

Recent and Quaternary foraminifera collected around New Caledonia

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Abstract

The compilation of the works carried out on Recent and Quaternary foraminifera collected in the waters surrounding New Caledonia allowed us to identify 585 taxa. These taxa are listed according to the classification of Loeblich & Tappan (1988), updated for the Recent species by Debenay *et al.* (1996). Their affinity with microfaunas from other regions is briefly discussed.

Résumé

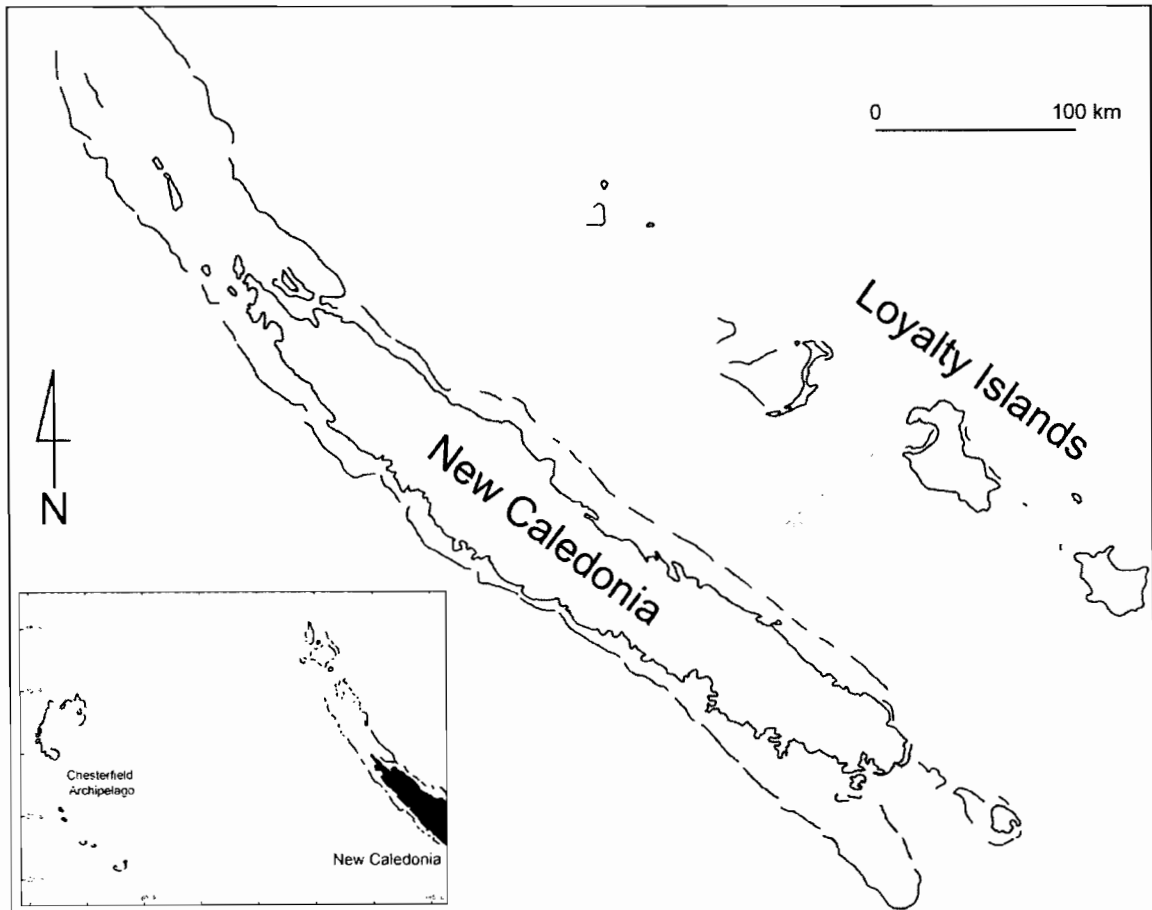
La compilation des travaux sur les foraminifères actuels et quaternaires récoltés dans les eaux entourant la Nouvelle-Calédonie nous a permis de répertorier 585 taxons. Ces taxons sont présentés selon la classification de Loeblich & Tappan (1988), mise à jour pour les espèces actuelles par Debenay *et al.* (1996). Leur affinité avec les microfaunes d'autres régions est discuté brièvement

The first study about foraminifera from the southwestern Pacific near New Caledonia was carried out by Brady (1884) during the voyage of H.M.S. Challenger (1873-1876), updated by Barker (1960). The nearest station was station 177, near Vanuatu (16°45'S-168°5'E). However, studies concerning directly New Caledonia began much later, with partial and local inventories in coastal samples (Gambini, 1958, 1959; Renaud-Debyser, 1965; Toulouse, 1965, 1966). Samples of recent and fossil sediments collected during the Singer-Polignac mission (1960-1965) were further used for several studies of foraminiferal assemblages (Coudray & Margerel, 1974; Coudray, 1976; Margerel, 1981). These samples allowed Margerel (1984) to make the first detailed inventory of the foraminifera of the Baie de Saint-Vincent (southwest of New Caledonia). This inventory, unfortunately still unpublished, describe 289 species from the bay. On the occasion of a sedimentological study carried out by the IRD in the southwestern lagoon of New Caledonia, more than 800 surface sediment samples were collected. The allowed the first exhaustive study of large foraminifera (> 0.5 mm), with the description of 168 species. Most of them are deposited at the Museum d'Histoire Naturelle de Genève (Debenay & Decrouez, 1989). Several papers were published (Debenay, 1985a, 1985b, 1986, 1988a, 1988b, 1988c). During the same period, the foraminifera of Quaternary reefal paleoenvironments were studied (Cabioch *et al.*, 1986; Cabioch, 1988), as well as the benthic (Vincent, 1986; Vincent & Laurin, 1988; Vincent *et al.*, 1991) and planktonic (Lambert *et al.*, 1991) foraminifera of the Loyalty basin. Two PhD theses also provided inventories of foraminifera from New Caledonia and Polynesia (Adjas, 1988), and from New Caledonia and Chesterfield islands (Degauche-Michalski, 1993). Samples have been collected in coastal marshes and mangrove swamps for a more comprehensive study about the foraminifera of paralic environments (Debenay & Guillou, 2002). Finally, an illustrated catalogue of part of the species from the Baie de Saint-Vincent has been prepared by Margerel and is available on the web site of the University of Provence: <http://194.57.66/Collection/Index.htm>. All the works reported above were used to prepare the following inventory of the foraminifera species that live in the waters surrounding New Caledonia. The 585 species identified are presented according to the classification of Loeblich & Tappan (1988), updated for the Recent species by Debenay *et al.* (1996). Most of the species reported were collected in the shallow lagoonal waters where calcareous species are dominant, with mainly the suborder Miliolina. Marshes and mangrove swamps microfaunas include a greater variety of agglutinated species belonging to the suborders Haplophragmiina, Trochamminina and textulariina. Species collected in these environments are

marked with “°” in the inventory. Agglutinated species are also well represented in the deeper areas of the Loyalty basin, together with calcareous species (suborder Rotaliina) and planktonic species (suborder Globigerinina), which were reported in noticeable quantity only in this environment. Species collected only in the Loyalty basin are marked with “+” in the inventory. Species from Quaternary reefal environments of New Caledonia may be found in Recent sediments from other areas. They are marked with “*” in the inventory.

The following inventory was made taking into account synonymies, as much as possible: when species were reported under two or three different names, owing to taxonomical changes, one name has been selected for the list and the other name(s) is(are) put in square brackets. For example, *Varidentella neostriatula* (THALMANN) was also reported as *Quinqueloculina neostriatula* and *Triloculinella (Scutuloris) neostriatula*. Moreover, the interpretation of some species by different authors may be very confusing. It is the case for the genus *Ammonia*, for example. These uncertainties should be removed during further updating of the inventories. Works in progress will allow us to supplement this inventory. More than 100 species never recorded in New Caledonia have already been collected. They will be published soon.

Foraminiferal assemblages of New Caledonia have noticeable similarities with assemblages reported from other areas in western and central Pacific such as the Great Barrier of Australia (Collins, 1958; Baccaert, 1987; Horton *et al.*, 2003), New Guinea (Haig, 1988; Langer & Lipps, 2003), Solomon Islands (Hughes, 1977), and Society Islands (Le Calvez & Salvat, 1980, Venec-Peyré & Salvat, 1981). Affinities with the Indian Ocean are also noticeable, particularly with the lagoon of Mayotte (Le Calvez *in* Guilcher *et al.*, 1965), the Glorioso islands (Battistini *et al.*, 1976), the Maldives (Hottinger, 1980), the Mascarene archipelago (Montaggioli, 1981), and the coasts of Kenya (Levy *et al.*, 1982).



Location of the areas where foraminifera were studied (shaded areas)

Some species collected in New Caledonia are typical of Pacific and Indopacific provinces. They are: *Textularia foliacea*, *Clavulina difformis*, *Quinqueloculina kerimbatica*, *Pyrgo striolata*, *Alveolinella quoyi*, *Schlumbergerina alveoliniformis*, *Epistomaroides polystomelloides*, *Amphistegina lessonii*, *Planorbulinella larvata*, *Cymbaloporetta bradyi*, *Cymbaloporella tabellaeformis* and *Anomalinaella rostrata*. Other may be found in other geographical provinces: *Marginopora vertebralis*, *Sorites marginalis*, *Amphisorus hemprichii*, *Peneroplis pertusus* and *Planogypsina acervalis*. Some of them may also live in temperate waters: *Triloculina tricarinata*, *Triloculina trigonula*, *Eponides repandus* and *Lobatula lobatulus*.

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Order Foraminiferida Eichwald, 1830

Suborder ALLOGROMIINA Loeblich & Tappan, 1961,

Family ALLOGROMIIDAE Rhumbler, 1904

Subfamily ARGILLOTUBINAE Avnimelech, 1952

Nodellum Rhumbler, 1913

+*Nodellum membranaceum* (Brady)

Suborder ASTRORHIZINA Jivorec, 1953,

Superfamily ASTRORHIZACEA Brady, 1881

Family RHABDAMMINIDAE Brady, 1884

Subfamily RHABDAMMININAE Brady, 1884

Oculosiphon Avnimelech, 1952

+*Oculosiphon linearis* (Brady)

Rhabdammina Sars, 1869

+*Rhabdammina abyssorum* (Sars)

Family PSAMMOSPHAERIDAE Haeckel, 1894

Subfamily PSAMMOSPHAERINAE Haeckel, 1894

Psammosphaera Schulze, 1875

Psammosphaera sp.

Family SACCAMMINIDAE Brady, 1884

Subfamily SACCAMMININAE Brady, 1884

Saccammina Carpenter, 1869

+*Saccammina sphaerica* (Sars)

Superfamily HIPPOCREPINACEA Rhumbler, 1895

Family HIPPOCREPINIDAE Rhumbler, 1895

Subfamily HYPERAMMININAE Eimer & Fickert, 1899

Hyperammina Brady, 1878

+*Hyperammina elongata* (Brady)

Saccorhiza Eimer & Fickert, 1899

+*Saccorhiza ramosa* (Brady)

Suborder HAPLOPHRAGMIINA Wedekind, 1937,

Superfamily AMMODISCACEA Reuss, 1862

Family AMMODISCIDAE Reuss, 1862

Subfamily AMMODISCINAE Reuss, 1862

Ammodiscus Reuss, 1862

°*Ammodiscus* sp.

Subfamily TOLYPAMMININAE Cushman, 1928

Ammolagena Eimer & Fickert, 1899

+*Ammolagena clavata* (Parker & Jones)

Subfamily AMMOVERTELLININAE Saidova, 1981

Glomospira Rzehak, 1885

+*Glomospira charoides* (Jones & Parker)

Superfamily HORMOSINACEA Haeckel, 1894

Family HORMOSINIDAE Haeckel, 1894

Subfamily Reophacinae Cushman, 1910

Reophax de Monfort, 1808

Reophax agglutinans Cushman

+*Reophax ampullacea* (Brady)

+*Reophax distans* (Brady)

+*Reophax fusiformis* (Williamson)

Reophax irregularis Parker

+*Reophax nodulosus* (Brady)

Reophax scoriurus de Montfort

+*Reophax spiculifer* (Brady)

Subfamily Hormosininae Haeckel, 1894

Reophanus Saidova, 1970

Reophanus (Hormosina) ovicula (Brady)

Superfamily LITUOLACEA de Blainville, 1827

Family HAPLOPHRAGMOIDIDAE Maync, 1952

Haplophragmoides Cushman, 1910

Haplophragmoides canariensis (d'Orbigny)

°*Haplophragmoides wilberti* Andersen

Family DISCAMMINIDAE Mikhalevich, 1980

Ammoscalaria Höglund, 1947

+*Ammoscalaria pseudospiralis* (Williamson)

Family LITUOTUBIDAE Loeblich & Tappan, 1984

Lituotuba Rhumbler, 1895

+*Lituotuba lituiformis* (Brady)

Family LITUOLIDAE de Blainville, 1827

Subfamily AMMOMARGINULININAE Podobina 1978

Ammobaculites Cushman, 1910

+*Ammobaculites agglutinans* (d'Orbigny)

+*Ammobaculites calcareus* (Brady)

°*Ammobaculites exiguus* Cushman & Bronnimann

Ammobaculites reophaciformis Cushman

°*Ammobaculites* sp.

Anmotium Loeblich & Tappan, 1953

°*Anmotium cassis* (Parker)

°*Anmotium salsum* (Cushman & Bronnimann)

Family PLACOPSILINIDAE Rhumbler, 1913

Subfamily PLACOPSILININAE Rhumbler, 1913

Placopsilina d'Orbigny, 1850

Placopsilina bradyi Cushman et MC Culloch

Superfamily HAPLOPHRAGMIACEA Eimer & Fickert, 1899

Family AMMOSPHAEROIDINIDAE Cushman, 1927

Subfamily AMMOSPHAEROIDININAE Cushman, 1927

Cystammina Neumayr, 1889

+*Cystammina galeata* (Brady)

Superfamily LOFTUSIACEA Brady, 1884

Family CYCLAMMINIDAE Marie, 1941

Subfamily ALVEOLOPHRAGMIINAE Saidova, 1981

Alveolophragmium Shchedrina, 1936

+*Alveolophragmium subglobosum* (Sars)

+*Alveolophragmium zealandicum* (Vella)

Subfamily CYCLAMMININAE Marie, 1941

Cyclammia Brady, 1879

+*Cyclammia cancellata* (Brady)

+*Cyclammia trullissatz* (Brady)

Superfamily SPIROPLECTAMMINACEA Cushman, 1927

Family SPIROPLECTAMMINIDAE Cushman, 1927

Subfamily SPIROTEXTULARIINAE Saidova, 1975

Spirotextularia Saidova, 1975

Spirotextularia fistulosa (Brady) [*Textularia fistulosa*]

Family NOURIIDAE Chapman & Parr, 1936

Nouria Heron-Allen & Earland, 1914

Nouria polymorphinoides Heron-Allen et Earland

Superfamily VERNEUILINACEA Cushman, 1911

Family VERNEUILINIDAE Cushman, 1911

Subfamily VERNEUILININAE Cushman, 1911

Gaudryina d'Orbigny, 1839

Gaudryina (*Pseudogaudryina*) *concava* Collins

°*Gaudryina exilis* Cushman & Bronnimann

Gaudryina quadrangularis Bagg

+*Gaudryina robusta* (Cushman)

+*Gaudryina rudis* (Wright)

Siphogaudryina Cushman, 1935

Siphogaudryina rugulosa (Cushman)

Superfamily ATAXOPHRAGMIACEA Schwager, 1877

Family GLOBOTEXTULARIIDAE Cushman, 1927

Subfamily LIEBUSELLINAE Saidova, 1981

Liebusella Cushman, 1933

+*Liebusella soldanii* (Jones & Parker)

Suborder Trochamminina Schwager, 1877

Family TROCHAMMINIDAE Schwager, 1877

Subfamily TROCHAMMININAE Schwager, 1877

Trochammina Parker & Jones, 1859

°*Trochammina inflata* (Montagu)

Subfamily ROTALIAMMININAE Saidova, 1981

Siphotrochammina Saunders, 1957

°*Siphotrochammina lobata* Saunders

Subfamily JADAMMININAE Saidova, 1981

Jadammina Bartenstein & Brand, 1938

°*Jadammina macrescens* (Brady)

Subfamily ARENOPARRELLINAE Saidova, 1981

Arenoparrella Andersen, 1951

°*Arenoparrella mexicana* (Kornfeld)

Suborder TEXTULARIINA Delage et Herouard, 1986

Superfamily TEXTULARIACEA Ehrenberg, 1838

Family EGGERELLIDAE Cushman, 1937

Subfamily DOROTHIINAE Balakhmatova, 1972

Dorothia Plummer, 1931

+*Dorothia scabra* (Brady)

Subfamily EGGERELLINAE Cushman, 1937

Eggerella Cushman, 1935

+*Eggerella bradyi* (Cushman)

+*Eggerella ghumboldtii* (Todd & Bronnimann)

Karrerella Cushman, 1933

+*Karrerella bradyi* (Cushman)

Martinottiella Cushman, 1933

+*Martinottiella bradyana* (Cushman)

+*Martinottiella nodulosa* (Cushman)

Family TEXTULARIIDAE Ehrenberg, 1838

Subfamily TEXTULARIINAE Ehrenberg, 1838

Bigenerina d'Orbigny, 1826

+*Bigenerina nodosaria* (d'Orbigny)

Sahulia Loeblich & Tappan, 1985

Sahulia barkeri (Hofker)

Sahulia conica (d'Orbigny) [*Textularia conica*]

Sahulia kerimbaensis (Said) [*Textularia kerimbaensis*]

Textularia DeFrance, 1824

Textularia agglutinans d'Orbigny

Textularia baretii Jones and Parker

Textularia candeiana d'Orbigny

**Textularia* aff. *conica corrugata* Heron-Allen et Earland

Textularia foliacea Heron-Allen & Earland *foliacea* Heron-Allen & Earland

Textularia foliacea Heron-Allen & Earland *occidentalis* Cushman

Textularia foliacea Heron-Allen et Earland *oceanica* Cushman

Textularia goesii Cushman

**Textularia lateralis* Lalicker

Textularia orbica Lalicker et Mc Culloch

Textularia pseudogramen Chapman et Parr

**Textularia pseudoturris* Cushman

Textularia rugulosa Cushman

Textularia semialata Cushman

Subfamily SIPHOTEXTULARIINAE Loeblich & Tappan, 1985

Siphotextularia Finlay, 1939

Siphotextularia heterostoma (Brady)

Siphotextularia sp.

Subfamily *Planctostomatinae* L. & Tappan, 1984

Planctostoma Loeblich & Tappan, 1955

Planctostoma luculenta (Brady)

Subfamily SEPTOTEXTULARIINAE Loeblich & Tappan, 1985

Septotextularia Cheng & Zheng, 1978

Septotextularia rugosa Cheng & Zheng

Family PSEUDOGAUDRYINIDAE Loeblich & Tappan, 1985

Subfamily SIPHONIFEROIDINAE Loeblich & Tappan, 1985

Plotnikovina Mikhalevich, 1981

Plotnikovina transversaria (Brady)

Siphoniferoides Saidova, 1981

Siphoniferoides siphoniferus (Brady) [+*Siphogaudryina siphonifera*]

Family VALVULINIDAE Berthelin, 1880

Subfamily VALVULININAE Berthelin, 1880

Clavulina d'Orbigny, 1826

Clavulina difformis Brady

Clavulina multicamerata Chapman

Clavulina nodosaria d'Orbigny

Clavulina pacifica Cushman

Clavulina tricarinata d'Orbigny

Cylindroclavulina Bermudez & Key, 1952

+*Cylindroclavulina bradyi* (Cushman)

Suborder INVOLUTININA Hohenegger & Piller, 1977

Family INVOLUTINIDAE Bütschli, 1880

Subfamily INVOLUTININAE Bütschli, 1880

Involutina Terquem, 1862

+*Involutina tenuis* (Brady)

Suborder SPIRILLININA Hohenegger & Piller, 1975

Family SPIRILLINIDAE Reuss & Fritsch, 1861

Mychostomina Berthelin, 1881

Mychostomina revertens (Rhumbler)

Spirillina Ehrenberg, 1843

Spirillina denticulata Brady

**Spirillina inaequalis* Brady

Spirillina spinigera Chapman

+*Spirillina tuberculata* (Brady)

Spirillina vivipara Ehrenberg

Family PATELLINIDAE Rhumbler, 1906

Subfamily PATELLININAE Rhumbler, 1906

Patellina Williamson, 1858

Patellina advena Cushman *altiformis* Cushman

Patellina corrugata Williamson

Suborder CARTERININA Loeblich & Tappan, 1981

Family CARTERINIDAE Loeblich & Tappan, 1955

Carterina Brady, 1884

Carterina spiculotesta (Carter)

Suborder MILIOLINA Delage & Herouard, 1896,

Superfamily CORNUSPIRACEA Schultze, 1854

Family CORNUSPIRIDAE Schultze, 1854

Subfamily CORNUSPIRINAE Schultze, 1854

Cornuspira Schultze, 1854

Cornuspira involvens (Reuss) [*Cyclogyra involvens*]

Cornuspira planorbis Schultze

Family FISCHERINIDAE Millett, 1898

Subfamily FISCHERININAE Millett, 1898

Planispirinella Wiesner, 1931

Planispirinella exigua (Brady)

Subfamily FISCHERINELLINAE Saidova, 1981

Fischerinella Loeblich & Tappan, 1962

Fischerinella pellucida (Millet)

Subfamily NODOBACULARIELLINAE Bogdanovich, 1981

Nodobaculariella Cushman & Hanzawa, 1937

**Nodobaculariella convexiuscula* (Brady)

Nodobaculariella japonica Cushman & Ozawa

Nodobaculariella rustica Cushman et Todd

Vertebralina d'Orbigny, 1826

Vertebralina insignis Brady

Vertebralina striata d'Orbigny

Wiesnerella Cushman, 1933

Wiesnerella auriculata (Egger)

Family NUBECULARIIDAE Jones, 1875

Subfamily NODOPHTHALMIDIINAE Cushman, 1940

Nodophthalmidium Macfadyen, 1939

Nodophthalmidium antillarum (Cushman)

Subfamily NODOBACULARIINAE Cushman, 1927

Nodobacularia Rhumbler, 1895

Nodobacularia sageninaeformis Hofker

Nubeculina Cushman, 1924

Nubeculina divaricata (Brady) var. *advena* Cushman

Subfamily NUBECULARIINAE Jones, 1875

Nubecularia Defrance, 1825

Nubecularia lucifuga Defrance

Family OPHTHALMIDIIDAE Wiesner, 1920

Cornuloculina Burbach, 1886

+*Cornuloculina (Hauerinella) inconstans* (Brady)

Edentostomina Collins, 1958

Edentostomina cultrata (Brady)

Superfamily MILIOLACEA Ehrenberg, 1839

Family SPIROLOCULINIDAE Wiesner, 1920

Inaequalina Luckzkowska, 1971

Inaequalina affixa (Terquem)

Spiroloculina d'Orbigny, 1826

Spiroloculina acescata Cushman

Spiroloculina angulata Cushman

Spiroloculina antillarum d'Orbigny

Spiroloculina caduca Cushman

Spiroloculina clara Cushman

Spiroloculina comunis Cushman et Todd

Spiroloculina convexa Said

Spiroloculina corrugata Cushman et Todd

**Spiroloculina depressa* d'Orbigny

Spiroloculina disparilis Terquem

Spiroloculina foveolata Egger

Spiroloculina nummiformis Said

Spiroloculina ornata d'Orbigny

Spiroloculina samoensis Cushman

**Spiroloculina scita* Cushman et Todd

Family HAUERINIDAE Schwager, 1876

Subfamily SIPHONAPERTINAE Saidova, 1975

Annomassilina Cushman, 1933

Annomassilina alveoliniformis (Millett)

Schlumbergerina Munier-Chalmas, 1882

Schlumbergerina alveoliniformis (Brady)

Siphonaperta Vella, 1957

Siphonaperta agglutinans (d'Orbigny) [*Quinqueloculina agglutinans*]

Siphonaperta anguina (Terquem) *arenata* (Said) [*Q. anguina* var. *arenata*]

Siphonaperta distorteata (Cushman)

Siphonaperta enoplostoma (d'Orbigny)

Siphonaperta pittensis (Albani) [*Quinqueloculina pittensis*]

Subfamily HAUERININAE Schwager, 1876

Cycloforina Luczkowska, 1972

Cycloforina crassicarinata (Collins) [*Quinqueloculina crassicarinata*]

Cycloforina? *littoralis* (Collins) [*Triloculina littoralis*]

Cycloforina philippinensis (Cushman) [*Q. kerimbatica* var. *philippinensis*]

Cycloforina quinquecarinata (Collins)

Cycloforina sulcata (d'Orbigny) [*Quinqueloculina sulcata*]

Hauerina d'Orbigny, 1839

**Hauerina bradyi* Cushman

Hauerina diversa Cushman

Hauerina ornatissima (Karrer)

Hauerina pacifica Cushman

Lachlanella Vella, 1957

Lachlanella bidentata (d'Orbigny) [*Quinqueloculina bidentata*]

Lachlanella parkeri (Brady) [*Quinqueloculina parkeri*]

Lachlanella subpolygona (Parr)

Lachlanella subrugosa (Collins)

Massilina Schlumberger, 1893

Massilina crenata (Karrer)

Massilina inaequalis Cushman

Quinqueloculina d'Orbigny, 1826

Quinqueloculina barnardi Rasheed

Quinqueloculina cf. *berthelotiana* d'Orbigny

Quinqueloculina bicostata d'Orbigny

Quinqueloculina boschiana d'Orbigny

+*Quinqueloculina* cf. *bradyana* (Barker)

Quinqueloculina crassa Heron-Allen et Earland

**Quinqueloculina crenulata* Cushman

Quinqueloculina cuvieriarana d'Orbigny var. *queenslandica* Collins

Quinqueloculina disparilis d'Orbigny var. *curta* Cushman

Quinqueloculina funafutiensis (Chapman)

Quinqueloculina granulocostata Germeraad

Quinqueloculina hadaii Rasheed

Quinqueloculina lamarckiana d'Orbigny in de la Sagra

+*Quinqueloculina limbata* (d'Orbigny)

Quinqueloculina milletti (Weisner)

Quinqueloculina oblonga (Montagu) [*Triloculina oblonga*]

Quinqueloculina polygona d'Orbigny

Quinqueloculina pseudoreticulata Parr

Quinqueloculina samoensis Cushman

°*Quinqueloculina seminula* (Linné)

Quinqueloculina striatula Cushman

+*Quinqueloculina subcuneata* (Cushman)

Quinqueloculina tropicalis Cushman.

Quinqueloculina tubus Todd

**Quinqueloculina variolata* d'Orbigny

Subfamily MILIOLINELLINAE Vella, 1957

- Affinetrina* Luczkowska, 1972
 Affinetrina bicarinata (d'Orbigny) [*Quinqueloculina bicarinata*]
 Affinetrina quadrilateralis (d'Orbigny)
Flintina Cushman, 1921
 Flintina bradyana Cushman
Flintinoides Cherif, 1970
 Flintinoides labiosa (d'Orbigny) [*Triloculina labiosa*]
Miliolinella Wiesner, 1931
 Miliolinella albatrossi Baccaert
 Miliolinella australis (Parr)
 Miliolinella baragwanathi (Parr) [*Scutuloris baragwanathi*]
 Miliolinella subrotunda (Montagu)
 **Miliolinella webbiana* (d'Orbigny)
Pseudomassilina Lacroix, 1938
 Pseudomassilina australis (Cushman)
 Pseudomassilina macilenta (Brady)
 Pseudomassilina pacificensis Cushman
Pseudotriloculina Cherif, 1970
 Pseudotriloculina ? *eburnea* (d'Orbigny)
 Pseudotriloculina linneiana (d'Orbigny) [**Triloculina linneiana*]
 Pseudotriloculina subgranulata (Cushman)
Pyrgo Defrance, 1824
 Pyrgo denticulata (Brady)
 +*Pyrgo depressa* (d'Orbigny)
 +*Pyrgo lucernula* (Schwager)
 +*Pyrgo murrhyna* (Schwager)
 Pyrgo oblonga (d'Orbigny)
 +*Pyrgo serrata* (Bailey)
 Pyrgo striolata (Brady) [*Pyrgo denticulata striolata*]
 Pyrgo subglobulus Parr
 +*Pyrgo vespertilio* (Schlumberger)
Triloculina d'Orbigny, 1826
 Triloculina austriaca d'Orbigny
 Triloculina bassensis Parr
 Triloculina bertheliniana (Brady)
 Triloculina cuneata Karrer
 Triloculina earlandi Cushman, Todd & Post
 Triloculina fichteliana d'Orbigny
 Triloculina cf. *gracilis* d'Orbigny
 +*Triloculina irregularis* (d'Orbigny) [*Quinqueloculina* cf. *irregularis*]
 Triloculina laevigata d'Orbigny
 Triloculina linneiana d'Orbigny var. *gomis* Bandy
 Triloculina marshallana Todd
 Triloculina oceanica Cushman
 Triloculina planciana d'Orbigny in de la Sagra
 Triloculina reticulata d'Orbigny var. *sagra* (d'Orbigny)
 Triloculina rotunda d'Orbigny
 Triloculina sabulosa Collins
 Triloculina terquemiana (Brady)
 Triloculina transversistriata Brady
 Triloculina tricarinata d'Orbigny
 Triloculina trigonula (Lamarck)
Triloculinella Riccio, 1950
 **Triloculinella circularis* (Bornemann) [*Scutuloris circularis*]
Varidentella Luczkowska, 1972
 Varidentella neostriatula (Thalman) [*Quinqueloculina*, *Scutuloris*, *Triloculinella*]

Subfamily SIGMOILINITINAE Luczkowska, 1974

- Nummoloculina* Steinmann, 1881
 - +*Nummoloculina contraria* (d'Orbigny)
- Sigmoilina* Schlumberger, 1887
 - +*Sigmoilina carinata* (Hofker)
 - **Sigmoilina* cf. *porcellana* Germeraad
- Spirosigmoilina* Parr, 1942
 - Spirosigmoilina bradyi* Collins
 - Spirosigmoilina parri* Collins

Subfamily SIGMOILOPSINAE Vella, 1957

- Sigmoilopsis* Finlay, 1947
 - +*Sigmoilopsis schlumbergeri* (Silvestri)

Subfamily TUBINELLINAE Rhumbler, 1906

- Articulina* d'Orbigny, 1826
 - Articulina alticostata* Cushman
 - Articulina mucronata* (d'Orbigny)
 - Articulina pacifica* Cushman [*Nodobacularia antillarum* var. *pacifica*]
 - Articulina sagra* d'Orbigny
 - Articulina scrobiculata* (Brady)
- Parrina* Cushman, 1931
 - Parrina bradyi* (Millett)
- Tubinella* Rhumbler, 1906
 - Tubinella funalis* (Brady)

Family RIVEROINIDAE Saidova, 1981

- Pseudohauerina* Ponder, 1972
 - Pseudohauerina occidentalis* var. *involuta* (Cushman) [**Hauerina involuta*]
 - Pseudohauerina orientalis* (Cushman) [*Hauerina orientalis*]

Superfamily ALVEOLINACEA Ehrenberg, 1839

Family ALVEOLINIDAE Ehrenberg, 1839

- Alveolinella* Douvillé, 1907
 - Alveolinella boscii* Defrance
 - Alveolinella quoyi* (d'Orbigny)
- Borelis* de Monfort, 1808
 - Borelis pulchra* d'Orbigny

Superfamily SORITACEA Ehrenberg, 1839

Family Peneroplidae Schultze, 1854

- Monalysidium* Chapman, 1900
 - Monalysidium acicularis* (Batsch)
 - Monalysidium politum* Chapman
- Peneroplis* de Monfort, 1808
 - Peneroplis pertusus* (Forskal)
 - Peneroplis planatus* (Fichtel et Moll)
- Spirolina* Lamarck, 1804
 - Spirolina arietina* (Batsch)

Family SORITIDAE Ehrenberg, 1839

Subfamily SORITINAE Ehrenberg, 1839

- Amphisorus* Ehrenberg, 1839
 - Amphisorus hemprichii* Ehrenberg
- Marginopora* Quoy & Gaimard, 1830
 - Marginopora vertebralis* Quoy et Gaimard
- Sorites* Ehrenberg, 1839
 - Sorites marginalis* (Lamarck)
 - Sorites orbitolioides* (Hofker)

Suborder LAGENINA Delage & Herouard, 1896

Superfamily NODOSARIACEA Ehrenberg, 1838

Family NODOSARIIDAE Ehrenberg, 1838

Subfamily NODOSARIINAE Ehrenberg, 1838

Dentalina Risso, 1826

+*Dentalina communis* (d'Orbigny)

Dentalina filiformis (d'Orbigny)

+*Dentalina guttifera* (d'Orbigny)

Laevidentalina Loeblich & Tappan, 1986

Laevidentalina sp.

Nodosaria Lamarck, 1812

Nodosaria proxima Silvestri

Pyramidulina Fornasini, 1894

Pyramidulina catesbyi (d'Orbigny)

Subfamily LINGULININAE Loeblich & Tappan, 1961

Lingulina d'Orbigny, 1826

Lingulina carinata d'Orbigny

Family VAGINULINIDAE Reuss, 1860

Subfamily LENTICULININAE Chapman, Parr & Collins, 1934

Lenticulina Lamarck, 1804

+*Lenticulina asterizans* (Parr)

+*Lenticulina calcar* (Linné)

Lenticulina gibba (d'Orbigny)

+*Lenticulina subconvergens* (Saidova)

Lenticulina vortex (Fichtel et Moll)

Subfamily PALMULININAE Saidova 1981

Fronovaginulina Schubert, 1912

Fronovaginulina ? *robusta* (Brady)

Subfamily MARGINULININAE Wedekind, 1937

Amphicoryna Schlumberger, 1881

+*Amphicoryna hirsuta* (d'Orbigny)

+*Amphicoryna scalaris* (Batsch)

Amphicoryna separans (Brady)

Astacolus de Monfort, 1808

+*Astacolus crepidulus* (Fichtel & Moll)

Vaginulinopsis Silvestri, 1904

+*Vaginulinopsis pacifica* (Cushman & Ozawa)

Family LAGENIDAE Reuss, 1862

Hyalinonetrion Patterson & Richardson, 1987

Hyalinonetrion gracillima (Seguenza)

Lagena Walker & Jacob, 1798

Lagena gracilis Williamson

+*Lagena hispida* (Reuss)

Lagena laevis (Montagu)

Lagena perlucida (Montagu)

Lagena striata d'Orbigny

Lagena strumosa REUSS

Lagena sulcata Walker & Jacob var. *spicata* Cushman et Mc Culloch

Pygmaeoseistron Patterson & Richardson, 1987

Pygmaeoseistron hispidula (Cushman)

Family POLYMORPHINIDAE d'Orbigny, 1839

Subfamily POLYMORPHININAE d'Orbigny, 1839

Globulina d'Orbigny, 1839

Globulina gibba tuberculata d'Orbigny

Guttulina d'Orbigny, 1839

Guttulina problema d'Orbigny

Guttulina regina (Brady, Parker et Jones)

Pseudopolymorphina Cushman & Ozawa, 1928

**Pseudopolymorphina ligua* (Roemer)

Pseudopolymorphina ovalis Cushman et Ozawa

Subfamily RAMULININAE Brady, 1884

Ramulina Jones, 1875

+*Ramulina globulifera* (Brady)

Family ELLIPSOLAGENIDAE Silvestri, 1923

Subfamily OOLININAE Loeblich & Tappan, 1961

Buchnerina Jones, 1984

Buchnerina lacunata (Burrows & Holland)

Buchnerina perforata (Möbius)

Buchnerina radiato-marginata (Parker et Jones) [*Fissurina radiato-marginata*]

Cushmanina Jones, 1984

Cushmanina desmophora (Rymer-Jones) [*Lagena desmophora*]

Cushmanina spiralis (Brady) [*Lagena spiralis*]

Favulina Patterson & Richardson, 1987

Favulina hexagona (Williamson)

Favulina squamosa (Montagu)

Lagnea Popescu, 1983

Lagnea parviauriculata (McCulloch)

Oolina d'Orbigny, 1839

**Oolina globosa* (Montagu)

Subfamily ELLIPSOLAGENINAE Silvestri, 1923

Fissurina Reuss, 1850

Fissurina clathrata (Brady)

+*Fissurina kerguelensis* (Parr)

Fissurina lagenoides (Williamson)

Fissurina lucida (Williamson)

Fissurina milletti Todd

**Fissurina squamoso-marginata* (Parker et Jones)

Paliolatella Patterson & Richardson, 1987

Paliolatella circularis (Todd)

Family GLANDULINIDAE Reuss, 1860

Subfamily GLANDULININAE Reuss, 1860

Glandulina d'Orbigny, 1839

Glandulina laevigata d'Orbigny

Glandulina semistriata Collins

Subfamily ENTOLINGULININAE Saidova, 1981

Bombulina Mikhalevich, 1983

Bombulina spinata (Cushman)

Suborder ROBERTININA Loeblich & Tappan, 1984

Superfamily CERATOBULIMINACEA Cushman, 1927

Family CERATOBULIMINIDAE Cushman, 1927

Subfamily CERATOBULIMININAE Cushman, 1927

Ceratobulimina Toulou, 1915

+*Ceratobulimina pacifica* (Cushman & Harris)

Lamarckina Berthelin, 1881

Lamarckina scabra (Brady)

Lamarckina ventricosa (Brady)

Family EPISTOMINIDAE Wedekind, 1937

Subfamily EPISTOMININAE Wedekind, 1937

Hoeglundina Brotzen, 1948

+*Hoeglundina elegans* (d'Orbigny)

Superfamily ROBERTINACEA Reuss, 1850

Family ROBERTINIDAE Reuss, 1850

Subfamily ALLIATININAE McGowran, 1966

Alliatina Troelsen, 1954

Alliatina translucens (Cushman)

Geminospira Makiyama & Nakagawa, 1941

Geminospira bradyi (Williamson)

Geminospira sp.

Suborder GLOBIGERININA Delage & Hérouard, 1896,

Superfamily GLOBOROTALIACEA Cushman, 1927

Family GLOBOROTALIIDAE Cushman, 1927

Globorotalia Cushman, 1927

Globorotalia anfracta Parker

Globorotalia bernudezi Rogl & Bolli

Globorotalia cavernula Bé

Globorotalia crassaformis (Galloway)

Globorotalia ? erinacea (Heron Allen & Earland)

Globorotalia hirsuta (d'Orbigny)

Globorotalia inflata d'Orbigny

Globorotalia menardii (Parker, Jones & Brady)

Globorotalia scitula (Brady)

Globorotalia theyeri Fleisher

Globorotalia truncatulinoides (d'Orbigny)

Globorotalia tumida (Brady)

Globorotalia unguolata Bermudez

Neogloboquadrina Bandy, Frerichs & Vincent, 1967

Neogloboquadrina dutertrei (d'Orbigny)

Neogloboquadrina pachyderma (Ehrenberg)

Turborotalia Cushman & Bermudez, 1949

Turborotalia cristata Heron-Allen & Earland

Turborotalia humilis (Brady)

Family PULLENIATINIDAE Cushman, 1927

Pulleniatina Cushman, 1927

Pulleniatina obliquiloculata (Parker & Jones)

Family CANDEINIDAE Cushman, 1927

Subfamily GLOBIGERINITINAE Bermudez, 1961

Globigerinita Brönnimann, 1951

Globigerinita glutinata (Egger)

Globigerinita parkerae (Bermudez)

Globigerinita uvula (Ehrenberg)

Subfamily CANDEININAE Cushman, 1927

Candeina d'Orbigny, 1839

Candeina nitida d'Orbigny

Family CATAPSYDRACIDAE Boli, Loeblich & Tappan, 1957

Globorotaloides Bolli, 1957

Globorotaloides hexagona (Natland)

Superfamily GLOBIGERINACEA Carpenter, Parker & Jones, 1862

Family GLOBIGERINIDAE Carpenter, Parker & Jones, 1862

Subfamily GLOBIGERININAE Carpenter, Parker & Jones, 1862

Beella Banner & Blow, 1960

Beella digitata (Brady)

Globigerina d'Orbigny, 1826

Globigerina bulloides d'Orbigny

Globigerina eggeri Rhumbler

Globigerina falconensis Blow

Globigerina rubescens Hofker

Globigerina tricamerata Tolmachchhoff

Globigerinella Cushman, 1927

Globigerinella aequilateralis (Brady)

Globigerinella calida (Parker)

Globigerinella obesa (Bolli)

Globigerinoides Cushman, 1927

Globigerinoides conglobatus (Brady)

Globigerinoides ruber (d'Orbigny)

Globigerinoides sacculifer (Brady)

Globigerinoides tenelus Parker

Globigerinoides trilobus (Reuss)

Sphaeroidinella Cushman, 1927

Sphaeroidinella dehiscens (Parker & Jones)

Subfamily ORBULININAE Schultze, 1854

Orbulina d'Orbigny, 1839

Orbulina bilobata d'Orbigny

Orbulina suturalis Bronnimann

Orbulina universa d'Orbigny

Family HASTIGERINIDAE Bolli, L. & Tappan, 1957

Hastigerina Thomson, 1876

Hastigerina pelagica d'Orbigny

Suborder ROTALIINA Delage & Hérouard, 1896

Superfamily BOLIVINACEA Glaessner, 1937

Family BOLIVINIDAE Glaessner, 1937

Bolivina d'Orbigny, 1839

Bolivina (Loxostoma) amygdalaeformis (Brady)

Bolivina compacta Sidebottom

Bolivina (Loxostoma) karrerianum (Brady)

**Bolivina semi-costata* Cushman

Bolivina cf. *spathulata* (Williamson)

Bolivina subtenuis Cushman

Bolivina vadescens Cushman

Bolivina (Loxostoma) cf. vertebralis (Cushman)

Brizalina Costa, 1856

°*Brizalina* cf. *pacifica* (Cushman & McCulloch)

Brizalina robusta (Brady)

°*Brizalina striatula* (Cushman)

Lugdunum Saidova, 1975

Lugdunum hantkenianum hantkenianum (Brady)

Lugdunum hantkenianum (Brady) *semicostatum* (Cushman)

Lugdunum subangularis (Brady)

Superfamily LOXOSTOMATACEA L. & Tappan, 1962

Family BOLIVINELLIDAE Hayward, 1980

Bolivinella Cushman, 1927

Bolivinella elegans Parr

Bolivinella folia (Parker & Jones) var. *ornata* Cushman

Bolivinella margaritacea Cushman

Bolivinella spinosa Hayward

Family TORTOPLECTELLIDAE Loeblich & Tappan, 1985

Tortoplectella Loeblich & Tappan, 1985

Tortoplectella crispata (Brady)

Superfamily BOLIVINITACEA Cushman, 1927

Family BOLIVINITIDAE Cushman, 1927

Abditodentrix Patterson, 1985

Abditodentrix rhomboidalis (Millett) [*Bolivina rhomboidalis*]

Superfamily CASSIDULINACEA d'Orbigny, 1839

Family CASSIDULINIDAE d'Orbigny, 1839

Subfamily CASSIDULININAE d'Orbigny, 1839

Cassidulina d'Orbigny, 1826

+*Cassidulina angulosa* (Cushman)

+*Cassidulina degaus* (Sidebottom)

Cassidulina minuta Cushman

+*Cassidulina subglobosa* (Brady)

Favocassidulina Loeblich & Tappan, 1957

+*Favocassidulina favus* (Brady)

Islandiella Norvang, 1959

Islandiella sp. Todd

Subfamily EHRENBERGININAE Cushman, 1927

Ehrenbergina Reuss, 1850

+*Ehrenbergina pacifica* (Cushman)

+*Ehrenbergina trigona* (Goes)

Reissia Loeblich & Tappan, 1964

+*Reissia hystrix* (Brady)

Superfamily TURRILINACEA Cushman, 1927

Family TURRILINIDAE Cushman, 1927

Floresina Revets, 1990

Floresina latissima (Collins)

Floresina madagascariensis (d'Orbigny) *spicata* (Cushman & Parker)

Floresina milletti (Cushman)

Family STAINFORTHIIDAE Reiss, 1963,

Cassidelina Saidova, 1975

Cassidelina abbreviata (Heron-Allen & Earland)

Stainforthia Hofker, 1956

Stainforthia earlandi (Cushman)

Superfamily BULIMINACEA Jones, 1875

Family SIPHOGENERINOIDIDAE Saidova, 1981

Subfamily SIPHOGENERINOIDINAE Saidova, 1981

Euloxostomum McCulloch, 1977

Euloxostomum durrandii (Millett) [*Sagrinella durrandii*] [*Brizalina convallaria durrandii*]

Loxostomina Sellier de Civrieux, 1969

Loxostomina barkeri (Margerel)

Loxostomina limbata (Brady) [*Coryphostoma limbata*]

Loxostomina limbata (Brady) *costulata* (Cushman)

- Rectobolivina* Cushman, 1927
 +*Rectobolivina dimorpha* (Parker & Jones)
- Sagrinella* Saidova, 1975
Sagrinella convallaria (Millett) [*Bolivina (Loxostoma) convallarium*]
Sagrinella spinea (Cushman) [*Bolivina spinea*]
Sagrinella strigosa (Brady) [*Bolivina (Loxostoma) strigosum*]
- Subfamily TUBULOGENERININAE Saidova, 1981
Siphogenerina Schlumberger, 1882
Siphogenerina columellaris (Brady)
Siphogenerina raphana (Parker & Jones) [+*Rectobolivina raphana*]
Siphogenerina raphana (Parker & Jones) var. *tropicalis* Cushman
Siphogenerina virgula (Brady)
- Family BULIMINIDAE Jones, 1875**
Globobulimina Cushman, 1927
Globobulimina australiensis Collins
- Family BULIMINELLIDAE Hofker, 1951**
Buliminella Cushman, 1911
Bulininella elegantissima d'Orbigny
- Family UVIGERINIDAE Haeckel, 1894**
 Subfamily UVIGERININAE Haeckel, 1894
Neouvigerina Thalmann, 1952
Neouvigerina ampullacea (Brady)
Neouvigerina porrecta (Brady) [*Uvigerina porrecta*]
Siphouvigerina Parr, 1950
Siphouvigerina proboscidea (Schwager)
Uvigerina d'Orbigny, 1826
 +*Uvigerina bradyana* (Fornasi)
Uvigerina porrecta Brady *fimbriata* Sideb
- Family REUSSELLIDAE Cushman, 1933**
Chrysalidinella Schubert, 1908
Chrysalidinella dimorpha (Brady)
Chrysalidinella fijiensis Cushman
Fijiella Loeblich & Tappan, 1962
Fijiella simplex (Cushman) [*Reussella simplex*]
Reussella Galloway, 1933
Reussella aculeata Cushman
Reussella spinulosa (Reuss)
Valvobifarina Hofker, 1951
Valvobifarina mackinmoni (Millett)
- Family TRIMOSINIDAE Saidova, 1981**
Mimosina Millett, 1900
Mimosina affinis Millett
Mimosina echinata Heron-Allen & Earland
Mimosina hystrix Millett
Mimosina pacifica Cushman
- Family PAVONINIDAE Eimer & Fickert, 1899**
Pavonina d'Orbigny, 1826
Pavonina flabelliformis d'Orbigny
- Family MILLETTIIDAE Saidova, 1981**
Millettia Schubert, 1911
Millettia limbata (Brady)

Superfamily FURSENKOINACEA Loeblich & Tappan, 1961

Family FURSENKOINIDAE Loeblich & Tappan, 1961

Fursenkoina Loeblich & Tappan, 1961

Fursenkoina (Virgulina) pauciloculata Brady

Signavirgulina Loeblich & Tappan, 1957

Signavirgulina tortuosa (Brady)

Superfamily DISCORBACEA Ehrenberg, 1838,

Family PLACENTULINIDAE Kasimova, Poroshina & Geodakchan, 1980

Subfamily ASHBROOKIINAE Loeblich & Tappan, 1984

Patellinella Cushman, 1928

Patellinella carinata Collins

Patellinella jugosa (Brady)

Patellinella nitida (Hofker)

Family BAGGINIDAE Cushman, 1927

Subfamily BAGGININAE Cushman, 1927

Baggina Cushman, 1926

Baggina indica (Cushman) [*Cancris indicus*]

Cancris de Monfort, 1808

Cancris auriculus (Fichtel & Moll)

Cancris sagrum d'Orbigny

Cibrobaggina McCulloch, 1977

Cibrobaggina reniformis (Heron Allen & Earland)

Rugidia Heron-Allen & Earland, 1928

Rugidia corticata (Heron Allen & Earland)

Family EPONIDIDAE Hofker, 1951

Subfamily EPONIDINAE Hofker, 1951

Eponides de Monfort, 1808

Eponides repandus (Fichtel et Moll)

Poroeponides Cushman, 1944

Poroeponides cribrorepandus Asano et Uchio

Poroeponides lateralis Cushman

Family HELENINIDAE Loeblich & Tappan, 1988

Helenina Saunders, 1961

Helenina anderseni (Warren)

Family MISSISSIPPINIDAE Saidova, 1981

Subfamily STOMATORBININAE Saidova, 1981

Stomatorbina Doreen, 1948

Stomatorbina concentrica (Parker & Jones)

Subfamily MISSISSIPPININAE Saidova, 1981

Mississippina Howe, 1930

Mississippina pacifica Parr

Family PEGIDIIDAE Heron-Allen & Earland, 1928

Pegidia Heron-Allen & Earland, 1928

Pegidia dubia d'Orbigny

Pegidia lacunata McCulloch

Sphaeridia Heron-Allen & Earland, 1928

Sphaeridia papillata Heron-Allen & Earland

Family DISCORBIDAE Ehrenberg, 1838

Discorbis Lamarck, 1804

Discorbis nirus Cushman

Discorbis subvesicularis Collins

Neoeponides Reiss, 1960

Neoeponides procera (Brady)

Family ROSALINIDAE Reiss, 1963

- Gavelinopsis* Hofker, 1951
 Gavelinopsis praegeri (Heron Allen & Earland)
 Gavelinopsis lobatulus (Parr)
Neoconorbina Hofker, 1951
 Neoconorbina crustata (Cushman)
 Neoconorbina floridensis (Cushman)
 Neoconorbina orbicularis (Terquem)
 Neoconorbina pacifica Hofker
 Neoconorbina terquemi (Rzehak)
 Neoconorbina tuberocapitata (Chapman)
Rosalina d'Orbigny, 1826
 Rosalina bradyi Cushman
 Rosalina floridana (Cushman)
 Rosalina globularis d'Orbigny
 Rosalina orientalis Cushman
 Rosalina rugosa d'Orbigny
 Rosalina suezensis (Said)
Rotorboides Sellier de Civrieux, 1977
 Rotorboides granulatus (Heron Allen & Earland)
Tretomphaloides Banner, Pereira & Desai, 1985
 Tretomphaloides clarus (Cushman)
 Tretomphaloides concinnus (Brady)
Tretomphalus Möbius, 1880
 Tretomphalus bulloides d'Orbigny
 Tretomphalus grandis Cushman
 Tretomphalus planus (Cushman)

Family BRONNIMANNIIDAE Loeblich & Tappan, 1984

- Bronnimannia* Bermudez, 1952
 Bronnimannia haliotis (Heron Allen & Earland)

Family SPHAEROIDINIDAE Cushman, 1927

- Sphaeroidina* d'Orbigny, 1826
 Sphaeroidina sp.

Superfamily GLABRATELLACEA Loeblich & Tappan, 1964

Family GLABRATELLIDAE Loeblich & Tappan, 1964

- Angulodiscorbis* Uchio, 1953
 Angulodiscorbis pyramidalis (Heron Allen & Earland)
Conorbella Hofker, 1951
 Conorbella patelliformis (Brady) var. *erecta* (Sidebottom)
 Conorbella pulvinata (Brady)
Discorbinoides Saidova, 1975
 Discorbinoides australensis (Heron Allen & Earland)
Glabratella Dorreen, 1948
 **Glabratella patelliformis* (Brady)
 Glabratella quadrangularis (Uchio)
 Glabratella tabernacularis (Brady)
 Glabratella wiesneri (Parr)
Glabratellina Seiglic & Bermudez, 1965
 Glabratellina sp.
Murrayinella Farias, 1977
 Murrayinella erinacea (Heron Allen & Earland)

Family HERONALLENIIDAE Loeblich & Tappan, 1986

Heronallenia Chapman & Parr, 1931

Heronallenia otukai Uchio

Family BULIMINOIDIDAE Seiglie, 1970

Buliminoides Cushman, 1911

Buliminoides williamsonianus (Brady)

Superfamily SIPHONINACEA Cushman, 1927

Family SIPHONINIDAE Cushman, 1927

Subfamily SIPHONININAE Cushman, 1927

Siphonina Reuss, 1850

Siphonina tubulosa Cushman

Subfamily SIPHONINOIDINAE Loeblich & Tappan, 1984

Siphoninoides Cushman, 1927

Siphoninoides echinatus (Brady)

Siphoninoides glabrus (Heron Allen & Earland)

Superfamily DISCORBINELLACEA Sigal, 1952

Family PSEUDOPARRELLIDAE Voloshinova, 1952

Subfamily PSEUDOPARRELLINAE Voloshinova, 1952

Epistominella Husezima & Maruhasi, 1944

Epistominella pulchra (Cushman)

Family DISCORBINELLIDAE Sigal, 1952

Subfamily DISCORBINELLINAE Sigal, 1952

Discorbinella Cushman & Martin, 1935

Discorbinella bertheloti (d'Orbigny)

Laticarinina Galloway & Wissler, 1927

+*Laticarinina pamperata* (Parker & Jones)

Superfamily PLANORBULINACEA Schwager, 1877

Family PLANULINIDAE Bermudez, 1952

Planulina d'Orbigny, 1826

Planulina ornata (d'Orbigny)

Family CIBICIDIDAE Cushman, 1927

Subfamily CIBICIDINAE Cushman, 1927

Cibicides de Monfort, 1808

Cibicides advenum (d'Orbigny)

+*Cibicides bradyi* (Trauth)

Cibicides cicatricosus (Schwager)

Cibicides pseudolobatulus Perelis & Reiss

+*Cibicides refulgens* de Montfort

+*Cibicides robertsonianus* (Brady)

Fontbotia Gonzalez-Donoso & Linares, 1970

+*Fontbotia (Cibicides) wuellerstorfi* (Schwager, 1866)

Lobatula Fleming, 1828

Lobatula lobatula (Walker et Jacob)

Lobatula majori (Cushman)

Paracibicides Perelis & Reiss, 1975

Paracibicides edomica Perelis & Reiss

Subfamily STICHOCIBICIDINAE Saidova, 1981

Dyocibicides Cushman & Valentine, 1930

Dyocibicides biserialis Cushman et Valentine

Family PLANORBULINIDAE Schwager, 1877

Subfamily CARIBEANELLINAE Saidova, 1981

Caribeanelia Bermudez, 1952

Caribeanelia katasensis (Ujiie)

Subfamily PLANORBULININAE Schwager, 1877

Cibicidella Cushman, 1927

Cibicidella variabilis (d'Orbigny)

Cibicidella sp.

Planorbulina d'Orbigny, 1826

**Planorbulina mediterraneensis* d'Orbigny

Planorbulinella Cushman, 1927

Planorbulinella larvata (Parker et Jones)

Family CYMBALOPORIDAE Cushman, 1927

Subfamily CYMBALOPORINAE Cushman, 1927

Cymbaloporella Cushman, 1927

Cymbaloporella tabellaeformis (Brady)

Cymbaloporetta Cushman, 1928

Cymbaloporetta bradyi (Cushman)

Cymbaloporetta squamosa (d'Orbigny)

Millettiana Banner, Pereira & Desai, 1985

Millettiana milletti (Heron Allen & Earland) [*Tretomphalus milletti*]

Family VICTORIELLIDAE Chapman & Crespin, 1930

Subfamily CARPENTERIINAE Saidova, 1981

Carpenteria Gray, 1858

Carpenteria balaniformis Gray, var. *proteiformis* Goës

Carpenteria monticularis Carter

Superfamily ACERVULINACEA Schultze, 1854

Family ACERVULINIDAE Schultze, 1854

Acervulina Schultze, 1854

Acervulina inhaerens Schultze

Acervulina mahabeti (Said) [*Cibicides mahabeti*]

Gypsina Carter, 1877

Gypsina fimbriata (Chapman)

Gypsina vesicularis (Parker et Jones)

Planogypsina Bermudez, 1952

Planogypsina acervalis (Brady) [*Planorbulina acervalis*]

Sphaerogypsina Galloway, 1933

Sphaerogypsina globula (Reuss)

Family HOMOTREMATIDAE Cushman, 1927

Homotrema Hickson, 1911

Homotrema rubra (Lamarck)

Miniacina Galloway, 1933

Miniacina miniacea (Pallas)

Superfamily ASTERIGERINACEA d'Orbigny, 1839

Family EPISTOMARIIDAE Hofker, 1954

Subfamily EPISTOMARIINAE Hofker, 1954

Asanonella Huang, 1965

Asanonella tubulifera (Heron Allen & Earland)

Family ALFREDINIDAE Singh & Kalia, 1972

Epistomaroides Uchio, 1952

Epistomaroides polystomelloides (Parker et Jones)

Family ASTERIGERINATIDAE Reiss, 1963

Eoeponidella Wickenden, 1949

Eoeponidella sp.

Family AMPHISTEGINIDAE Cushman, 1927

Amphistegina d'Orbigny, 1826

Amphistegina bicirculata Larsen

Amphistegina lessonii d'Orbigny

Amphistegina lobifera Larsen

Amphistegina papillosa Said

Amphistegina quoyi d'Orbigny

Amphistegina radiata (Fichtel et Moll)

Superfamily NONIONACEA Schultze, 1854

Family NONIONIDAE Schultze, 1854

Subfamily NONIONINAE Schultze, 1854

Nonion de Monfort, 1808

Nonion cf. *asterizans* (Fichtel & Moll)

Nonion subturgidum (Cushman)

Nonionella Cushman, 1926

Nonionella bradyi Chapman

Nonionoides Saidova, 1975

Nonionoides grateloupi (d'Orbigny)

Pseudononion Asano, 1936

+*Pseudononion japonicum* (Asano)

Subfamily PULLENINIINAE Schwager, 1877

Melonis de Monfort, 1808

+*Melonis pompiloides* (Fichtel & Moll)

Melonis pacificum (Cushman) [+*Nonion pacificum*]

Pullenia Parker & Jones, 1862

+*Pullenia bulloides* (d'Orbigny)

+*Pullenia subcarinata* (d'Orbigny)

Family ALMAENIDAE Myatlyuk, 1959

Subfamily ANOMALINELLINAE Saidova, 1981

Anomalinella Cushman, 1927

Anomalinella rostrata (Brady)

Superfamily CHILOSTOMELLACEA Brady, 1881

Family ALABAMINIDAE Hofker, 1951

Svratkina Pokorny, 1956

Svratkina australiensis (Chapman, Parr & Collins)

Family OSANGULARIIDAE Loeblich & Tappan, 1964

Cribroparella Ten Dam, 1948

Cribroparella sp.

Family ORIDORSALIDAE Loeblich & Tappan, 1984

Oridorsalis Andersen, 1961

+*Oridorsalis umbonatus* (Reuss)

Family HETEROLEPIDAE Gonzales-Donoso, 1969

Anomalinoides Brotzen, 1942

Anomalinoides cf. *globulosa* (Chapman & Parr)

Heterolepa Franzén, 1884

Heterolepa coudrayi Margerel

Heterolepa praecincta (Karrer)

+*Heterolepa pseudoungeriana* (Cushman)

Heterolepa subhaidingeri (Parr) [+*Cibicides subhaidingeri*]

Family GAVELINELLIDAE Hofker, 1956

Subfamily GAVELINELLINAE Hofker, 1956

Anomalinulla Saidova, 1975

Anomalinulla glabrata (Cushman)

Gyroidina d'Orbigny, 1826

+*Gyroidina broeckhiana* (Karrer)

+*Gyroidina neosoldanii* (Brotzen)

Hansenisca Loeblich & Tappan, 1988

Hansenisca soldanii (d'Orbigny)

Hanzawaia Asano, 1944

+*Hanzawaia* sp. cited as *Anomalina colligera* (Chapman & Parr)

Family TRICHOHYALIDAE Saidova, 1981

Buccella Andersen, 1952

Buccella sp.

Superfamily ROTALIACEA Ehrenberg, 1839

Family ROTALIIDAE Ehrenberg, 1839

Subfamily PARAROTALIINAE Reiss, 1963

Pararotalia Le Calvez, 1949

Pararotalia calcar (d'Orbigny) [*Calcarina* cf. *calcar*]

Pararotalia ozawai (Asano)

Pararotalia venusta (Brady)

Subfamily AMMONIINAE Saidova, 1981

Ammonia Brünnich, 1772

Ammonia beccarii (Linné)

Ammonia convexa (Collins)

Ammonia parkinsoniana (d'Orbigny)

Ammonia tepida (Cushman) [*Ammonia beccarii* var. *tepida*]

Ammonia sp.

Pseudorotalia Reiss & Merling, 1958

Pseudorotalia schroeteriana (Carpenter, Parker & Jones)

Family CALCARINIDAE Schwager, 1876

Baculogypsina Sacco, 1893

Baculogypsina sphaerulata (Parker et Jones)

Baculogypsinoides Yabe & Hanzawa, 1930

+*Baculogypsinoides spinosus* (Yabe & Hanzawa)

Calcarina d'Orbigny, 1826

Calcarina defrancii d'Orbigny

Calcarina hispida Brady

Calcarina hispida pulchella Chapman

Calcarina spengleri (Gmelin) *mayori* Cushman

Family ELPHIDIIDAE Galloway, 1933

Subfamily ELPHIDIINAE Galloway, 1933

Cribroelphidium Cushman & Brönnimann, 1948

Cribroelphidium excavatum (Terquem)

°*Cribroelphidium* cf. *gunteri* (Cole)

Cribroelphidium cf. *oceanicum* (Cushman)

°*Cribroelphidium poeyanum* (d'Orbigny)

°*Cribroelphidium* cf. *williamsoni* (Haynes)

Elphidium de Monfort, 1808

**Elphidium aculeatum* (Silvestri)

°*Elphidium advenum* (Cushman)

Elphidium cf. *articulatum* (d'Orbigny)

Elphidium craticulatum (Fichtel et Moll) [*Cellanthus craticulatus*]

+*Elphidium crispum* (Linné)

**Elphidium* cf. *earlandi* Cushman

Elphidium jenseni (Cushman)

Elphidium limbatum (Chapman) [*Elphidium macellum limbatum*]

+*Elphidium macellum* (Fichtel & Moll)

Elphidium milletti (Heron-Allen & Earland)

Ozawaia Cushman, 1931

Ozawaia tongaensis Cushman

Subfamily NOTOROTALIINAE Hornibrook, 1961

Parrellina Thalmann, 1951

Parrellina hispidula (Cushman) [*Elphidium hispidulum*]

Parrellina milletti (Heron-Allen & Earland)

Parrellina pacifica (Collins) [*Elphidium pacificum*]

Parrellina reticulosa (Cushman) [*Elphidium reticulosum*]

Haynesina Banner & Culver, 1978

Haynesina simplex (Cushman) [°*Elphidium simplex*]

Superfamily NUMMULITACEA de Blainville, 1827

Family NUMMULITIDAE de Blainville, 1827

Cycloclypeus Carpenter, 1856

Cycloclypeus carpenteri Brady

Heterostegina d'Orbigny, 1826

Heterostegina curva Moebius

Heterostegina depressa d'Orbigny

Heterostegina operculinoides Hofker

+*Heterostegina suborbicularis* (d'Orbigny)

Nummulites Lamark, 1801

Nummulites (Operculinella) cuningii (Carpenter, 1859)

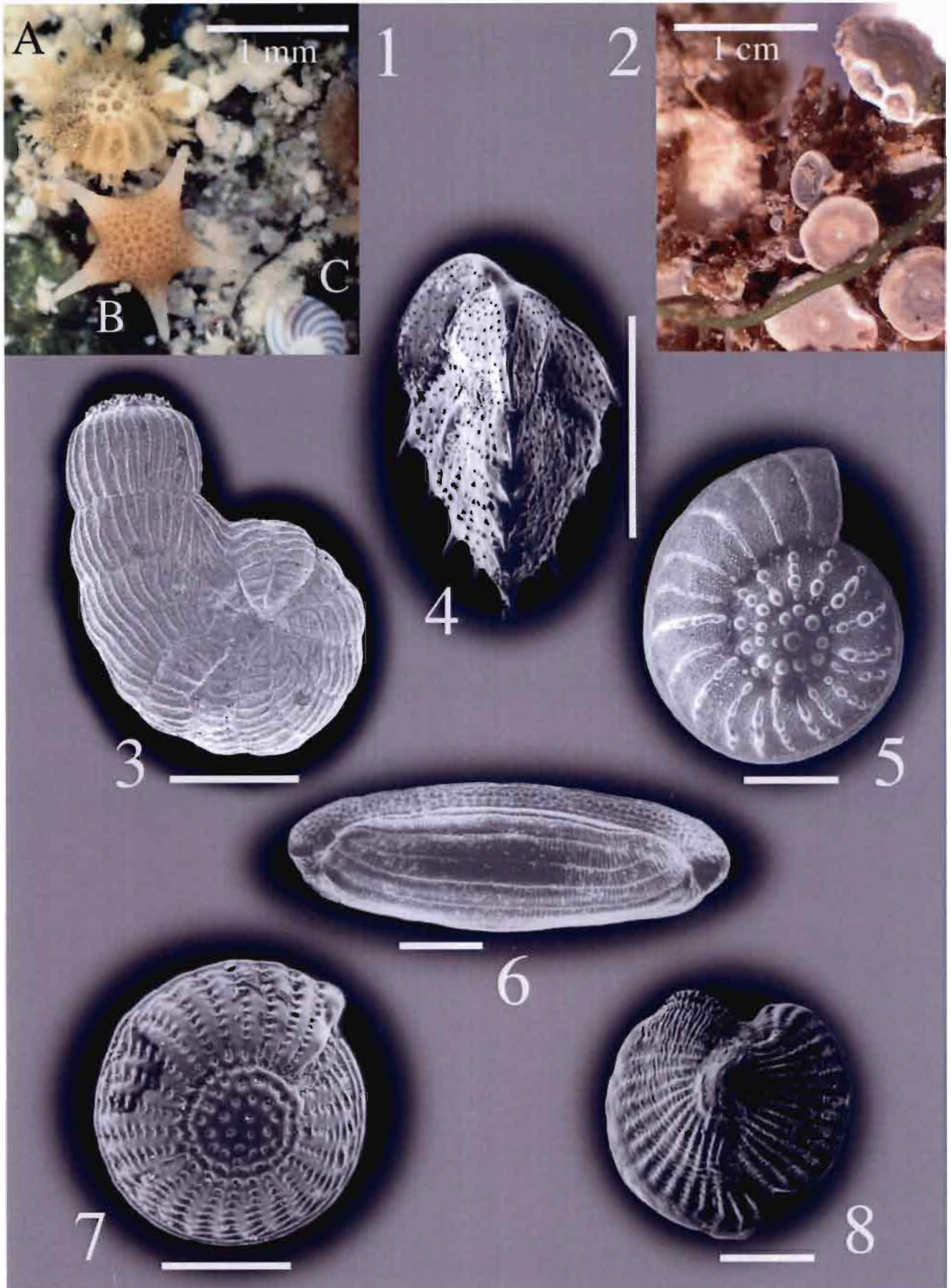
Operculina d'Orbigny, 1826

Operculina ammonoides (Gronovius)

Operculina bartschi Cushman

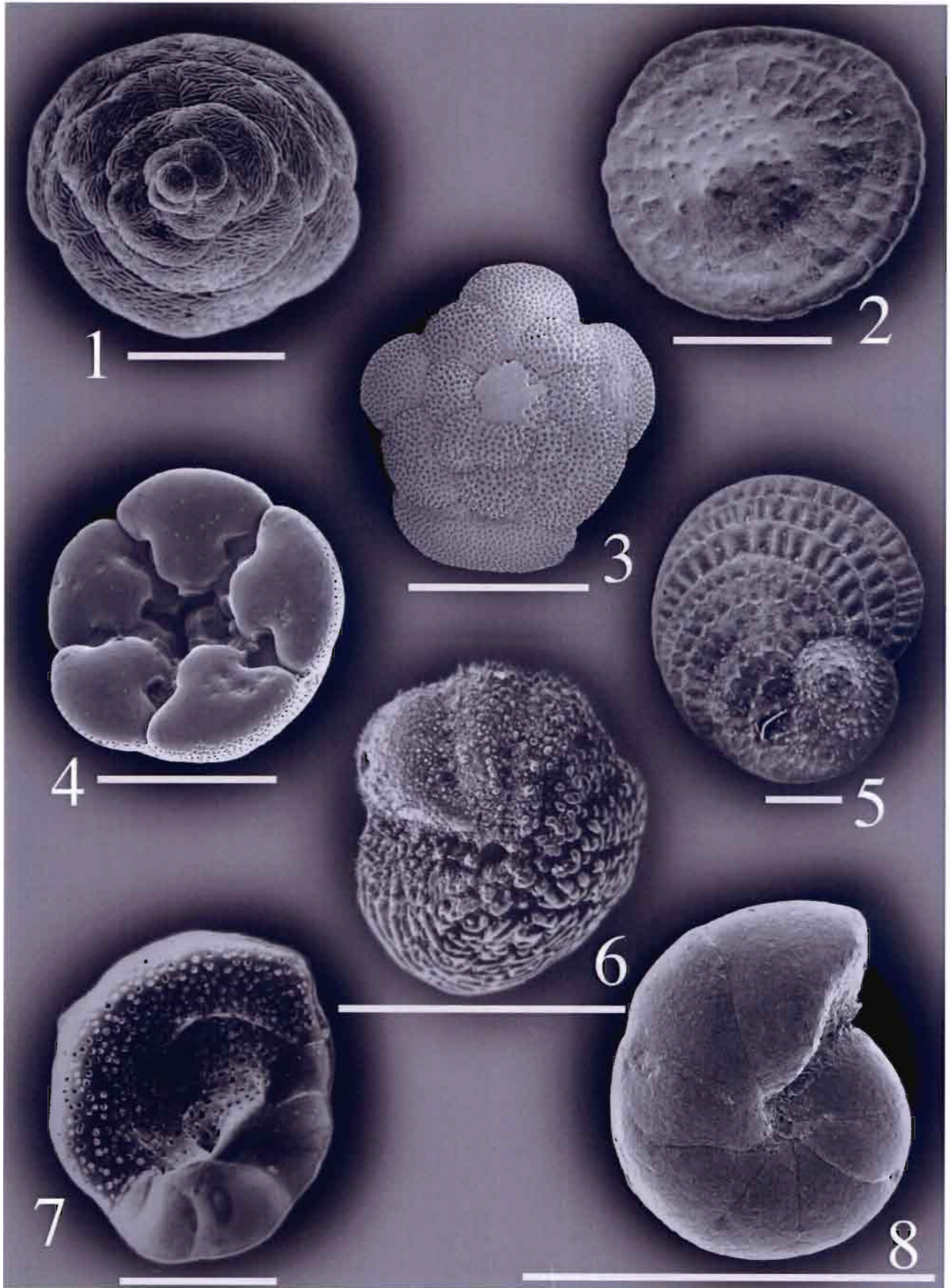
Operculina gaimardi d'Orbigny

Operculina mayottana Le Calvez



1. Living *Calcarina hispida* (A), *Baculogypsina sphaerulata* (B) and *Peneroplis planatus* (C)
 2. Living *Marginopora vertebralis*; 3. *Spirolina arietina*; 4. *Reussella spinulosa*; 5. *Operculina ammonoides*;
 6. *Alveolinella quoyi*; 7. *Elphidium craticulatum*; 8. *Pseudohauerina occidentalis* var. *involuta*

Scale bar = 0.5 mm



1. *Carterina spiculotesta*; 2. *Cycloclypeus carpenteri*; 3. *Cymbaloporetta squamosa*; 4. *Cymbaloporetta squamosa*; 5. *Heterostegina operculinoides*; 6. *Parrellina hispida*; 7. *Poroeponides lateralis*; 8. *Haplophragmoides wilberti*

Scale bar = 0.5 mm

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Edited by
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