malayana Fischer, 1927, *Turbonilla*, (*Pyrgostelis*), p. 51, pl. 212, fig. 16. Pliocene of Ceram, Moluccas.

manorae Melvill, 1898, *Turbonilla* (*Pyrgostelis*), p. 23, pl. 1, fig. 22. Recent, Karachi, Pakistan.

mappingae Ludbrook, 1957, *Turbonilla* (*Chemnitzia*), p. 43, pl. 3, fig. 11. Pliocene of South Australia.

marginalis Laws, 1940, *Evelynella*, p. 154, pl. 13, fig. 19. Tertiary (Waitotaran), New Zealand.

mariae Angas, 1877, *Turbonilla*. New name for *Turbonilla nitida* Angas, 1867, (non A. Adams, 1855, *Chemnitzia*). There are several synonyms: *Turbonilla angasi* Tenison, Woods, 1878, which also is a new name for *Turbonilla nitida* Angas, 1867 (non A. Adams, 1860, *Turbonilla*, p. 419, no figure, Mino Sima, Japan). Another synonym is *Turbonilla hofmani* Angas, 1877, p. 183, which is a new name for *Turbonilla nitida* Angas, 1867.

marnayae Saurin, 1959, *Turbonilla*, p. 260, pl. 6, fig. 10. Recent, Nhatrang, Viet Nam. Described from a single specimen.

martensi Clessin, 1901, *Dunkeria*, p. 254, pl. 36, fig. 6. Recent, Singapore. [Not *martensii* Clessin, *Turbonilla*, from Timor. See there].

martensii Clessin, 1900, *Turbonilla*, p. 167, pl. 35, fig. 9. Recent, Kupang, Timor.

martha Thiele, 1925, *Turbonilla*, p. 159, pl. 16, fig. 19, 19a. Recent, from station 191.

masamunei Nomura, 1936, *Turbonilla*, (*Turbonilla*), p. 57, pl. 8, figs. 59a, b. Recent, Siogama Bay, Japan.

massui Saurin, 1959, *Pyrgiscilla*, p. 271, pl. 9, fig. 2. Recent, Nhatrang, Viet Nam. Described from a single specimen.

materna Melvill, 1912, *Turbonilla* (*Nisiturris*), p. 247, pl. 12, fig. 13. Recent, Persian Gulf at 55 fms. There is a variety: *Turbonilla* (*Nisiturris*) *materna* var. *melvilli* Ray, 1968, p. 21. Recent, off Puri, India.

matunamiensis Otuka, 1935, *Turbonilla* (*Pyrgiscus*), p. 864, text fig. 224. Pleistocene of Noto, Japan.

matusimensis Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 64, pl. 10, figs. 76a, b and 77a, b. Recent, Siogama Bay, Japan.

megaembryo Hornung and Mermod, 1924, *Turbonilla tantilla* var.,,,. p. 307, text fig. 24. See *tantilla* Hornung and Mermod, 1924.

melitta Thiele, 1925, *Turbonilla* (*Chemnitzia*) p. 163, pl. 16, figs. 22, 22a. Recent, from station 193.

melvilli Ray, 1968, *Turbonilla materna* var *melvilli*, p. 21. Recent. Puri, India, Bay of Bengal. [Not *Turbonilla melvilli* Dautzenberg, 1912, p. 65, figs. 3, 4. Libreville, West Africa].

metulina A. Adams, 1860, *Turbonilla*, p. 421, no figure. Recent, from Mino-Sima, Japan, at 63 fms.

michaelis Melvill, 1910, *Turbonilla*, p. 187, pl. 5, fig. 2. Recent, Persian Gulf.

micra Pritchard and Gatliff, 1900, *Turbonilla* (*Ondina*), p. 134, pl. 21, fig.1. Recent, Australia. Not turbonillid.

microcheilos de Folin, 1879, Turbonilla, p. 241, pl. 6, fig. 9. Recent, Andaman Islands.

microperone Melvill, 1904, *Turbonilla*, p. 162, pl. 10, fig. 11. Recent, Gulf of Oman.

microscopica Laseron, 1959, *Turbonilla*, p. 235, figs. 150-151. Recent, Darwin, North Australia. Perhaps Pyrgulinid.

minna Thiele, 1925, *Turbonilla* (*Turbonilla*), p. 325, pl. 8, fig. 4. Recent. No precise location given.

mira Nomura, 1937, *Turbonilla* (*Turbonilla*), p. 66, pl. 14, figs. 78a, b. See *Turbonilla* (*Chemnitzia*) *imbana* Yokoyama, 1922.

mirandus Saurin, 1959, *Pyrgiscus*, p. 269, pl. 8, fig. 6. Recent, Nhatrang, Viet Nam. Described from a single specimen.

misella Yokoyama, 1922, *Turbonilla (Ptycheulimella)*, p. 100, pl.4,

fig. 36. Pleistocene of Otaki, Japan. Not Turbonillid. A synonym is *Turbonilla* (*Ptycheulimella*) *misella supramisella* Nomura , 1938, p. 52, pl. 9, figs. 73a, b. Recent, Kamakura, Japan.

mitis Laws, 1937, *Chemnitzia*, p. 65, pl. 14, fig. 30. Recent, Australia.

miurana Nomura, 1937, *Turbonilla* (*Pyrgiscus*), p. 70, pl. 12, figs. 64a, b. Recent, Dusi, Japan.

miyagiensis Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 86, pl. 11, figs. 85a, b. See *Turbonilla* (*Mormula*) *aulica* Dall and Bartsch, 1906.

miyakoensis Nomura, 1939, *Turbonilla* (*Pyrgiscus)*, p. 140, pl. 9, fig. 12. Recent, off Miyakomati, Japan, in 100 m.

mizuhoana "Nomura" Hatai and Nisiyama, 1952, p. 260. Misspelling for *mizuhonica* Nomura, 1939.

mizuhonica Nomura, 1939, *Turbonilla* (*Pytcheulimella*), p. 133, pl. 9, fig. 18. Pliocene of Yamanouti, Japan.

modica A. Adams, 1860, *Turbonilla*, p. 420, no figure. Recent, Mino-Sima, Japan, at 63 fms.

mollita Nomura, 1937, *Turbonilla* (*Turbonilla*), p. 66, pl. 14, figs. 71a, b. See *hasimotoi* Nomura, 1937.

monocycla A. Adams, 1860, *Parthenia*, p. 479, no. figure. Recent, Mino-Sima, Japan. This is a *Sulcoturbonilla*. A synonym *Turbonilla* (*Sulcoturbonilla*) *quantoana* Nomura, 1937, pl. 12, figs. 62a, b, and 68a, b. Recent, Sagami Province, Japan. [Not *Turbonilla monocycla* A. Adams, 1860, p. 418, no figure, which was made by Dall and Bartsch, 1909, the type of *Pselliogyra*].

monocycla A. Adams, 1860, *Turbonilla*, p. 418, no figure. Recent, Mino-Sima, Japan at 63 fms. Doubtfully turbonillid.

moorei Laws, 1937, *Turbonilla*, p. 66, pl. 33, fig. 16. Recent, off Otago Heads, New Zealand in 50 fms.

mormuloides Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 90, pl. 10, figs. 75a, b. Recent, Siogama Bay, Japan.

morsei Yokoyama, 1926, *Turbonilla* (*Cingulina*), p. 281, pl. 33, fig. 17. Pliocene of Sawani, Japan. Not turbonillid, but *Turritellopsis*. [See Makiyama, 1958, pl. 45, fig. 17].

mourazimana Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 24, pl. 4, figs. 34a, b. Recent, Moura-zima, Japan. (Not a *Pyrgiscus*).

mulderi Chapman, Crispin and Keble, 1928, *Turbonilla*, p. 108, pl. 7, fig. 34. Recent, Western Beach, Gulong, Australia.

multigyrata Dunker, 1882, *Turbonilla*, p. 79, pl. 13, figs. 18-20. Recent, Decima, Nagasaki City, Japan. A synonym is

Turbonilla (*Turbonilla*) *pseudomultigyrata* Nomura, 1936, p. 68. pl. 11, figs. 89a, b. Recent, Sagami Bay, Japan.

multistriata Turton, 1932, *Turbonilla*, p. 97, pl. 21, fig. 708. Recent, Port Alfred, South Africa.

mumia A. Adams, 1860, *Chrysallida*, p. 45, no figure. Recent, Japan. By Dall and Bartsch, 1906, p. 343, pl. 17, put in *Turbonilla* (*Pyrgiscus*). There are two probable synonyms: *Turbonilla* (*Pyrgiscus*) *amicitia* Nomura, 1936, No. 10, p. 79, pl. 8, figs. 58a, b. Recent, Siogama Bay and *Turbonilla* (*Pyrgiscus*) *hozyoensis* Nomura, 1938, p. 83, pl. 14, figs. 120a, b. Pleistocene of Numa, Japan. Described from a single specimen.

munda A. Adams, 1860, *Turbonilla*, p. 420, no figure. Recent, Mino-Sima, Japan, at 63 fms.

nadiensis Preston, 1915, *Chrysallida* (*Mormula*), p. 296, figs. 8, 8a. Not turbonillid, but *Taphrostomia*. See *humilis* Preston, 1905.

nagarinus Saurin, 1959, *Pyrgiscus*, p. 268, pl. 8, fig. 13. Recent, Nhatrang, Viet Nam. Described from a single specimen.

nakamurai "Onoyama m. s." *Nomura*, 1937, *Turbonilla*, p. 76, 79, and 90. Merely a listed manuscript name. Pliocene of Kaga, Japan. (Onoyama, 1933, p. 273).

nana Laseron, 1959, *Exesilla*, p. 217, fig. 10. Recent, Port Curtis, North Australia.

nata Nomura, 1938, *Turbonilla s.s.*, pl. 2, figs. 14a, b. Recent, Siogama Bay, Japan. Described from a single specimen. A probable synonym is: *Turbonilla rikuzen-osimenis* Nomura, 1938, p. 27, pl. 3, figs. 27a, b. Recent, from Kesennuma Bay, Japan, at shallow depth.

natales Laws, 1937, *Turbonilla*, p. 417, fig. 19. Tertiary, Clifden, New Zealand. Possibly *Turbonilla duplicaria* Marwick, 1931, is the same. See there.

natukawaensis Nomura, 1939, *Turbonilla yabei*...., p. 139, pl. 9, fig. 2. See *yabei* Nomura, 1939.

neogila Melvill, 1910, *Turbonilla*, p. 187, pl. 5, fig. 3. Recent, Bombay, India.

neozelanica Hutton, 1885, p. 934, no figure. See *zealandica* Hutton, 1873.

ngatape Marwick, 1931, *Turbonilla*, p. 106, figs. 201-202. Oligocene of New Zealand.

ngatutura Laws, 1940, *Chemnitzia*, p. 444, figs. 19 and 43. Miocene (Waitotaran), New Zealand.

nicobarica Thiele, 1925, *Turbonilla*, p. 162, pl. 16, fig. 18. Recent, at 7° 48.8' N-93° 7.6' E at 805 m.

nigricolor Nomura, 1936, *Turbonilla* (*Turbonilla*), pl. 7, figs. 55a, b. Recent, Siogama Bay, Japan.

nihona Otuka, 1935, *Turbonilla* (*Strioturbonilla*). See *Turbonilla infantula* Dall and Bartsch, 1906.

ninona Laseron, 1959, *Turbonilla*, p. 233, fig. 143. See *Turbonilla bowenensis* Laseron, 1959.

nippona Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 62, pl. 9, figs. 69a, b. Recent, Japan.

nisitaiensis Nomura, 1938, *Turbonilla s.s.*, p. 31, pl. 4, figs. 30a, b. Miocene of Japan. Described from a poor specimen.

nishigasaensis Nomura, 1939, *Turbonilla* (*Pyrgiscus*), p. 140, pl. 9, fig. 1. Pliocene of Japan. Note: most authors spell "*nishihigasaensis*" which is not the spelling of the original publication.

nisiyamai Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 82, pl. 11, fig. 85a, b. Recent, Numa, Japan.

nitida Angas, 1867, *Turbonilla*, p. 112, pl. 13, fig. 9. See *mariae* Tenison Woods, 1876. [Not *Turbonilla nitida* A. Adams, 1860].

nitida A. Adams, 1860, *Turbonilla*, p. 419, no figure. Recent, Mino-Sima, Japan. [Not *nitida* Angas, 1867].

nitidissima Issel, 1869, *Turbonilla*, p. 177, pl. 1, fig. 9. Recent, Red Sea. Probably a *Costosyrnola* (not turbonillid).

nodosa Martin, 1884, *Turbonilla*, p. 161, pl. 8, fig. 156. Lower Miocene of Java. Most probably a *Waikura*.

nodosocostata Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 117, pl. 22, fig. 27. Pliocene of Taiwan.

nodulosa Laseron, 1959, *Zaphella*, p. 242, fig. 184. Recent, Albany Passage, North Australia.

nonnota Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 52, pl. 5, figs. 34a, b. Recent, Siogama Bay, Japan. Described from a single specimen.

numamurana Nomura, 1938, *Turbonilla s.s.*, p. 88, pl. 15, figs. 134a, b. Pleistocene of Numa, Japan.

n-zinboi Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 87, pl. 11, figs. 91a, b. Recent, Siogama Bay, Japan. Described from a single specimen.

oamura Laws, 1937, *Turbonilla*, p. 411, no figure. Miocene (Awamoan), New Zealand.

oamarutica Suter, 1917, *Turbonilla* (*Pyrgiscus*), p. 16, pl.1, fig. 7. Tertiary, New Zealand. Not turbonillid, but is a *Notacirsa*.

obeliscus Gould, 1861, *Turbonilla*, p. 406, no figure. Recent, South Africa. Renamed *secura* Dall and Bartsch, 1906 and redescribed by Bartsch, 1915, p. 76, pl. 17, fig. 7. (See there).

Not *Chemnitzia obeliscus* C. B. Adams, 1850, from Jamaica, which may be a form of *T. interrupta* Totten, 1835.

oblectamontum Pilsbry, 1918, *Turbonilla* (*Chemnitzia*), p. 313, text figure 8. See *lirata* A. Adams, 1855.

obliqua Laseron, 1959, *Chemnitzia*, p. 237, figs. 164-165. Recent, Albany Passage, North Australia, 4-14 fms. [Not *Chemnitzia obliqua* Saurin, 1959, from Viet Nam (see there); nor *Turbonilla obliqua* Loven,1846, which is not turbonillid but is *Turbo divisa* J. Adams, 1787, an European *Evalea*; nor *Turbonilla obliqua* De Grange-Touzin, 1895, p. 400, pl. 9, figs. 4, 4a, from the Miocene of France].

obliqua Saurin, 1959, *Chemnitzia*, p. 261, pl. 6, figs. 20-21. Recent, Viet Nam. [Not *C. obliqua* Laseron, 1959; see there].

obliquitestulata Nomura and Zinbo, 1935, p. 191, pl. 15, fig. 4. Miocene of Japan. (The Latin name might be corrected to the correct *obliquetestulata*).

obscura Yokoyama, 1922, *Turbonilla* (*Careliopsis*), p. 106, pl. 5, fig. 16. Pleistocene of Shito, Japan. Not turbonillid. [Not: *Turbonilla obscura* Reuss, 1867, p. 1590, pl. 7, figs. 5-7, Miocene of Poland, this is not a *Turbonilla* but an *Eulimella*].

oceanica Oliver, 1915, *Turbonilla*, p. 530, pl. 10, fig. 19. Recent, Kermadec Islands in 10-30 m.

okadaensis Nomura, 1939, *Turbonilla*, p. 137, pl. 9, fig. 43. Miocene of Okada, Japan,

olga Thiele, 1925, *Turbonilla*, p. 165, pl. 17, fig. 7. See *Turbonilla tegulata* Sowerby, 1892.

oligopleura Melvill, 1910, *Turbonilla*, p. 188, pl. 5, fig. 4. Dredged alive, Gulf of Oman, at 198 fms.

optima Nomura, 1936, *Turbonilla* (*Pyrgiscus*), pl. 6, figs. 47a,b. Recent, Siogama Bay, Japan.

optiva Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 73, pl. 14, 6, figs. 76a, b. See *paucicostulata*. Tokunaga, 1906.

ornata Gould, 1861, *Turbonilla*, p. 406, no figure. Recent, Hong Kong Harbor. [Not *Chemnitzia ornata* Orbigny, 1842, p. 221; atlas 1853, pl. 16, figs. 18-20. Recent, Cuba].

orthoplicatula Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 74, pl. 12, figs. 101a, b. See *Turbonilla dunkeri* Clessin, 1902.

osyuensis Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 54, pl. 6, figs. 48a, b. See *Turbonilla* (*Chemnitzia*) *approximata* Dall and Bartsch, 1906.

otaioensis Laws, 1937, *Finlayola*, p. 312, p. 43, fig. 7. Oligocene (Hutchinsonian), New Zealand.

otokauica Laws, 1937, *Pyrgiscilla*, p. 175, p. 34, figs. 2 and 4. Recent, Dunedin Harbor, New Zealand in 2-4 fms.

otoconsors Laws, 1937, *Pyrgiscilla*, p. 174, pl. 34, fig. 1. Tertiary (Ototaran), near Gore, New Zealand. May be the same as *Pyrgiscilla linearis* Laseron.

otukai Nomura, 1938, *Turbonilla s.s.*, p. 57, pl. 10, figs. 81a, b. See *Turbonilla* (*Chemnitzia*) *keiskeana* Yokoyama, 1927.

ovalis de Folin, 18.., *Turbonilla*, Fonds de la Mer, Vol. 1, p. 81, pl. 9, fig. 6. Type lost, fide Kisch, 1959, p. 95, 104. Recent, Carimata, China Seas.

owenga Laws, 1937, *Chemnitzia*, p. 70, no figure. Recent, off Owenga, New Zealand.

pachypleura Melvill, 1910, *Turbonilla*, p. 188, pl.5, fig. 5. Recent, Gulf of Oman at 156 fms.

pacifica Yokoyama, 1922, *Turbonilla* (*Strioturbonilla*), p. 105, pl. 5, fig. 3. Pleistocene of Shito, Japan.

pagoda Tenison Woods, , *Turbonilla*. non vidi. Oligocene of Tasmania *fide* Dennant and Kitson, 1903, p. 117.

pakaurangiensis Laws, 1939, *Pyrgolampros*, p. 468 and 492, no figure. Tertiary, New Zealand.

paleogenica Corgan, 1969, *Turbonilla*, p. 574. New name for *Turbonilla agrestis* Laws, 1937, p. 410, figs. 1, 1a. Tertiary of New Zealand. [Not *agrestis* Aldrich, 1911, p. 10, pl. 4, fig. 2. Eocene of Alabama].

parlucidula Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 64, pl. 11, figs. 86a, b. Recent, Siogama Bay, Japan.

parvitesta Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 70, pl. 12, figs. 95a, b. Recent, Siogama Bay, Japan.

paschalis Thiele, 1925, *Turbonilla*, p. 158, pl. 16, figs. 3, 3a. Recent, from Station 251.

patricia Thiele, 1925, *Turbonilla*, p. 159, pl. 16, figs. 5 5a. Recent, off East Africa, Zanzibar Channel at 463 m.

patruelis Melvill, 1918, *Turbonilla*, p. 144, pl. 4, fig. 13. Recent, Gulf of Oman, Charbar, at 5 fms. This may be the same as *Chemnitzia chrysozona* von Martens, 1880, which could be the same as *Pyrgiscus fulvizonata* Nomura, 1938.

paucicostulata Tokunaga, 1906, p. 22, no figure. Pleistocene, Tokyo, Japan. A possible synonym is *Turbonilla* (*Pyrgiscus*) *optiva* Nomura, 1937, p. 73, pl. 14, figs. 76a, b.

paucina Laseron, 1959, *Turbonilla*, p. 234, fig. 147. Recent, Port Curtis, North Australia.

paula Thiele, 1925, *Turbonilla*, p. 162, pl. 16, figs. 19, 19a. Recent, station 251.

pauper Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 67, pl. 11, figs, 8, 8a. Recent, Siogama Bay, Japan.

paupercula Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 62, pl. 9, figs. 68a, b. Recent, Siogama Bay, Japan.

peasi Dall and Bartsch, 1906, *Turbonilla* (*Lancella*), p. 347. See *aulica* Dall and Bartsch, 1906.

pellucida Sowerby, 1897, *Cioniscus*, p. 13, pl. 6, fig. 10. Recent, Port Elisabeth, South Africa. See also Bartsch, 1915, *Turbonilla* (*Cingulina*) and Barnard, 1969, p. 648, *Turbonilla*. [Not *Pyrgiscilla pellucida* Saurin, 1959, Viet Nam. See there.] There is a "variety": *Turbonilla pellucida* var. *affinis* Turton, 1932, p. 98, pl. 21, fig. 719. Recent, South Africa. Not turbonillid.

pellucida Saurin, 1959, *Pyrgiscilla*, p. 272, pl. 18, fig. 8. Recent, Nhatrang, Viet Nam. Described from a single specimen. [Not *pellucida* Sowerby, 1897. See there].

perexilis Turton, 1932, *Turbonilla*, p. 92, pl. 20, fig. 675. Recent, Port Alfred, South Africa.

perfecta A. Adams, 1860, *Turbonilla*, p. 418, no figure. Recent, Port Hamilton, Korea, at 7 fms.

perminima Turton, 1932, *Turbonilla*, p. 99, pl. 21, fig. 722. Recent, Port Alfred, South Africa.

peroni Velain, 1878, *Turbonilla*, non vidi, Recent, St. Paul, Indian Ocean. Velain, 1876, p. 285, nomen nudum. See also Kobelt, 1881, p. 22 and Tryon, 1886, p. 326, pl. 75, fig. 98.

perscalata Hedley, 1909, *Turbonilla*, p. 449, pl. 42, fig. 75. Recent, Hope Islands, Queensland. Not *Turbonilla*, but *Linopyrga*. See Laseron, 1959, p. 227, fig. 124.

persarum Melvill and Standen, 1903, *Mormula*, p. 304, pl. 22, fig. 2. Recent, Gulf of Oman, Muscat, in 15 fms.

petaneana Laws, 1937, *Chemnitzia*, p. 51, fig. 12. Tertiary (Nukumaruan and Castlecliffian), New Zealand.

petri Bartsch, 1929, *Turbonilla* (*Pyrgolampros*), non vidi. See *rufofasciata* Smith, 1875.

philippiana Dunker, 1960, *Turbonilla*, p. 239. Figure in Dunker, 1861, p. 16, pl. 1, fig. 12. Recent, Decima, Japan. There are several synonyms: *Mormula rissoina* A. Adams, 1864, pl. 1, no figure. Recent, Osima, Japan; *Rissoina rex* Pilsbry, 1904, p. 27, pl. 4, figs. 42, 42a. Recent, Hirado, Japan; *Turbonilla* (*Pyrgiscus*) *pseudorex* Nomura, 1937, p. 72, pl. 13, figs. 67a, b. Recent, Sagami Bay, Japan; *Turbonilla (Pyrgiscus) validissima* Nomura, 1938, p. 69, pl. 7, figs. 34a, b. Recent, Sagami Bay, Japan; *Turbonilla* (*Pyrgiscus*)

tobisimensis Nomura, 1938, p. 24, pl. 3, figs. 28a, b. Recent, Tobisima, Japan; *Turbonilla tobisimensis daibutu* Nomura, 1938, p. 33, pl. 6, figs. 51a, b. Recent Kamakura, Japan.

phuae Saurin, 1959, *Chemnitzia* (*Nisiturris*), p. 265, pl. 7, fig. 10. Recent, Nhatrang, Viet Nam. Described from a single specimen.

phyllidis Melvill, 1910, *Turbonilla*, p. 188, pl. 5, fig. 6. Recent, Gulf of Oman at 120 fms. Described from a single specimen.

pinguis Laseron, 1951, *Pyrgiscus*, p. 323, p. 73. Recent, Botany Bay, New South Wales, Australia. [Not *Chemnitzia* (*Elusa*) *krebsi pinguis* Mörch, 1875. Recent, Caribbean].

planicostata Yokoyama, 1922, *Turbonilla* (*Pyrgolampros*), p. 104, pl. 15, fig. 11. Pleistocene of Semosa, Japan.

planitesta Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 89, pl. 7, figs. 57a, b. Recent, Siogama Bay, Japan.

plebeia Nomura, 1936, *Turbonilla* (*Pyrgiscus*), p. 82, pl. 10, figs. 80a, b. Recent, Siogama Bay, Japan.

plicata de Folin, 18.., *Turbonilla*, Fonds de la Mer, Vol. 3, p. 265, pl. 9, fig. 4. Recent, Borneo. See also Kisch, 1959, p. 104.

pliocenica, Laws, 1937, *Chemnitzia*, p. 51, pl. 13, fig. 18. Recent, Cape Runaway, 1937, New Zealand. A synonym is *Chemnitzia kingi* Laws, 1937, p. 54, pl. 13, fig. 10. Recent, of Takapuna, New Zealand.

polaris Hedley, 1917 (1919?), *Turbonilla*, p. 86, figure on p. 87. Recent, McMurdo Sound, Antarctica.

polykista de Folin, 1879, *Stylopsis*, p. 244, pl. 7, fig. 4. Recent, Andaman Islands.

polyzonata Carpenter, 1856, *Chemnitzia*, p. 170, no figure. Recent, Mindanao, Philippines.

porrecta Laseron, 1959, *Chemnitzia*, p. 237, figs. 160-161. Recent, Bowen, North Australia.

portsaensis Gatliff and Gabriel, 1910, *Turbonilla*, p. 187, pl. 46, fig. 1. Recent, Portsea, Victoria, Australia. This probably is a pyrgulinid.

powelli Bucknill, 1924, *Turbonilla*, p. 122, text figure. Recent, Tauranga, New Zealand.

praegravata Laws, 1940, *Turbonilla*, p. 443, fig. 34. Miocene (Waitotaran), New Zealand.

prashadi Ray, 1968, *Turbonilla*, p. 21, text figure 12. Recent, off Puri, Bay of Bengal, India.

prestoni Ray, 1968, *Turbonilla*, p. 20, text figure 11. Recent, off Puri, Bay of Bengal, India.

princeps Preston, 1906, *Turbonilla*?, p. 67, pl. 2, fig. 33. Recent, Ceylon (Sri Lanka). Of uncertain affinity.

prisca Suter, 1917, *Turbonilla* (*Mormula*), p. 16, pl. 3, fig. 10. Not turbonillid, but *Notacirsa*. See Laws 1937, p. 184.

procerita Laseron, 1959, *Pyrgiscilla*, p. 239, fig. 170. Recent, Darwin, North Australia.

producta Turton, 1932, *Turbonilla*, p. 94, pl. 20, fig. 686. Recent, Port Alfred, South Africa.

prolongata Turton, 1932, *Turbonilla*, p. 100, pl. 22, fig. 727. Recent, Port Alfred, South Africa. [Not *Chemnitzia prolongata* Carpenter, 1857, p. 429, no figure, Mazatlan, Mexico]. A synonym is *Turbonilla intersecta* Turton, 1932, p. 100, pl. 22, fig. 731. Recent, Port Alfred, South Africa. Described from a single specimen.

propinqua Laseron, 1951, *Chemnitzia*, p. 321, fig. 63. Recent, Port Stephens, New South Wales, Australia.

pseudoactopora Nomura, 1939, *Turbonilla s.s.*, p. 136, pl. 9, fig. 7. Pliocene of Japan.

pseudoapproximata Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 55, pl. 7, figs. 51a, b, and 56a, b. See *approximata* Dall and Bartsch, 1906.

pseudocingulata Yokoyama, 1926, *Turbonilla (Cingulina)*, p. 281, pl. 35, fig. 1. Pliocene of Sawana, Japan. Not turbonillid.

pseudocura Nomura, 1938, *Turbonilla s.s.*, p. 28, pl. 4, figs. 32a, b. See dunkeri Clessin, 1902.

pseudohumilis Nomura, 1938, *Turbonilla s.s.*, p. 87, pl. 15, figs. 131a, b. See *humilis* Yokoyama, 1924.

pseudomala Nomura, 1938, *Turbonilla s.s.*, p. 29, pl. 4, figs. 33a, b. See *dunkeri* Clessin, 1902.

pseudomultigyrata Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 68, pl. 11, figs. 89a, b. See *multigyrata* Dall and Bartsch, 1906.

pseudorex, Nomura, 1937, *Turbonilla* (*Pyrgiscus*), p. 72, pl. 13, figs. 67a, b. See *philippiana* Dunker, 1860.

pukeuriensis Laws, 1937, *Turbonilla*, p. 410, pl. 32, figs. 2 and 9. Tertiary (Awamoan), New Zealand.

pulchella A. Adams, 1860, *Dunkeria*, p. 120, no figure. Recent, off Mino-Sima, Japan. Possibly not turbonillid [*Fenella*?]. See Tryon, 1887, p. 396.

pulchellus de Folin, 1870, *Stylopsis*, Fonds de la Mer, I, p. 261, pl. 24, fig. 2. Recent, off Sydney, Australia.

punctillum Melvill, 1910, *Turbonilla*, p. 189, pl. 5, fig. 7. Recent, Gulf of Oman at 156 fms.

punctiperipherata Nomura, 1936, *Turbonilla* (*Turbonilla*). p. 53, pl. 6, figs. 46a, b. Recent, Siogama Bay, Japan.

punicea Okutani, 1964, Turbonilla, p. 442, pl. 7, fig. 15. See *corgani* Okutani, 1968. [Not *Turbonilla viridaria* var, *punicea* Dall, 1894, p. 332. Western Atlantic].

puriensis, Ray, 1968, *Turbonilla*, p. 20, fig. 10. Recent, off Puri, Bay of Bengal, India. Resembles *Turbonilla hertha* Thiele, 1925, from Indian Ocean.

quadrasi Boettger, 1896, *Turbonilla*, p. 47 and 53-54, no figure. Recent, Manila, Philippines.

quadruplator Laws, 1940, *Chemnitzia*, p. 443, p. 39. Tertiary (Waitotaran), New Zealand.

quaestuosa Mellvill, 1910, *Turbonilla*, p. 189, pl. 5, fig. 8. Recent, Bombay, India.

quangae Saurin, 1959, *Pyrgiscus*, p. 268, pl. 8, fig. 9. Recent, Nhatrang, Viet Nam.

quantoana Nomura, 1937, Turbonilla (*Sulcoturbonilla*), p. 74, pl. 12, figs. 62a, b, and 68a, b. See *Parthenia monocycla* A. Adams, 1860.

queenslandica Laseron, 1959, *Chemnitzia*, p. 237, figs. 162-163. Recent, Bowen, North Australia.

radicans Chapman and Crespin, 1928, *Turbonilla*, p. 109, pl. 7, fig. 35. Pliocene of Adelaide, South Australia.

raikura Laws, 1937, *Chemnitzia*, p. 66, fig. 27. Recent, off Stewart Island, New Zealand.

raptor Laws, 1937, *Chemnitzia*, p. 55, pl. 13, fig. 8. Pliocene of Cape Kidnappers, Australia. A synonym is *Chemnitzia raptor* var. *hamiltoni* Laws, 1937, p. 55, pl. 13, fig. 8.

raritans Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 66, pl. 10, figs. 81a, b. Recent, Siogama Bay, Japan.

recticostata Melvill, 1904, *Turbonilla*, p. 163, pl. 10, fig. 12. Recent, Gulf of Oman at 156 fms.

regis Saurin, 1959, *Chemnitzia*, p. 64, pl. 7, fig. 12. Recent, Nhatrang, Viet Nam.

renatae Saurin, 1959, *Pyrgiscilla*, P. 270, pl. 8, fig. 19. Recent, Nhatrang, Viet Nam.

reticulata A. Adams, 1860, *Dunkeria*, p. 422, no figure. [Not pyramidellid, but is a *Clathrofenella*; see Kuroda and Habe, 1952 and1954. Recent, Japan; nor *Chemnitzia reticulata* C. B. Adams, 1850, from Jamaica, p. 75].

retusa, Turton, 1932, *Turbonilla*, p. 99, pl. 22, fig. 725. Recent, Port Alfred, South Africa. Probably an immature shell.

rex Pilsbry, 1904, *Rissoina*, p. 27, pl. 4, figs. 42, 42a. See *philippiana* Dunker, 1860. [Not *Turbonilla rex* Thiele, 1925, p. 157].

rex Thiele, 1925, *Turbonilla*, p. 157, pl. 16, figs. 1, 1a. Recent, off Dar es Salam, in deep water. [Not *rex* Pilsbry, 1904, p. 27].

rhabdoides Watson, 1886, *Odostomia* (*Turbonilla*), p. 492, pl. 32, fig. 5. See *Turbonilla confusa* Brazier, 1877.

rhambaensis Preston, 1914, *Terebra*, p. 297, figs. 5, 5a. Recent, Rhamba Bay, Lake Chilka, Madras, India. Also see Annandale, 1924, p. 867, *(Turbonilla)*.

ridiculosa Nomura, 1937, *Turbonilla* (*Turbonilla*), p. 65, pl. 13, figs. 70a, b. Recent, Sagami Bay, Japan.

rietensis, Turton, 1932, *Turbonilla*, p. 96, pl. 21, fig. 702. Recent, Port Alfred, South Africa.

rikuzenica Nomura, 1936, *Turbonilla* (*Ptycheulimella*), p. 87, pl. 10, figs. 72a, b. Recent, Siogama Bay, Japan. Not turbonillid.

rikuzen-osimensis Nomura, 1938, p. 27, pl. 3, figs. 27a, b. See *Turbonilla nota* Nomura, 1938.

rissoina A. Adams, 1864, *Mormula*, p. 1, no figure. See *Turbonilla philippiana* Dunker, 1860.

rolingiana Saurin, 1961, *Turbonilla*, p. 254, pl. 4, fig. 10. Recent, Gulf of Thailand.

romesaina Saurin, 1961, *Turbonilla*, p. 255, pl. 4, figs. 11, 12. Recent, Gulf of Thailand.

rubrofusca Carpenter, 1856, *Chemnitzia*, p. 171, no figure. Recent, China Seas. For figure see Yen, 1942, p. 221, pl. 20, fig. 131.

rufanensis Turton, 1932, *Turbonilla*, p. 98, pl. 21, fig. 714. Recent, Port Alfred, South Africa.

rufocincta A. Adams, 1861, *Dunkeria*, p. 300, no figure. Recent, Shantung, China. Not pyramidellid, but is *Eufenella*. See also Kuroda and Habe,1952, p. 56.

rufofasciata Smith, 1875, *Stylopsis*, p. 103, no figure. Recent, east of Yesso (45° 51'N-144° 40' East) in 48 fms. Made the type of *Derjuginella*; See Habe, 1958, p. 54. There are also several synonyms: *Turbonilla (Pyrgolampros) petri* Bartsch, 1929, p. 135, pl. 4, fig.3; *Turbonilla* (*Pyrgolampros*) *acosta* Bartsch, 1929, p. 136, pl. 4, fig. 5 and *Turbonilla* (*Pyrgolampros*) *Vladivostokensis* Bartsch, 1929, p. 133, pl. 4, fig. 2; all from far eastern Russian seas near Vladivostock. In all probability the species ranges into Alaska and Canada, where it is known under various names given by Bartsch as *Pyrgolampros*.

rüppelli Jickeli, 1882, *Elusa*, p. 366, no figure. Recent, Red Sea. Possibly the same as *Elusa brunneomaculata* Melvill, 1897.

sagamiana Yokoyama, 1922, *Turbonilla* (*Strioturbonilla*), p. 104, pl. 5, fig. 12. Pleistocene of Japan. This is probably a *Pselliogyra* and thus not turbonillid. See also Taki and Oyama, 1954, pl. 25, fig. 12.

samarangana Martin, 1884, *Turbonilla*, p. 163, pl. 8, fig. 159. Tertiary of Java. Not pyramidellid. Perhaps a *Melania*?.

s-*andoi* Nomura, 1938, *Turbonilla s.s.*, p. 115, pl. 22, fig. 25. Pliocene off Taiwan.

sansibarica Thiele, 1925, *Turbonilla*, p. 159, pl. 16, fig. 7. Recent, from Station 245.

scabra A. Adams, 1860, *Dunkeria*, p. 421. Recent, Tsu-Sima, Japan, in 16 fms. Not pyramidellid but *Clathrofenella*. See also Kuroda and Habe, 1952, p. 54.

scala Laws, 1937, *Chemnitzia*, p. 65, figs. 26, 28. Recent, New Zealand, off Oamaru, in 50 fms.

scalarina Gould, 1861, *Odostomia*, p. 405. Recent, Loo Choo (=Okinawa). Is a *Mormula*? Possibly = *rissoina* = *rex*. [Not *scalarina* Brazier, 1894, see there].

scalarina Brazier, 1894, *Turbonilla*, [in A. U. Henn, p. 170, pl. 14, fig. 5]. See *tasmanica* Tenison Woods, 1875.

scalaris Velain, 1878, *Chemnitzia*, non vidi. Recent, St. Paul, Indian Ocean. Nomen nudum in Velain, 1876, p. 285. [Not *Melania scalaris* Philippi, 1836, p. 157, pl. 9, fig. 9, which is a recent *Pyrgostelis* from the Mediterranean, (many synonyms), nor *Turbonilla scalaris* Martin, 1884 from the Miocene of Java, (see there)]. *scalaris* Velain, 1878 was replaced by *Turbonilla velaini* Tryon, 1886. (See there).

scalaris Martin, 1884, *Turbonilla*, p. 162, pl. 8, fig. 158. Miocene of Java. [Not *Chemnitzia scalaris* Philippi, 1836. Recent, Mediterranean (*Pyrgostelis)*].

scaliola A. Adams, 1860, *Turbonilla*, p. 420. No figure. Recent, Korea Strait.

scalpidens Watson, 1886, *Odostomia* (*Turbonilla*), p. 489, pl. 32, fig. 1. Recent, Port Jackson, New South Wales, Australia.

scitula A. Adams, 1861, *Turbonilla*, p. 297, no figure. Recent, Japan?.

scrobiculata Yokoyama, 1922, *Turbonilla* (*Mormula*), p. 102, pl. 4, fig. 38. Pleistocene of Otake, Japan. Placed by most workers in *Paramormula*. Replacement name for *Turbonilla varicifera* Pilsbry, 1901. Not *Turbonilla varicifera* Tate, 1898. See there.

sculptilis A. Adams, 1860. *Turbonilla*, p. 419, no figure. Recent, Tsu-Sima, Japan.

sculpturata Oliver, 1915, *Turbonilla*, p. 530, pl. 10, fig. 20. Recent, in 10-30 m. , off Sunday Island, West Australia, [not *sculpturata* Turton, 1932].

sculpturata Turton, 1932, *Turbonilla*, p. 95, pl. 21, figs. 695. Recent, Port Alfred, South Africa. This is a probable synonym of *Turbonilla tefunta* Bartsch, 1915. See there. [Not *Turbonilla sculpturata* Oliver, 1915].

secta Saurin, 1958, *Turbonilla* (*Asmunda*), p. 81, pl. 4, fig. 8. Recent, Pho-Hai, South Viet Nam. Probably not an *Asmunda*.

secunda Saurin, 1959, *Elusa*, p. 233, pl. 2, fig. 17. Recent, Nhatrang, Viet Nam.

secura Dall and Bartsch, 1906, *Turbonilla* (*Strioturbonilla*), p. 339. Recent, Cape of Good Hope. Replacement name for *Turbonilla obeliscus* Gould, 1861, p. 406. [Not *Turbonilla obeliscus* C. B. Adams, 1850. Recent, from Jamaica].

sematana Yokoyama, 1922, *Turbonilla* (*Chemnitzia*), p. 103, pl. 4, fig. 41. Pleistocene of Japan. Probably the same as *Turbonilla tikkoensis* Nomura, 1936, p. 54, figs. 50a, b.

semicolorata Yokoyama, 1927, *Turbonilla* (*Mormula*), p. 424, pl. 47, fig. 22. Pleistocene of Tokyo, Japan.

semiglabra Clessin, 1902, *Turbonilla*, p. 258, pl. 41, (not 14 as printed), fig. 5. Recent, no locality given.

semilaevigata Laws, 1937, *Pyrgolampros*, p. 168, pl. 35, fig. 17. Tertiary (Awamoan), New Zealand.

semistriata Saurin, 1961, *Pyrgiscilla*, p. 259, pl. 1, fig. 13, pl. 5, fig. 7. Recent, Gulf of Thailand.

senta Thiele, 1925, *Turbonilla* (*Mormula*), p. 321, figs. 17, 17a. Recent, Padang, Sumatra.

separabilis Laws, 1937, *Turbonilla*, p. 415, pl. 32, fig. 8. Miocene (Awamoan), New Zealand.

sericea de Folin, 18.., *Turbonilla*, p. 69, pl. 9, fig. 2. (fide Kisch, 1959, pl. 14. 13 syntypes from various locations: Batavia, Sydney, New Caledonia. In the Paris Museum labelled *Dunkeria sericea*.)

shigeyasui Yokoyama, 1927, *Turbonilla* (*Pyrgisculus*), p. 425, pl. 47, fig. 26. See *Monoptygma spirata* A. Adams, 1851, which possibly is identical. Perhaps this is a *Bartrumella*.

shurae Shalem, 1937, *Chemnitzia*, p. 21, pl. 1, fig. 20. Lower Cretaceous of Syria. Highly uncertain affinity.

siamensis Saurin, 1961, *Pyrgiscilla*, p. 259, text figure. Recent, Gulf of Thailand.

silvii Saurin, 1959, *Asmunda*, p. 266, pl. 7, fig. 7. Recent, Nhatrang, Viet Nam. Described from a single specimen.

similans Smith, 1903, *Turbonilla*, p. 387, pl. 15, fig. 13. Recent, South Africa.

similis Laseron, 1951, *Chemnitzia acicularis* var..., p. 321. Recent, North Harbour, New South Wales. [Not *Chemnitzia acicularis* C. B. Adams, 1852, p. 392, Panama (Pacific); nor *Chemnitzia similis* S. V. Wood, 1848. Pliocene of Great Britain, which is a synonym of *Chemnitzia filosa* S. V. Wood, 1848; nor *Turbonilla elegantissima* var. *similis* Monterosato, 1878, p. 33(?). Recent, Mediterranean.]

simplex Deshayes, 1874, *Turbonilla*. Listed in Rigacci catalogue for Bourbon (= Reunion) in Indian Ocean. I cannot find that name in Deshayes' work on Reunion.

sindangbaranensis Martin, 1906, *Turbonilla*, p. 323, pl. 45, fig. 746. Miocene of Java.

sinensis Sowerby, 1894, *Turbonilla*, p. 157, pl. 12, fig. 9. Recent, Hong Kong.

sinhala Preston, 1905, *Turbonilla*, p. 7, figs. 32 and 32a. Recent, Ceylon (Sri Lanka).

sintikuensis Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 118, pl. 22, fig. 8. Pliocene of Taiwan.

siogamensis Nomura, 1938, *Turbonilla* (*Turbonilla*), p. 60, pl. 8, figs. 64a, b. Recent, Siogama Bay, Japan.

s-itoi Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 56, pl. 7, figs. 54a, b. Recent, Siogama Bay, Japan. May be the same as *Chemnitzia dunkeriformis* Saurin, 1959.

soboensis Nomura, 1938, *Turbonilla s.s.*, p. 86, pl. 14, figs. 123a, b. Pleistocene of Numa, Japan.

solidissima Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 71, pl. 12, figs.96a, b. Recent, Siogama Bay, Japan.

solidula "Deshayes" in Rigacci catalogue, 1874, p. 85, *Turbonilla*. See *solidula* Issel, 1869.

solidula Issel, 1869, *Turbonilla*, p. 176, pl. 1 fig. 17. Recent, Suez, Red Sea. [Probably not *Turbonilla solida* Deshayes, 1863, listed in Rigacci catalogue (1874) for Bourbon (= Reunion in Indian Ocean). I cannot find that name is Deshayes'work.

someiensis Nomura, 1939, *Turbonilla*, p. 136, pl. 9, fig. 16. Pleistocene of Somei, Japan.

sophia Thiele, 1925, *Turbonilla*, p. 164, pl. 17, fig. 6. See *Turbonilla tegulata* Sowerby, 1892.

sordida Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 51, pl. 5, figs. 33a, b. Recent, Siogama Bay, Japan.

soriensis Eames, 1951, *Turbonilla* (*Chemnitzia*), p. 2 and 59, pl. 3, fig. 69. Eocene of Pakistan.

sororia Melvill, 1896, *Turbonilla* p. 114, pl. 8, fig. 17. Recent, Bombay, India.

spatha Laws, 1937, *Gispyrella*, p. 182, pl. 34, fig. 14. Tertiary of Oamaru, New Zealand.

speciosa A. Adams, 1860, *Turbonilla*, p. 420. Recent, Mino-Sima, Japan at 63 fms. [Not *Turbonilla speciosa* H. Adams, 1869, p. 274, pl. 17, fig. 11, from the Atlantic west coast of Spain, which was renamed *Turbonilla macandreae* H. Adams, 1870, and later designated as type of *Magniturbonilla* Nordsieck, 1972, p. 128, pl. 6, fig.3].

speighti Laws, 1937, *Turbonilla*, p. 413, pl. 32, fig. 7. Oligocene (Hutchinsonian), New Zealand.

spinulosa Yokoyama, 1926, *Turbonilla* (*Tragula*), p. 281, pl. 35, fig. 5. Pliocene-Recent, Japan. Not turbonilled but *Tragula*.

spirata A. Adams, 1851, *Monoptygma*, p. 223, no figure. Recent, Camaguin, Philippines. May not be turbonillid. See *shigeyasui* Yokoyama, 1927, p. 425.

splendida Martin, 1883, *Turbonilla*, p. 161, pl. 8, fig. 157. Upper Miocene of Java, Indonesia.

stegastris Melvill and Standen, 1901, *Turbonilla*, p. 393, pl. 22, fig. 24. Recent, Persian Gulf. This species looks surprisingly the same as *Turbonilla* (*Pyrgolampros*) *somiliana* Hertlein and Strong, 1951, p. 100, pl. 4, fig. 2, from the Pacific near Port Guatulco, Mexico.

stipes Laws, 1937, *Chemnitzia*, p. 59, pl. 14, figs. 24 and 41. Recent, near King Island, New Zealand at 100 fms.

stoneleighana Laws, 1937,*Turbonilla*, p. 421, pl. 32, fig. 12. Tertiary (Nukumaruan), New Zealand.

stricta Clessin, 1900, *Turbonilla*, p. 168, pl. 35, fig. 3. Recent, Macao, China. [Not *Turbonilla stricta* Verrill, 1873, p. 659, which is a synonym of *T. nivea* Stimpson, 1851, of the western Atlantic; nor *Turbonilla stricta* Pallary, 1904, p. 256, which was renamed *T. pallaryi* Dautzenberg, 1910, p. 141 and unnecessarily given the same name again by Nordsieck, 1972, p. 124].

studeri Hornung and Mermod, 1924, *Turbonilla*, p. 305, text figure 21. Recent, Massaua, Red Sea, at 23-30 m.

stylifera Thiele, 1925, *Elusa*, p. 320 pl. 15, fig. 30. Recent, off Sumatra.

subapproximata Yokoyama, 1920, *Turbonilla* (*Chemnitzia*), p. 83, pl. 5, fig. 16. See *Turbonilla* (*Chemnitzia*) *approximata* Dall and Bartsch, 1906.

subcancellata Turton, 1932, *Turbonilla*, p. 99, pl. 22, fig. 716. Recent, Port Alfred, South Africa.

subcarina Laseron, 1959, *Zaphella*, p. 243, fig. 186. Recent, Port Curtis, North Australia at 1-3 fms.

subcarnea Schepman, 1909, *Elusa*, p. 243, pl. 17, fig. 8. Recent, Paternoster Islands, Indonesia.

subconica Turton, 1932, *Turbonilla*, p. 95, pl. 21, fig. 692. Recent, Port Alfred, South Africa.

subcylindrica Schepman, 1909, *Turbonilla*, p. 245, pl. 17, fig. 11. Recent, East Sulu Sea, Indonesia at 535 m. [Not *Auricula subcylindrica* Philippi, 1844 from the Oligocene of Germany, which has several synonyms. Some of these are classified as *Symola*, others as *Turbonilla*].

subdelia Saurin, 1959, *Turbonilla*, p. 260, pl. 5, fig. 23. Recent, Nhatrang, Viet Nam. Described from a single specimen.

subemarginata de Folin, 1879, *Chemnitzia*, p. 237, pl. 6, fig. 3. Recent, Andaman Islands. See also Kisch, 1959, p. 107.

subfusca Ludbrook, 1941, *Turbonilla*, p. 93, pl. 5, fig. 7. Pliocene of Adelaide, Australia.

subglabra Odhner, 1919, *Pyramidella* (*Elusa*), p. 16, pl. 1, fig. 9. Recent, Madagascar.

subglobosa Turton, 1932, *Turbonilla*, p. 96, pl. 21, fig. 699. Recent, Port Alfred, South Africa.

subplanicosta Yokoyama, 1927, *Turbonilla* (*Pyrgolampros*) p. 425, pl. 47, fig. 23. Pleistocene of Oji, Japan.

subulata Clessin, 1900, *Turbonilla*, p. 167, pl. 29, fig. 4. Recent, Amboina, Indonesia. [Not *Turbonilla subulata* Holmes, 1860 (1859), p. 85, pl. 13, figs. 8a, b. Pliocene of North Carolina; nor *Turbonilla subulata* Sandberger, 1861, p. 172, pl. 15, figs. 4, 4a. Oligocene, Germany; nor *Turbonilla subulata* S. V. Wood, 1842, nomen nudum, Pliocene Gr. Britain; nor *Pyramidella subulata* Merian, 1851 [in] A. Braun, p. 1123; nor *Chemnitzia subulata* C. B. Adams, 1850, p. 73, no figure, Jamaica, see also Clench and Turner, 1950, p. 346; nor *Pyramidella subulata* A. Adams, 1855, see there].

subulata A. Adams, 1855, *Pyramidella*, p. 177, pl. 20, fig. 6. Recent, Luzon, Philippines. Probably not turbonillid and usually classified as *Elusa* or *Tropaeas*. A synonym is *Tropaeas imperforata* Laseron, 1959, p. 194. figs 27-30, Recent, Australia.

sulcata Laseron, 1959, *Exesilla*, p. 216, figs. 94-95. Recent, Port Curtis, North Australia; type of *Exesilla*, Laseron, 1959. [Not *turbonilla sulcata* de Folin 18.., pl. 9, fig. 10, Fonds de la Mer,

Vol. I. Recent, Senegal. See also Kisch, 1959, p. 104; nor *Turbonilla sulcata* Briart and Cornet, 1877, p. 42, pl. 16, figs. 3a-c, which may be an *Orinella*. Paleocene of Mons, Belgium. (See also Glibert, 1973, p. 88); nor *Turbonilla sulcata* Edwards, 1891, (in Newton, 1891, Eocene of Gr. Britain)].

sultana Thiele, 1925, *Turbonilla*, p. 157, pl. 16, figs. 2, 2a. Recent, off East Africa in 693 m.

sumatrensis Clessin, 1900, *Dunkeria*, p. 207, pl. 36, fig. 4. Recent, Benkoelen, Sumatra.

supramirabilis Nomura, 1938, *Turbonilla* (*Turbonilla*), p. 65, pl. 10, figs. 78a, b. Recent, Japan.

supramisella Nomura, 1938, *Turbonilla* (*Ptycheulimella*) *misella*.... See *misella* Yokoyama, 1922. Not turbonillid.

suzanna Thiele, 1925, *Turbonilla*, p. 164, pl. 17, figs. 3, 3a. Recent, station, 193.

suteri Powell, 1926, *Turbonilla*, p. 47, pl. 5, figs. 4, 5. Recent, New Zealand.

sycophanta Laws, 1937, *Chemnitzia*, p. 69, pl. 14, figs. 21 and 23. Tertiary of Clifden, New Zealand.

sykesi Melvill, 1910, *Turbonilla*, p. 190, pl. 5, fig. 9. Recent, Gulf of Oman at 156 fms.

symoliformis Nomura, 1938, *Turbonilla* (*Ptycheulimella*), p. 52, pl. 10, figs. 78a, b. Recent, Kamakura, Japan. Not turbonillid.

tabulae Saurin, 1961, *Pyrgiscilla*, p. 260, pl. 5, fig. 8. Recent, Gulf of Thailand.

taeniata de Folin, 1879, *Turbonilla*, p. 239, pl. 6, fig. 6. Recent, Andaman Islands, See also Kisch, 1959, p. 104.

tahuensis Laws, 1937, *Turbonilla*, p. 412, pl. 32, fig. 10. Tertiary of New Zealand. Used as a manuscript name by Allan, 1927, p. 291.

taiaroa Laws, 1937, *Strioturbonilla*, p. 170, pl. 34, figs. 10 and 12. Recent, off Otago Heads, New Zealand in 72 fms.

tairyoensis Nomura, 1938, *Turbonilla s.s.*, p. 115, pl. 22, fig. 26. Pliocene of Taiwan.

tantilla Hornung and Mermod, 1924, *Turbonilla*, p. 306, text figure 23. Recent, Massaua, Red Sea. The variety *megaembryo* Hornung and Mermod, 1924, p. 307, text figure 24 was described from the same location.

tasmanica Tenison Woods, 1875, *Turbonilla*, p. 145. Recent, Bass Straits, Tasmania. There are several synonyms: *Chemnitzia beddomei* Petterd, 1884, p. 136, no figure. Recent, northwest coast of Tasmania; *Turbonilla crenulifera* Tate, 1890, p. 126,

pl. 1, fig. 2, Recent, Streaky and Fowler, Great Australian Bight; also *Turbonilla scalarina* Brazier, 1894, p. 170, pl. 14, fig. 5, Recent, Sydney, Australia.

tateyamaensis Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 84, pl. 15, figs. 127a, b. Pleistocene of Numa, Japan.

tauranga Laws, 1937, *Striarcana*, p. 180, figs. 22 and 27. Recent, Pilot Bay, New Zealand.

tayaensis Nomura and Hatai, 1939, *Turbonilla*, p. 61, figs. 5a, b. Miocene of Taya, Japan.

taylori Hedley, 1909, *Turbonilla* (*Nisiturris*), p. 449, pl. 42, figs. 76 and 77. Recent, Hope Islands, Queensland in 5-10 fms. [Not *Turbonilla* (*Pyrgolampros*) taylori Dall and Bartsch, 1907, p. 499, pl. 44, figs. 9, 9a. Recent, Departure Bay, British Columbia, of which a synonym is *Pyrgolampros idae* Oldroyd, 1925, Pleistocene of San Pedro, California].

tefunta Bartsch, 1915, *Turbonilla* (*Pyrgiscus*), p. 80, pl. 15, fig. 2. Recent, Port Alfred, South Africa. A synonym is *Turbonilla sculpturata* Turton, 1932, p. 95, pl. 21, fig. 675. Recent, Port Alfred, South Africa. Also similar (synonym?) is *Turbonilla* (*Pyrgiscus*) *tritonia* Bartsch, 1915. See there.

teganumana Yokoyama, 1922, *Turbonilla* (*Chemnitzia*), p. 103, pl. 4, fig. 40. Pleistocene of Japan.

tegulata Sowerby, 1892, *Turbonilla*, p. 25, pl. 2, fig. 38. Recent, Port Elisabeth, South Africa. Possible synonyms are: *Turbonilla olga* Thiele, 1925, p. 165, pl. 17, fig. 7. Recent, Simonstown, South Africa and *Turbonilla sophia* Thiele, 1925, p. 164, pl. 17, fig. 6. Recent, Simonstown, South Africa.

templaris Melvill, 1898, *Turbonilla* (*Pyrgostelis*), p. 23, pl. 1, fig. 6. Recent, Karachi, Pakistan.

tenuicosta Issel, 1869, *Turbonilla*, p. 174, pl. 1, fig. 16. Recent, Suez, Red Sea.

tenuis Turton, 1932, *Turbonilla*, p. 94, pl. 21, fig. 687, Recent, Port Alfred. This possibly is the same as *Turbonilla producta* Turton, 1932, and *Turbonilla perexilis* Turton, 1932, and *Turbonilla argentea* Sowerby, 1892, all from South Africa. [Not *Turbonilla tenuis* Pallary, 1904, p. 238, pl. 7, fig. 19. Recent, Sfax, Tunisia, nor *Turbonilla evoluta var. tenuis* von Koenen, 1891, p. 627, pl. 43, figs. 14a, b, from the Oligocene of Germany].

tenuissima Hedley, 1909, *Turbonilla*, p. 450, pl. 42, fig. 8. Recent, Hope Islands, Queensland. [Not *Chemnitzia tenuissima* Etheridge and Bell m.s. (in) A. Bell, 1898, pl. 12, fig. 148,

from the Pliocene of South England. Harmer, 1920, p. 571, pl. 49, fig. 42 is the valid author of that species.

tenuistriata Sowerby, 1894, *Turbonilla*, p. 157, pl. 12, fig. 10. Recent, Hong, Kong, fide Yen, 1942, p. 221, pl. 20, fig. 135.

terebra Dunker, 1860, *Turbonilla*, p. 239, no figure. Recent, Japan. Habe, 1964 lists it as *Paracingulina*, hence not turbonillid. [Not *Turbonilla terebra* A. Adams, 1861, p. 297, no figure. Recent, Hulu Bay, China, fide Yen, 1942, p. 221].

terebriformis Eames, 1951, *Turbonilla* (*Terebromilla*), p. 2 and 60, pl. 3, fig. 70. See *corgani* Eames, 1968. [Not *Turbonilla terebriformis* Smith, 1890, non vidi. See Eames, 1968, p. 167. Nor *terebraeformis* Meneghini, non vidi, but see Sacco, 1892, p. 88, (*Pyrgolampros*).

terebrina Melvill, 1896, *Turbonilla*, p. 115, pl. 8, fig. 20. Recent, Bombay, India.

teres A. Adams, 1861 *Elusa*, p. 297, no figure. Recent, Hulu Shan Bay, China. [Not *Waikura teres*, Marwick, 1965].

teres Marwick, 1965. *Waikura*, p. 47, pl. 10, fig. 11. Tertiary of New Zealand. [Not *Elusa teres* A. Adams, 1861].

textus de Folin, 1879, *Stylopsis*, p. 245, pl. 7 bis, fig. 5. Recent, Andaman Islands.

thaanumi Pilsbry and Vanatta, 1908, p. 58, fig. 3. Recent, Hilo, Hawaii.

thachi Saurin, 1959, *Chemnitzia*, p. 263, pl. 7, fig. 6. Recent, Nhatrang, Viet Nam. Described from a single specimen.

theresa Thiele, 1925, *Turbonilla*, p. 326, pl. 15, fig. 33. Recent, off Padang, Sumatra.

thornleyana Laseron, 1951, *Turbonilla*, p. 320, fig. 74. Recent, Gulf of Oman at 40 fms.

thryallis Melvill, 1918, *Turbonilla*, p. 144, pl. 4, fig. 14. Recent, Gulf of Oman, Charbar, 40. fms. This could be the same as *Amamimormula torreseana* Laseron, 1959.

thuanae Saurin, 1959, *Pyrgiscilla* p. 271, pl. 9, fig. 4. Recent, Nhatrang, Viet Nam.

tiara May, 1911, *Turbonilla*, non vidi. See May, 1921, p. 100, #976 and also May and McPherson, 1958, pl. 45, fig. 1. Is a *Pyrgiscilla*.

tiganourana Nomura, 1936, *Turbonilla* (*Dunkeria*), p. 92, pl. 12, figs. 98a, b. Recent, Siogama Bay, Japan.

tikkoensis Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 54, pl. 6, figs. 50a, b. See *sematana* Yokoyama, 1922.

tincta Sowerby, 1900, *Turbonilla*, p. 5, pl. 1, fig. 15. Recent, South Africa.

tobisimensis Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 24, pl. 3, figs. 28a, b. See *philippiana* Dunker, 1860.

tokaidoensis Nomura, 1939, *Turbonilla*, p. 135, pl. 9, fig. 14. Pliocene of Tonbe, Japan.

tokunagai, Yokoyama, 1920, *Turbonilla* (*Mormula*), p. 84, pl. 5, fig. 18. See *aulica* Dall and Bartsch, 1906.

tonbensis Nomura, 1939, *Turbonilla*, p. 138, pl. 9, fig. 3. Pliocene of Tonbe, Japan.

tonegawana Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 83, pl. 14, figs. 115a, b. Recent, Hossaka Prefecture, Japan.

torques Marwick, 1931, *Waikura*, p. 109, pl. 11, figs. 212 and 213. Oligocene (Hutchinsonian), New Zealand.

torresiana Laseron, 1959, *Amamimormula*, p. 245, figs. 192 and 193. See *belonis* Melvill and Standen, 1896.

tosana Nomura, 1937, *Turbonilla*, p. 84, pl. 6, figs. 17a, b. See *imbana* Yokoyama, 1922.

townsendi Melvill, 1910, *Turbonilla*, p. 191, pl. 5, fig. 11. Recent, Gulf of Oman. May be a *Bartrumella*.

trachealis Gould, 1861, *Chemnitzia*, p. 407. Recent, Simon's Bay, South Africa. Not turbonillid, but in sub genus *Polyspirella* (=*Cingulina*). Synonyms are *Turbonilla acutilirata* Sowerby, 1892, p. 27, pl. 1, fig. 32, Recent, Port Alfred, South Africa and *Turbonilla trochlearis* "Gould" Sowerby, 1897, (appendix), which is an error for *trachealis*.

triarata Pilsbry, 1905, *Turbonilla* (*Cingulina*), p. 31, pl. 5, fig. 48. See *japonica* Clessin, 1900.

tribulationis, Hedley, 1909, *Turbonilla*, p. 450, pl. 42, figs. 79, 80. Recent, Hope Islands, Queensland. Made type of *Zaphella* Laseron, 1959. (*Asmunda*?).

trilineata A. Adams, 1855, *Chemnitzia*, p. 180, no figure. Recent, Ceylon (Sri Lanka), deep water.

trinquieri Saurin, 1959, *Chemnitzia*, p. 265, pl. 7, fig. 4. Recent, Nhatrang Viet Nam. Described from a single specimen.

tritonia Bartsch, 1915, *Turbonilla* (*Pyrgiscus*), p. 79, pl. 19, fig. 4. Recent, Port Alfred, South Africa.

trochlearis "Gould" Sowerby, 1897, *Turbonilla*, appendix, p. 14. Error for *trachealis* Gould, 1861. See there.

tropica Laseron, 1959, *Zaphella*, p. 243, fig. 185. Recent, Endeavour Reef, Australia, in 20 fms.

truncatula Boettger, 1896, *Turbonilla*, p. 95. Recent, Manila, Philippines. Later only listed, never reported.

tuberculosa Nomura, 1939, *Turbonilla s.s.*, p. 137, pl. 9, fig. 48.

Hosoya Pliocene, Japan. See also Hatai and Nisiyama, 1952, p. 262.

tubutubus Nomura, 1939, *Chrysallida*, p. 146, pl. 9, fig. 32. Pleistocene, Japan. Possibly a *Mormula* of the *Rissoina rex* or *scalarina* group.

tugelae Barnard, 1963, *Turbonilla*, p. 88, fig. 14f. Recent, off Tugela River, Natal, in 14 fms.

tumida Saurin, 1959, *Chemnitzia* (*Nisiturris*), p. 265, pl. 7, fig. 3. Recent, Nhatrang, Viet Nam. Described from a single specimen.

tumidula de Folin, 18.., *Turbonilla*, Fonds de la Mer, II, pl. 9, fig. 3. Recent, Mauritius, fide Kisch, 1959, p. 105.

tutamoensis Laws, 1937, *Mormula*, p. 177, pl. 35, figs. 21 and 28. Tertiary (Awamoan), New Zealand.

typica Laseron, 1959, *Zaphella*, p. 243, p. 185. Recent in 20 fms. off Endeavour Reef, Australia. [Not *Turbonilla typica* Dall and Bartsch, 1903 (in) Arnold, p. 269. New name for *Turbonilla plicatula* Risso, 1826, non Brocchi, 1813. Made by Dall and Bartsch, the type of the genus *Turbonilla*].

ultralaeta Nomura, 1936, *Turbonilla* (*Sulcoturbonilla*),p. 92, pl. 9, figs. 70a, b. Japan.

umbrina Melvill, 1918, *Turbonilla*, p. 145, pl. 4, fig. 11. Recent, Karachi, Pakistan.

unemotoi Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 23, pl. 1, figs. 10a, b. Recent, Tobosima, Japan.

unicincta Melvill, 1910, *Turbonilla*, 1892, p. 192, pl. 5, fig. 12. Recent, Mekran coast, off Charbar in 40 fms.

ursula Thiele, 1925, *Turbonilla*, p. 323, pl. 17, fig. 25. Recent, off Padang, Sumatra.

validissima Nomura, 1937, *Turbonilla* (*Pyrgiscus*), p. 69, pl. 7, figs. 34a, b. See *philippiana* Dunker, 1860.

vallata Melvill, 1912, *Turbonilla* (*Nisiturris*), p. 248, pl. 11, fig. 7. Recent, Kuwait, Persian Gulf at 10 fms.

vana Laseron, 1951, *Chemnitzia*, p. 321, fig. 57. Recent, Port Jackson, New South Wales in 6-9 fms.

vanae, Saurin, 1959, *Chemnitzia*, p. 262, pl. 7, fig. 2. Recent, Nhatrang, Viet Nam.

vanieri Saurin, 1959, *Pyrgiscus*, pl. 267, pl. 8, fig. 14. Recent, Nhatrang, Viet Nam. Described from a single specimen.

varicifera Tate, 1898, *Turbonilla*, p. 85, pl. 4, fig. 7. Recent, Gulf of St. Vincent, Australia in deep water. [Not *Turbonilla varicifera* Pilsbry, 1901. That name was replaced by *Turbonilla* (*Mormula*) *scrobiculata* Yokoyama, 1922. See there].

varicifera Pilsbry, 1901, *Turbonilla*, pp. 198 and 395, pl. 21, fig. 27. See *scrobiculata* Yokoyama, 1922.

varicosa A. Adams, 1855, *Chemnitzia*, p. 181, pl. 20, fig. 15. see *cornelliana* Newcomb, 1870.

varicosa Dunker, 1860, *Turbonilla*, p. 239, Recent, Japan. See *aulica* Dall and Bartsch, 1906.

vegrandis Laws, 1937 *Chemnitzia*, p. 59, pl. 13, fig. 21. Recent, Dunedin Harbour, New Zealand, in 3 fms.

velaini Tryon, 1866 *Turbonilla*, p. 336 pl. 75, fig. 99. Replacement name for *Turbonilla scalaris* Velain, 1878, non Philippi, 1836, nec Martin, 1884. See there.

venusta Issel, 1869, Turbonilla, pp. 175 and 334. See pl. 3, fig. 34 in Savigny, 1826.

venustas Laws, 1940, *Evelynella*, p. 153, pl. 14, fig. 19. Tertiary (Awamoan), New Zealand. This is the type of *Evelynella* Laws, 1940.

venustula A. Adams, 1860, *Turbonilla*, p. 418. Recent, Chosan Harbour, Korea.

verecunda Laws, 1937, *Chemnitzia*, p. 55, pl. 13, fig. 6. Recent, off Takapuna, New Zealand in 3-4 fms.

veronica Thiele, 1925, *Turbonilla*, p. 322, figs. 21, 21a. Recent, off Padang, Sumatra.

vigilia Laws, 1937, *Chemnitzia*, p. 63, pl. 13, fig. 4. Recent, Great Barrier Island, Australia.

vincula Laseron, 1959, *Zaphella*, p. 244, figs. 190-191. Recent, Albany Passage, North Australia.

vinhi Saurin, 1959, *Turbonilla*, p. 260, pl. 6, fig. 24. Recent, Nhatrang, Viet Nam. Described from a single specimen.

vitiensis Pilsbry, 1918, *Turbonilla* (*Lancella*), p. 316, pl. 22, fig. 4. See *aulica* Dall and Bartsch, 1906.

vitrea Laseron, 1959, *Turbonilla*, p. 234, fig. 144. Recent, Albany Passage, North Australia in 4-14 fms. [Not *Turbonilla vitrea* Leach (year unknown to me.) but in Leach, 1852, fig. 167, described from the Devon Coast of Britain. Cited by Pfeiffer, 1850, p. 59 and Chenu, 1846, p. 143, pl. 4, fig. 37. (non vidi)].

vittata de Folin, 1879, *Turbonilla*, Vol. 3, p. 239, pl. 6, fig. 7. Recent, Andaman Islands. See Kisch, 1959, p. 105.

vixcostata Ludbrook, 1941, *Turbonilla*, p. 92, pl. 5, fig. 6. Pliocene of Adelaide, Australia. See also Ludbrook, 1957, p. 47. *Turbonilla* (*Pyrgolampros*).

vladivostokensis Bartsch, 1929, *Turbonilla* (*Pyrgolampros*), p. 135, pl. 4, fig. 2. See *rufofasciata* Smith, 1875.

waiauica Laws, 1937, *Finlayola*, p. 313, pl. 44, fig. 16. Tertiary (Awamoan), New Zealand.

waikura Marwick, 1931, *Turbonilla*, p. 107, pl. 11, fig. 203. Oliocene (Hutchinsonian), New Zealand.

waitemata Laws, 1937, *Chemnitzia*, p. 67 and 58, pl. 13, fig. 19. Recent, Takapuna Beach, Auckland, New Zealand.

wangwana Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 117, pl. 22, fig. 24. Pliocene of Wangwa, Taiwan.

weeahensis Chapman and Gabriel, 1913, *Turbonilla*, p. 320, pl. 28, figs. 27a, b. Tertiary of Victoria, Australia.

whitechurchi Turton, 1932, *Turbonilla*, p. 95, pl. 21, fig. 694, Port Alfred, South Africa.

widningae Ludbrook, 1957, *Turbonilla* (*Chemnitzia*), p. 46, pl. 3, figs 14, 15. Pliocene, Adelaide, Australia.

woodmasoni de Folin, 1879, Fonds de la Mer, Vol. 3, p. 240, pl. 6, fig. 8. Recent, Andaman Islands. See Kisch, 1959, p. 105.

wurongae Ludbrook, 1957, *Turbonilla* (*Chemnitzia*), p. 44, pl. 3, fig. 12. Pliocene of Adelaide, Australia.

xenophyes Melvill and Standen, 1912, *Turbonilla*, p. 353, figs. 16, 16a. Birdwood Bank, south of Falkland Islands. Placed here because circum Antarctic species are placed with Indo-Pacific material.

yabei Nomura, 1939, *Turbonilla* (*Ptycheulimella*), p. 139, pl. 9, fig. 42. Pliocene of Shibikawa, Japan. Not turbonillid. A possible synonym is *Turbonilla* (*Ptycheulimella*) *natukawaensis* Nomura, 1939, pl. 9, fig. 2.

yanamii Yokoyama, 1926, *Turbonilla* (*Pyrgiscus*), p. 280, pl. 35, fig. 4. Sawane Pliocene, Japan. Not turbonillid but Tachyrhynchus.

yokoyamai Makiyama, 1927, *Turbonilla* (*Strioturbonilla*), p. 131, pl. 6, fig. 11. Dainichi, Pliocene, Japan.

yoritomoi Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 54, pl. 9, figs. 75a, b. Recent, Kamakura, Japan.

yotokurensis Nomura, 1938, *Turbonilla* (*Pyrgiscus*), p. 23. pl. 1, figs. 2a, b. Recent, Yotokura, Japan.

yvonnae Saurin, 1959, *Pyrgiscilla*, p. 272, pl. 9, fig. 20. Recent, Nhatrang, Viet Nam. Described from a single specimen.

zamboangoensis Baker and Spicer, 1930, *Turbonilla* (*Strioturbonilla*), p. 176, pl. 19, fig. 2. Recent, off the coast of Zamboanga, Philippines in 4 fms.

zealandica Hutton, 1873, *Chemnitzia*, p. 22. Recent, Stewart Island, New Zealand. A form of it is *Chemnitzia zelandica axivarians*

Laws, 1937 p. 61. Recent, Lyall Bay, Wellington, New Zealand; *zelandica* is the spelling used by Laws, 1937 and Finlay, 1928. A synonym is *Turbonilla neozelanica* Hutton, 1885, p. 934 and 1893 (non vidi), Tryon, 1886, p. 334 spells erroneously "*neozelandica*"

zenobia Bartsch, 1915, *Turbonilla*, p. 79, pl. 16, fig. 6. Recent, Port Alfred, South Africa.

zetemia Melvill, 1910, *Turbonilla*, p. 192, pl. 5, fig. 13. See *eminuta* de Folin, 1879.

z-satoi Nomura, 1936, *Turbonilla* (*Turbonilla*), p. 59, pl. 8, figs. 61a, b. Recent, Siogama Bay, Japan.

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