

Index of Living and  
Fossil Echinoids 1924-1970

*Porter M. Kier*  
*and Mary Hurd Lawson*



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## ABSTRACT

Kier, Porter M., and Mary Hurd Lawson. Index of Living and Fossil Echinoids 1924–1970. *Smithsonian Contributions to Paleobiology*, number 34, 182 pages, 1978.—All new taxa of fossil and living echinoids described from 1924 to 1970 are listed with their age, geographic and stratigraphic occurrence, and bibliographic citation.

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# Index of Living and Fossil Echinoids 1924-1970

*Porter M. Kier  
and Mary Hurd Lawson*

## Introduction

Fifty years have passed since Lambert and Thiéry compiled their list of living and fossil echinoids. Since that time many new species and genera have been described. The result has been an increasing need for an update to this compilation. To satisfy this need we have prepared this supplement to Lambert and Thiéry's work.

The list was prepared from the citations in the *Zoological Record* from 1924 to 1970. Citations before 1924 are included if they were absent in Lambert and Thiéry. In every case we saw the original reference and checked for species that might have been missed. Where possible we have brought up to date the stratigraphic information; in particular we have tried to find the latest age determinations for the stratigraphic occurrences of the fossil species. No attempt has been made to revise the taxonomic assignment of the species because we felt it would have been necessary to see the type specimens. Time did not permit this. Our index has strictly followed the classification of the *Treatise on Invertebrate Paleontology* even where we disagree with it. Within five years we intend to publish a supplementary revision that will include all the new taxa for the years 1971-1975. For this reason we ask all users of this work to inform us of any errors, deletions, or additions.

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The present list is arranged by taxonomic hierarchy with the geological time sequence indicated by headings at the generic and specific levels. Within a generic or specific entry, brackets enclose locality information and parentheses enclose further levels of geological time or stratigraphic information.

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## Class ECHINOIDEA Leske

### Subclass PERISCHOECHINOIDEA M'Coy

### Superorder MEGALOPODACEA Durham

### Order BOTHRIOCIDAROIDA Zittel

### Family BOTHRIOCIDARIDAE Klem

### Genus *Bothriocidaris* Eichwald

### UPPER ORDOVICIAN

*B. eichwaldi* Männil, 1962:152-156, 187-189, figs. 3b, 6, 7, 11, 12, 14-17, pl. 1: figs. 6-9, pl. 3: figs. 1-4, pls. 4, 5. [Baltic States, U.S.S.R.] (Pirgu Stage.)

*B. parvus* Männil, 1962:156–160, 187, 189, figs. 3v, 8, 9, pl. 2: figs. 3–4, pl. 3: fig. 5. [Baltic States, U.S.S.R.] (Vormsi Stage.)

### Genus *Neobothriocidaris* Paul

#### ORDOVICIAN

*Neobothriocidaris* Paul, 1967:535. Type-species: *N. peculiaris* Paul, 1967:528–531, 535, fig. 3, pl. 84: figs. 1–4, pl. 85: figs. 9–11. [Ayrshire, Scotland.] (Middle and upper Ashgill.)  
*N. minor* Paul, 1967:531–533, 535, figs. 2, 4, pl. 85: figs. 5–8. [Ayrshire, Scotland.]

### Order ECHINOCYSTITOIDA Jackson

### Family ECHINOCYSTITIDAE Gregory

#### Genus *Pronechinus* Kier

#### UPPER PERMIAN

*Pronechinus* Kier, 1965:461–462. Type-species: *P. anatoliensis* Kier, 1965:462–463, figs. 23–24, pl. 58: fig. 4, pl. 59: fig. 3. [Turkey.]

#### Genus *Eupholidocidaris* Kier

In the *Treatise*, Kier (Durham et al., 1966:U302) considers *Eupholidocidaris* Kier a subjective synonym of *Proterocidaris* de Koninck.

#### MISSISSIPPIAN

*Eupholidocidaris* Kier, 1956:15. Type-species: *E. brightoni* Kier, 1956:16–17, figs. 1–2, pl. 1. [Ireland.]

#### PENNSYLVANIAN

*E. belli* Kier, 1957a:326–328, fig. 1. [Texas, U.S.A.]

#### Genus *Fournierechinus* Jackson

#### MISSISSIPPIAN

*Fournierechinus* Jackson, 1929:67. Type-species: *F. deneensis* Jackson, 1929:67–72, pl. 9, pl. 10: figs. 1–2. [Belgium.] (Lower Viséan.)

### Genus *Jacksonechinus* Lambert

In the *Treatise*, Kier (Durham et al., 1955: U302) provisionally considers this genus a subjective synonym of *Proterocidaris* de Koninck.

#### PENNSYLVANIAN

*Jacksonechinus* Lambert, 1935e:39–40. Type-species: *J. andrewi* Lambert, 1935e:40, pl. 1: figs. 1–3. [Egypt.]

### Genus *Pholidocidaris* Meek and Worthen

#### MISSISSIPPIAN

*P. tornacensis* Jackson, 1929:64–66, pl. 5: fig. 7, pl. 10: figs. 3–6. [Belgium.] (Tournaisian.)

#### Genus *Rhenechinus* Dehm

#### LOWER DEVONIAN

*Rhenechinus* Dehm, 1953:88–93. Type-species: *R. hopstatter* Dehm, 1953:88–94, figs. 1–2, pl. 5. [Germany.]

### Family LEPIDESTHIDAE Jackson

#### Genus *Lepidesthes* Meek and Worthen

#### PENNSYLVANIAN

*L. grandis* Kier, 1958a:20–23, figs. 21–22, pl. 8A. [Texas, U.S.A.]

*L. alta* Kier, 1958a:17–20, figs. 15–20, pl. 7. [Tennessee, U.S.A.] (Meramecian.)

*L. formosa* Termier and Termier, 1950:99, 102, pl. 231: fig. 21. [Morocco, North Africa.] (Upper Viséan.)

*L. howsei* Jackson, 1926:529, pl. 30. [England.]

*L.?* *martini* Spreng and Howe, 1963:937–938, figs. 6E–I. [Missouri, U.S.A.]

#### MISSISSIPPIAN TO UPPER DEVONIAN

*L. warrenensis* Cooper, 1931b:532–538, figs. 1–2. [U.S.A.]



**Genus *Meekechinus* Jackson**

## MISSISSIPPIAN

*M.?* *herbornensis* Bindemann, 1938: 203–220, figs. 1–2, pl. 1: figs. 1–12, pl. 2: figs. 1–5, pl. 3: figs. 1–4, pl. 4: figs. 1–2. [Germany.]

**Family LEPIDOCENTRIDAE Lovén****Genus *Lepidocentrus* Müller**

## MISSISSIPPIAN

*L. mammillatus* Jackson, 1929:21–22, pl. 1: figs. 12a–d. [Belgium.] (Viséan.)

## UPPER DEVONIAN

*L.?* *thomasi* Belanski, 1928:181–183, pl. 13: figs. 1–16. [Iowa, U.S.A.]

## LOWER DEVONIAN

*L. lenneanus* Wolburg, 1933:47–49, fig. 3, pl. 3. [Germany.]

**Genus *Albertechinus* Stearn**

## UPPER DEVONIAN

*Albertechinus* Stearn, 1956:741–744. Type-species: *A. montanus* Stearn, 1956:744–746, fig. 1, pl. 81: figs. 1–3. [Alberta, Canada.] (Fairholme Fm.)

**Genus *Aulechinus* Bather and Spencer**

## UPPER ORDOVICIAN

*Aulechinus* Bather and Spencer, 1934:558. Type-species: *A. grayae* Bather and Spencer, 1934:558. [Scotland.]

**Genus *Cavanechinus* Brown**

## MIDDLE DEVONIAN

*Cavanechinus* Brown, 1967:158–159. Type-species: *C. warreni* Brown, 1967: 160, fig. 1, pl. 4: figs. 1–2. [South of Yass, New South Wales, Australia.]

**Genus *Deneechinus* Jackson**

## MISSISSIPPIAN

*Deneechinus* Jackson, 1929:22. Type-species: *D. tenuispinus* Jackson, 1929:22–24, pl. 1: fig. 11. [Belgium.] (Lower Viséan.)

**Genus *Ectinechinus* MacBride and Spencer**

## UPPER ORDOVICIAN

*Ectinechinus* MacBride and Spencer, 1938:95. Type-species: *E. lamonti* MacBride and Spencer, 1938: 95, figs. 2a–b, 5e, 7d, 10b, 11b, pl. 12: figs. 4–6, pl. 13: figs. 3–4, pl. 14: figs. 4–5, pl. 15: fig. 5. [Scotland.] (Ashgillian.)

**Genus *Eothuria* MacBride and Spencer**

## UPPER ORDOVICIAN

*Eothuria* MacBride and Spencer, 1938:95. Type-species: *E. beggi* MacBride and Spencer, 1938:95, figs. 5f, 7e, 8c, 13–15, pl. 15: figs. 6–9, pl. 16: figs. 1–5, pl. 17: figs. 1–5. [Scotland.] (Ashgillian.) MacBride and Spencer (1938:95) created a new order Megalopoda and family Eothuriidae for *Eothuria*. Durham (1966:377) erected a superorder Megalopodacea.

**Genus *Hyattechinus* Jackson**

## MISSISSIPPIAN

*H. dixonii* Hawkins, 1935b:243–246, fig. 2, pl. 15: figs. 1–3. [Wales, Great Britain.]  
*H. elegans* Jackson, 1929:24–30, fig. 5, pl. 4: figs. 2–3, 4a–g, pl. 5: figs. 5a–r. [Belgium.] (Tournaisian.)  
*H. laudoni* Kier, 1965:463, 464, figs. 3F, 25, pl. 58: fig. 1, pl. 59: figs. 1–2. [Montana, U.S.A.]  
*H. toreumaticus* Hawkins, 1935b:246–248, fig. 3, pl. 14: fig. 2. [Wales, Great Britain.]

**Genus *Lepidechinoides* Olsson**

## DEVONIAN

*L. huntii* Cooper, 1931a:132–137, figs. 1B, 1C, 1F, 2A, pl. 18: figs. 1–7. [U.S.A.] (Skaneateles Fm.)

*L. whitnalli* Cooper, 1931a:137-139, figs. 1D-E, pl. 19: figs. 4-8. [U.S.A.]

### Genus *Lepidechinus* Hall

#### MISSISSIPPIAN

- L. belgicus* Jackson, 1929:46-47, pl. 5: figs. 1-2. [Belgium.] (Lower Viséan.)  
*L. cooperi* Kier, 1958a:15-17, figs. 11-12, pl. 6. [Iowa, U.S.A.] (Kinderhookian.)

### Genus *Perischodomus* M'Coy

#### MISSISSIPPIAN

- P. fraiponti* Jackson, 1929:48-50, pl. 5: figs. 3-4. [Belgium.] (Lower Viséan.)

### Genus *Porechinus* Dehm

#### LOWER DEVONIAN

- Porechinus* Dehm, 1961:4-5. Type-species: *P. porosus* Dehm, 1961:4-5, fig. 2, pl. 1: figs. 1-4. [West Germany.]

#### Family Uncertain

### Genus *Devonocidaris* Thomas

#### UPPER DEVONIAN

- D. dumoni* Maillieux, 1935:11-14, pl. 2: figs. 2-6. [Belgium.] (Frasnian.)  
*D. hacquaerti* Maillieux, 1935:9-11, pl. 2: figs. 1-1d. [Belgium.] (Frasnian.)  
*D. jacksoni* Thomas, 1924:500-505, pl. 50: fig. 36, pl. 51: figs. 1-26, pl. 52: figs. 1-4, pl. 53: figs. 1-7, pl. 54: figs. 1-6. [Iowa, U.S.A.]  
*D. primaevus* Belanski, 1928:184-186, pl. 13: figs. 29-34. [Iowa, U.S.A.]  
*D. thomasi* Stainbrook, 1937: 899-901, pl. 1: figs. 5-7, 9. [U.S.A.]

## Order PALAEOCHINOIDA Haeckel

### Family PALAEOCHINIDAE M'Coy

## Genus *Palaechinus* M'Coy

#### MISSISSIPPIAN

- P. canadensis* Kier, 1953:65-69, figs. 1-4. [Canada. Kier referred to genus as *Palaechinus* Lovén (nom. van.)] (Upper Kinderhookian or lower Osagean.)  
*P. globulus* Jackson, 1929:30-33, pl. 2: figs. 10-14. [Belgium. Jackson referred to genus as *Palaechinus* Lovén (nom. van.)] (Tournaisian.)  
*P. merriami* Kier, 1965:458-459, fig. 17, pl. 57: fig. 2. [Nevada, U.S.A.]  
*P. sprengi* Kier, 1954:252-254, figs. 1-2. [Canada. Kier referred to genus as *Palaechinus* Lovén (nom. van.)].  
*P. tetrastichus* Kier, 1958a:12-14, figs. 6-10, pl. 5B. [U.S.A.]  
*P. visetensis* Jackson, 1929:33-36, fig. 7, pl. 2: figs. 1-9. [Belgium. Jackson referred to genus as *Palaechinus* Lovén (nom. van.)] (Viséan.)

### Genus *Lovenechinus* Jackson

#### MISSISSIPPIAN

- L. gordonii* Kier, 1965:459-460, figs. 18-20, pl. 58: fig. 2. [Nevada, U.S.A.] (Lower Mississippian.)  
*L. hunanensis* Ozaki, 1939:565-567, pl. 30: figs. 1-7. [Central China.] (Shihtengtse Ls.)  
*L. jacksoni* Demanet, 1931:1-9, figs. 1-7. [Belgium.] (Lower Dinantian.)

### Genus *Melonechinus* Meek and Worthen

#### MISSISSIPPIAN

- M. chuseni* Chao, 1942:202-204, fig. 1. [China.] (Upper part of Yentse Series.)  
*M.?* *heckeri* Faas, 1941:74-75, fig. 9, pl. 10: fig. 9. [Leningrad Province, U.S.S.R.]

### Genus *Donbassechinus* Faas

In the *Treatise* Kier (Durham et al., 1966:U309) provisionally considers this genus a subjective synonym of *Melonechinus* Meek and Worthen.

## MISSISSIPPIAN

*Donbassechinus* Faas, 1941:73. Type-species: *D. kumpani* Faas, 1941:73-74, figs. 6-8, pl. 10: figs. 6-8. [Don Basin, U.S.S.R.]

## Family CRAVENECHINIDAE Hawkins

Genus *Cravenechinus* Hawkins

## MISSISSIPPIAN

*Cravenechinus* Hawkins, 1946:195. Type-species: *C. uniserialis* Hawkins, 1946:195-197, fig. 1. pl. 13. [England.] (Viséan.)

Genus *Gotlandechinus* Regnéll

## UPPER SILURIAN

*Gotlandechinus* Regnéll, 1956:158-160. Type-species: *G. balticus* Regnéll, 1956:160-163, figs. 1-2, pl. 1: fig. 4. [Sweden.] (Lower Ludlow.)

Genus *Xenechinus* Kier

## LOWER PERMIAN

*Xenechinus* Kier, 1958b:889-890. Type-species: *X. parvus* Kier, 1958b:890-892, figs. 1-3, pl. 114: figs. 8-12. [Texas, U.S.A.] (Wolfcampian.)

## Order CIDAROIDA Claus

## Family ARCHAEOCIDARIDAE M'Coy

Genus *Archaeocidaris* M'Coy

## PERMIAN

- A. barroisi* Mathieu, 1949:39-42, pl. 1: figs. 2-12, 15. [Tunis, North Africa.]  
*A. cowleyi* Boos, 1929:249-250, pl. 27: figs. 3-3c. [Oklahoma-Kansas, U.S.A.] (Lower Permian.)  
*A. manhattanensis* Mathieu, 1949:41, pl. 1: fig. 1. [Texas, U.S.A.]

## PENNSYLVANIAN

*A. immanis* Kier, 1958a:3-7, figs. 1-2, pl. 1, pl. 2, pl. 3A. [Oklahoma, U.S.A.]

- A. meurevillensis* Dehée, 1927:290-293, pl. 7. [France.] (Westphalian.)  
*A. mosquensis* A. Ivanov (in litt.), Yakovlev, 1939:70, pl. 13: figs. 23-26. [U.S.S.R.]  
*A. subwortheni* Faas (in litt.), Yakovlev, 1939:69-70, pl. 13: figs. 10-12. [U.S.S.R.]

## MISSISSIPPIAN

- A. aliquantula* Kier, 1958a:7-8, pl. 3C. [Iowa, U.S.A.] (Kinderhookian.)  
*A. propinqua* Jackson, 1929:17-18, fig. 3, pl. 1: figs. 5a-b. [Belgium.] (Tournaisian.)  
*A. setosa* Jackson, 1929:11-12, pl. 1: 11-12, pl. 1: figs. 6a-b. [Belgium.]

## UPPER DEVONIAN

*A. fraxinensis* Maillieux, 1940:28-30, pl. 2: figs. 18-21a. [Belgium.] (Frasnian.)

Genus *Echinocrinus* L. Agassiz

According to Fell (Durham et al., 1966:U317) in the *Treatise*, this genus is considered an objective synonym of *Archaeocidaris* (suppressed ICZN Op. 370, 1955).

## PENNSYLVANIAN

- E.?* *jacksoni* Spreng and Howe, 1963:936-937, figs. 6C-D. [Missouri, U.S.A.] (Missourian.)  
*E.?* *remotus* Spreng and Howe, 1963:936, figs. 6A-B. [Missouri, U.S.A.] (Virgilian.)

Genus *Permocidaris* Lambert

In the *Treatise* Fell (Durham et al., 1966:U317) provisionally considers *Permocidaris* a subjective synonym of *Archaeocidaris*.

## PERMIAN

*P.?* *timorensis* Wanner, 1941:298-302, fig. 1, pl. 25: figs. 11-19. [Timor (Island), South Malay Archipelago.]

**Genus *Lepidocidaris* Meek and Worthen**

## MISSISSIPPIAN

*L. squamosa* (Meek and Worthen) var. *anglica*  
Hawkins, 1935b:240–242, fig. 1, pl. 14: fig. 1.  
[England.] (Tournaisian.)

**Genus *Polytaxicidaris* Kier**

## MISSISSIPPIAN

*Polytaxicidaris* Kier, 1958a:10–11. Type-species: *P. dyeri* Kier, 1958a:11–12, fig. 5, pl. 4B, pl. 5A. [Indiana, U.S.A.] (Osagean.)  
*P. lirata* Kier, 1965:456–457, fig. 13, pl. 56, pl. 57: fig. 1, pl. 58: fig. 3. [Oklahoma, U.S.A.]

**Genus *Silurocidaris* Regnéll**

## UPPER SILURIAN

*Silurocidaris* Regnéll, 1956:165–166. Type-species: *S. clavata* Regnéll, 1956:166–167, pl. 1: figs. 1–3, pl. 2: figs. 1–2, pl. 4: figs. 3–5. [Sweden.] (Lower Ludlow.)

**Genus *Xenocidaris* Schultze**

## UPPER DEVONIAN

*X. caheni* Maillieux, 1935:6–8, pl. 1: fig. 1–1d. [Belgium.] (Frasnian.)  
*X. mariaeburgensis* Maillieux, 1940:33–36, pl. 2: figs. 2–17. [Belgium.] (Frasnian.)  
*X. mariaeburgensis* Maillieux praemut. *major* Maillieux, 1940:37–38, pl. 2: figs. 22–22b, pl. 3: figs. 1–21. [Belgium.] (Frasnian.)

**Family MIOCIDARIDAE Durham and Melville**

*Miocidaridae* Durham and Melville, 1957:252.

**Genus *Miocidaris* Döderlein**

## LOWER JURASSIC

*M. dubari* Lambert, 1931b:11–13, pl. 1: figs. 1–6. [North Africa.] (Lower Domerian.)

*M. tenuispina* Mortensen, 1934a:394–398, figs. 1–3, pl. 21: fig. 2. [England.] (Liassic.)  
*M. turneri* Lörcher, 1930:261–262, pl. 19: figs. 4a–c. [Germany.]

## TRIASSIC

*M. barzaviae* Jekelius, 1932:43–44, pl. 2: figs. 24–26. [Rumania.]  
*M. curmaturi* Jekelius, 1932:43, pl. 2: figs. 21–22. [Rumania.]  
*M. timorensis* Bather, 1929:227–232, pl. 257: figs. 18–20. [Timor (Island), Indonesia.]

## LOWER TRIASSIC

*M. pakistanensis* Linck, 1955:490–493, figs. 1–4. [Pakistan.]

## PERMIAN

*M. connorsi* Kier, 1965:453–456, pl. 55: figs. 1–3. [Texas, U.S.A.] (Bell Canyon Fm., Upper Permian.)  
*M. permica* Wanner, 1941:302–310, figs. 2–3, pl. 25: figs. 1–10, 20–27, pl. 26: figs. 1–6, 23. [Timor (Island), South Malay Archipelago.]  
*M. platyacantha* Nisiyama, 1966:155–156, pl. 1: fig. 3. [Japan.] (Basleonian.)  
*M. spinulifera* Nisiyama, 1966:155, pl. 1: figs. 1–2. [Japan.] (Basleonian.)

**Genus *Anaulocidaris* Zittel**

## UPPER JURASSIC

*A. tuberculata* Mortensen, 1937:18–19, pl. 2: figs. 11–16. [Germany.]

## TRIASSIC

*A. vinassai* Boni, 1939:328–332, pl. 17: figs. 6–10, 17. [Italy.]

**Genus *Dicyclocidaris* Fell**

## UPPER TRIASSIC

*Dicyclocidaris* Fell, 1950:83. Type-species: *D. den-*

*ticulata* Fell, 1950:83–85, figs. 1–3. [New Zealand.] (Karnian.)

### Genus *Lenticidaris* Kier

#### LOWER TRIASSIC

*Lenticidaris* Kier, 1968a:1000–1001. Type-species:  
*L. utahensis* Kier, 1968a:1001–1004, fig. 1, pl. 121: figs. 1–2, pl. 122: figs. 1–3, pl. 123: figs. 3–9. [Utah, U.S.A.]

### Genus *Pachycidaris* Thiéry

#### JURASSIC

*Pachycidaris* Thiéry, 1928:180. Type-species: *P. thieryi* Collignon and Lambert. [Europe.] (Oxfordian.)

#### LOWER JURASSIC

*P. bergouniouxii* Mercier, 1937c:18, pl. 1: figs. 5–7. [France.] (Domèrian.)  
*P. jeanneti* Mercier, 1937c:17, pl. 1: figs. 1–2. [France.] (Toarcian.)  
*P. piveteaui* Mercier, 1937c:18–19, pl. 1: fig. 8. [France.] (Toarcian.)

### Genus *Triadocidaris* Döderlein

#### TRIASSIC

*T. coronensis* Jekelius, 1932:44, pl. 2: figs. 20a–c. [Rumania.]

#### UPPER TRIASSIC

*T. lungauensis* Tollmann in Kristan-Tollmann, Tollmann and Geysant, 1969:21–23, pl. 3: figs. 3–6, pl. 6: figs. 5–8. [Tarntal Mountains, Austria.] (Rhaetic.)

### Family CIDARIDAE Gray

#### Genus *Minicidaris* Deraniyagala

#### MIOCENE

*Minicidaris* Deraniyagala, 1961:153. Type-species:

*M. minihagali* Deraniyagala, 1961:154, pl. 5: figs. 3–4. [Ceylon.]

### Subfamily HISTOCIDARINAE Mortensen

#### Genus *Histocidaris* Mortensen

#### RECENT

*H. acutispina* Mortensen, 1927b:248–250, figs. 4–5, pl. 50: figs. 1–2, pl. 52: fig. 2, pl. 77: fig. 4. [Malaysia.]  
*H. australiae* Mortensen, 1928:66. [Off coast of New South Wales, Australia.]  
*H. carinata* Mortensen, 1928:66. [Off Kyushu Island, South Japan.]  
*H. crassispinga* Mortensen, 1928:66. [Off New South Wales, Australia.]  
*H. denticulata* Koehler, 1927:10–14, pl. 1: figs. 1–3, 6, 7, pl. 2: fig. 1, pl. 23: fig. 1. [Bay of Bengal, Indian Ocean.]  
*H. formosa* Mortensen, 1928:65–66. [Kei Islands, Indonesia Malay Archipelago.]  
*H. magnifica* Mortensen, 1927b:245–248, figs. 1–3, pls. 48–49, pl. 76. [Malaysia.]  
*H. nuttingi* Mortensen, 1926:6–7, pl. 1: figs. 1–2, 4, pl. 2: fig. 6, pl. 3: fig. 9, pl. 4: figs. 11–12. [Off Havana, Cuba.]  
*H. recurvata* Mortensen, 1928:66. [Kei Islands, Indonesia Malay Archipelago.]

#### MIDDLE MIOCENE

*H. geneffensis* Lambert, 1931d:204, pl. 5: fig. 50. [Egypt.] (Helvetian.)  
*H. oranensis* Lambert, 1931c:83–84, pl. 3: figs. 24–25. [Algiers, North Africa.] (Upper Sahelian = Upper Tortonian.)

#### OLIGOCENE

*H. mckayi* Fell, 1954:30–32, fig. 15, pls. 7A–J, pl. 9D, pl. 12G, pl. 13C, pl. 14E. [New Zealand.] (Duntroonian to Waitakian.)

### Subfamily CTENOCIDARINAE Mortensen

#### Genus *Ctenocidaris* Mortensen

#### RECENT

*C. polyplax* Mortensen, 1950a:296–297, pl. 8: figs. 1, 2, 8, pl. 9: fig. 4. [Antarctic Ocean.]

Genus *Austrocidaris* H. L. Clark

## RECENT

- A. gigantea* H. L. Clark, 1925a:28, pl. 3: figs. 1-2. [Antarctic, South Victoria Land, off Coulman Island.]
- A. platyacantha* H. L. Clark, 1925a:29-30, pl. 2: fig. 1. [Antarctic seas (south of Coulman and Balleny Islands).]

## MIOCENE

- A. operta* Philip, 1964:463-464, figs. 5d-e, pl. 61: figs. 5-6, pl. 64: figs. 1-4, 8. [Southeastern Australia.]

Genus *Eurocidaris* Mortensen

## RECENT

- E. nutrix* Thomson var. *longispina* Mortensen, 1928:67. [Heard Island, Southern Ocean.]
- E. rugosa* Koehler, 1926:17-23, pl. 99: figs. 4-9, pl. 100: figs. 1-6, pl. 101: figs. 1-7, pl. 102: figs. 1-7, pl. 119: fig. 2. [Antarctic.]

Genus *Homalocidaris* Mortensen

## RECENT

- Homalocidaris* Mortensen, 1928:67. Type-species: *Austrocidaris gigantea* H. L. Clark. [Antarctic.]

Genus *Notocidaris* Mortensen

## RECENT

- N. platyacantha* H. L. Clark var. *contracta* Koehler, 1926:13-14, pl. 94: fig. 5, pl. 96: figs. 1-6, pl. 99: fig. 5. [Antarctic.]
- N. remigera* Mortensen, 1950a:298-299, pl. 5: figs. 1-2, pl. 8, figs. 3-4. [Antarctic Ocean.]
- N. spinosa* Koehler, 1926:14-17, pl. 97: figs. 1-6, pl. 98: figs. 1-7, pl. 99: figs. 1-3, pl. 112: fig. 7, pl. 114: fig. 7, pl. 119: fig. 6. [Antarctic.]

## MIDDLE PLIOCENE

- N. vellai* Fell, 1954:43-45, pl. 15A-M. [New Zealand.] (Lower-upper Nukumaruan.)

## Subfamily GONIOCIDARINAE Mortensen

Genus *Goniocidaris* Desor in Agassiz and Desor

## RECENT

- G. alba* Mortensen, 1928:67. [Off Kyushu Island, South Japan.]
- G. australiae* Mortensen, 1928:68. [Off the coast of New South Wales, Australia.]
- G. balinensis* Mortensen, 1932b:148-151, figs. 1-4, pl. 1: figs. 1-5, pl. 11: fig. 7, pl. 13: figs. 11-14. [Bali Sea, East Indies.]
- G. corona* Baker, 1968:200-203, fig. 1, pl. 1. [North-eastern New Zealand.]
- G. crassa* Mortensen, 1928:68. [Mindanao Island, south of Philippine Islands.]
- G. impressa* Koehler, 1926:24-28, pl. 91: figs. 1-8, pl. 92: figs. 1-5, 8-14, pl. 119: fig. 1. [Antarctic.]
- G. indica* Mortensen, 1939b:3-6, figs. 1-2, pl. 1: figs. 1-4, pl. 5: figs. 4, 7, pl. 6: figs. 17-18, [In Indian Ocean between Pemba Island and East Africa.]
- G. magi* Pawson, 1964:67-70, figs. 1-4, pl. 1. [New Zealand.]
- G. sibogae* Mortensen, 1928:68. [Molucca Sea, Malay Archipelago.]
- G. spinosa* Mortensen, 1928:67. [Amboina, Indonesia.]

## PLIOCENE

- G. mortenseni* Chapman and Cudmore, 1934:139-140, pl. 14: figs. 23, 27. [South Australia.]
- G. tubaria* (Lamarck) *hallettensis* Philip, 1964:458-460, figs. 4g, 4j, 4l, pl. 66: figs. 1, 2, 12, pl. 67: figs. 4-6. [Southeastern Australia.]

## MIOCENE

- G. praecipua* Philip, 1964:455-456, figs. 4i, 4k, 4m, pl. 61: figs. 10-12. [Southeastern Australia.]

## OLIGOCENE

- G. hebe* Fell, 1954:37-39, pls. 4A-J, 7D, 8D. [New Zealand.] (Duntroonian to Hutchinsonian.)
- G. holguinensis* Sánchez Roig, 1949:31. [Cuba.]
- G. murrayensis* Chapman and Cudmore, 1934:138-139, pl. 14: figs. 20-22. [South Australia.]

*G. pusilla* Fell, 1954:39–40, pls. 5H, 13D, 14C. [New Zealand.] (Otaian.)

EOCENE

*G. habanensis* Sánchez Roig, 1949:30–31, pl. 1: fig. 5. [Cuba.]

**Genus *Adelcidaris* Cotton and Godfrey**

In the *Treatise* Fell (Durham et al., 1966:U325) states that *Adelcidaris* is a nomen vanum for *Goniocidaris*.

RECENT

*Adelcidaris* Cotton and Godfrey, 1942:217. Type-species: *Goniocidaris tubaria* (Lamarck.)

**Subgenus *Goniocidaris* (*Aspidocidaris*) Mortensen**

RECENT

*Goniocidaris* (*Aspidocidaris*) Mortensen, 1928:67. Type-species: cited as *Goniocidaris clypeata* Döderlein. According to Fell (Durham et al., 1966:U325) the type is *Goniocidaris alba* Mortensen. [Japan, Indonesia, Australia, New Zealand.]

**Subgenus *Goniocidaris* (*Cyrtocidaris*) Mortensen**

RECENT

*Goniocidaris* (*Cyrtocidaris*) Mortensen, 1927b:264. Type-species: *G. tenuispina* Mortensen, 1927b:264–269, figs. 10–11, pl. 57: figs. 1–2, pl. 58: fig. 1, pl. 59: fig. 2, pl. 61: figs. 6–8, pl. 63: fig. 5, pl. 73: figs. 5–6, pl. 79: figs. 1–3. [Philippines.]

*G. (C.) tenuispina* Mortensen var. *major* Mortensen, 1927b:270–272, fig. 13, pl. 58: fig. 2, pl. 79: fig. 9. [Philippines.]

*G. (C.) tenuispina* Mortensen var. *tuberculata* Mortensen, 1927b:269–270, fig. 12, pl. 57: fig. 3, pl. 59: fig. 1, pl. 61: figs. 9–11, pl. 73: figs. 7–8, pl. 79: figs. 4–8. [Philippines.]

**Subgenus *Goniocidaris* (*Discocidaris*) Mortensen**

RECENT

*Goniocidaris* (*Discocidaris*) *peltata* Mortensen, 1927b:261–264, fig. 9, pls. 55–56, pl. 74: figs. 4–5, pl. 78: figs. 9–12. [Malaysia.]

**Genus *Delocidaris* Philip**

MIOCENE

*Delocidaris* Philip, 1964:464–466. Type-species: *Goniocidaris prunispinosa* Chapman and Cudmore.

**Genus *Psilocidaris* Mortensen**

RECENT

*Psilocidaris* Mortensen, 1927b:282–283. Type-species: *P. echinulata* Mortensen, 1927b:283–285, fig. 18, pl. 60: figs. 1–2, pl. 61: figs. 4–5, pl. 63: fig. 4, pl. 73: figs. 3–4, pl. 78: figs. 3–5. [Malaysia.]

**Genus *Rhopalocidaris* Mortensen**

RECENT

*Rhopalocidaris* Mortensen, 1927b:272–273. [Philippines.] Type-species: *Cidaris* (*Discocidaris*) *hirsutispinus* de Meijere. [Malay Archipelago.]

*R. hirsutispinus* (de Meijere) var. *viridis* Mortensen, 1927b:273–275, fig. 14, pl. 61: fig. 2, pl. 73: figs. 1–2, pl. 78: figs. 6–8. [Philippines.]

*R. rosea* Mortensen, 1928:68. [Japanese seas (Sagami Sea; off Goto Island).]

*R. rosea* Mortensen *tenuis* Mortensen, 1928:68–69. [Off Kei Islands, Indonesia.]

**Genus *Schizocidaris* Mortensen**

RECENT

*S. fasciata* Mortensen, 1927b:280–282, fig. 17, pl. 61: fig. 3, pl. 74: fig. 3, pl. 78: fig. 2. [Philippines.]

## Subfamily STEREOCIDARINAE Lambert

## UPPER EOCENE

Genus *Stereocidaris* Pomel

## RECENT

- S. excavata* Mortensen, 1932b:151-154, fig. 5, pl. 2: figs. 1-2, pl. 3: figs. 1-5, pl. 4: fig. 2, pl. 11: figs. 1-2. [South Africa.]
- S. grandis* (Döderlein) var. *hyatorina* Mortensen, 1928:69. [Off Kyushu, South Japan.]
- S. grandis* (Döderlein) var. *rubra* Mortensen, 1927b:301, pl. 68: figs. 1-2. [Malaysia.]
- S. granularis* Mortensen, 1928:69. [Philippines, Molucca Sea.]
- S. hawaiiensis* Mortensen, 1928:69. [Hawaiian seas.]
- S. indica* Döderlein var. *philippinensis* Mortensen, 1928:71. [Philippine seas.]
- S. nascaensis* Allison, Durham and Mintz, 1967:10-13, figs. 1-4, 15-20. [West from Chile.]
- S. purpurascens* Mortensen, 1928:70. [Off Kei Islands, Indonesia.]
- S. reducta* Mortensen, 1939b:7-9, fig. 3, pl. 2: figs. 1-4, pl. 5: fig. 1, pl. 6: figs. 14-16. [Maldive Islands, Indian Ocean.]
- S. sceptriferoides* Döderlein var. *lamellata* Mortensen, 1927b:304-306, fig. 22, pls. 71-72, pl. 74: figs. 8-9, pl. 78: figs. 13-14. [Malaysia.]
- S. sceptriferoides* Döderlein var. *lanceolata* Mortensen, 1928:71. [Sagami Sea, Japan.]
- S. squamosa* Mortensen, 1928:70. [Saya de Malha Bank, Indian Ocean.]
- S. stylifera* Mortensen, 1928:69. [Philippines.]
- S. sulcatispinis* Mortensen, 1928:70. [Off Celebes, Kei Islands, Indonesia.]
- S. tubifera* Mortensen, 1928:70. [Kei Islands, Philippines.]
- S. tubifera* Mortensen var. *impressa* Mortensen, 1928:70. [Kei Islands, Philippines.]

## MIDDLE PLIOCENE

- S. hutchinsoni* Fell, 1954:35-36, pls. 6A-D, 6F-H, 6J-L, 9E. [New Zealand.] (Nukumaruan.)

## LOWER PLIOCENE

- S. grandis* (Döderlein) *fusana* Nisiyama, 1966:159-160, pl. 1: fig. 4. [Japan.] (Kurotaki Fm.)

- S. cudmorei* Philip, 1964:440-441, figs. 1a-d, 1i-j, pl. 60. [Southeastern Australia.]
- S. fosteri* Philip, 1964:441-442, figs. 1f-g, pl. 59: fig. 6, pl. 65: fig. 3. [Southeastern Australia.]
- S.?* *hispidata* Philip, 1964:444-446, fig. 1h, pl. 61: figs. 8-9. [Southeastern Australia.]
- S. inermis* Philip, 1964:442-444, figs. 2b, 2c, 2e, 2f, pl. 59: figs. 1-3, 7, 8. [Southeastern Australia.]
- S.?* *intricata* Philip, 1964:446-447, fig. 1e, pl. 59: fig. 4. [Southeastern Australia.]

## MIDDLE EOCENE

- S. destefanii* Innocenti, 1924:41-43, pl. 2: figs. 1-6. [Istria, former Italian province ceded to Yugoslavia in 1947.]

## CRETACEOUS

- S. baileyi* Fell, 1962:27-29, pl. 1: figs. 1-3. [California, U.S.A.]
- S. bolli* Krenkel, 1928:13-14, pl. 1: figs. 4-12. [Germany. Nomen nudum for *Cidaris spinosa* Boll, 1846.]
- S. jaekeli* Krenkel, 1928:15-16, pl. 1: figs. 18-24. [Germany.]
- S. jaekeli* Krenkel var. *laticor* Krenkel, 1928:17, pl. 1: figs. 21-22. [Germany.]
- S. jaekeli* Krenkel var. *undulifera* Krenkel, 1928:16-17, pl. 1: figs. 23-24. [Germany.]
- S. rugensis* Krenkel, 1928:15, pl. 1: figs. 15-17. [Germany. Nomen nudum for *Cidaris alatus* Boll, 1846.]

## UPPER CRETACEOUS

- S. jaekeli* Krenkel var. *grandior* Krenkel, 1928:16, pl. 1: figs. 18-20. [Germany.] (Upper Senonian.)

## LOWER CRETACEOUS

- S. hudspethensis* Cooke, 1955:89, pl. 18: figs. 1-4. [Texas, U.S.A.] (Lower Cenomanian to upper Albian.)



Genus *Phalacrocidaris* Lambert

## PLEISTOCENE/PLIOCENE

*S. (Phalacrocidaris) japonica* (Döderlein) *multi-pora*  
Nisiyama, 1966:161–162, pl. 1: figs. 5–6. [Japan.]  
(Koshiha Fm.)

Genus *Typocidaris* Pomel

In the *Treatise* Fell (Durham et al., 1966:U325)  
considers *Typocidaris* a subjective synonym of  
*Stereocidaris*.

## PALEOCENE

*T. danica* Ravn, 1928:23–25, fig. 7, pl. 2: figs. 9–12.  
[Denmark.] (Danian.)  
*T. rosenkrantzi* Ravn, 1928:21–23, fig. 6, pl. 1:  
figs. 9–15, pl. 2: fig. 13. [Denmark.] (Danian.)

## UPPER CRETACEOUS

*T. baumbergeri* Jeannet, 1934d:1–3, fig. 1, pl. i:  
figs. 1–2. [Austria.] (Urgonian.)  
*T. falgarsensis* Lambert, 1933d:184–185, pl. 1: figs.  
2–5. [Spain.] (Maestrichtian.)

## LOWER CRETACEOUS

*T. thalebensis* Lambert, 1931c:68, fig. 4. [Algiers,  
North Africa.] (Albian.)

Genus *Chorocidaris* Ikeda

## RECENT

*Chorocidaris* Ikeda, 1941:85–86. Type-species: *C.*  
*micca* Ikeda, 1941:85–86, pl. 6: figs. 1–8. [Japan.]

Genus *Compsocidaris* Ikeda

## RECENT

*Compsocidaris* Ikeda, 1939a:160–161. Type-species:  
*C. pyrsacantha* Ikeda, 1939a:160–164, pls. 7–10.  
[Bonin Islands (Japan), Western Pacific Ocean.]

## Subfamily RHABDOCIDARINAE Lambert

Genus *Rhabdocidaris* Desor

## LOWER CRETACEOUS

*R. arginensis* Weber, 1934:22–23, 80, pl. 3: figs.  
7a–g. [Crimea, U.S.S.R.] (Hauterivian.)  
*R. brasiliensis* Maury, 1936:262–263, pl. 2: figs. 4–5.  
[Brazil.] (Middle Albian.)  
*R. buraganensis* Weber, 1934:23, 80, pl. 3: figs.  
8a–e. [Crimea, U.S.S.R.] (Hauterivian.)

## UPPER JURASSIC

*R. boehmi* Bantz, 1969:7, pl. 3: fig. 1. [Bavaria.]  
(Lower Tithonian, Malm Zeta<sub>1/2</sub>, facies of Soln-  
hofen.)  
*R. cotteai* Jeannet, 1929:37–39, fig. 17, pl. 4: figs.  
7–9, pl. 5: figs. 31–33, 41–43. [Switzerland.]  
(Lower Kimmeridgian.)  
*R. desori* Jeannet, 1929:26–28, figs. 1, 4, 13–14, pl.  
3: figs. 7–10, pl. 5: fig. 44. [Switzerland.] (Lower  
Kimmeridgian.)  
*R. mayri* Bantz, 1969:7–8, pl. 7: fig. 1. [Bavaria.]  
(Lower Tithonian, Malm Zeta<sub>2</sub>.)  
*R. nunlisti* Jeannet, 1929:13–14, pl. 2: figs. 2–3,  
pl. 5: figs. 10–12. [Switzerland.] (Lower Kimme-  
ridgian.)  
*R. orbignyiformis* Jeannet, 1929:35–37, pl. 4: figs.  
5–6, pl. 5: figs. 28–30, 37–39. [Switzerland.]  
(Upper Kimmeridgian.)  
*R. rauraca* Jeannet, 1929:39–40, pl. 4: figs. 10–12,  
pl. 5: figs. 16–18. [Switzerland.] (Upper Rau-  
racian.)  
*R. stingelini* Jeannet, 1929:41, pl. 2: fig. 11, pl. 5:  
figs. 34–36. [Switzerland.] (Upper Kimmeridgian.)  
*R. yailensis* Weber, 1934:21–22, 79–80, pl. 3: fig. 6.  
[Crimea, U.S.S.R.] (Sequanian.)

## MIDDLE JURASSIC

*R. bigoti* Mercier, 1931:94–97, figs. 1–4. [France.]  
(Upper Bathonian.)  
*R. kisombyensis* Lambert, 1936c:12, pl. 1: figs. 5–7.  
[Madagascar, off East Africa.] (Bathonian.)  
*R. turbeti* Lambert, 1933b:33, pl. 3: fig. 8. [North  
Africa.] (Bajocian.)

## LOWER JURASSIC

*R. chouberti* Lambert, 1937:42, pl. 4: figs. 12–13.  
[Morocco.] (Upper Domerian.)

**Genus *Actinocidaris* Mortensen**

## RECENT

*Actinocidaris* Mortensen, 1928:73. [Hawaii.] Type-species: *Phyllacanthus thomasi* A. Agassiz and H. L. Clark.

**Genus *Chondrocidaris* A. Agassiz**

## RECENT

*C. brevispina* H. L. Clark, 1925a:11, pl. 1: figs. 1–2.  
[Loyalty Islands, Southwestern Pacific Ocean.]

## MIOCENE

*C. problepteryx* H. L. Clark, 1945:314–315, pl. 41: fig. E. [Fiji, South Pacific Ocean.]

## LOWER MIOCENE

*C. marianica* Nisiyama, 1966:171–172, pl. 1: figs. 19–20. [Mariana Island, West Pacific Ocean.]

## MIOCENE/UPPER OLIGOCENE

*C. clarkii* Chapman and Cudmore, 1934:141–142, pl. 13: figs. 15–17, pl. 15: fig. 31. [South Australia.]

**Genus *Megacidaris* Thiéry**

## LOWER JURASSIC

*M. cottreaui* Mercier, 1937c:19–20. [France.] (Toarcian.)

**Genus *Parhabdocidaris* Thiéry**

## UPPER JURASSIC

*Parhabdocidaris* Thiéry, 1928:181. [Europe.] Type-species: *Rhabdocidaris varusensis* Cotteau.

**Genus *Phyllacanthus* Brandt**

## RECENT

*P. forcipulatus* Mortensen, 1936b:307–309, 1 fig., pl. 10: figs. 1–4, pl. 11: figs. 1–4, pl. 12: figs. 1–10. [Indian Ocean.]

*P. irregularis* Mortensen, 1928:74. [West and south Australia.]

*P. irregularis* Mortensen *kimberi* Cotton and Godfrey, 1942:216–217, pl. 12: figs. 1–2. [South Australia.]

## PLEISTOCENE

*P. tylotus* H. L. Clark, 1945:313–314, pl. 41: fig. D. [Fiji, South Pacific Ocean.]

## MIDDLE PLIOCENE

*P. serratus* Philip, 1963d:219, fig. 2e, pl. 25: figs. 1, 2, 4. [Southeastern Australia.]

## MIOCENE

*P. clarkii* (Chapman and Cudmore) *impensus* Philip, 1963d:217–218, fig. 5c, pl. 25: figs. 9–10, pl. 26: figs. 2, 5, 9. [Southeastern Australia.]

*P. dubius* Brandt var. *sundaica* Martin in Jeannot and Martin, 1937:223–224. [Java, Indonesia.]

*P. wellmanae* Fell, 1954:51–53, pls. 1C, 1D, 2. [New Zealand.] (Kapitean.)

## LOWER PLIOCENE/UPPER OLIGOCENE

*P. duncani* Chapman and Cudmore, 1934:131–133, pl. 12: figs. 7–9, pl. 15: fig. 33. [South Australia.]

## MIDDLE MIOCENE/LOWER OLIGOCENE

*P. duncani* Chapman and Cudmore *gambierensis* Philip, 1963d:213–214, fig. 4, pl. 23: figs. 2, 10, pl. 24: figs. 1–3. [Southeastern Australia.] (Janjukian.)

*P. titan* Fell, 1954:49–51, pls. 1B, 3, 10A, 11D. [New Zealand.] (Duntroonian-Waiauian.)

## LOWER CRETACEOUS

- P. texanus* Whitney and Kellum, 1966:245–248, pl. 2: figs. 13–14. [Texas, U.S.A.] (Trinity Group. Aptian.)
- P. tysoni* Whitney and Kellum, 1966:244–245, pl. 2: figs. 4–6. [Texas, U.S.A.] (Trinity Group. Aptian.)

Genus *Leiocidaris* Desor

In the *Treatise* Fell (Durham et al., 1966:U330) considers *Leiocidaris* a subjective synonym of *Phyllacanthus*.

## UPPER OLIGOCENE

- L. cojimarensis* Lambert and Roig in Sánchez Roig, 1949:31. [Cuba. Although Lambert and Roig considered this species Miocene, Brodermann (1949:324) says it is Upper Oligocene.]
- L. spinidentatus* Palmer in Sánchez Roig, 1949:32, pl. 1: fig. 3. [Cuba. Brodermann (1949:324) says it is Upper Oligocene.]

## MIDDLE EOCENE

- L. mortenseni* Lambert, 1933a:30, pl. 1: figs. 18–21. [Madagascar, off East Africa.] (Lutetian.)

## LOWER EOCENE

- L. cottreai* Lambert in Lambert and Pérébasquine, 1929:474, pl. 38: figs. 6, 7. [North Africa.]

## CRETACEOUS

- L. leoni* Lambert and Roig in Sánchez Roig, 1926:33–34, pl. 4: figs. 5, 6. [Cuba.]

## UPPER CRETACEOUS

- L. madrugensis* Sánchez Roig, 1949:29–30, 32, pl. 1: figs. 2, 4. [Cuba.] (Maestrichtian.)
- L. sanfilippo* Checchia-Rispoli, 1932a:2–5, figs. 1–2, pl. 1: figs. 1–6. [North Africa.] (Maestrichtian.)
- L. stefaninii* Shalem, 1933:19–22, pl. 2: figs. 1a–d. [Palestine.] (Cenomanian.)

- L. tripolitana* Checchia-Rispoli, 1933b:3–6, fig. 1, pl. 1: figs. 1–4, pl. 2: figs. 1–3. [North Africa.] (Maestrichtian.)

## LOWER CRETACEOUS

- L. karakachi* Weber, 1934:42–43, 83, pl. 7: figs. 2a–c. [Crimea, U.S.S.R.] (Barremian.)
- L. thiebaudi* Jeannet, 1955:555–557, pl. 26: figs. 1–7. [Angola, southwest Africa.] (Albian.)

## UPPER JURASSIC

- L. rollieri* Jeannet, 1933d:4–6, pl. 1: figs. 4, 8, 10. [Switzerland. First figured in Jeannet (1931).] (Lower Sequanian.)
- L. tobleri* Jeannet, 1933d:2–4, pl. 1: figs. 1–3, 6, 7, 11. [Switzerland. First figured in Jeannet (1931).] (Lower Kimmeridgian.)

Genus *Porocidaris* Desor

## RECENT

- P. sibogae* Mortensen, 1934a:166. [Malaysia, off Kei Islands.]

## UPPER EOCENE

- P. lopezi* Sánchez Roig, 1953c:137, pl. 1: fig. 4. [Cuba.]

## PALEOCENE

- P. farafrensis* Hassan, 1969:15–16, pl. 1: figs. 1–5. [Farafra Oasis, Upper Egypt.] (Landanian.)

Genus *Prionocidaris* A. Agassiz

## RECENT

- P. baculosa* (Lamarck) var. *lineata* H. L. Clark, 1925a:14. [Indian Ocean, Seychelles and Natal islands.]
- P. badia* H. L. Clark, 1925a:14–15, pl. 2: fig. 2. [Mauritius Island, Indian Ocean.]
- P. bispinosa* (Lamarck) var. *laevis* H. L. Clark, 1938:371–372, pl. 26: fig. 1. [Western Australia.]

*P. bispinosa* (Lamarck) var. *nigrobrunnea* Mortensen, 1928:74. [Shark's Bay, Western Australia.]

PLEISTOCENE-PLIOCENE/LOWER MIOCENE

*P. malindiensis* Stephenson, 1968:560-562, figs. 1f, 1h-i, 2f-i. [Kenya, East Africa.] (Baratumu and Midadoni Beds.)

LOWER MIOCENE

*P. praeverticillata* Stephenson, 1968:555-560, figs. 1a-c, 2a-e. [Kenya, East Africa.] (Baratumu Beds. Aquitanian-Burdigalian.)

MIOCENE/UPPER OLIGOCENE

*P. scoparia* Chapman and Cudmore, 1934:134-135, pl. 12: figs. 10-11, pl. 15: figs. 28-30. [South Australia.]

OLIGOCENE

*P. haasti* Fell, 1954:54-55, pls. 10C, 11F-H. [New Zealand.] (Duntroonian-Otaian.)

MIDDLE EOCENE

*P. marchalli* Fell, 1954:54, pls. 8B, 8C, 8I, 9C. [New Zealand.] (Bortonian.)

Subfamily CIDARINAE Gray

Genus *Cidaris* Leske

RECENT

*C. cidaris* (Linnaeus) var. *meridionalis* Mortensen, 1928:71. [Bay of Biscay-Canaries-Madeira, North Atlantic.]

*C. mabahissae* Mortensen, 1939b:9-11, fig. 4, pl. 1: figs. 5-6, pl. 4: fig. 4, pl. 5: fig. 5, pl. 6: figs. 3, 5, 8, 12, 13. [Maldive Islands, Indian Ocean off southern India.]

MIOCENE

*C. aculeata* Martin in Jeannet and Martin, 1937: 219-220, fig. 3. [Dutch East Indies, West Pacific Ocean.]

*C. cojimarensis* Lambert and Roig in Sánchez Roig, 1926:32, pl. 3: fig. 3. [Cuba.]

OLIGOCENE

*C. assulaeformis* Malaroda, 1951:158-159, pl. 2: figs. 6, 7, 11-13. [Italy.]

*C. pelettensis* Castex, 1930:13-14, pl. 1: fig. 1. [France.] (Stampian.)

*C. vepres* Lambert, 1931c:79, pl. 3: fig. 22. [West Sarno, Algeria.] (Stampian.)

UPPER OLIGOCENE

*C. duncani* Socin, 1942:48-49. [India and Somaliland.] (Chattian.)

EOCENE

*C. gymnozona* Arnold and H. L. Clark, 1927:9-11, pl. 1: fig. 1-3. [Jamaica, Caribbean Sea.]

*C. sigillum* Lambert, 1931c:78, pl. 3: figs. 20-21. [Algiers, North Africa.]

UPPER EOCENE

*C. dubaleni* Castex, 1930:12-13. [France.] (Bartonian or Stampian.)

*C. hemispinosa* Lambert, 1933d:188-189, pl. 1: figs. 6-9. [Spain.] (Probably Lutetian.)

*C. isnardi* Lambert, 1924a:7. [France.] (Bartonian.)

UPPER CRETACEOUS

*C. mahafalensis* Besairie, 1930:226, pl. 22: fig. 5. [Madagascar, east coast of Africa.] (Upper Senonian-Campanian.)

*C. majungensis* Lambert, 1933a:11-12, pl. 1: figs. 4-7. [Madagascar, east coast of Africa.] (Mae-strichtian.)

*C. meslei* Lambert, 1931c:72, pl. 3: fig. 17. [Algiers, North Africa.] (Santonian.)

LOWER CRETACEOUS

*C. enissalensis* Weber, 1934:30, 81, pl. 5: fig. 1. [Crimea, U.S.S.R.] (Upper Valanginian.)

*C. mullerriedi* Lambert, 1935c:365-366, pl. 16: figs. 13-14. [Mexico.] (Aptian.)

*C. theodosiae* Weber, 1934:33, 34, 81, 82, pl. 5: figs. 10a-e. [Crimea, U.S.S.R.] (Hauterivian-Valanginian.)

#### TRIASSIC

- C. anellatus* De Gregorio, 1930b:29, pl. 6: figs. 12-15. [Italy.]  
*C. ecki* Assmann, 1925:517-518, pl. 9: figs. 7-10. [Germany.]  
*C. longispina* Assmann, 1937:22-23, pl. 5: figs. 7-10. [Germany.]  
*C. mirandus* De Gregorio, 1930b:29, pl. 6: fig. 11. [Italy.]  
*C. percostatus* De Gregorio, 1930b:29, pl. 6: figs. 16-17. [Italy.]  
*C. remifera* Assmann, 1937:23-24, pl. 5: fig. 17. [Germany.]  
*C. tuberculinus* De Gregorio, 1930b:29, pl. 6: figs. 5-6. [Italy.]

#### UPPER TRIASSIC

- C. aculeata* Leonardi and Lovo, 1950:10, pl. 1: fig. 8. [Italy.] (St. Cassian Beds. Karnian.)  
*C. crenulata* Leonardi and Lovo, 1950:6, pl. 2: figs. 27-29. [Italy.] (St. Cassian Beds. Karnian.)  
*C. dorsata* Braun var. *coronata* Leonardi and Lovo, 1950:8, pl. 2: fig. 20. [Italy.] (St. Cassian Beds. Karnian.)  
*C. dorsata* Braun var. *jugulata* Leonardi and Lovo, 1950:7-8, pl. 2: figs. 15-19. [Italy.] (St. Cassian Beds. Karnian.)  
*C. gilletteae* Lambert, 1927b:8-9, figs. 1-2. [Mikulschütz, formerly in Silesia, Germany, now in Poland. New name for *C. transversa* von Meyer (1847:576). Figured by Schauroth (1859:293-294, pl. 1: figs. 8a-d).] (Norian.)  
*C. magna* Leonardi and Lovo, 1950:5, pl. 2: fig. 26. [Italy.] (St. Cassian Beds. Karnian.)  
*C. pusilla* f. Leonardi and Lovo, 1950:8, pl. 1: fig. 7. [Italy.] (St. Cassian Beds. Karnian.)  
*C. pyramidalis* Leonardi and Lovo, 1950:10, pl. 2: fig. 25. [Italy.] (St. Cassian Beds. Karnian.)  
*C. raibiana* Bather var. *capitata* Leonardi and Lovo, 1950:9, pl. 1: figs. 9-10, pl. 2: figs. 11-14. [Italy.] (St. Cassian Beds. Karnian.)  
*C. scrobiculata* Braun var. *rumerlensis* Leonardi and Lovo, 1950:6-7, pl. 1: figs. 3-5. [Italy.] (St. Cassian Beds. Karnian.)

- C. staulinensis* Leonardi and Lovo, 1950:6, pl. 2: fig. 30. [Italy.] (St. Cassian Beds. Karnian.)  
*C. trigona* (Münster) var. *cuspidata* Leonardi and Lovo, 1950:7, pl. 1: fig. 6. [Italy.] (St. Cassian Beds. Karnian.)  
*C. zardinii* Leonardi and Lovo, 1950:9-10, pl. 2: figs. 21-24, 26b. [Italy.] (St. Cassian Beds. Karnian.)

#### PERMIAN

- C. bitauniensis* Wanner, 1941:310-311, pl. 26: figs. 7-10, 24. [Timor Island, South Malay Archipelago.]  
*C. jonkeri* Wanner, 1941:311-312, pl. 26: figs. 11-13. [Timor Island, South Malay Archipelago.]

#### Genus *Dorocidaris* A. Agassiz

In the *Treatise* Fell (Durham et al., 1966:U331) considers *Dorocidaris* a subjective synonym of *Cidaris*.

#### RECENT

- D. lorioli* Koehler, 1927:21-23, pl. 3: figs. 2-5. [Andaman Islands, Bay of Bengal.]

#### MIOCENE

- D. henjamensis* Clegg, 1933:17-18, pl. 2: figs. 3a-c. [Persia (Iran).]

#### OLIGOCENE

- D. exilis* Lambert, 1931c:79, pl. 3: fig. 23. [Algiers, North Africa.]

#### CRETACEOUS

- D. molinetti* Lambert, 1931e:299-300, fig. 3, pl. 17: figs. 14-15. [Cuba.]

#### UPPER CRETACEOUS

- D. basseae* Besairie and Lambert, 1930:115, pl. 9: figs. 7-9. [Zululand, East Africa.] (Turonian.)

- D. besairiei* Lambert, 1936c:23, pl. 3: figs. 1–6. [Madagascar, off East Africa.] (Upper Campanian.)
- D. ciryi* Lambert, 1935f:513–515, pl. 57: figs. 1–2. [Spain.] (Cenomanian.)
- D. demujiensis* Sánchez Roig, 1949:30, pl. 1: fig. 1. [Cuba.]
- D. eybrunnensis* Daqué, 1939:79, pl. 3: fig. 12. [Germany.] (Lower Turonian to Upper Cenomanian.)
- D. garciai* Sánchez Roig, 1952c:2, pl. 1: fig. 3. [Cuba.]
- D. madrugensis* Sánchez Roig, 1949:29–30, 32, pl. 1: figs. 2, 4. [Havana, Cuba.]
- D. taouzenis* Lambert, 1933b:61, pl. 2: figs. 1–3. [North Africa.] (Cenomanian.)

## LOWER CRETACEOUS

- D. bitakensis* Weber, 1934:37, 82, pl. 6: figs. 2a–e. [Crimea, U.S.S.R.] (Barremian.)
- D. urcustensis* Weber, 1934:38–39, 82–83, pl. 6: figs. 4a–h. [Crimea, U.S.S.R.] (Hauterivian.)

**Genus *Balanocidaris* Lambert**

## LOWER CRETACEOUS

- B. darderi* Lambert, 1935b:360, pl. 41: fig. 8. [Spain.] (Aptian.)
- Cidaris (Balanocidaris) deserti* El-Din Mahmoud, 1955:158–159, pl. 18: figs. 1–3. [Egypt.] (Middle Albian.)
- B. tingitana* Lambert, 1933b:62, pl. 2: figs. 7–9. [North Africa.] (Valanginian.)

## UPPER JURASSIC

- B. japonica* Nisiyama, 1966:166–167, pl. 1: figs. 15–18. [Japan.] (Probably Callovian to Tithonian.)

## MIDDLE JURASSIC

- B. besairiei* Lambert, 1933a:9, pl. 1: figs. 1–3. [Madagascar, east coast of Africa.] (Perhaps Lower Bajocian.)

## UPPER TRIASSIC

- B. migliorinii* Venzo, 1934b:157–158, pl. 13: figs. 13a–b. [Rhodes Island, Southeastern Aegean Sea.] (Ladinian-Raiblian.)
- B. subdorsata* Venzo, 1934b:156–157, pl. 13: figs. 11–12. [Rhodes Islands, Southeastern Aegean Sea.] (St. Cassian Beds to Raiblian. Karnian.)

**Genus *Cyathocidaris* Lambert**

## UPPER CRETACEOUS

- C. septemtrionalis* Schmitz, 1970:37–38, pl. 1: figs. 1–2. [Northern Germany.] (Senonian.)

**Genus *Eucidaris* Pomel**

## RECENT

- E. australiae* Mortensen, 1950a:291–293, figs. 1–4, pl. 8: figs. 5–7, pl. 9: figs. 3, 5, 6. [Western Australia.]
- E. clavata* Mortensen, 1928:73. [St. Helena and Ascension, off west coast of Africa, South Atlantic Ocean.]
- E. tribuloides (Lamarck) africana* f. *attenuata* A. M. Clark, 1955:51, pl. 2. [Gold Coast of Africa.]

## LOWER MIOCENE/OLIGOCENE

- E. strombilata* Fell *felli* Philip, 1963d:202, pl. 22: figs. 1, 2, 5, 9. [Southeastern Australia.] (Janjukian and Longfordian(?).)

## LOWER OLIGOCENE

- E. coralloides* Fell, 1954:46, pls. 11B, 11C. [New Zealand.] (Whaingaroan.)

## LOWER OLIGOCENE/UPPER EOCENE

- E. strombilata* Fell, 1954:47–48, pls. 8A, 8E–H, 8J, 10B, 11E. [New Zealand.]

Genus *Hesperocidaris* Mortensen

## RECENT

- Hesperocidaris* Mortensen, 1928:73, 74. [California, U.S.A., Western Panama and Ecuador.] Type-species: *Dorocidaris panamensis* A. Agassiz.
- H. asteriscus* H. L. Clark, 1948:233-234, pl. 36: fig. 4, pl. 37: figs. 5-6. [Panama, off Medidor Island.]
- H. houstoniana* A. H. Clark, 1939:12-16, pl. 4: figs. 10-11, pl. 5: figs. 12-14. [Galápagos Islands, off Ecuador.]

Genus *Kionocidaris* Mortensen

## RECENT

- Kionocidaris* Mortensen, 1932b:165. Type-species: *K. striata* Mortensen, 1932b:165-168, figs. 9, 11-12, pl. 5: fig. 7, pl. 9: figs. 4-6, pl. 11: figs. 3, 9, pl. 12: figs. 1-2, pl. 13: figs. 4, 6-7. [Natal coast, Africa.]
- K. striata* Mortensen var. *teretispina* Mortensen, 1932b:168, fig. 10, pl. 13: fig. 5. [Natal coast, Africa.]

Genus *Lissocidaris* Mortensen

## RECENT

- Lissocidaris* Mortensen, 1939b:11-12. Type-species: *L. fusca* Mortensen, 1939b:12-14, figs. 5-6, pl. 3: figs. 1-3, pl. 5: fig. 2, pl. 6: figs. 1, 2, 6, 19. [Maldive Islands, off southern India.]

Genus *Paracidaris* Pomel

## UPPER JURASSIC

- P. loppei* Castex, 1947:26, pl. 1: fig. 1. [France.] (Upper Sequanian.)
- P. nunlisti* Jeannet, 1927:393-396, pl. 12: figs. 1-6b. [Switzerland.] (Argovian.)

## MIDDLE JURASSIC

- P. lagorgettei* Lambert, 1933c:173-174, pl. 7: figs. 5-7. [France.] (Callovian.)

## UPPER TRIASSIC

- P. jeanneti* Lambert, 1924c:448-450, figs. 1-2. [Switzerland.] (Rhaetian.)

Genus *Plegiocidaris* Pomel

- S. bracteata* (A. Agassiz) var. *albidens* H. L. Clark, 1925a:23-24. [Ceylon, west of Kaltusa and Macclesfield Bank, Indian Ocean.]
- S. bracteata* (A. Agassiz) var. *mauritiana* Mortensen, 1932b:161-162, pls. 7-8, pl. 9: figs. 10-11, pl. 12: figs. 3-5, 7. [Mauritius, Indian Ocean.]
- S. cingulata* Mortensen, 1932b:162-164, figs. 7-8, pl. 1: fig. 6, pl. 11: fig. 6, pl. 13: figs. 8-10. [Indian Ocean.]
- S. effluens* Mortensen, 1927b:285-292, fig. 19, pl. 59: fig. 3, pl. 62: figs. 1-2, pl. 65: figs. 1-4, pl. 75: figs. 1-2, pl. 80: figs. 1-6. [Malaysia.]

## LOWER CRETACEOUS

- P. biassalensis* Weber, 1934:11, 12, 78, pl. 2: figs. 1a-k. [Crimea, U.S.S.R.] (Barremian.)
- P. lamberti* Weber, 1934:13, 79, pl. 12: figs. 1a-c. [Crimea, U.S.S.R.] (Barremian-Hauterivian.)
- P. lemoinei* Lambert in Démoly, 1928:142, pl. 1: figs. 9-13. [France.] (Hauterivian.)
- P.?* *orientalis* El-Din Mahmoud, 1955:159, pl. 18: figs. 4, 7. [Egypt.] (Middle Albian.)

## JURASSIC

- P. huguenini* Lambert, 1931c:60-61. [France.]

## UPPER JURASSIC

- P. helviorum* Lambert, 1932:262-263. [France.] (Tithonian? or Argovian.)
- P. kuchkaensis* Weber, 1934:9, 78, pl. 1: figs. 4a-d. [Crimea, U.S.S.R.] (Rauracian.)
- P. vogdti* Weber, 1934:11, 78, pl. 1: figs. 7a-c. [Crimea, U.S.S.R.] (Rauracian.)

## MIDDLE JURASSIC

- P. ardesica* Thiéry in Thiéry, Lambert and Collignon, 1928:90-91, pl. 21: fig. 15. [France.] (Callovian.)

- P. babeau* Cotteau var. *granulosa* Mercier, 1932: 149, pl. 2: fig. 5. [France.] (Upper Bathonian.)
- P. bifrons* Lambert, 1936c:12, pl. 1: figs. 10–11. [Madagascar, off East Africa.] (Bathonian.)
- P. caeliculus* Lambert, 1936c:11–12, pl. 1: figs. 1–3. [Madagascar, off East Africa.] (Bathonian.)
- P. jacobi* Basse and Lambert in Lambert, 1936c:11, pl. 4: figs. 1–3, 8. [Madagascar, off East Africa.] (Callovian.)
- P. mercieri* Lambert, 1933b:30–32, pl. 3: figs. 6–7. [North Africa.] (Lower Bathonian.)
- P. pseudohorrida* Lambert, 1936c:12, pl. 1: fig. 9. [Madagascar, off East Africa.] (Bathonian.)
- P. welschi* Lambert, 1935a:523–524, pl. 26: fig. 4. [France.] (Lower Bajocian.)

## LOWER JURASSIC

- P. marizensis* Lambert, 1937:40, pl. 1: fig. 3. [Morocco. It was described without a specific name in 1933b, *Notes and Memoires*, 27:29, pl. 1: fig. 5.] (Domerian to late Pliensbachian.)
- P. morierei* Cotteau var. *nodosa* Mercier, 1937c:21–22, pl. 1: figs. 12–13. [France.] (Toarcian.)
- P. telrhemtensis* Lambert, 1937:41, pl. 1: fig. 4. [Morocco.] (Toarcian.)
- P. termieri* Lambert, 1937:39–40, pl. 1: figs. 1–2. [Morocco.] (Pliensbachian.)
- P. tingitana* Lambert, 1933b:29–30, pl. 1: figs. 11–12. [North Africa.] (Aalenian.)

## UPPER TRIASSIC

- P. raibliana* (Bather) var. *rhodiensis* Venzo, 1934b: 159–160, pl. 13: figs. 14–15. [Rhodes Island, South-eastern Aegean Sea.] (Raiblian. Karnian.)

Genus *Stylocidaris* Mortensen

## RECENT

- S. amboinae* Mortensen, 1928:71. [Amboina, off Mindanao, Indonesia.]
- S. annulosa* Mortensen, 1927b:296–299, fig. 21, pl. 63: fig. 1, pl. 64: figs. 1–3, pl. 65: fig. 8, pl. 75: fig. 3, pl. 80: figs. 7–11. [China Sea.]
- S.(?) fusispina* Mortensen, 1928:72–73. [Sagami Sea and Kagoshima Gulf, Japan.]

- S. laevispina* Mortensen, 1939b:15–17, figs. 7–8, pl. 2: fig. 5, pl. 4: figs. 1, 5, pl. 5: fig. 6, pl. 6: figs. 7, 10, 11. [Indian Ocean.]
- S.(?) longicollis* Mortensen, 1928: 72. [Amirante Islands, east of Tanganyika, Indian Ocean.]
- S. maculosa* Mortensen, 1928:72. [Sagami Sea, Japan.]
- S. reini* (Döderlein) var. *cladotrix* Mortensen, 1927b:293–295, fig. 20, pl. 65: figs. 5–7, pl. 66: fig. 1, pl. 67: fig. 1, pl. 75: fig. 4. [Malaysia.]
- S. reini* (Döderlein) var. *rubida* Mortensen, 1927b: 295–296, pl. 63: figs. 2–3, pl. 74: figs. 6–7. [Malaysia.]
- S. rufa* Mortensen, 1928:71–72. [Hawaii.]

## TERTIARY

- S. (?) chapmani* Philip, 1963d:198–201, figs. 1b–c, 2a, pl. 22: figs. 6–8. [Southeastern Australia.] (Pre-Oligocene, pre-Janjukian.)

Genus *Menocidaris* Philip

## MIOCENE

- Menocidaris* Philip, 1964:468–469. Type-species: *M. compta* Philip, 1964: 469–471, fig. 6, pl. 59: fig. 5, pl. 61: fig. 1, pl. 67: fig. 1. [Southeastern Australia.]

## Family PSYCHOCIDARIDAE Ikeda

- Psychocidaridae* Ikeda, 1936b:486, pls. 33–34. Type-genus: *Psychocidaris* Ikeda. [Malaysia(?).]

Genus *Psychocidaris* Ikeda

## RECENT

- Psychocidaris* Ikeda, 1935b:386. Type-species: *P. ohshimai* Ikeda, 1935b: 386–388, fig. 1. [Malaysia, Bonin Islands, Southeastern Asia.]

Genus *Caenocidaris* Thiéry

## MIDDLE JURASSIC

- Caenocidaris* Thiéry, 1928:180. Type-species: *Cidaridiscus cucumifera* Agassiz. [Europe.] (Bajocian.)



**Genus *Merocidaris* Thiéry**

## MIDDLE JURASSIC

*Merocidaris* Thiéry, 1928:180. Type-species: *Cidaris honorinae* Cotteau. [Europe.] (Kimmeridgian-Bajocian.)

**Genus *Tylocidaris* Pomel**

## PALEOCENE

- T. macneili* Cooke, 1959:12-13, pl. 1: figs. 3-5. [Alabama, U.S.A.] (Clayton Fm.)
- T. pomifer* (Boll) *herupensis* Wind, 1954:484, pl. 13: figs. 55-58. [Scandinavia.] (Upper Danian.)
- T. pomifer* (Boll) var. *masoviensis* Kongiel, 1958:5, 19, figs. 1-7, pl. 1: figs. 4-15. [Denmark.] (Danian.)
- T. ravni* Brotzen, 1959:47-49, figs. 14c, 14d, pl. 2: figs. 2-16. [Sweden.] (Middle Danian.)
- T. rosenkrantzi* Brotzen, 1959:45, figs. 15a, 15b, pl. 2: figs. 17-36. [Sweden.] (Middle Danian.)
- T.?* *salina* Cooke, 1959:12, pl. 1: figs. 12-14. [Alabama, U.S.A.] (Salt Mt. Ls.)
- T. windi* Brotzen, 1959:47, figs. 16a, 16b, pl. 1: figs. 20-23. [Sweden.] (Lower Danian.)

**Family DIPLOCIDARIDAE Gregory****Genus *Diplocidaris* Desor**

## LOWER CRETACEOUS

*D. bicarinata* Weber, 1934:28, 81, pl. 4: figs. 7a-k. [Crimea, U.S.S.R.] (Hauterivian.)

## MIDDLE JURASSIC

- D. besairiei* Lambert, 1936b:116-117, pl. 6: figs. 1-10. [Madagascar, off East Africa.] (Bajocian.)
- D. dubari* Lambert, 1937:44-45, pl. 4: figs. 6-7. [Morocco.] (Bajocian to Bathonian.)
- D. mauritanicus* Jeannet, 1936b:607-611, figs. 1-2, pl. 37: figs. 1-3. [Morocco, North Africa.] (Bathonian to Bajocian.)
- D. romani* Mercier in Roché, 1939:304, fig. 10. [France.] (Bajocian.)

## LOWER JURASSIC

*D. menchikoffi* Lambert, 1937:43-44, pl. 1: figs. 5-7. [Morocco.] (Upper Domerian.)

**Order Uncertain****Family Uncertain****Genus *Lanternarius* Regnéll**

## MIDDLE SILURIAN

*Lanternarius* Regnéll, 1956:171-172. Type-species: *L. latens* Regnéll, 1956:173-175, fig. 4, pl. 2: figs. 4-6. [Sweden.] (Wenlockian.)

**Subclass EUECHINOIDEA Bronn****Superorder DIADEMATACEA Duncan****Order ECHINOTHURIOIDA Claus****Family ECHINOTHURIIDAE Thomson****Subfamily ECHINOTHURIINAE Thomson****Genus *Araeosoma* Mortensen**

## RECENT

- A. alternatum* Mortensen, 1934a:164. [Off the Somali Coast, Indian Ocean.]
- A. coriaceum* Agassiz var. *indicum* Koehler, 1927:37-39, pl. 7: fig. 5, pl. 8: fig. 3, pl. 24: fig. 3. [Indian Ocean.]
- A. owstoni* Mortensen var. *nudum* Mortensen, 1934a:164. [Malaysia, Philippines, off Cape Vazella, Annam.]
- A. parviungulatum* Mortensen, 1934a:164. [Celebes Island, Buton Strait, Malaysia.]
- A. paucispinum* H. L. Clark, 1925c:4-5, pl. 2. [Off Natal Coast, South Africa.]
- A. splendens* Mortensen, 1934a:164. [Off Kei Islands, Malaysia.]
- A. tessellatum* (A. Agassiz) var. *carinatum* Mortensen, 1934a:163. [Off South Luzon, China Sea.]

## PALEOCENE

- (?) *A. mortenseni* Ravn, 1928:37-38, pl. 4: figs. 42-45. [Denmark.] (Danian.)

## UPPER CRETACEOUS

- (?) *A. brunnichi* Ravn, 1928:36-37, pl. 4: figs. 36-38. [Denmark.] (Upper Senonian.)

**Genus *Asthenosoma* Grube**

## RECENT

- A. dilatatum* Mortensen, 1934a:165. [Off Jolo Island, Malaysia.]  
*A. intermedium* H. L. Clark, 1938:378-380, pl. 26: figs. 2-3. [Great Barrier Reef, Australia.]  
*A. periculosum* Endean, 1964:95-100, fig. 1, pl. 12: figs. 1-2. [Queensland, Australia.]  
*A. varium* Grube *album* Mortensen, 1934a:165. [Off Tual, Kei Islands, Malaysia.]

## UPPER CRETACEOUS

- A. (?) striatissimum* Ravn, 1928:39, pl. 4: figs. 40-41. [Denmark.] (Upper Senonian.)

**Genus *Calveriosoma* Mortensen**

## RECENT

- Calveriosoma* Mortensen, 1934a:163. Type-species: *Calveria hystrix* Thomson. [North Atlantic-North Pacific.]

**Genus *Hapalosoma* Mortensen**

## RECENT

- H. gemmiferum* Mortensen, 1934a:165. [Japanese Seas.]

**Genus *Sperosoma* Koehler**

## RECENT

- S. antillense* Mortensen, 1934a:163. [Off Barbados (Island), Caribbean Sea.]

- S. armatum* Koehler, 1927:43-46, pl. 8: figs. 1, 6, pl. 25: fig. 3. [Indian Ocean.]  
*S. crassispinum* Mortensen, 1934a:163. [Molucca Passage, Malaysia.]  
*S. tristichum* Mortensen, 1934a:163. [Celebes Sea, Malaysia.]

**Genus *Echinosoma* Pomel**

## RECENT

In the *Treatise* Fell (Durham et al., 1966:U346-U347) considers *Echinosoma* an objective synonym of *Tromikosoma*.

- E. australe* Koehler, 1926:38-43, pl. 107: figs. 1-2, pl. 108: figs. 1-2, pl. 109: figs. 9-10, pl. 121: fig. 2. [South Pacific.]

**Subfamily PHORMOSOMATINAE Mortensen****Genus *Phormosoma* Thomson**

## RECENT

- P. placenta* Thomson var. *africana* Mortensen, 1934a:162. [Off South Africa.]

**Genus *Hemiphormosoma* Mortensen**

## RECENT

- Hemiphormosoma* Mortensen, 1934a:162. Type-species: *H. paucispinum* Mortensen, 1934a:162. [Sulu Sea, Malaysia.]

**Genus *Paraphormosoma* Mortensen**

## RECENT

- Paraphormosoma* Mortensen, 1934a:163. Type-species: *Phormosoma alternans* de Meijere. [Indonesia.]

## Order DIADEMATOIDA Duncan

## Family DIADEMATIDAE Gray

Genus *Diadema* Gray

## RECENT

- D. clarki* Ikeda, 1939b:165–166, pl. 11: figs. 1–4. [Japan.]  
*D. palmeri* Baker, 1967:240–243, fig. 1, pls. 1–2. [Northern New Zealand.]

## LOWER MIOCENE

- D. vetus* Lambert, 1931c:84, pl. 3: fig. 26. [Algiers, North Africa.] (Aquitanian.)

## UPPER EOCENE

- D.?* *principeana* Weisbord, 1934:41–43, pl. 3: figs. 11–13. [Cuba.]

Genus *Astropyga* Gray

## RECENT

- A. magnifica* A. H. Clark, 1934:52–53. [Florida, U.S.A.]  
*A. nuptialis* Tommasi, 1958:85–87, figs. 1–3. [San Pablo, Brazil.]

Genus *Centrostephanus* Peters

## RECENT

- C. asteriscus* Agassiz and Clark var. *malayanus* Mortensen, 1939a:549–550; 1940b:313, pl. 37: figs. 1–2, pl. 76: figs. 5–9, 13, 19–21. [Kei Islands, Indonesia.]  
*C. besnardi* Bernasconi, 1955:92. [Island of Trinidad, Brazil.]  
*C. nitidus* Koehler, 1927:53–60, pl. 9: figs. 4–10, pl. 10: figs. 1, 3, 4, 8, 9, pl. 26: fig. 2. [Indian Ocean.]

## LOWER MIOCENE

- C. sacyi* Lambert, 1928b:85–86, fig. 1. [France.] (Langhian-Burdigalian.)

Genus *Chaetodiadema* Mortensen

## RECENT

- C. africanum* H. L. Clark, 1925c:2–3, pl. 1. [Off Natal Coast, South Africa.]  
*C. keiense* Mortensen, 1939a:549; 1940b:226–229, pl. 32: figs. 3–8, pl. 72: figs. 1–5. [Kei Islands, Indonesia.]  
*C. sundararaji* Devanesen, 1930:249. [Probably Indian Ocean.]

Genus *Eodiadema* Duncan

## LOWER JURASSIC

- E. lacostei* Lambert, 1933b:41–44, pl. 1: figs. 14–17. [North Africa.]  
*E. thoralis* Petitot, 1961[1959]:35–36, pl. 2: figs. 10–13. [Morocco.] (Domerian-late Pliensbachian.)

Genus *Eremopyga* Agassiz and Clark

## RECENT

- E. debilis* Mortensen, 1940a:34–35; 1940b:213–215, pl. 26: figs. 3, 4, pl. 27: figs. 1–4, pl. 71: fig. 12. [Malaysia.]

Genus *Goniodiadema* Mortensen

## RECENT

- Goniodiadema* Mortensen, 1939a:549; 1940b:237. Type-species: *G. mauritiense* Mortensen, 1939a:549; 1940b:238–241, pl. 28: figs. 1–2, pl. 73: figs. 8, 17–20. [Mauritius, Indian Ocean.]

Genus *Kierechinus* Philip

## LOWER EOCENE

- Kierechinus* Philip, 1963b:1104–1109, figs. 1–3. Type-species: *Pedinopsis melo* Kier. [British Somaliland, East Africa.] (Upper Auradu.)

Genus *Palaeodiadema* Pomel

## PALEOCENE/UPPER CRETACEOUS

- P.?* *multiforme* Ravn, 1928:49–52, pl. 5: figs. 7–10. [Denmark.] (Danian to Upper Senonian.)

*P. gauthieri* Lambert, 1931c:70–71, pl. 3: fig. 14.  
[Algiers, North Africa.] (Turonian.)

Clark. [Locality unknown.] (Lower Cretaceous in  
North America.)

### Family MICROPYGIDAE Mortensen

#### Genus *Micropyga* A. Agassiz

##### RECENT

*M. nigra* H. L. Clark, 1925a:47–48, pl. 3: fig. 3,  
pl. 4: figs. 1–2. [New Britain, Bismarck Archi-  
pelago, South Pacific.]

### Family ASPIDODIADEMATIDAE Duncan

#### Genus *Aspidodiadema* A. Agassiz

##### RECENT

*A. africanum* Mortensen, 1939a:548; 1940b:49–51,  
pl. 2: figs. 11–12, pl. 63: figs. 1–4. [Off East Lon-  
don, Union of South Africa.]

*A. annulatum* Koehler, 1927:61–63, pl. 11: figs. 1–6.  
[Invisible Bank, Indian Ocean?]

*A. arcitum* Mortensen, 1939a:547–548; 1940b:46–  
49, pl. 1: fig. 17, pl. 2: figs. 6–10, pl. 64: figs. 13–  
17. [Off the Hawaiian Islands.]

*A. hawaiiense* Mortensen, 1939a:548; 1940b:56–58,  
pl. 1: fig. 16, pl. 2: figs. 1–5, pl. 63: figs. 5–7.  
[Hawaiian Islands.]

*A. meijerei* Döderlein var. *keiense* Mortensen,  
1939a:548; 1940b:55, pl. 65: figs. 10–12. [Kei Is-  
lands, Indonesia.]

### Family Uncertain

#### Genus *Ancylucidaris* Miller

##### Upper Jurassic

*Ancylucidaris* Miller, 1929:335. Type-species: *A.*  
*spenceri* Miller, 1929:335–336, figs. 1–3. [Wyo-  
ming, U.S.A.] (Sundance Fm.)

#### Genus *Helodiadema* Mortensen

##### LOWER CRETACEOUS

*Helodiadema* Mortensen, 1939a:550; 1940b:339–  
340, fig. 174. Type-species: *Cottaldia rotula* W. B.

### Order PEDINOIDA Mortensen

#### Family PEDINIDAE Pomel

#### Genus *Pedina* L. Agassiz

##### UPPER-MIDDLE EOCENE

*P. eocenica* Sánchez Roig, 1949:41–42, pl. 3: fig. 6.  
[Cuba.]

##### MIDDLE JURASSIC

*P. madagascariensis* Lambert, 1936c:19, pl. 4: figs.  
23–24. [Madagascar, off East Africa.] (Callovian.)

#### Genus *Atlasaster* Lambert

In the *Treatise* Fell (Durham et al., 1966:U357)  
considers *Atlasaster* a subjective synonym of *Pedina*.

##### LOWER JURASSIC

*Atlasaster* Lambert, 1931b:19–22. Type-species: *A.*  
*termieri* Lambert, 1931b: 19–22, fig. 3, pl. 2: figs.  
1–5. [North Africa.] (Lower Domerian.)

*A. jeanneti* Lambert, 1937:65–67, fig. 3, pl. 2: fig. 1,  
pl. 4: figs. 21–22. [Morocco.] (Sinemurian.)

#### Genus *Coenopedina* A. Agassiz

##### RECENT

*C. annulata* Mortensen, 1940a:38; 1940b:108–110,  
pl. 2: figs. 16–18, pl. 3: fig. 1, pl. 68: figs. 1–6, 17,  
18. [Malaysia.]

*C. capensis* H. L. Clark, 1923:375, fig. 4, pl. 21: figs.  
1–2. [South Africa. Clark refers to the genus as  
*Coenopedina* Pomel (nom. null.).]

*C. depressa* Koehler, 1927:74–76, pl. 12: figs. 7–9.  
[Indian Ocean. Koehler refers to the genus as  
*Coenopedina* Pomel (nom. null.).]

*C. diomedea* Mortensen, 1939a:548–549; 1940b:  
110–112, fig. 61, pl. 2: figs. 21–23, pl. 68: figs. 10–  
14. [Gulf of Panama, off Cape Mala.]

*C. superba* H. L. Clark, 1925a:52-53, pl. 5: figs. 1-2. [Saya de Malha Banks, Indian Ocean. Clark refers to the genus as *Coenopedina* Pomel (nom. null.).]

**Genus *Diademopsis* Desor**

LOWER JURASSIC

*D. behtensis* Lambert, 1931b:14, pl. 1: figs. 16-17. [North Africa.] (Lotharingian.)

**Genus *Hemipedina* Wright**

CRETACEOUS

*H. abreusense* Sánchez Roig, 1949:36-37. [Cuba.]

UPPER JURASSIC

*H. taurica* Weber, 1934:55-56, 85-86, fig. 3, pl. 9: figs. 3a-b. [Crimea, U.S.S.R.] (Sequanian.)

**Genus *Leiopedina* Cotteau**

LOWER EOCENE

*L. cienagensis* Sánchez Roig, 1949:42-43, pl. 3: figs. 3-4. [Cuba. Although Sánchez Roig cites the age as Middle Eocene, Brodermann (1949:324) says this species is Lower Eocene.]

**Genus *Micropedina* Cotteau**

UPPER CRETACEOUS

*M. olisiponensis* (Forbes) var. *gongilensis* Brighton, 1925:17-19, fig. 5. [Nigeria, West Africa.] (Lower Turonian/Cenomanian?)

**Genus *Phalacropedina* Lambert**

UPPER JURASSIC

*Hemipedina* (*Phalacropedina*) *somaliensis* Currie, 1925:61-62, figs. 10, 10a-d, pl. 9: figs. 5a-b. [Somaliland, East Africa.] (Oxfordian-Corallian.)

**Genus *Pseudorthopsis* Sánchez Roig**

UPPER CRETACEOUS

*Pseudorthopsis* Lambert in Sánchez Roig, 1949:9, 37. [Cuba. Although Sánchez Roig says this species is Eocene, Brodermann (1949:312) cites the age as Upper Cretaceous.] Type-species: *Echinopedina cubensis* Cotteau.

EOCENE

*P. rojasi* Sánchez Roig, 1953c:137-138, pl. 1: fig. 5. [Cuba].

**Genus *Pseudopedina* Cotteau**

LOWER JURASSIC

*P. atlantis* Lambert, 1931b:15, pl. 1: fig. 13. [North Africa.] (Domerian.)

**Genus *Stenechinus* Arnold and H. L. Clark**

EOCENE

*Stenechinus* Arnold and H. L. Clark, 1927:13. Type-species: *S. regularis* Arnold and H. L. Clark, 1927:15-17, pl. 1: figs. 7-9. [Jamaica.]  
*S. perplexus* Arnold and H. L. Clark, 1927:14-15, pl. 1: figs. 4-6. [Jamaica.]

**Family Uncertain**

**Genus *Farquharsonia* Currie**

MIDDLE JURASSIC

*Farquharsonia* Currie, 1927:416. Type-species: *F. somaliensis* Currie, 1927:416-420, figs. 3a-d. [Somaliland, East Africa.] (Callovian.)

**Order PYGASTEROIDA Durham and Melville**

**Family PYGASTERIDAE Lambert**

**Genus *Pygaster* J. L. R. Agassiz**

LOWER CRETACEOUS

*P. gerthi* Weaver, 1931:171-172, pl. 12: figs. 25-28. [Argentina.] (Aptian or Upper Barremian.)

## MIDDLE JURASSIC

- P. daguini* Lambert, 1931b:17–19, pl. 2: fig. 6. [North Africa.] (Lower Domerian.)
- P. joleaudi* Besairie and Lambert in Lambert, 1933a:10, pl. 2: fig. 7. [Madagascar, off East Africa.] (Callovian.)
- P. langanoides* Agassiz *ranvillensis* Mercier, 1932: 213. [France.] (Upper Bathonian.)
- P. lourdinensis* Laube in Lambert, 1926b:121–122, pl. 10: figs. 4a–b. [Switzerland.] (Lower Bathonian.)
- P. microstoma* Lambert, 1933b:54–55, pl. 3: fig. 12. [North Africa.] (Toarcian.)

Genus *Plesiechinus* Pomel

## LOWER JURASSIC

- P. hawkinsi* Jesionek-Szymańska, 1970:416–417, fig. 1A, pl. 1, pl. 2: figs. 1–2. [Nevada, U.S.A.] (Sunrise Fm., Sinemurian.)

Genus *Serpianotiaris* Jeannet

## MIDDLE TRIASSIC

- Miocidaris* (*Serpianotiaris*) Jeannet, 1933a:1. Type-species: *M. (S.) hescheleri* Jeannet, 1933a:1–7, figs. 1–2, pl. 30: figs. 1–13. [Switzerland. Fell (Durham et al., 1966:U366a) placed this genus in "Order Uncertain" and "Family Uncertain." Kier (in ms.) considers it a miocidarid.] (Ladinian.)

## Superorder ECHINACEA Claus

## Order SALENIOIDA Delage and Hérouard

## Family ACROSALENIIDAE Gregory

Genus *Acrosalenia* L. Agassiz

## MIDDLE JURASSIC

- A. basseae* Lambert, 1936c:17–18, pl. 4: figs. 4–6. [Madagascar, off East Africa.] (Callovian.)
- A. gananensis* Stefanini, 1932:97–99, pl. 4: figs. 3a–f. [Somaliland, East Africa.] (Inferior Oolite.)
- A. mathildae* Lambert, 1935a:526–527, pl. 26: figs. 5–8. [France.] (Callovian.)

- A. microstoma* Besairie, 1936:128, pl. 8: figs. 13–14. [Madagascar, off East Africa.] (Upper Bathonian.)
- A. smelliei* Currie, 1925:53–54, figs. 4a–b, pl. 8: figs. 5a–b. [Somaliland, East Africa.] (Bathonian.)
- A. termieri* Lambert, 1931b:15–16, pl. 1: fig. 11. [North Africa.] (Bajocian, Inferior Oolite.)
- A. wylliei* Currie, 1925:52–53, figs. 3a–b, pl. 8: figs. 4a–c. [Somaliland, East Africa.] (Bathonian.)

## LOWER JURASSIC

- A. somaliensis* Currie, 1925:50–52, figs. 2a–c, pl. 8: figs. 2a–c, 3. [Somaliland, East Africa.]
- A. zararensis* Lambert, 1937:56–57, pl. 1: figs. 12–13. [Morocco.] (Pliensbachian.)

Genus *Eurysalenia* Kier

## UPPER CRETACEOUS

- Eurysalenia* Kier, 1966a:A63. Type-species: *E. minima* Kier, 1966a:A63–65, fig. 17. [Wyoming, U.S.A.] (Upper Campanian or lower Maestrichtian.)

Genus *Heterosalenia* Cotteau

## UPPER JURASSIC

- H. suatensis* Weber, 1934:47–48, 83–84, pl. 7: figs. 8a–c. [Crimea, U.S.S.R.] (Sequanian.)

## MIDDLE JURASSIC

- H. alloiteaui* Zoeke, 1952:249–252, figs. 1–2, pl. 11b: figs. 1–3. [North Africa.] (Bathonian.)

Genus *Metacrosalenia* Currie

This genus is considered in the *Treatise*, Fell and Pawson (Durham et al., 1966:U325), a subjective synonym of *Heterosalenia* Cotteau.

## MIDDLE JURASSIC

- Acrosalenia* (*Metacrosalenia*) Currie, 1925:55. Type-species: *Metacrosalenia pseudocidaroides* Currie, 1925:55–56, figs. 5a–b, pl. 8: figs. 6a–b. [Somali-

land, East Africa.] (Bathonian, in Currie (1927: 411).)

*A. (M.) quadrimiliaris* Currie, 1927:414–415, figs. 2a–d. [Somaliland, East Africa.]

### Genus *Polysalenia* Mortensen

#### UPPER CRETACEOUS

*Polysalenia* Mortensen, 1932a:490. Type-species: *P. notabilis* Mortensen, 1932a:491–494, figs. 17–22, pl. 4: figs. 1–3. [Sweden.] (Upper Senonian.)

*P. cottaldi* Mortensen, 1932a:494–496, figs. 23–24, pl. 4: figs. 11–13. [Sweden.] (Upper Senonian.)

### Genus *Recrosalenia* Currie

#### MIDDLE JURASSIC

*Recrosalenia* Currie, 1925:47–48. Type-species: *R. somaliensis* Currie, 1925:48–50, fig. 1, pl. 8: figs. 1a–e. [Somaliland, East Africa.] (Callovian or Bathonian.)

*R. migiurtina* Maccagno, 1947c:90–92, pl. 1: fig. 5. [Harar, Ethiopia.] (Callovian or Bathonian.)

### Family SALENIIDAE L. Agassiz

#### Subfamily SALENIINAE L. Agassiz

### Genus *Salenia* Gray

#### RECENT

*S. scrippsae* Zullo, Kaar, Durham and Allison, 1964: 339–343, figs. 3A–B, 4C–D, 6D–G, pl. 56: figs. 1–3. [Chile.]

*S. sculpta* Koehler, 1927:71–73, pl. 11: figs. 10–13, pl. 12: figs. 1, 2, 10, pl. 25: fig. 5. [Indian Ocean.]

*S. unicolor* Mortensen, 1934a:166. [Sagami Sea, Japan.]

#### MIDDLE MIOCENE

*S. nipponica* Morishita, 1965:64–66, figs. 1–4. [Japan.]

#### LOWER MIOCENE

*S. novemprovincialis* Nisiyama, 1966:187–188, pl. 2: figs. 6–9. [Japan.] (Kakinoura Fm.)

#### LOWER OLIGOCENE

*S. schencki* Zullo, Kaar, Durham and Allison, 1964: 343–346, figs. 4B, 5, 6A–C, pl. 56: fig. 5. [Oregon, U.S.A.]

#### EOCENE

*S. persica* Clegg, 1933:8–10, pl. 1: figs. 3a–d. [Persia, Iran.]

#### PALEOCENE

*S. alta* Hassan, 1969:18, pl. 1: figs. 9–10. [Kharga Oasis, Upper Egypt.] (Landanian.)

#### CRETACEOUS

*S. pseudowhitneyi* Ikins, 1940:65–66, pl. 4: figs. 5a–c. [Texas, U.S.A.]

*S. scotti* Ikins, 1940:66–67, pl. 5: figs. 1a–c. [Texas, U.S.A.]

*S. whitneyi* Cannon in Ikins, 1940:68–69, pl. 5: figs. 3a–c. [Texas, U.S.A.]

#### UPPER CRETACEOUS

*S. alcaldei* Sánchez Roig, 1949:44, pl. 2: figs. 14–17. [Cuba.] (Maestrichtian.)

*S. hagenowi* Nestler, 1965:989–991, figs. 8a–d, pl. 5: figs. 1a–c. [Rügen Island, Baltic Sea.] (Lower Maestrichtian.)

*S. hawkinsi* Checchia-Rispoli, 1948:169–172, figs. 1–2, pl. 1: figs. 1–4a. [North Africa.] (Cenomanian.)

*S. hondoensis* Cooke, 1953:6, pl. 1: figs. 3–4. [Texas, U.S.A.] (Campanian.)

*S. intermedia* Hassan, 1969:16–17, pl. 1: figs. 6–8. [Kharga Oasis, Upper Egypt.] (Upper Maestrichtian.)

*S. lamberti* Checchia-Rispoli, 1932a:6–11, fig. 3, pl. 2: figs. 1–5a. [North Africa.] (Maestrichtian.)

*S. lobosa* Nestler, 1965:991–993, figs. 9a–c, pl. 5: figs. 2a–c. [Rügen Island, Baltic Sea.] (Lower Maestrichtian.)

*S. mathuri* Chiplonker, 1937:61–62, pl. 6: figs. 3a–d. [India.] (Lower Cenomanian.)

*S. somaliensis* Hawkins, 1935a:48–49, figs. 1–2, pl. 6: figs. 9a–b. [British Somaliland, East Africa.] (Upper Senonian?)

*S. trigonopyga* Lambert, 1933a:13-14, pl. 1: figs. 25-27. [Madagascar, off East Africa.] (Upper Turonian.)

#### LOWER CRETACEOUS

- S. cottreawi* Lambert, 1931c:63-64, fig. 3, pl. 3: figs. 2-4. [Algiers, North Africa.] (Neocomian.)  
*S. dux* Wright, 1967:17-19, fig. 2, pl. 1: figs. 1a-d. [Southwestern England.] (Upper Albian.)  
*S. kansasense* Twenhofel, 1924:52, pl. 7: fig. 7. [Kansas, U.S.A.] (Comanche.)  
*S. leanderensis* Ikins, 1940:64-65, pl. 4: figs. 4a-c. [Texas, U.S.A.] (Comanchean.)  
*S. phillipsae* Whitney and Kellum, 1966:249-250, pl. 1: figs. 4-6. [Texas, U.S.A.] (Trinity Group. Aptian.)  
*S. similis* White *lastroensis* Maury, 1936:268-269. [Brazil.] (Middle Albian.)  
*S. stenzeli* Ikins, 1940:67-68, pl. 5: figs. 2a-c. [Texas, U.S.A.] (Comanchean.)

#### UPPER JURASSIC

*S. taurica* Weber, 1934:59-60, 86, fig. 5, pl. 9: figs. 6a-d. [Crimea, U.S.S.R.] (Sequanian.)

#### Genus *Salenocidaris* A. Agassiz

##### RECENT

- S. brachygnatha* Mortensen, 1934a:166. [Off Kermadec Islands, Southwest Central Pacific Ocean.]  
*S. hastigera* (A. Agassiz) var. *acuminata* Mortensen, 1934a:166. [Malaysia.]  
*S. incrassata* Mortensen, 1934a:166. [Gulf of Tomini, Celebes Island, Malaysia.]  
*S. miliaris* (A. Agassiz) var. *indica* Mortensen, 1939b:23-24, pl. 6: fig. 9. [Maldives Islands, off southern India, Indian Ocean.]  
*S. profundus* (Duncan) var. *occlusa* Mortensen, 1934a:165. [Off Tristan da Cunha Island, South Atlantic Ocean.]

#### Genus *Salenidia* Pomel

##### PALEOCENE

*S. danica* Ravn, 1928:45-47, pl. 5: figs. 5a-c. [Denmark.] (Danian.)

*S. karakachi* Weber, 1934:61-62, 86, fig. 7, pl. 9: figs. 8a-g. [Crimea, U.S.S.R.] (Danian.)

*S. selandica* Ravn, 1928:48-49, pl. 5: figs. 6a-c. [Denmark.] (Danian.)

#### UPPER CRETACEOUS

*S. chabaudi* Castex, 1947:30, pl. 1: figs. 16-19. [France.] (Maestrichtian.)

*S. scabra* Nestler, 1965:987-989, figs. 7a-f, pl. 4: figs. 4-7. [Rügen Island, Baltic Sea.] (Lower Maestrichtian.)

#### Genus *Valsalenia* Mortensen

##### PALEOCENE

*Valsalenia* Mortensen, 1934a:165. Type-species: *Salenia garumnensis* Valette. [France.] (Lower Danian.)

#### UPPER CRETACEOUS

*V. marquassuzai* Castex, 1947:28-29, pl. 1: figs. 7-9. [France.] (Maestrichtian.)

#### Genus *Peltastes* L. Agassiz

In the *Treatise* Fell and Pawson (Durham et al., 1966:U379) consider *Peltastes* an objective synonym of *Hyposalenia* Desor.

##### PALEOCENE

*P. ultimus* Ravn, 1928:39-41, fig. 11, pl. 4: fig. 39. [Denmark.] (Danian.)

#### Genus *Goniophorus* L. Agassiz

##### UPPER CRETACEOUS

*G. scotti* Lambert in Scott, 1926:185-186. [Texas, U.S.A. Further described and illustrated in Lambert, 1927a:268; in Adkins, 1928:278, pl. 12: fig. 8; in Cooke, 1946:202, pl. 31: figs. 8-9.]

*G. whitneyi* Ikins, 1940:69-70, pl. 5: figs. 4a-c. [Texas, U.S.A.] (Comanchean.)



## Order HEMICIDAROIDA Beurlen

## Family HEMICIDARIDAE Wright

Genus *Hemicidaris* L. Agassiz

## UPPER CRETACEOUS

- H. palmirensis* Sánchez Roig, 1949:34–35, pl. 1: figs. 8–9. [Cuba.]

## LOWER CRETACEOUS

- H. villadai* Maldonado-Koerdell, 1953:27–28, pl. 1: figs. 22–24. [Mexico.] (Aptian.)

## UPPER JURASSIC

- H. crenularis* (Lamarck) var. *alta* Kongiel, 1957: 13–14, 47, 62–63, pl. 2: figs. 5–6. [Pomerania, on the Baltic Sea.] (Upper Kimmeridgian.)  
*H. crenularis* (Lamarck) var. *major* Lambert, 1933c: 177, pl. 7: fig. 12. [France.] (Rauracian.)  
*H. pilleti* Lambert, 1927c:365. [France.] (Tithonian.)  
*H. sundancensis* Miller, 1928:143–146, figs. 1–4. [Wyoming, U.S.A.] (Sundance Fm.)  
*H. tithonica* Lambert, 1927c:364, fig. 1. [France.] (Tithonian.)

## MIDDLE JURASSIC

- H. bihinensis* Currie, 1925:59–60, fig. 8, pl. 9: figs. 3a–b. [Somaliland, East Africa.] (Bathonian.)  
*H. castillionensis* Lambert, 1933c:177, pl. 7: figs. 3–4. [France.] (Upper Bathonian.)  
*H. jaisalmerensis* Sahni and Bhatnagar in Sahni, 1955:187. [Rajasthan, Northwest Indian Union.] (Callovian.)  
*H. luciensis* d'Orbigny var. *hourcqi* Lambert, 1936c:17. [Madagascar, off East Africa.] (Bathonian.)  
*H. luciensis* Cotteau *oolithicus* Mercier, 1932: 120–121, 166–167, fig. 19, pl. 4: figs. 6a–b. [France.] (Middle Bathonian.)

## LOWER JURASSIC

- H. termieri* Lambert, 1931b:13–14, pl. 1: figs. 7–12. [North Africa.] (Lower Domerian.)

Genus *Asterocidaris* Cotteau

## MIDDLE JURASSIC

- A. besairiei* Lambert, 1936c:16, pl. 1: figs. 22–24. [Madagascar, off East Africa.] (Callovian.)  
*A. ragoti* Lambert, 1936c:15, pl. 4: figs. 11–13. [Madagascar, off East Africa.] (Callovian.)

Genus *Gymnocidaris* L. Agassiz

## MIDDLE JURASSIC

- G. gortanii* Maccagno, 1947c:95–96, pl. 2: figs. 15, 15a–b. [Harar, Ethiopia.] (Bathonian/Callovian.)  
*G. lamberti* Mercier, 1932:162–163, pl. 3: figs. 8a–c. [France.] (Upper Bathonian.)  
*G. madagascariensis* Lambert, 1936b:118–119, pl. 6: figs. 13–16. [Madagascar, off East Africa.] (Bajocian.)  
*G. pustulosa* Agassiz *nuda* Mercier, 1932:161, pl. 3: fig. 7. [France.] (Upper Bathonian.)

Genus *Hessotiara* Pomel

## MIDDLE JURASSIC

- H. zuberi* Jeannet, 1953:176–177, pl. 1: figs. 1–5. [Switzerland.] (Lower Callovian.)

Genus *Heterodiadema* Cotteau

## UPPER CRETACEOUS

- H. libyca* Desor *asiatica* Stefanini, 1928:164–166, pl. 19: figs. 4, 5, 6a–c, 7a–d, 8a–b. [Karakorum, Mongolia.] (Cenomanian.)  
*H. libycum* Desor var. *nigeriense* Lambert, 1938b: 87–89, pl. 6: figs. 9, 9a–b. [Niger territory, French West Africa.] (Upper Cenomanian.)

Genus *Pseudocidaris* Étallon

## LOWER CRETACEOUS

- P. simulans* Nisiyama, 1950b:29–30, pl. 4: figs. 1–2. [Japan.] (Aptian/Albian.)

## JURASSIC

- P. deflippii* Stefanini, 1928:161-164, pl. 19: figs. 2a-e. [Karakorum, Mongolia.]  
*P. gortanii* Maccagno, 1947b:121-122, fig. 1c, pl. 1: fig. 8. [Somaliland, East Africa.]  
*P. migliorinii* Maccagno, 1947b:118-120, fig. 2, pl. 1: figs. 7-7a. [Somaliland, East Africa.]

## UPPER JURASSIC

- P. tetragranulatus* Currie, 1925:57-58, figs. 6a-b, pl. 8: figs. 7a-c. [Somaliland, East Africa.] (Kimmeridgian.)  
*P. vogdti* Weber, 1934:43-44, 83, pl. 7: figs. 3a-h. [Crimea, U.S.S.R.] (Tithonian.)

## MIDDLE JURASSIC

- P. checchiai* Maccagno, 1947c:92-95, pl. 1: figs. 6, 6a-b, pl. 2: figs. 13-13a. [Harar, Ethiopia.] (Bathonian/Callovian.)  
*P. collignoni* Lambert, 1936c:13-14, pl. 1: figs. 12-16. [Madagascar, off East Africa.] (Upper Bathonian.)  
*P. levis* Lambert, 1936c:13, pl. 4: fig. 7. [Madagascar, off East Africa.] (Callovian.)  
*P. truncata* Lambert, 1936c:14, pl. 1: figs. 18-21. [Madagascar, off East Africa.] (Upper Bathonian.)

## LOWER JURASSIC

- P. dubari* Lambert, 1937:49, fig. 1, pl. 1: fig. 9. [Morocco.] (Lower Liassic.)  
*P. leckwycki* Lambert, 1937:50-51, pl. 4: figs. 8-9. [Morocco.] (Tithonian.)

Genus *Spherotiaris* Lambert and Thiéry

## UPPER JURASSIC

- S. vivaldii* Besairie, 1930:197-198, pl. 11: figs. 4-7. [Madagascar, off East Africa.] (Upper Callovian/lower Lusitanian.)

## MIDDLE JURASSIC

- S. meandrina* Agassiz var. *nervosa* Lambert, 1937:52-53, pl. 4: fig. 11. [Morocco.] (Bajocian.)

- S. meandrina* Agassiz var. *termieri* Lambert, 1937:51-52, pl. 4: fig. 10. [Morocco.] (Upper Bajocian.)

## LOWER JURASSIC

- S. gignouxii* Mercier, 1937c:24-25, pl. 1: figs. 17-18. [France.] (Domerian.)  
*S. precincta* Lambert, 1933b:36, pl. 3: fig. 9. [North Africa.] (Domerian.)

## Family PSEUDODIADEMATIDAE Pomel

Genus *Pseudodiadema* Desor

## LOWER CRETACEOUS

- P. elevatus* Whitney and Kellum, 1966:254-256, pl. 2: figs. 7-9. [Texas, U.S.A.] (Trinity Group. Aptian.)  
*P. grangeri* Maury, 1936:270-271, pl. 2: figs. 1-2. [Brazil.] (Middle Albian.)  
*P. whitneyi* Ikins, 1940:72-73, pl. 6: figs. 1a-c. [Texas, U.S.A. Cooke (1946:206) placed this species in *Loriolia*.] (Comanchean.)

## UPPER JURASSIC

- P. kselensis* Devriès, 1956b:284-287, pls. 1-2. [Algiers, North Africa.] (Lusitanian.)

## LOWER JURASSIC

- P. amellagense* Lambert, 1937:59-60, pl. 4: figs. 19-20. [Morocco.] (Upper Domerian to late Pliensbachian.)  
*P. renzi* Jeannet, 1928c:221; 1928d:461-462, pl. 36: figs. 12-14, 16-18. [Switzerland.] (Lower Toarcian.)

## UPPER TRIASSIC

- P. silbinense* Stefanini, 1923:51-55, pl. 5: figs. 1a-g, 2a-c. [Italy.] (Rhaetian.)

Genus *Acrocidaris* L. Agassiz

## LOWER CRETACEOUS

- A. arginensis* Weber, 1934:54, 85, pl. 8: figs. 6a-b. [Crimea, U.S.S.R.] (Hauterivian.)

## UPPER JURASSIC

- A. borissiaki* Weber, 1934:51-53, 84-85, pl. 8: figs. 3a-h. [Crimea, U.S.S.R.] (Sequanian.)  
*A. cazioti* Lambert, 1926a:72-74, fig. 1. [France.] (Tithonian.)

## MIDDLE JURASSIC

- A. crenulata* Mercier, 1935:29. [France.] (Bajocian.)

Genus *Diplopodia* M'Coy

## UPPER CRETACEOUS

- D. cretacica* Sánchez Roig, 1949:35, pl. 1: figs. 10-11. [Cuba.]  
*D. gigantea* Checchia-Rispoli, 1945 [1943]:88-89, pl. 1: figs. 5-6. [Somaliland, East Africa.] (Cenomanian.)  
*D. gileadensis* Blanckenhorn, 1925 [1924]:86, pl. 7: figs. 3a-b. [Palestine, Israel.] (Upper Cenomanian.)  
*D. inexpectata* Checchia-Rispoli, 1943b:317-318, fig. 1. [Somaliland, East Africa.] (Cenomanian.)

## LOWER CRETACEOUS

- D. balkhanensis* Vialov, 1930:876-879, 900, pl. 1: figs. 1a-b, 2. [Asiatic Russia.] (Upper Hauterivian/lower Barremian.)  
*D. balkhanensis* Vialov var. *aberans* Vialov, 1930:880-881, 900, pl. 1: figs. 3a-b, 4. [Asiatic Russia.] (Upper Hauterivian/lower Barremian.)  
*D. elegans* Corroy, 1925:315-316, pl. 4: figs. 22-24. [France.] (Hauterivian.)  
*D. gentili* Lambert, 1931c:27, pl. 2, fig. 1. [North Africa.] (Barremian.)  
*D. kultchitskyi* Vialov, 1930:881-883, 900-901, pl. 1: figs. 6a-c. [Asiatic Russia.] (Upper Hauterivian.)  
*D. langei* Vialov, 1930:888-889, 901, pl. 1: figs. 8a-c. [Asiatic Russia.] (Upper Hauterivian.)  
*D. renngarteni* Vialov, 1930:883-885, 901, pl. 1: figs. 7a-b. [Asiatic Russia.] (Upper Hauterivian.)  
*D. vassilieviskyi* Vialov, 1930:885-888, 901-902, pl. 2: figs. 1a-c. [Asiatic Russia.] (Upper Hauterivian.)

Genus *Hypodiadema* Desor

## UPPER JURASSIC

- Hemicidaris* (*Hypodiadema*) *gregoryi* Currie, 1925:58-59, fig. 7, pl. 9: figs. 2a-d. [Somaliland, East Africa.] (Corallian/Kimmeridgian.)  
*H. (H.) macfadyeni* Currie, 1935a:44-45, pl. 6: figs. 2a-d. [British Somaliland, East Africa.] (Bathonian/Argovian.)

## LOWER JURASSIC

- H. dubari* Lambert, 1933b:39-40, fig. 1. [North Africa.] (Domerian.)

Genus *Loriolia* Neumayr

## UPPER CRETACEOUS

- L. clarki* Cooke, 1946:206, pl. 31: figs. 13-14. [Texas, U.S.A. For *Heterodiadema ornatum* Clark, 1915.] (Washita Group.)

## LOWER CRETACEOUS

- L. rosana* Cooke, 1946:205-206, pl. 31: figs. 15-17. [Texas, U.S.A.] (Trinity Group.)

## MIDDLE JURASSIC

- L. inaequalis* Agassiz var. *bathonica* Mercier, 1932:183-184, pl. 5: figs. 13a-b. [France.] (Upper Bathonian.)

Genus *Pedinopsis* Cotteau

## LOWER EOCENE

- P. (?) melo* Kier, 1957b:845, figs. 1a-b, pl. 103: figs. 4-5. [British Somaliland, East Africa.] (Upper Auradu Series.)

## LOWER CRETACEOUS

- P. engerrandi* Ikens, 1940:62, pl. 4: figs. 2a-c. [Texas, U.S.A.] (Comanchean.)  
*P. texana* Cooke, 1955:90-91, pl. 19: figs. 1-6. [Texas, U.S.A.] (Upper Albian.)

*P. yarboroughi* Ikins, 1940:62–63, pl. 4: figs. 3a–c.  
[Texas, U.S.A.] (Comanchean.)

### Genus *Polydiadema* Lambert

#### EOCENE

*P.(?) joaquinensis* Alex Clark in Grant and Hertlein, 1938b:17–18, pl. 15: figs. 8–9. [U.S.A.] (Sierra Blanca Stage.)

#### LOWER CRETACEOUS

*P. karakachi* Weber, 1934:50–51, 84, pl. 8: figs. 2a–f. [Crimea, U.S.S.R.] (Hauterivian.)

#### UPPER CRETACEOUS

*Leptarbacia andreui* Sánchez Roig, 1949:35–36, pl. 2: figs. 1–2. [Cuba. See Fell and Pawson in the *Treatise* (Durham et al., 1966:U389). *Leptarbacia* Clark and Twitchell, 1915, is considered a synonym of *Polydiadema* Lambert.]

### Genus *Polypedina* Lambert

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U389) consider *Polypedina* a subjective synonym of *Polydiadema* Lambert.

#### LOWER JURASSIC

*Polypedina* Lambert, 1933b:46. Type-species: *P. tounatensis* Lambert, 1933b:46–47, fig. 2, pl. 1: figs. 6–7. [North Africa.] (Lower Domerian.)

### Genus *Tetragramma* L. Agassiz

#### UPPER CRETACEOUS

*T. besairiei* Lambert, 1933a:13, pl. 1: figs. 23–24. [Madagascar, off east coast of Africa.] (Upper Turonian.)

*T. bosei* Jones, 1938:130, pl. 12: figs. 6–7. [Mexico.] (Indidura Fm.)

*T. tafermense* Lambert, 1931c:94–95, pl. 3: fig. 33. [Tunis.] (Cenomanian.)

#### LOWER CRETACEOUS

*T. cornuelli* Corroy, 1925:405–406, pl. 4: figs. 19–21. [France.] (Upper Barremian.)

*T. giganteum* Lambert, 1935f:522–523, pl. 58: fig. 1. [Spain.] (Aptian.)

*T. hourcqi* Collignon, 1950:7–8, pl. 1: figs. 1–2b. [Madagascar, off East Africa.] (Albian.)

#### UPPER JURASSIC

*T. pomeraniae* Kongiel, 1957:20–22, 50–51, 65–67, pl. 4: figs. 1–3. [Pomerania, on Baltic Sea.] (Lower Kimmeridgian.)

#### MIDDLE JURASSIC

*T. antsingyensis* Lambert, 1936c:19, pl. 1: figs. 28–30. [Madagascar, off East Africa.] (Callovian.)

### Genus *Trochotiara* Lambert

#### UPPER CRETACEOUS

*T. russoi* Lambert, 1931c:27, pl. 1: figs. 20–21. [North Africa.] (Cenomanian.)

### Order PHYMOSOMATOIDA Mortensen

#### Family PHYMOSOMATIDAE Pomel

### Genus *Phymosoma* Haime

#### EOCENE

*P. peloria* Arnold and H. L. Clark, 1927:18–20, pl. 2: figs. 1–3. [Jamaica.]

#### UPPER EOCENE

*P. conceptionis* Sánchez Roig, 1952c:3, pl. 1: figs. 1–2. [Cuba.]

*P. dixie* Cooke, 1941a:17, pl. 2: fig. 15, pl. 4: figs. 1–2, 9. [U.S.A.]

#### MIDDLE EOCENE

*P. gigantea* Sánchez Roig, 1953c:136, pl. 1: fig. 1. [Cuba.]

## PALEOCENE

- P. subconicum* Ravn, 1928:59–60, pl. 6: fig. 5. [Denmark.] (Danian.)  
*P. trinitensis* Cooke, 1961:10–11, pl. 2: figs. 1–3. [Trinidad, Caribbean Ocean.]

## CRETACEOUS

- P. bybeei* Ikins, 1940:71–72, pl. 5: figs. 5a–c. [Texas, U.S.A.]

## UPPER CRETACEOUS

- P. mortenseni* Checchia-Rispoli, 1932a:11–15, figs. 4–6, pl. 2: figs. 7–19. [North Africa.] (Maestrichtian.)  
*P. paronai* Checchia-Rispoli, 1933b:11–14, figs. 5–7, pl. 2: figs. 4–7. [North Africa.] (Maestrichtian.)  
*P. raguini* Lambert, 1931c:28–29, pl. 1: figs. 22–23. [North Africa.] (Cenomanian.)  
*P. riograndensis* Maury, 1925:508–509, pl. 24: figs. 11–12. [Brazil.]  
*P. solignaci* Lambert, 1931c:95, pl. 4: figs. 1–3. [North Africa.] (Santonian.)  
*P. tinocoi* Marchesini Santos, 1960:18–20, fig. 4, pl. 5: figs. 1–3. [Brazil.] (Turonian.)  
*P. uncarinatum* Lambert, 1933b:66, pl. 3: figs. 10–11. [North Africa.] (Santonian.)

## UPPER JURASSIC

- P. cadenati* Castex, 1947:27–28, pl. 1: figs. 10–15. [France.] (Upper Sequanian.)

Genus *Cyphosoma* L. Agassiz

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U395) consider *Cyphosoma* a synonym of *Phymosoma* Haime.

## UPPER CRETACEOUS

- C. palaestinense* Blanckenhorn, 1925 [1924]:87–88, pl. 7: figs. 4–6. [Palestine, Israel.] (Upper Turonian/lower Santonian.)  
*C. riograndensis* Maury var. *parahybensis* Maury, 1930:112–115, pl. 5: figs. 3, 5. [Brazil.] (Maestrichtian.)

## LOWER CRETACEOUS

- C. sanctaeluciae* Maury, 1936:266–267, pl. 4: figs. 4–5. [Brazil.] (Middle Albian.)

Genus *Dixieus* Cooke

Fell and Pawson (Durham et al., 1966:U396), in the *Treatise*, consider *Dixieus* a subjective synonym of *Phymosoma* Haime.

## UPPER EOCENE

- Dixieus* Cooke, 1948:606–607. Type-species: *Phymosoma dixie* Cooke. [North America.]

Genus *Gauthieria* Lambert

## PALEOCENE

- G.(?) parva* Kongiel, 1936a:2–3, 8. [Poland.] (Lower Siwak. Danian.)

## UPPER CRETACEOUS

- G. sadeki* Lambert, 1931d:191, pl. 5: figs. 46–47. [Egypt.] (Cenomanian.)

Genus *Glyptocidaris* A. Agassiz

## LOWER PLIOCENE

- G. crenularis* A. Agassiz *stenozona* Nisiyama, 1966:194–195, pl. 2: figs. 10–11. [Japan.] (Kurotaki Fm.)

Subgenus *Glyptocidaris* (*Eoglyptocidaris*) Nisiyama

## OLIGOCENE/EOCENE

- Glyptocidaris* (*Eoglyptocidaris*) Nisiyama, 1966:195–196. Type-species: *G. (E.) arctina* Nisiyama, 1966:196–197, fig. 7, pl. 3: figs. 5–7. [Japan.] (Paronai Fm.)

Genus *Jacquiertia* Mercier

## LOWER JURASSIC

- Jacquiertia* Mercier, 1937a:419–420. Type-species: *Hempedina parvula* Tornquist. (Toarcian.)

Mortensen and Mercier (1939) determined that the specimen Mercier identified as *Hemipedina parvula* Tornquist and for which he erected his genus *Jacquiertia* does not really belong to this species. Tornquist's species has perforate tubercles, whereas Mercier's has imperforate tubercles. Therefore, they erected a new species *Jacquiertia minuta* Mortensen and Mercier, and considered it the type-species of *Jacquiertia*. In the *Treatise*, Fell and Pawson (Durham et al., 1966:U400) likewise consider *J. minuta* as the type-species of *Jacquiertia*; however, because Mercier in his original description of *Jacquiertia* designated *Hemipedina parvula* Tornquist as the type-species, it remains the type-species regardless of the identity of the particular specimens upon which Mercier based his generic description. If the type specimens of *Hemipedina parvula* Tornquist belong to *Eodiadema* as suggested by Mortensen (1940b:177), then *Jacquiertia* is a subjective synonym of *Eodiadema*. If the type specimens of *Jacquiertia minuta* Mortensen and Mercier is generically distinct, then a new genus must be erected for this species.

*J. minuta* Mortensen and Mercier, 1939:59–61, figs. 1–2. [France.] (Charmouthien.)

#### Genus *Narindechinus* Lambert

##### MIDDLE EOCENE

*Narindechinus* Lambert, 1933a:30–31. Type-species: *N. checchiai* Lambert, 1933a:31, fig. 3, pl. 1: figs. 29–30. [Madagascar, off East Africa.] (Lutetian.)

#### Genus *Polyplacidia* Poretskaya

##### EOCENE

*Polyplacidia* Poretskaya, 1968a:287–289. Type-species: *P. armenica* Poretskaya, 1968a:290–293, figs. 1–6, pl. 1: figs. 1a–b, pl. 2: figs. 1a–c. [Armenia, U.S.S.R.]

#### Genus *Porosoma* Cotteau

##### EOCENE

*P. kahleri* Collignon, 1930:544–546, pl. 31: figs. 1, 1a–b. [Austria.]

*P. lamberti* Checchia-Rispoli, 1950b:22–24, pl. 1: figs. 1–1b. [East Africa, Migiurtinia, Northeast Somalia.]

##### MIDDLE EOCENE

*P. lamberti* Checchia-Rispoli, 1950a [1945–1946]: 22–24, pl. 1: figs. 1, 1a–b. [Somaliland, East Africa.]

##### UPPER CRETACEOUS

*P. batalleri* Lambert, 1933d:185–186, fig. 1, pl. 1: figs. 10–13. [Spain.] (Maestrichtian.)  
*P. reesidei* Cooke, 1953:6–7, pl. 1: figs. 5–8. [Wyoming, U.S.A.] (Coniacian.)

#### Genus *Rachiosoma* Pomel

##### PALEOCENE

*R. krimica* Weber, 1934:64, 86–87, pl. 10: figs. 3a–c. [Crimea, U.S.S.R.] (Danian.)  
*R. pulaviense* Kongiel, 1939:27–29, pl. 3: figs. 7–10. [Poland.] (Lower to middle Danian.)

##### UPPER CRETACEOUS

*R. cottreai* Lambert, 1936c:24, pl. 2: figs. 16–17. [Madagascar, off East Africa.] (Maestrichtian.)  
*R. hondoensis* Cooke, 1953:8–9, pl. 3: figs. 4–5. [Texas, U.S.A.] (Upper Maestrichtian.)  
*R. stagnorum* Lambert, 1931c:69, pl. 3: figs. 12–13. [Algiers, North Africa.] (Cenomanian.)

#### Subgenus *Rachiosoma* (*Rosadosoma*) Marchesini Santos

##### CRETACEOUS

*R. (Rosadosoma)* Marchesini Santos, 1960:13–14. [For type *Phymosoma riograndensis* Maury.]

#### Genus *Winkleria* Engel

Engel provisionally refers this genus to the Phymosomatidae.

## UPPER CRETACEOUS

*Winkleria* Engel, 1964b:207. Type-species: *W. maastrichtensis* Engel, 1964b:207–210, figs. 1–4, pl. 1: figs. 1–10. [Netherlands.] (Maastrichtian.)

Genus *Thylechinus* Pomel

## OLIGOCENE

*T. sethuramae* Vredenburg, 1922:414, pl. 30: fig. 3. [Burma.]

## UPPER EOCENE

*T. humei* Lambert, 1931d:198, pl. 5: figs. 5–7. [Egypt.] (Priabonian?)

## LOWER EOCENE

*T. chardoni* Lambert and Roch in Lambert, 1937: 83–85, pl. 3: figs. 1–5. [Morocco.]

*T. dubari* Lambert, 1937:85, pl. 4: figs. 24–25. [Morocco.]

Subgenus *Thylechinus* (*Egyptechinus*) Lambert

The subgenus *Egyptechinus* Lambert is considered by Fell and Pawson (Durham et al., 1966:U403) a synonym of *Thylechinus* (*Mistechinus*) de Loriol.

## MIDDLE EOCENE

*Thylechinus* (*Egyptechinus*) Lambert, 1935e:41. Type-species: by monotypy *Egyptechinus cuvilieri* Lambert, 1935e:41, pl. 1: figs. 4–6. [Egypt.] (Upper Lutetian.)

## Family STOMECHINIDAE Pomel

Genus *Stomechinus* Desor

## JURASSIC

*S. daguini* Lambert, 1933b:50–51, pl. 1: fig. 21, pl. 3: fig. 5. [North Africa.]

## UPPER JURASSIC

*S. pulchellus* Frenguelli, 1944:1–11, pl. 1: figs. 1–3. [Argentina.] (Tithonian.)

## MIDDLE JURASSIC

*S. bajocensis* Lambert and Jeannet, 1928b:170. [France.] (Bajocian.)

*S. lemoinei* Lambert, 1931d:180–181, pl. 5: figs. 39–40. [Egypt.] (Bathonian.)

*S. magnicornicolus* Cooke, 1947:473–475, figs. 1–6. [U.S.A.] (Bajocian.)

*S. polyporus* Agassiz *nanus* Mercier, 1932:198, pl. 6: fig. 6. [France.] (Upper Bathonian.)

Genus *Circopeltis* Pomel

## UPPER CRETACEOUS

*S. senessei* Lambert in Lambert and Valette, 1934: 50–51, pl. 6: figs. 11–12. [France.] (Coniacian.)

Genus *Diplechinus* Lambert

## LOWER JURASSIC

*Diplechinus* Lambert, 1931b:15–16. Type-species: *D. hebbriensis* Lambert, 1931b:16–17, pl. 1: figs. 14–15. [North Africa, Morocco.] (Lower Domerian.)

Genus *Echinotiara* Pomel

## UPPER CRETACEOUS

*E. perebaskinei* Lambert in Lambert and Pérébasquine, 1929:472–474, pl. 38: figs. 1–5. [North Africa.] (Maastrichtian.)

## MIDDLE JURASSIC

*E. somaliensis* Currie, 1927:420–422, figs. 4a-f. [Somaliland, East Africa.] (Bathonian.)

## LOWER JURASSIC

*E. arabica* Melville, 1955:393–401, figs. 1–7, pl. 19: figs. 1a-5b. [Arabia.] (Lower Toarcian.)

**Genus *Gomphechinus* Pomel**

## UPPER CRETACEOUS

*G. collignoni* Lambert, 1933a:15, pl. 2: figs. 1-3. [Madagascar, off east coast of Africa.] (Maestrichtian.)

**Genus *Jeannetia* Mercier**

## LOWER JURASSIC

*Jeannetia* Mercier, 1937a:421-422. Type-species: *J. mortenseni* Mercier, 1937a:422-424, fig. 2. [France.] (Hettangian.)

**Genus *Parastomechinus* Philip**

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U404) consider *Parastomechinus* a synonym of *Jeannetia* Mercier.

## MIDDLE JURASSIC

*Parastomechinus* Philip, 1963c:1111-1112. Type-species: *P. brightoni* Philip, 1963c:1112-1115, figs. 1-3, 5. [Wyoming, U.S.A.] (Twin Creek Fm. Bajocian/Callovian.)

**Genus *Noetlingaster* Vredenburg**

## UPPER CRETACEOUS

- N. globulus* Devriès, 1967:173-174, pl. 1: figs. 7-9, pl. 2: figs. 10-13, pl. 4: figs. 6-11. [Turkey.]  
*N. hemisphaericus* Devriès, 1967:174-175, pl. 1: figs. 3, 6, 9, pl. 2: figs. 14-16, pl. 4: figs. 12-14. [Turkey.]  
*N. lamberti* Checchia-Rispoli, 1930b:20, figs. 12-14, pl. 1: fig. 2, pl. 3: fig. 1, pl. 4: fig. 1. [Africa.] (Maestrichtian.)  
*N. millosevichi* Checchia-Rispoli, 1930b:14, figs. 6-11, pl. 2: figs. 3-4. [Africa.] (Maestrichtian.)  
*N. sanfilippoi* Checchia-Rispoli, 1930b:6, figs. 1-5, pl. 1: fig. 1, pl. 3: fig. 2, pl. 4: fig. 2. [Africa.] (Maestrichtian.)

**Genus *Phymotaxis* Lambert and Thiéry**

## UPPER OLIGOCENE/UPPER EOCENE

*P. mansfieldi* Cooke, 1941a:18, pl. 3: figs. 12-13, pl. 4: figs. 6-8. [U.S.A.]

**Genus *Polycephus* L. Agassiz and Desor**

## JURASSIC

*P. rimuensis* Stefanini, 1928:169-172, pl. 19: figs. 3a-g. [Karakorum, Mongolia.]

## MIDDLE JURASSIC

*P. hourcqi* Lambert, 1936c:20, pl. 1: figs. 31-32. [Madagascar, off East Africa.] (Bathonian.)

**Genus *Psephochinus* Pomel**

## JURASSIC

*P. globosus* Lambert, 1931c:18-19, pl. 1: figs. 14-16. [North Africa.]

## MIDDLE JURASSIC

- P. mazetieri* Mercier, 1932:201-202, fig. 13, pl. 7: fig. 2. [France.] (Upper Bathonian.)  
*P. newtoni* Lambert, 1933a:10. [Madagascar, off East Africa.] (Callovian.)

## LOWER JURASSIC

*P. renzi* Jeannet, 1928c:221; 1928d:462-463, pl. 36: figs. 10-11, 15. [Corfu Island, in Ionian Sea off northwest Greece.] (Lower Toarcian to upper Malm.)

**Genus *Stomopneustes* L. Agassiz**

## OLIGOCENE

*S. pristinus* Jackson, 1937:229-230, pl. 12: fig. 1. [Mexico.]



## UPPER EOCENE

*S. antiquus* Nisiyama, 1966:199–201, pl. 2: figs. 14–17, pl. 3: figs. 1–4. [Japan.] (Lutetian.)

**Genus *Tiarechinopsis* Lambert**

## MIDDLE JURASSIC

*Tiarechinopsis* Lambert, 1936b:119. Type-species: *T. besairiei* Lambert, 1936b:120, pl. 6: figs. 17–21. [Madagascar, off East Africa.] (Bajocian.)

**Genus *Triadechinus* Arnold and H. L. Clark**

## EOCENE

*Triadechinus* Arnold and H. L. Clark, 1927:20–21. Type-species: *T. multiporus* Arnold and H. L. Clark, 1927:21–22, pl. 1: figs. 10–11. [Jamaica, Caribbean Sea.]

**Genus *Leiosoma* Cotteau**

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U408) consider *Leiosoma* an objective synonym of *Trochalosoma*.

## EOCENE

*L. chondra* Arnold and H. L. Clark, 1927:17–18, pl. 2: figs. 4–6. [Jamaica, Caribbean Sea.]

## UPPER EOCENE

*L. guadalupense* Sánchez Roig, 1949:48–49, pl. 2: figs. 3–4. [Cuba.] (Although Roig considers it to be Eocene, Brodermann (1949:324) says it is Upper Eocene.)

**Family Uncertain****Genus *Boletechinus* Cooke**

## UPPER CRETACEOUS

*B. mcglameryae* Cooke, 1955:93, fig. 4, pl. 28: figs. 11–16. [Alabama, U.S.A.] (Upper Maestrichtian.)

**Order ARBACIOIDA Gregory****Family ARBACIIDAE Gray****Genus *Arbacia* Gray**

## PLIOCENE

*A. rivuli* Cooke, 1941a:10–11, pl. 1: figs. 4–6. [U.S.A.] (Waccamaw Fm.)  
*A. waccamaw* Cooke, 1941a:10, pl. 1: figs. 1–3. [U.S.A.] (Waccamaw Fm.)

## UPPER MIOCENE

*A. crenulata* Kier, 1963:11–15, figs. 3–7, pl. 1: figs. 1–5. [Florida, U.S.A.] (Tamiami Fm.)

**Genus *Arbia* Cooke**

## UPPER OLIGOCENE

*Arbia* Cooke, 1948:606. Type-species: *Coelopleurus aldrichi* W. B. Clark. [Alabama, U.S.A.]

**Genus *Atopechinus* Thiéry**

## MIDDLE JURASSIC

*Atopechinus* Thiéry in Thiéry, Lambert and Collignon, 1928:100–101. Type-species: *A. cellensis* Thiéry in Thiéry, Lambert and Collignon, 1928:100–101, pl. 31: fig. 16. [France.] (Bathonian.)

**Genus *Baueria* Noetling**

## PALEOCENE

*B. tessieri* Roman and Debant, 1962a:245; 1962b:591–593, fig. 1, pl. 22b. [Senegal, West Africa.] (Lower Danian.)

**Genus *Codiopsis* L. Agassiz**

## UPPER CRETACEOUS

*C. doma* Desmarests var. *conicus* Smiser, 1935b:34, pl. 2: fig. 10. [Belgium.] (Cenomanian.)

- C. douvillei* Vidal, 1921:9, pl. 2: fig. 5, pl. 4: fig. 9. [Spain.] (Santonian.)  
*C. fontei* Vidal, 1921:10, pl. 1: figs. 20–22. [Spain.] (Maestrichtian.)  
*C. pierrensis* Smiser, 1935b:35–36, pl. 3: figs. 2a–h. [Belgium.] (Maestrichtian.)  
*C. senessei* Lambert in Lambert and Valette, 1934: 52–53, pl. 6: figs. 13–15. [France.] (Upper Turonian to Coniacian.)  
*C. stephensoni* Cooke, 1953:8, pl. 1: figs. 9–11. [Texas, U.S.A.] (Upper Maestrichtian.)

## LOWER CRETACEOUS

- C. sellardsi* Ikins, 1940:60–61, pl. 4: figs. 1a–c. [Texas, U.S.A.] (Comanchean.)

Genus *Coelopleurus* L. Agassiz

## RECENT

- C. granulatus* Mortensen, 1934a:167. [Japan, Bay of Ambon.]  
*C. undulatus* Mortensen, 1934a:166–167. [Sagami Sea, Japan.]  
*C. undulatus* Mortensen var. *polymorphus* Mortensen, 1934a:167. [Korea Strait, Japan.]  
*C. undulatus* Mortensen var. *ruber* Mortensen, 1934a:167. [Macclesfield Bank, Malaysia.]  
*C. vittatus* Koehler, 1927:64–70, pl. 10: figs. 2, 5–7, 10, pl. 25: fig. 6, pl. 26: fig. 1. [Indian Ocean.]

## MIOCENE

- C. singularis* Nisiyama, 1966:205–206, pl. 1: figs. 21–23. [Japan.] (Shirahama Fm.)

## LOWER MIOCENE

- C. melitensis* Zammit-Maempel, 1969:42–46, fig. 1, pl. 6. [Malta.]

## UPPER EOCENE

- C. carolinensis* Cooke, 1941a:9, pl. 2: figs. 1–3. [U.S.A.]

## UPPER CRETACEOUS

- C. castroi* Maury, 1930:114–117, pl. 5: fig. 4. [Brazil.] (Campanian.)

Genus *Cotteaudia* Lambert and Thiéry

## LOWER CRETACEOUS

- C. royoi* Lambert, 1928a:149–153, pl. 3: figs. 1–5. [Spain.] (Aptian.)

Genus *Murravechinus* Philip

## MIOCENE

- Murravechinus* Philip, 1965:183–186. Type-species: *Coelopleurus paucituberculatus* Gregory. [South-east Australia.]

Genus *Glypticus* L. Agassiz

## UPPER JURASSIC

- G. buxtorfi* Koechlin, 1947:83; 1948:334–336, figs. 1–2. [Switzerland.] (Upper Sequanian.)

Genus *Goniopygus* L. Agassiz

## CRETACEOUS

- G. ameri* Lambert, 1931e:301, pl. 17: fig. 16. [West Indies, Cuba.]  
*G. sanchezi* Lambert, 1931e:300–301, pl. 17: figs. 17–18. [Cuba, West Indies.]

## UPPER CRETACEOUS

- G. coutini* Lambert, 1931c:29, pl. 1: figs. 24–25. [North Africa.]  
*G. cubanus* Sánchez Roig, 1952c:2–3, pl. 1: fig. 9. [Cuba.]  
*G. jeanneti* Sánchez Roig, 1949:54–55, pl. 2: figs. 7–8. [Cuba.]  
*G. lamberti* Kühn, 1925:178–179, 186–187, fig. 1, pl. 11: fig. 1. [Austria.] (Upper Santonian.)  
*G. lemoinei* Lambert, 1933a:16, pl. 2: figs. 4–6. [Madagascar, off East Africa.] (Upper Turonian.)  
*G. madrugensis* Sánchez Roig, 1949:53–54, pl. 2: figs. 11–12. [Cuba.]

*G. supremus* Hawkins, 1924:313–316, pl. 18: figs. 1–2. [Jamaica, West Indies.] (Cenomanian-Turonian.)

#### LOWER CRETACEOUS

- G. atavus* Nisiyama, 1950b:30–32, pl. 4: figs. 3–4. [Japan.] (Aptian/Albian.)  
*G. bolaensis* Jones, 1938:132, pl. 13: figs. 5–6, 8. [Mexico.] (Aurora Fm.)  
*G. royoi* Lambert, 1928a:155–157, fig. 1. [Spain.] (Aptian.)  
*G. stocktonensis* Smiser, 1936:459, pl. 62: figs. 7, 16. [Texas, U.S.A.] (Comanchean.)  
*G. zitteli* Clark *telostocensis* Maldonado-Koerdell, 1953:38–39, pl. 2: figs. 38–40. [Mexico.] (Aptian.)

#### Subgenus *Tetragoniopygus* Fell and Pawson

##### PALEOCENE-CRETACEOUS

*G. (Tetragoniopygus)* Fell and Pawson in Durham et al., 1966:U412, fig. 306(4). [Europe, North America, Caribbean.] Type-species: *Goniopygus supremus* Hawkins.

#### Genus *Magnosia* Michelin

##### UPPER JURASSIC

*M. cottreaui* Lambert, 1931d:182, pl. 5: figs. 41–42. [Egypt.]

##### MIDDLE JURASSIC

- M. jacobi* Mercier, 1932:207–208, pl. 7: fig. 8. [France.] (Middle Bathonian.)  
*M. mortenseni* Lambert, 1936c:20, pl. 1: figs. 33–34. [Madagascar, off East Africa.] (Callovian.)  
*M. termieri* Lambert, 1931c:19–20, pl. 1: figs. 17–18. [North Africa.] (Vesulian, Middle Bathonian.)

#### Order TEMNOPLEUROIDA Mortensen

##### Family GLYPHOCYPHIDAE Duncan

#### Genus *Ambipleurus* Lambert

##### UPPER EOCENE

*Ambipleurus* Lambert, 1931d:198. Type-species:

*Dictyopleurus douvillei* Lambert. [Europe, Egypt, West Pakistan.] (Priabonian.)

##### LOWER EOCENE

*A. rotundatus* Kier, 1957b:847, figs. 1e–g, pl. 103: fig. 9. [British Somaliland, East Africa.] (Upper Auradu Series.)

#### Genus *Medocephinus* Jeannet

##### UPPER EOCENE

- Medocephinus* Jeannet, 1935b:559–560; 1936:3. Type-species: *M. fabrei* Jeannet, 1935b:559–560; 1936:3, figs. 1–2, pl. 1: figs. 1–3, pl. 2: figs. 1–4. [France.] (Upper Lutetian.)  
*M. castexi* Jeannet, 1936a:7–9, figs. 6–10, pl. 1: figs. 8–10. [France.] (Upper Lutetian.)  
*M. daguini* Jeannet, 1936a:5–7, figs. 3–5, pl. 1: figs. 4–7, pl. 2: figs. 10–12. [France.] (Upper Lutetian.)

#### Genus *Arachniopleurus* Duncan and Sladen

##### MIDDLE EOCENE

*A. istrianus* Innocenti, 1924:43–44, pl. 2: figs. 7–10. [Istria (Peninsula), Yugoslavia.]

#### Genus *Dictyopleurus* Duncan and Sladen

##### UPPER EOCENE

- D. duncani* Lambert, 1931d:198. [India.]  
*D. douvillei* Lambert, 1931d:197–198, pl. 5: figs. 1–4. [Egypt.] (Priabonian.)

#### Genus *Echinopsis* L. Agassiz

##### LOWER EOCENE

- E. firiyi* Lambert in Lambert and Jacquet, 1936: 346–348, pl. 21: figs. 6–8. [Senegal, West Africa.]  
*E. jacqueti* Lambert in Lambert and Jacquet, 1936: 348, pl. 21: fig. 9. [Senegal, West Africa.]

#### Genus *Hebertia* Michelin

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U416) consider *Hebertia* a subjective synonym of *Echinopsis* L. Agassiz.

## UPPER OLIGOCENE

*H. jacksoni* Lambert in Sánchez Roig, 1949:39-40, pl. 2: figs. 9-10. [Cuba.]

## MIDDLE EOCENE

*H. simplex* Hawkins, 1924:317-318, pl. 18: figs. 4-5. [Jamaica, West Indies.]

## UPPER CRETACEOUS

*H. calvachei* Sánchez Roig, 1949:40, pl. 3: figs. 1-2. [Cuba.]

*H. pentagona* Sánchez Roig, 1949:40-41, pl. 4: figs. 1-2. [Cuba. Erroneously referred elsewhere in text (page 40 and plate explanation) to "Pseudorthosis".]

**Genus *Hemidiadema* L. Agassiz**

## MIDDLE JURASSIC

*H. mortenseni* Maccagno, 1947b:116-118, pl. 1: figs. 6, 6a-b. [Somaliland, East Africa.] (Callovian-Oxfordian.)

**Genus *Radiocyphus* Cotteau**

## EOCENE

*R. hungaricus* Thirring, 1936:58-59, pl. 2: fig. 15. [Hungary.]

**Family TEMNOPLEURIDAE A. Agassiz****Genus *Temnopleurus* L. Agassiz**

## RECENT

*T. australis* H. L. Clark, 1928:458-461, fig. 138. [South Australia.]

*T. hardwickii* (Gray) var. *impressus* Mortensen, 1942:226. [Gulf of Tschili, China.]

*T. michaelsoni* (Döderlein) var. *viridis* H. L. Clark, 1938:382. [Western Australia.]

## MIOCENE/PLIOCENE

*T. iranicus* Douglas, 1928:11-12, pl. 12: fig. 11. [Persia (Iran).] (Upper Fars Fm.)

## MIOCENE

*T. latidunensis* Clegg, 1933:18-19, pl. 2: figs. 5a-c. [Persian Gulf.]

*T. persica* Clegg, 1933:21-23, fig. 2, pl. 2: figs. 7a-d. [Persia (Iran).]

*T. sundaicus* Jeannet in Lambert and Jeannet, 1935:19-22, figs. 4-6, pl. 1: figs. 29-34, pl. 3: figs. 3-10. [Java, Indonesia.]

**Genus *Prymnechinus* Koehler**

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U418) consider *Prymnechinus* a subjective synonym of *Temnopleurus* L. Agassiz.

## RECENT

*Prymnechinus* Koehler, 1927:109. Type-species: *P. proctalis* Koehler, 1927:110-112, pl. 17: figs. 11-12, 14. [Andaman Islands, Bay of Bengal, Indian Ocean.]

**Genus *Coptopleura* Ikeda**

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U418) consider *Coptopleura* a subjective synonym of *Temnopleurus* (*Toreumatica*) Gray.

## RECENT

*Coptopleura* Ikeda, 1940:93. Type-species: *C. sema* Ikeda, 1940:93-96, pl. 6: figs. 1-5. [Malaysia, Southeast Asia.]

**Genus *Amblypneustes* L. Agassiz**

## RECENT

*A. pallidus* (Lamarck) var. *subglobosus* Mortensen, 1942:227. [Southwest Australia.]

## UPPER OLIGOCENE

*A. corrali* Lambert and Roig in Sánchez Roig, 1949:46, pl. 2: fig. 13. [Cuba.]

Genus *Arbacina* Pomel

## OLIGOCENE

*A. blancheti* Lambert in Castex, 1930:17–18, pl. 1, figs. 2–4. [France.]

Genus *Asaphechinus* Philip

## MIOCENE

*Asaphechinus* Philip, 1969:240–242. Type-species: *A. murrayensis* Philip, 1969:242–243, figs. 2a–c, 2e–g, pl. 5: figs. 1–4, 6, 7, pl. 12: fig. 5. [South-east Australia.] (Lonfordian.)

## PLIOCENE/MIOCENE

*A. singletoni* Philip, 1969:244–247, figs. 3a, 3b, 3d, 3f, 3h, 3i, pl. 6: figs. 1–4, 8–12, pl. 12: figs. 3, 4, 7, pl. 13: fig. 4. [Southeast Australia.] (Cheltenhamian.)

## MIOCENE

*A. princeps* Philip, 1969:243–244, figs. 3c, 3e, 3g, pl. 5: figs. 8–10, pl. 12: fig. 5, pl. 14: figs. 1–3. [Southeastern Australia.] (Lonfordian.)

## OLIGOCENE

*A. tasmanensis* Philip, 1969:247–248, figs. 8g–i, pl. 6: figs. 5–7, pl. 15: fig. 2. [Southeast Australia.] (Janjukian.)

Genus *Asterechinus* Mortensen

## RECENT

*Asterechinus* Mortensen, 1942:228. Type-species. *A. elegans* Mortensen, 1942:228. [Malaysia, off Admiralty Island, West Pacific Ocean.]

Genus *Brochopleurus* Fourtau

## MIOCENE/LOWER PLIOCENE

*B. pulcherrimus* Nisiyama, 1966:237–238, pl. 5: figs. 12–15, pl. 6: figs. 4–5. [Japan.] (Komayama Fm.)

## UPPER OLIGOCENE/LOWER MIOCENE

*B. australiae* Fell, 1949:17–19, pl. 1. [Australia.] (Janjukian.)

Genus *Cryptechinus* Philip

## MIDDLE MIOCENE

*Cryptechinus* Philip, 1969:236–237. Type-species: *Psammechinus* (?) *humilior* Bittner.

Genus *Javanechinus* Jeannet

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U418) consider *Javanechinus* a synonym of *Desmechinus* H. L. Clark.

## MIOCENE

*Javanechinus* Jeannet in Lambert and Jeannet, 1935:49–50. Type-species: *J. rembangensis* Jeannet in Lambert and Jeannet, 1935:50–51, figs. 65a, 66–68, pl. 2: figs. 35–37, pl. 4: figs. 17–18. [Java, Indonesia.]

*J. erbi* Jeannet in Lambert and Jeannet, 1935:51–53, figs. 65b, 69–72, pl. 2: figs. 38–40, pl. 4: figs. 19–20. [Java, Indonesia.]

Genus *Erbechinus* Jeannet

## PLIOCENE

*Erbechinus* Jeannet in Lambert and Jeannet, 1935:16. Type-species: *E. erbi* Jeannet in Lambert and Jeannet, 1935:16–18, figs. 1–2, pl. 1: figs. 23–28, pl. 33: figs. 1–2. [Java, Indonesia.]

## MIOCENE

*E. gratus* Nisiyama, 1966:234–235, fig. 19, pl. 5: figs. 5–8. [Japan.] (Shirahama Fm.)

**Genus *Genocidaris* A. Agassiz**

## RECENT

- G. incerta* H. L. Clark, 1928:457-458, fig. 137. [South Australia.]  
*G. splendens* Mortensen, 1927c:28-29, figs. 3-9, pl. 2: figs. 3-4. [Canary Islands, off Northwest African coast.]

**Genus *Grammechinus* Duncan and Sladen**

## MIOCENE/OLIGOCENE

- G. meridionalis* Philip, 1969:249-250, fig. 2h, pl. 4: figs. 10-13, pl. 14: figs. 5-6. [Southeast Australia.] [Janjukian-Batesfordian.]

**Genus *Graphepleurus* H. L. Clark**

## MIOCENE

- Graphepleurus* H. L. Clark, 1945:315. Type-species: *G. granularis* H. L. Clark, 1945:315-317, pl. 41: figs. F-G. [Fiji, South Pacific Ocean.]

**Genus *Irenechinus* Fell**

## LOWER MIOCENE

- Irenechinus* Fell, 1963a:211. Type-species: *I. hentyi* Fell, 1963a:211-213, pl. 1 (pt.). [Victoria, Australia.]

**Genus *Lamprechinus* Döderlein**

## RECENT

- L. sculptus* Mortensen, 1942:229. [Japan.]  
*L. sculptus* Mortensen var. *hawaiiensis* Mortensen, 1942:229. [Polynesian Seas, Hawaii.]

**Genus *Martinechinus* Jeannel**

## PLEISTOCENE-PLIOCENE

- Martinechinus* Jeannel in Jeannel and Martin, 1937:232. Type-species: *M. molengraaffi* Jeannel

in Jeannel and Martin, 1937:233-234, figs. 9a-e. [Timor, South Malay Archipelago.]

**Genus *Mespilia* Desor**

## RECENT

- M. globulus* (Linné) var. *albida* H. L. Clark, 1925a: 93-94. [Locality unknown.]

**Genus *Microcyphus* L. Agassiz**

## RECENT

- M. ceylanicus* Mortensen, 1942:227. [Ceylon and Andaman Islands, Bay of Bengal, Indo-Pacific Ocean.]  
*M. excentricus* Mortensen, 1940a:46-47; 1943a:161-163, fig. 86, pl. 17: figs. 22-24. [Malaysia.]  
*M. keiensis* Mortensen, 1942:227. [Kei Islands, Malaysia.]  
*M. maculatus* L. Agassiz var. *godeffroyi* Mortensen, 1942:226. [Tonga, Society Islands?, Polynesian Seas.]  
*M. pulchellus* H. L. Clark, 1928:462-463, fig. 139. [South Australia.]  
*M. rousseaui* L. Agassiz var. *purpuratus* Mortensen, 1942:227. [Zanzibar, East Africa.]

## MIOCENE

- M. javanus* Jeannel in Lambert and Jeannel, 1935: 45-47, figs. 56-59, pl. 2: figs. 19-23. [Java, Indonesia.]  
*M. javanus* Jeannel var. *inornata* Jeannel in Lambert and Jeannel, 1935:47, fig. 60, pl. 2: figs. 24-26. [Java, Indonesia.]  
*M. melo* Jeannel in Lambert and Jeannel, 1935: 47-49, figs. 61-64, pl. 2: figs. 27-29, 32-34. [Java, Indonesia.]

**Genus *Opechinus* Desor**

## RECENT

- O. albus* Mortensen, 1942:228. [Kei Islands, Malaysia.]  
*O. albus* Mortensen var. *virescens* Mortensen, 1942: 228. [Off Jolo Island, Malaysia.]

## MIOCENE

- O. cheribonensis* Jeannet in Lambert and Jeannet, 1935:25-27, figs. 7-9, pl. 1: figs. 37-43, pl. 3: figs. 11-13. [Java, Indonesia.]
- O. collignoni* Jeannet in Lambert and Jeannet, 1935:27-29, figs. 10-13, pl. 1: figs. 53-54. [Java, Indonesia.]
- O. madurae* Jeannet in Jeannet and Martin, 1937: 228-230, figs. 7-8d. [Dutch East Indies, West Pacific Ocean.] (Jung.)

**Genus *Pseudopechinus* Lambert and Thiéry**

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U423) consider *Pseudopechinus* an objective synonym of *Opechinus* Desor.

## TERTIARY

- Opechinus (Pseudopechinus) lamberti* Jeannet in Lambert and Jeannet, 1935:31-34, figs. 19-26, pl. 1: figs. 47-52, pl. 3: fig. 16, pl. 4: figs. 1-2. [Java, Indonesia.] (Probably Pliocene.)
- O. (P.) lorioli* Jeannet in Lambert and Jeannet, 1935:29-31, figs. 14-18, pl. 1: figs. 45-46, pl. 3: figs. 14-15. [Java, Indonesia.] (Probably Pliocene.)

## MIOCENE

- O. (P.) percutus* Desor var. *oligoporus* Martin in Jeannet and Martin, 1937:232. [Dutch East Indies, West Pacific Ocean.] (Jung.)

**Genus *Ortholophus* Duncan**

In the *Treatise* Fell and Pawson (Durham et al., 1966:U424) consider *Ortholophus* a subjective synonym of *Paradoxechinus* Laube.

## MIDDLE MIOCENE

- O. morganensis* Philip, 1969:255-257, figs. 6a-b, 6h, pl. 7: figs. 1-13. [Southeast Australia.] (Morgan Ls., Batesfordian or Balcombian.)
- O. venustus* Philip, 1969:259-260, figs. 6d, 6f, 6g, pl. 9: figs. 1-7, 9, 11-14. [Southeast Australia.] (Batesfordian/Longfordian.)

## UPPER EOCENE

- O. bittneri* Philip, 1969:253-255, figs. 6c, 6e, 6i-j, pl. 11: figs. 13-21, pl. 13: figs. 2-3, 5-7. [South-east Australia. New name for *O.* (orig. *Coptechinus*) *lineatus* (Bittner, 1892) not *O. lineatus* Duncan, 1877).] (Tortachilla Ls.)

**Genus *Paratrema* Koehler**

## RECENT

- Paratrema* Koehler, 1927:90-91. Type-species: *Pleurechinus doederleini* Mortensen. [Andaman Islands, Bay of Bengal, Indo-Pacific Ocean.]

**Genus *Printechinus* Koehler**

## RECENT

- Printechinus* Koehler, 1927:97-98. Type-species: *P. impressus* Koehler, 1927:98-103, pl. 15: figs. 3-11, pl. 27: fig. 2. [Indian Ocean.]
- P. viridis* Mortensen, 1942:228. [Malaysia, East of Sumatra.]

## PLIOCENE

- P. javanus* Lambert and Jeannet, 1935:23-24, pl. 1: figs. 35-36, pl. 4: figs. 9-10. [Java, Indonesia.] (Couches de Tremboel.)

**Genus *Prionechinus* A. Agassiz**

## MIDDLE MIOCENE

- P. salomacensis* Lambert, 1928b:88, figs. 5-6. [France.] (Helvetian.)

## LOWER MIOCENE

- P. duvergieri* Lambert, 1928b:86-87, figs. 3-4. [France.] (Langhian/Burdigalian.)

**Genus *Pseudechinus* Mortensen**

## RECENT

- P. hesperus* H. L. Clark, 1938:395-397, fig. 35, pl. 27: fig. 1. [Western Australia.]

## RECENT/PLEISTOCENE

*P. flemingi* Fell, 1958:36, pl. 3: figs. A, B, pl. 5: fig. a. [South and East New Zealand.]

Genus *Notechinus* Döderlein

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U425) consider *Notechinus* a subjective synonym of *Pseudechinus*.

## RECENT

*N. marionis* Mortensen, 1936a:221–223, fig. 1, pl. 2: figs. 5–10, pl. 9: figs. 1–4. [Southern Ocean, off Marion Island.]

*Pseudechinus* (*Notechinus*) *sanctipauli* Dollfus, 1946:160–178, figs. 1–16, pls. 3–4. [Southern Ocean.]

Genus *Pseudodicoptella* Jeannet

## PLIOCENE

*Dicoptella* (*Pseudodicoptella*) Jeannet in Lambert and Jeannet, 1935:44. Type-species: *D. (P.) reicheli* Jeannet in Lambert and Jeannet, 1935:44–45, figs. 54–55, pl. 1: fig. 22, pl. 4: figs. 11–13. [Dutch East Indies.]

Genus *Salmaciella* Mortensen

## RECENT

*Salmaciella* Mortensen, 1942:226. Type-species: *Salmacis dussumieri* L. Agassiz. [Western-Indo-Pacific.]

Genus *Salmacis* L. Agassiz

## RECENT

*S. belli* Döderlein var. *unicolor* Mortensen, 1942:226. [Coast of Queensland, Australia.]  
*S. roseoviridis* Koehler, 1927:84–88, pl. 12: figs. 3–6, pl. 26: fig. 3. [Indian Ocean.]  
*S. rubricincta* H. L. Clark, 1925a:86–87, pl. 5: figs. 3–4. [Saya de Malha, Indian Ocean.]  
*S. sphaeroides* (Linnaeus) var. *variegata* Mortensen, 1942:226. [Malaysia, off Jolo; Amboina Islands.]

## PLIOCENE

*S. nuda* Currie, 1930:174, pl. 16: fig. 3. [Mombasa Island, East Africa.]

Genus *Tatechinus* Philip

## UPPER EOCENE

*Tatechinus* Philip, 1969:268–269. Type-species: *T. nudus* Philip, 1969:269–271, figs. 8a–f, 8i, pl. 4: figs. 7–9, 14–15, pl. 14: fig. 7, pl. 15: fig. 4. [South-eastern Australia.] (Tortachilla Ls.)

Genus *Temnotrema* A. Agassiz

## RECENT

*T. notium* H. L. Clark, 1938:387–388, pl. 26: fig. 5. [Western Australia.]  
*T. pallescens* H. L. Clark, 1925a:90–91, pl. 7: figs. 5–6. [Billiton Island, Indonesia, in Java Sea.]  
*T. phoenissa* H. L. Clark, 1926:188–191, fig. 1. [Great Barrier Reef, Australia.]  
*T. siamense* (Mortensen) var. *megaloplax* Mortensen, 1942:227. [Indo-Pacific, off Misol, Indonesia.]  
*T. siamense* (Mortensen) var. *rubicundum* Mortensen, 1942:227. [Mauritius, east of Madagascar, in Indian Ocean.]

Genus *Dicoptella* Lambert

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U425) consider *Dicoptella* a synonym of *Temnotrema* A. Agassiz.

## MIOCENE

*D. agassizi* Lambert and Thiéry var. *elevata* Jeannet in Lambert and Jeannet, 1935:38, figs. 37–39, pl. 2: fig. 6, pl. 4: fig. 7. [Java, Indonesia.]  
*D. agassizi* Lambert and Thiéry var. *tenuis* Jeannet in Lambert and Jeannet, 1935:37–38, figs. 30–36, pl. 2: figs. 1–3, pl. 4: fig. 5. [Java, Indonesia.]  
*D. javana* Jeannet in Lambert and Jeannet, 1935:40–41, figs. 45–47, pl. 2: figs. 16–18. [Java, Indonesia.]  
*D. leupoldi* Jeannet in Lambert and Jeannet, 1935:38, fig. 40, pl. 2: figs. 7–9, pl. 4: fig. 8. [Java, Indonesia.]



*D. tobleri* Jeannet in Lambert and Jeannet, 1935: 39-40, figs. 41-44, pl. 2: figs. 10-15, pl. 4: figs. 6, 14. [Java, Indonesia.]

## UPPER MIOCENE

*D. promensis* Currie, 1939:221-226, figs. 1-5, pl. 14: figs. 6a-c. [Burma, Southeast Asia.] (Pegu Stage.)

## PALEOCENE

*D. desioi* Airaghi, 1934:65, pl. 5: fig. 2. [Libya, North Africa.]

Subgenus *Dicoptella* (*Paradicoptella*) Jeannet

In the *Treatise*, Fell and Pawson (Durham et al., 1966:U425) consider *Paradicoptella* Jeannet a synonym of *Temnotrema* A. Agassiz.

## MIOCENE

*Dicoptella* (*Paradicoptella*) Jeannet in Lambert and Jeannet, 1935:42. Type-species: *D. (P.) ruteni* Jeannet in Lambert and Jeannet, 1935: 42-44, figs. 51-53, pl. 4: fig. 16. [Java, Indonesia.]

Genus *Trigonocidaris* A. Agassiz

## RECENT

*T. indica* Mortensen, 1942:229. [Madagascar, Indian Ocean.]

*T. micropora* Mortensen, 1942:229. [Malaysia.]

*T. radiata* Mortensen, 1942:228. [Kei Islands, Malaysia.]

*T. versicolor* Koehler, 1927:94-97, pl. 14: figs. 3-4, 6-10, 13, pl. 27: fig. 1. [Indian Ocean.]

Genus *Triplacidia* Bittner

## LOWER OLIGOCENE/UPPER EOCENE

*T. fraasi* Loriol var. *boncevi* Gočev, 1928:40, 48, fig. 2. [Bulgaria.]

## EOCENE

*T. hungarica* Vogl, 1921:128. [Hungary.]

## MIDDLE EOCENE

*T. trakyensis* Pinar, 1951:37-38, figs. 1-2, 4, 7, 9, pl. 1b: figs. 2-3. [Turkey.] (Auversian. Lutetian.)

Genus *Zeugopleurus* Gregory

## UPPER CRETACEOUS

*Echinocyphus* (*Zeugopleurus*) *glanoviensis* Kongiel, 1939:24-25, pl. 2: fig. 29, pl. 3: figs. 1-3. [Poland.] (Lower Turonian.)

## Family TOXOPNEUSTIDAE Troschel

Genus *Cyrtechinus* Mortensen

## RECENT

*Cyrtechinus* Mortensen, 1942:229. Type-species: *Psammechinus verruculatus* Lütken. [Tropical Western-Indo Pacific.]

Genus *Gymnechinus* Mortensen

## RECENT

*G. abnormalis* H. L. Clark, 1925a:128-129, pl. 7: figs. 3-4. [Carcajos Carodos?]

*G. pallidus* Koehler, 1927:113-118, pl. 17: figs. 5, 13, 15, pl. 18: figs. 1-6, pl. 19: figs. 2-3, pl. 27: fig. 4. [Ceylon.]

Genus *Lytechinus* A. Agassiz

## RECENT

*L. thieryi* Koehler, 1927:104-108, pl. 18: figs. 7-8, pl. 19, fig. 4, pl. 27: fig. 6. [Ceylon.]

*L. variegatus* (Leske) var. *pallida* H. L. Clark, 1925a:121. [Cape Verde Islands, Atlantic Ocean.]

*L. williamsi* Cheshier, 1968b:3-5, figs. 1-2, 3a, 3c-i, 4-5, table 1. [Buena Ventura, Panama (Atlantic).]

## UPPER MIOCENE/?PLEISTOCENE

*L. variegatus* (Leske) *plurituberculatus* Kier, 1963: 15-19, figs. 8-11, pl. 2: figs. 1-2, pl. 3: fig. 1, pl. 4: fig. 4. [Florida, U.S.A.] (Caloosahatchee and Tamiami Fm.)

## PLIOCENE

- L. crassus* H. L. Clark, 1945:317-318, pl. 41: figs. H-I. [Fiji, South Pacific Ocean.]  
*L. okinawa* Cooke, 1954:46, pl. 9: figs. 3-5. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)

## LOWER MIOCENE

- L. coreyi* Grant and Hertlein, 1938b:24, pl. 20: fig. 7. [California, U.S.A.] (Vasqueros.)  
*L. (?) milleri* Grant and Hertlein, 1938b: 24-25, pl. 15: figs. 1-2. [California, U.S.A.] (Vaqueros.)

Genus *Mirechinus* Nisiyama

## UPPER EOCENE

- Mirechinus* Nisiyama, 1966:239-240. Type-species: *M. mirabilis* Nisiyama, 1966:240-242, pl. 6: fig. 3, pl. 7: figs. 2,4. [Bonin Islands, Japan, West Pacific Ocean.] (Lutetian.)

Genus *Nudechinus* Clark

## RECENT

- N. ambonensis* Mortensen, 1942:230. [Molucca Sea, Malaysia.]  
*N. ambonensis* Mortensen var. *purpurascens* Mortensen, 1942:230. [Amboina, Malaysia.]  
*N. rubripunctatus* H. L. Clark, 1925a:127-128, pl. 7: figs. 1-2. [Amirante Islands, Indian Ocean.]  
*N. scotiopremnus* H. L. Clark var. *australiensis* Mortensen, 1942:230. [Western Australia.]

Genus *Pseudocentrotus* Mortensen

## MIOCENE

- P. stenoporus* Nisiyama, 1966:247-249, pl. 7: figs. 3-7. [Japan.] (Shirahama Fm.)

Genus *Schizechinus* Pomel

## PLIOCENE

- S. candeli* Lambert, 1931c:44-45, pl. 7: figs. 2-4. [North Africa.]

Genus *Scoliechinus* Arnold and Clark

## EOCENE

- Scoliechinus* Arnold and H. L. Clark, 1927:23. Type-species: *S. axiologus* Arnold and H. L. Clark, 1927:23-24, pl. 2: figs. 7-8. [Jamaica, West Indies.]

Genus *Sphaerechinus* Desor

## LOWER MIOCENE

- Sphaerechinus* [sic] *burdigalensis* Lambert, 1928b:90, fig. 2. [France.] (Upper Aquitanian.)

Genus *Tripneustes* L. Agassiz

## MIDDLE MIOCENE

- T. tobleri* Jeannet, 1928a:17-19, fig. 2, pl. 2: figs. 1-3, pl. 6: figs. 4-6; 1928b:220. [Venezuela.] (Couches d'Ojo de Aqua.)  
*T. ventricosus* (Lamarck) *austriacus* Tauber, 1951: 312-313, figs. 1-4. [Austria.] (Tortonian.)

## LOWER MIOCENE

- T. magnificus* Nisiyama, 1966:243-245, pl. 6: figs. 2, 7, 9, pl. 7: fig. 1. [Mariana Island, West Pacific Ocean.] (Laulau Fm.)

## Family Uncertain

Genus *Gagaria* Duncan

## UPPER OLIGOCENE

- Thylechinus* (*Gagaria*) *chickasawhay* Cooke, 1941a: 14, pl. 2: figs. 17a-d. [U.S.A.]  
*T. (G.) mossomi* Cooke, 1941a:13-14, pl. 1: figs. 6-9, pl. 2: fig. 16, pl. 3: figs. 6-9, pl. 4: figs. 3-5. [U.S.A.]

## MIDDLE EOCENE

- G. foutatoroensis* Roman in Élouard and Roman, 1966:840-843, fig. 2, pl. 19. [Senegal, West Africa.] (Lower Lutetian.)

## LOWER EOCENE

*T. (G.) salis* Cooke, 1941a:13, pl. 2: figs. 12-14.  
[U.S.A.]

## Order ECHINOIDA Claus

## Family ECHINIDAE Gray

Genus *Echinus* Linné

## RECENT

*E. atlanticus* Mortensen var. *helenae* Mortensen, 1942:230. [St. Helena Island, west coast of Africa, tropical Atlantic Ocean.]

*E. multidentatus* H. L. Clark, 1925a:115-116, pl. 6: figs. 1-2. [Challenger Sta. 170, near the Kermadec Islands, Pacific Ocean.]

*E. stenoporus* Mortensen, 1942:230. [South Africa.]

Genus *Dermechinus* Mortensen

## RECENT

*Dermechinus* Mortensen, 1942:231. Type-species: *Echinus horridus* A. Agassiz. [Indo-Pacific.]

Genus *Gracilechinus* Fell and Pawson

## RECENT/PLIOCENE

*Gracilechinus* Fell and Pawson in Durham et al., 1966:U431, fig. 322(1a). [England; Atlantic-Mediterranean-IndoPacific.] Type-species: *Echinus gracilis* A. Agassiz.

Genus *Paracentrotus* Mortensen

## RECENT

*P. grandis* H. L. Clark, 1923:388, pl. 22: figs. 1-3. [South Africa.]

Genus *Polyechinus* Mortensen

## RECENT

*Polyechinus* Mortensen, 1942:231. Type-species: *Paracentrotus agulhensis* Döderlein. [South Africa.]

Genus *Psammechinus* L. Agassiz and Desor

## PLIOCENE

*P. punicus* Lambert, 1931c:103, pl. 4: figs. 10-12. [Tunis, North Africa.]

## MIOCENE

*P. dainellii* Desio, 1929:299-301, pl. 39: figs. 2a-d. [Oasis of Giarabùb, east Cyrenaica, Libya.]

## MIDDLE MIOCENE

*P. newillei* Lambert, 1928b:88. [France. Also described and figured in Lambert, 1928e:8, pl. 5: figs. 15-18. (Helvetian.)]

## PALEOCENE

*P. desioi* Airaghi, 1934:64-65, pl. 5: fig. 1. [Libya, North Africa.]

## OLIGOCENE

*P. arnei* Castex, 1947:30-31, pl. 1: fig. 5. [France.] (Lattorfian-Sannoisian.)

## UPPER OLIGOCENE

*P. floralanus* Cooke, 1941a:15-16, pl. 3: figs. 10-11. [U.S.A.]

## UPPER EOCENE

*P.?* *ocalanus* Cooke, 1941a:16, pl. 2, figs. 9-11. [U.S.A.]

## MEDIAL EOCENE

*P. santee* Cooke, 1941a:15, pl. 2: figs. 7-8. [U.S.A.] (McBean Fm.)

## LOWER CRETACEOUS

*P. demolyi* Lambert in Démoly, 1928:146, fig. [France.]

*P. simplex* Lambert, 1931c:66, pl. 3: figs. 6-7. [Algiers, North Africa.] (Aptian.)

**Genus *Sterechinus* Koehler**

## RECENT

- S. dentifer* Koehler, 1926:34–36, pl. 104: figs. 1–4, pl. 120: fig. 1. [Antarctic.]  
*S. neumayeri* (Meissner) var. *nigroalba* Mortensen, 1942:231. [Antarctic.]

**Genus *Stirechinus* Desor**

## MIOCENE

- S. minor* Cotteau var. *couffoni* Cottreau, 1933: 542–543, pl. 26: figs. 5–6a. [France.]

**Family ECHINOMETRIDAE Gray****Genus *Echinometra* Gray**

## MIOCENE

- E. hondoana* Nisiyama, 1966:270–271, pl. 10: fig. 1. [Japan.] (Kozai Fm.)

**Genus *Ellipsechinus* Lütken**

## CRETACEOUS

- Ellipsechinus palmeri* Lambert in Sánchez Roig, 1949:46–47, pl. 2: figs. 5–6. [Cuba. Although Sánchez Roig thinks it is possibly Pleistocene, Brodermann (1949:322) maintains it is Cretaceous.]

**Genus *Echinostrephus* A. Agassiz**

## RECENT

- E. formosus* Mortensen, 1940a:50; 1943b:306, pl. 35: figs. 11–14. [Malaysia.]

## MIOCENE

- E. saipanicum* Cooke, 1957:362, pl. 119: figs. 4–6. [Mariana Islands, West Pacific Ocean.]

**Genus *Evechinus* Verrill**

## PLIOCENE/MIOCENE

- E. palatus* Philip, 1969:234–235, pl. 16: figs. 1–6. [Southeast Australia.] (Cheltenhamian.)

**Genus *Heliocidaris* L. Agassiz and Desor**

## RECENT

- H. erythrogramma* (Valenciennes) var. *parvispina* H. L. Clark, 1938:404. [Southwest Australia.]

## MIOCENE

- H. ludbrookae* Philip, 1965:192–194, fig. 4c, pl. 27: figs. 1–4, pl. 28: figs. 1–2. [Southeast Australia.]

**Genus *Zenocentrotus* A. H. Clark**

## RECENT

- Zenocentrotus* A. H. Clark, 1932:5–7. Type-species: *Z. kellersi* A. H. Clark, 1932:7–10, pls. 1–3, pl. 4: fig. 1, pl. 5: fig. 1, pl. 6: fig. 3. [Niuafou Island (between Samoa and Fiji), South Pacific Ocean.]  
*Z. paradoxus* A. H. Clark, 1932:10, pl. 5: fig. 2, pl. 6: figs. 1–2, pl. 7: figs. 1–2. [Niuafou Island, South Pacific Ocean.]

## MIOCENE

- Z. peregrinus* Philip, 1965:194–195, fig. 4b, pl. 28: figs. 3–6, pl. 29: figs. 6, 9. [Southeast Australia.]

**Family STRONGYLOCENTROTIDAE Gregory****Genus *Strongylocentrotus* Brandt**

## RECENT

- S. djakonovi* Baranova, 1957:223–225, figs. 14a–i. [Bering Sea.]  
*S. intermedius* Agassiz f. *longispina* Djakonov, 1938: 474–475, 497. [Japan Sea.]  
*S. polyacanthus* Agassiz and Clark *apicimagis* Baranova, 1957:221–223, figs. 13a–e. [Bering Sea.]

## PLIOCENE

*S. magistrus* Nisiyama, 1966:255-256, pl. 8: figs. 1-3. [Japan.] (Himi Fm.)

## LOWER PLIOCENE/MIOCENE

*S.?* *octoporus* Nisiyama, 1966:256-258, pl. 8: figs. 7-8. [Japan.]

## MIOCENE

*S. antiquus* Philip, 1965:189-191, figs. 3a-b, 4a, 4d, pl. 29: figs. 1-3. [Southeast Australia.]

*S. minihagali* Deraniyagala, 1961:154, pl. 5: fig. 10. [Ceylon, Indian Ocean.]

Genus *Allocentrotus* Mortensen

## RECENT

*Allocentrotus* Mortensen, 1942:232. Type-species: *Strongylocentrotus fragilis* Jackson. [Vancouver, Canada, to Lower California, U.S.A.]

## LOWER PLIOCENE

*A. japonicus* Nisiyama, 1966:258-260, pl. 8: figs. 4, 10-14, pl. 9: figs. 1-2, 4-6. [Japan.] (Kurotaki Fm.)

Genus *Hemicentrotus* Mortensen

## RECENT

*Hemicentrotus* Mortensen, 1942:231. Type-species: *Sphaerechinus pulcherrimus* A. Agassiz. [Japan-North China.]

## Family PARASALENIIDAE Mortensen

Genus *Parasalenia* A. Agassiz

## RECENT

*P. gratiosa* A. Agassiz var. *boninensis* Mortensen, 1930:388, pl. 1: figs. 2-5. [North Pacific Ocean.]

## MIOCENE

*P. marianae* Cooke, 1957:361-362, pl. 119: figs. 1-3. [Mariana Islands, West Pacific Ocean.]

Genus *Diplosalenia* Mortensen

## EOCENE

*Diplosalenia* Mortensen, 1942:232. Type-species: *Parasalenia gosseleti* Cotteau. [France.]

## Superorder Uncertain (ECHINACEA or DIADEMATA) or

## Order ORTHOPSIDA Mortensen

## Family ORTHOPSIDAE Duncan

Genus *Orthopsis* Cotteau

## UPPER CRETACEOUS

*O. casanovai* Cooke, 1955:92-93, pl. 20: figs. 1-3. [Texas, U.S.A.] (Campanian.)

*O. sanfilippoi* Checchia-Rispoli, 1933b:6-11, figs. 2-4, pl. 1: figs. 5-15. [North Africa.] (Maestrichtian.)

## LOWER CRETACEOUS

*O. aguilerai* Maldonado-Koerdell, 1953:28-29, pl. 1: figs. 25-27. [Mexico.] (Aptian.)

*O. bahiaensis* Brito, 1964:6-7, pl. 1: figs. 2-3, pl. 2: figs. 1-2. [Brazil.] (Albian.)

*O. comalensis* Whitney and Kellum, 1966:250-253, pl. 1: figs. 13-15. [Texas, U.S.A.] (Trinity Group. Aptian.)

*O. royo* Lambert, 1935f:523, pl. 58: figs. 3-5. [Spain.] (Aptian.)

*O. titicacana* Cooke, 1949b:84-85, pl. 22: figs. 1-5. [Peru.] (Aptian/Albian?)

## UPPER JURASSIC

*O. pomeraniae* Kongiel, 1957:30-32, 53-55, 70-72, pl. 5: figs. 5-6. [Pomerania, on the Baltic Sea.] (Upper Kimmeridgian.)

**Genus *Dubarechinus* Lambert**

- Dubarechinus* Lambert, 1937:62–63. Type-species:  
*D. despujolsi* Lambert, 1937:63, pl. 4: figs. 14–17.  
 [Morocco.] (Upper Domerian.)  
*D. termieri* Lambert, 1937:63–64, pl. 4: fig. 18.  
 [Morocco.] (Upper Domerian.)

**Doubtful Genera of Regular Echinoids****Genus *Besairiecidaris* Lambert**

## MIDDLE JURASSIC

- Besairiecidaris* Lambert, 1936b:117–118. Type-species: *B. ankarensis* Lambert, 1936b:118, pl. 6: figs. 11–12. [Madagascar, off East Africa.] (Bajocian.)

**Genus *Bramus* de Gregorio**

## PERMIAN

- Cidaris* (*Bramus*) de Gregorio, 1930a:34. Type-species: *C. (B.) simplex* de Gregorio, 1930a: 34, pl. 12: figs. 13–14. [Italy.]  
*C. (B.) pirillus* de Gregorio, 1930a:34, pl. 12: figs. 15–17. [Italy.]

**Genus *Crinocidaris* de Gregorio**

## TRIASSIC

- Cidaris* (*Crinocidaris*) de Gregorio, 1930b:29. Type-species: *Crinocidaris unicus* de Gregorio, 1930b: 29, pl. 6: figs. 29–31. [Italy. Fell and Pawson (Durham et al., 1966:U439) place it under "doubtful genera of regular echinoids."]

**Genus *Firmacidaris* Lambert**

## LOWER JURASSIC

- Firmacidaris* Lambert, 1937:45–46. Type-species: *Spherotiaris precincta* Lambert. [Morocco.] (Domerian.)

## UPPER JURASSIC

- F. neumayri* Nisiyama, 1966:168, pl. 30: figs. 1–2. [Japan.] (Probably Callovian to Tithonian.)

**Genus *Protocidaris* de Gregorio**

## PERMIAN

- Cidaris* (*Protocidaris*) de Gregorio, 1930a:34. Type-species: *C. (P.) bencontestus* de Gregorio, 1930a: 34, pl. 12: figs. 20–21. [Italy.]

**Genus *Radiolus* (auctt.)**

## TRIASSIC

- R. adametzi* Jekelius, 1932:49–50, pl. 2: figs. 50a–b, 51a–b. [Rumania.]  
*R. alutensis* Jekelius, 1932:49, pl. 2: fig. 46. [Rumania.]  
*R. antipai* Jekelius, 1932:50–51, pl. 2: fig. 48. [Rumania.]  
*R. boletus* Bather, 1929:239–241, pl. 258: figs. 36a–38. [Timor Island, Indonesia.]  
*R. culter* Bather, 1929:241–243, pl. 258: figs. 39a–41b. [Timor Island, Indonesia.]  
*R. festuca* Bather, 1929:244–245, pl. 258: figs. 46–48b. [Timor Island, Indonesia.]  
*R. fusus* Bather, 1929:245–246, pl. 258: fig. 49. [Timor Island, Indonesia.]  
*R. herbichi* Jekelius, 1932:50, pl. 2: fig. 45. [Rumania.]  
*R. racadai* Jekelius, 1932:49, pl. 2: figs. 47a–c. [Rumania.]  
*R. rostratus* Körner, 1937:163–164, pl. 11: figs. 1a–c. [Peru.]  
*R. segmentatus* Bather, 1929:236–238, pl. 258: figs. 27–29b. [Timor Island, Indonesia.]

## UPPER TRIASSIC

- R. funginus* Wanner, Knipscheer and Schenk, 1952:68–69, pl. 3: figs. 1–4. [Indonesia.]

**Genus *Vernius* de Gregorio**

## PERMIAN

- Cidaris* (*Vernius*) de Gregorio, 1930a:34. Type-species: *C. (V.) elaboratus* de Gregorio, 1930a:34, pl. 12: figs. 18–19. [Italy.]

## Superorder GNATHOSTOMATA Zittel

## Order HOLECTYPOIDA Duncan

## Suborder HOLECTYPINA Duncan

## Family HOLECTYPIDAE Lambert

Genus *Holectypus* Desor

## CRETACEOUS

- H. bullardi* Ikins, 1940:73-74, pl. 6: figs. 2a-c. [Texas, U.S.A.]  
*H. hondoensis* Cannon in Ikins, 1940:74, pl. 6: figs. 3a-c. [Texas, U.S.A.]

## UPPER CRETACEOUS

- H. boschmai* Engel, 1964a:235-236, pl. 14. [Southern Netherlands.] (Senonian.)  
*H. decoratus* Sánchez Roig, 1949:56, pl. 1: figs. 6-7. [Cuba.]  
*H. khamirensis* Clegg, 1933:6-7, fig. 1, pl. 1: figs. 1a-c. [Persia (Iran).]  
*H. larteti* Cotteau var. *major* Blanckenhorn, 1925 [1924]:91-92, pl. 7: figs. 12a-d. [Palestine, Israel.] (Cenomanian.)  
*H. montalvensis* Sánchez Roig, 1953c: 138, pl. 1: figs. 2-3. [Cuba.]  
*H. parvus* Jones, 1938:133, pl. 13: figs. 1, 9-10. [Mexico.] (Indidura Fm.)  
*H. subpentagonalis* Blanckenhorn, 1925 [1924]: 92-93, pl. 7: fig. 13. [Palestine, Israel.] (Upper Cenomanian.)

## LOWER CRETACEOUS

- H. adkinsi* Smiser, 1936:461, pl. 62: figs. 12-15. [Texas, U.S.A.] (Comanchean.)  
*H. almeidae* Rey, 1966:295-300, figs. 1-2, pl. 1: figs. 1-9. [Portugal.] (Hauterivian.)  
*H. engerrandi* Lambert, 1927a:269. [Texas, U.S.A.] (Comanche Series.)  
*H. ovatus* Whitney and Kellum, 1966:259-260, pl. 2: figs. 10-12. [Texas, U.S.A.] (Trinity Group. Aptian.)

## MIDDLE JURASSIC

- H. leuthardti* Lambert, 1926b:118-122, pl. 10: figs. 1-2. [Switzerland.]

## LOWER JURASSIC

- H. hians* Lambert, 1933b:55-56, pl. 1: fig. 10. [North Africa.] (Lower Domerian.)

Genus *Coenholectypus* Pomel

## UPPER CRETACEOUS

- Holectypus* (*Coenholectypus*?) *macrostomus* Engel, 1964a:236-239, figs. 1-2. [Southern Netherlands.] (Senonian.)

## LOWER CRETACEOUS

- H. (C.) nanus* Cooke, 1955:96, pl. 27: figs. 13-19. [Texas, U.S.A.] (Upper Albian.)  
*H. (Coenholectypus) peridoneus* Nisiyama, 1950b: 32-33, pl. 4: figs. 5-7. [Japan.] (Aptian/Albian.)  
*H. (C.) planatus* Roemer *aponensis* Cooke, 1961:6, pl. 2: figs. 4-5. [Venezuela.] (Middle Albian to Vraconian.)

## Family ANORTHOPYGIDAE Wagner and Durham

Genus *Anorthopygus* Cotteau

## UPPER CRETACEOUS

- A. paradoxus* Hawkins, 1935a:51-53, figs. 5-7, pl. 7: figs. 1a-c. [Somaliland, East Africa.] (Upper Senonian.)  
*A. riveroi* Sánchez Roig, 1949:55-56, pl. 5: figs. 1-2. [Cuba.]

## LOWER CRETACEOUS

- A. texanus* Cooke, 1946:219-220, pl. 34: figs. 9-12. [U.S.A.] (Washita Group.)

## Family DISCOIDIDAE Lambert

Genus *Discoidea* Parkinson

## UPPER CRETACEOUS

- D. dubertreti* Keller and Vautrin, 1937:148-150, fig. 47a, pl. 5: figs. 10-12. [Syria.] (Cenomanian.)  
*D. menchikoffi* Lambert, 1937:76-77, pl. 1: figs. 19-22. [Morocco.] (Campanian.)  
*D. neglectus* Lambert, 1931c:96, pl. 3: fig. 35. [Tunis, North Africa.] (Santonian.)  
*D. philocrania* Lambert, 1933a:16, pl. 2: figs. 8-10. [Madagascar, off East Africa.] (Upper Senonian.)

## LOWER CRETACEOUS

- D. rahbergensis* Jeannet, 1933b:370; 1933c:233, 1934d:4-5, pl. 1: figs. 10-18. [Austria.] (Hauterivian/Neocomian.)

Genus *Discoidea* Agassiz

## UPPER CRETACEOUS

- D.?* *dendroides* Blanckenhorn, 1925 [1924]:93, pl. 7: fig. 14. [Palestine, Israel.] (Upper Cenomanian.)  
*D. minima* Agassiz var. *inferior* Maczyńska, 1958: 97-98, 113-114, figs. 26a-b, 27, pl. 9: figs. 1-14. [Poland.] (Upper Turonian.)

## LOWER CRETACEOUS

- D. karakaschi* Renngarten, 1926:91-93, 111-112, pl. 8: figs. 10-11, pl. 9: figs. 9-10. [Southern Russia.] (Upper Hauterivian to Lower Barremian.)

Genus *Camerogalerus* Quenstedt

## UPPER CRETACEOUS

- C. bucaillei* Lambert and Jeannet, 1928b:138. [France.] (Cenomanian.)

Genus *Dixonia* Wagner and Durham

## UPPER CRETACEOUS

- Dixonia* Wagner and Durham, 1964:170. Type-species: *Discoidea dixoni* Forbes in Dixon. [Europe.] (Aptian-Turonian.)

Genus *Lanieria* Duncan

## UPPER CRETACEOUS

- L. uvaldana* Cooke, 1953:10, pl. 3: figs. 1-3. [Texas, U.S.A.] (Campanian.)

## Suborder ECHINONEINA H. L. Clark

## Family ECHINONEIDAE Agassiz and Desor

Genus *Echinoneus* Leske

## RECENT

- E. abruptus* H. L. Clark, 1925a:177, pl. 10: figs. 1-3. [Zanzibar, East Africa.]

## PLIOCENE

- E. burgeri* Grant and Hertlein, 1938b:104-105, pl. 22: figs. 1-3, 6, pl. 23: figs. 6-7. [California, U.S.A.]

## OLIGOCENE

- E. sanchezi* Lambert, 1928c:21, figs. 1-2. [Cuba.]

## UPPER OLIGOCENE

- E. robustus* Sánchez Roig, 1953c:140-141, pl. 3: figs. 1-2. [Cuba.]  
*E. rojasi* Sánchez Roig, 1952c:5-6, pl. 3: figs. 4-5. [Cuba.]  
*E. tenuipetalum* Sánchez Roig, 1952c:5, pl. 1: fig. 5. [Cuba.]

Genus *Duperieria* Roman

## MIDDLE EOCENE

- Duperieria* Roman, 1968a (Abstract):103; 1968b: 120. [Biarritz (Basses-Pyrénées), southwest France.] (Lutetian.)

Genus *Paleoechinoneus* Grant and Hertlein

## UPPER CRETACEOUS

- Paleoechinoneus* Grant and Hertlein, 1938b:105. Type-species: *P. hannai* Grant and Hertlein, 1938b:105-106, pl. 23: figs. 4-5. [Mexico.]



## Family CONULIDAE Lambert

Genus *Comulus* Leske

## CRETACEOUS

- C. mullerriedi* Lambert, 1935c:368, fig. 1. [Mexico.]  
*C. praenuntius* Carter 1928:58. [Lincolnshire, England.] (Upper to middle Chalk, T.g. zone.)

## UPPER CRETACEOUS

- C. campaniformis* Melikov and Endel'man, 1963: 136-138, figs. 1-2. [North Caucasus, U.S.S.R.] (Lower Maestrichtian.)  
*C. castaneus* (Brongniart) var. *plana* Popiel-Barczyk, 1958:61-62, 77-78, fig. 13, pl. 4: fig. 7, pl. 5: figs. 5-12. [Poland.] (Lower Turonian.)  
*C. castaneus* (Brongniart) var. *rhotomagensis* Agassiz in Popiel-Barczyk, 1958: 59-61, 77, fig. 12, pl. 4: figs. 9-10, pl. 5: figs. 1-4. [Poland.] (Lower Turonian.)  
*C. chiapasensis* Lambert, 1936e:3-4, pl. 1: figs. 5-6. [Mexico.] (Senonian (Campanian).)  
*C. chiesai* Airaghi, 1939:256-257, pl. 11: figs. 1-2. [North Africa.] (Maestrichtian.)  
*C. cubensis* Sánchez Roig, 1949:58-59. [Cuba.]  
*C. ellipticus* (Zareczny) var. *rostrata* Popiel-Barczyk, 1958:58, 77, pl. 4: figs. 1-4. [Poland.] (Lower Turonian.)  
*C. matesovi* Moskvina, 1959:251, pl. 3: figs. 2a-c. [Caucasus, U.S.S.R.]  
*C. parravanoii* Checchia-Rispoli, 1932c:383-386, pl. 1: figs. 1a-b, pl. 2: fig. 4. [North Africa.] (Maestrichtian.)  
*C. rhotomagensis* Agassiz var. *elevatus* Chiriac, 1957: 66-68, pl. 2: figs. 2a-c, 3a-c. [Cuza Voda, Pester, Roumania.] (Turonian.)  
*C. sanfilippoi* Checchia-Rispoli, 1930a:79-82, pl. 8: figs. 1-6. [Tripolitania, North Africa.] (Maestrichtian.)  
*C. stephensoni* Cooke, 1953:11, pl. 3: figs. 8-13. [Texas, U.S.A.] (Santonian.)  
*C. subtrotundus* (Mantell) var. *conoidea* Popiel-Barczyk, 1958:53-55, 76, fig. 8, pl. 2: figs. 5-8. [Poland.] (Lower Turonian.)  
*C. subtrotundus* (Mantell) var. *subglobosa* Popiel-Barczyk, 1958:52-53, 75, fig. 7, pl. 2: figs. 1-4. [Poland.] (Lower Turonian.)

- C. tradis* Lees, 1928:659-661, fig. 12, pl. 46: figs. 1a-b. [Arabia.] (Senonian (Campanian).)  
*C. zinai* Airaghi, 1939:256, pl. 10: fig. 9. [North Africa.] (Maestrichtian.)

## LOWER CRETACEOUS

- C. grauensis* Currie, 1943:23-25, figs. 4-7, pl. 3: figs. 1-6. [Ethiopia, Northeast Africa.] (Aptian.)

Genus *Pyrina* Desmoulin

## CRETACEOUS

- P. barthouxi* Lambert, 1931d:192-193, pl. 5: fig. 45. [Egypt.] (Vraconian.)

## UPPER CRETACEOUS

- P. arabica* Clegg, 1933:8, pl. 1: figs. 2a-c. [Arabia.]  
*P. avilensis* Sánchez Roig, 1949:60-61, pl. 42: figs. 9-10. [Cuba.]  
*P. mexicana* Lambert, 1936e:4-5, pl. 1: fig. 1. [Mexico.] (Upper Senonian.)  
*P. mortenseni* Checchia-Rispoli, 1932c:389-391, pl. 2: figs. 1-3, pl. 3: figs. 1-2c. [North Africa.] (Maestrichtian.)  
*P. ovalis* d'Orbigny *plana* Maczyńska, 1962:163-166, 181, figs. 9-12, pl. 5: figs. 1-28. [Poland.] (Cenomanian.)  
*P. parahybensis* Maury, 1930:116-119, pl. 5: fig. 1. [Brazil.] (Campanian.)

## LOWER CRETACEOUS

- P. hancockensis* Whitney and Kellum, 1966:260-261, pl. 2: figs. 1-3. [Texas, U.S.A.] (Trinity Group. (Aptian).)  
*P. whitneyae* Ikins, 1940:74-75, pl. 6: figs. 4a-c. [Texas, U.S.A. Cooke (1946:221) placed this species in *Globator*.] (Comanchean.)

Genus *Galeraster* Cotteau

## MIDDLE EOCENE

- G. terkosensis* Pinar, 1951:38-40, figs. 3, 5-6, pl. 1b: fig. 1. [Turkey.] (Lutetian.)

**Genus *Globator* Agassiz**

## PALEOCENE

- G. ravni* Nielsen, 1926:13-15, 22-23, figs. 6-7.  
[Denmark.] (Danian.)

## UPPER CRETACEOUS

- G. dainellii* Checchia-Rispoli, 1932c:391, pl. 1: figs. 2-2b, pl. 2: figs. 5-5c. [North Africa.] (Maestrichtian.)  
*G. depsangensis* Stefanini, 1928:175-176, pl. 20: figs. 9a-d. [Karakorum, Mongolia.] (Senonian.)  
*G. vaughani* Cooke, 1953:12, pl. 4: figs. 1-4. [Texas, U.S.A.] (Campanian.)

**Genus *Pseudopyrina* Lambert**

In the *Treatise*, Wagner and Durham (Durham et al., 1966:U445) consider *Pseudopyrina* Lambert a subjective synonym of *Globator* Agassiz.

## PALEOCENE

- P. subcircularis* Ravn, 1927:321-322, fig. 2, pl. 1: figs. 5a-c, 6a-c. [Denmark.] (Danian.)  
*P. subovalis* Ravn, 1927:319-321, fig. 1, pl. 1: figs. 4a-d. [Denmark.] (Danian.)

## UPPER CRETACEOUS

- P. darderi* Lambert, 1935b:362, pl. 41: figs. 5-6. [Spain.] (Upper Campanian.)  
*P. hourcqi* Lambert, 1936c:24, pl. 2: figs. 11-12. [Madagascar, off East Africa.] (Upper Campanian.)  
*P. minuta* Smiser, 1935b:42-43, pl. 4: figs. 3a-e. [Belgium.] (Maestrichtian.)

## LOWER CRETACEOUS

- P. orchoterenai* Lambert, 1935d:370, pl. 16: figs. 15-17. [Mexico.] (Barremian.)

**Genus *Pygopyrina* Pomel**

## UPPER CRETACEOUS

- P. pusilla* Stefanini, 1928:173-175, pl. 20: figs. 8a-e. [Karakorum, Mongolia.] (Cenomanian.)

**Family GALERITIDAE Gray****Genus *Echinoconus* d'Orbigny**

In the *Treatise*, Wagner and Durham (Durham et al., 1966:U47) consider *Echinoconus* a synonym of *Galerites* Lamarck.

## UPPER CRETACEOUS

- E. djiddensis* Charles in Lambert and Charles, 1937:378-379, pl. 8: figs. 1-3. [Asia Minor.]

**Family Uncertain****Genus *Chuniaster* Jeannet**

## LOWER CRETACEOUS

- Chuniaster* Jeannet, 1933b:370; 1933c:233; 1934d:6.  
Type-species: *C. rhenanus* Jeannet, 1933b:370; 1933c:233; 1934d:6, fig. 2, pl. 1: figs. 3-6. [Austria.] (Hauterivian.)

**Suborder CONOCLYPINA Haeckel****Family CONOCLYPIDAE Zittel****Genus *Conoclypus* Agassiz**

## MIDDLE MIOCENE

- C. westraliensis* Crespin, 1944:75-76, pl. 1: figs. 1-3. [Australia.]

## EOCENE

- C. boncevi* Gočev, 1933:46-47, pl. 3: figs. 6a-b. [Bulgaria. Gočev referred to *Conoclypeus* Gray (nom. nud.).]  
*C. dallonii* Lambert, 1933d:189-190, fig. 2. [Spain.]

## MIDDLE EOCENE

- C. besairiei* Lambert, 1936a:207, pl. 24: figs. 10-11. [Madagascar, off East Africa. Lambert referred it to *Conoclypeus* Gray (nom. nud.).] (Lutetian.)

## LOWER EOCENE

- C. gotshevi* Sapundzhieva, 1964:30, 58–59, pl. 14: figs. 2a–c. [Bulgaria.] (Ypresian.)
- C. lamberti* Villatte, 1966b:869–870, fig. 3, pl. 34: figs. 1, 4. [Spain.] (Ypresian.)
- C. pilgrimi* Davies, 1926:359–363, pl. 25: figs. 1–6, pl. 26: figs. 1–2. [India. Davies referred it to *Conoclypeus* Gray (nom. nud.).] (Laki Series.)
- C. pinfoldi* Gill, 1953:843–844, pl. 91: figs. 1–3. [Pakistan. Gill referred it to *Conoclypeus* Gray (nom. nud.).]
- C. warthi* Davies, 1926:363–367, pl. 26: figs. 3–6. [India. Davies referred it to *Conoclypeus* Gray (nom. nud.).] (Laki Series.)

## CRETACEOUS

- C. sanctispiritensis* Sánchez Roig, 1949:63, pl. 21: figs. 5–6. [Cuba. Roig referred it to *Conoclypeus* Gray (nom. nud.).]

## Family OLIGOPYGIDAE Duncan

Genus *Oligopygus* de Loriol

## EOCENE

- O. alvarezii* Lambert and Roig in Sánchez Roig, 1926:82, pl. 11: figs. 3–5. [Cuba.]
- O. curasavica* Molengraaff, 1929:77–83, pl. 27: figs. 1–5, pl. 28: figs. 1–5. [Curaçao, Dutch West Indies.]
- O. hypselus* Arnold and H. L. Clark, 1927:28–29, pl. 4: figs. 6–8. [Jamaica.]
- O. jamaicensis* Arnold and H. L. Clark, 1927:28–29, pl. 4: figs. 9–11. [Jamaica.]
- O. ovumserpentis* (Guppy) var. *baldryi* Brighton, 1926b:360–366, figs. 1a–g, pl. 26: figs. e–h. [Peru.] (Atascadero Ls.)
- O. tuberculatus* Sánchez Roig, 1951:56–57, pl. 34: figs. 4–5. [Cuba.]

## UPPER EOCENE

- O. camagueyensis* Sánchez Roig, 1949:162–163. [Cuba. Brodermann (1949:325) says it is Middle–Upper Eocene.]
- O. christi* Jeannet, 1928a:10–11, pl. 1: figs. 16–19,

- pl. 6: fig. 2; 1928b: 220–221. [Venezuela, Trinité Island.] (Priabonian/Jacksonian.)
- O. circularis* Sánchez Roig, 1949:159–160, pl. 29: figs. 2–3. [Cuba. Brodermann (1949:325) says it is Middle–Upper Eocene.]
- O. collignoni* Lambert, 1931e:291, pl. 17: figs. 5–7. [Cuba. Although Sánchez Roig says it is Lower Oligocene, Brodermann (1949:325) places it in the Middle and Upper Eocene.]
- O. colsoni* Lambert, 1931e:290–291, pl. 17: figs. 1–4. [Florida, U.S.A.]
- O. costuliformis* Jeannet, 1928a:9–10, pl. 1: figs. 13–15; 1928b: 220–221. [Venezuela, Trinité Island.] (Priabonian/Jacksonian.)
- O. cubensis* Lambert, 1931e:292. [Cuba. Although Sánchez Roig says it is Lower Oligocene, Brodermann (1949:325) places it in the Middle and Upper Eocene.]
- O. elongatus* Palmer in Sánchez Roig, 1949:166–167, pl. 30: figs. 4–5. [Cuba. Brodermann (1949:325) says it is Middle to Upper Eocene.]
- O. floridanus* Twitchell var. *laevis* Palmer in Sánchez Roig, 1949:166. [Cuba. Brodermann (1949:325) says it is Middle to Upper Eocene.]
- O. herreraii* Sánchez Roig, 1953c: 154–155, pl. 6: figs. 6–7, 9. [Cuba.]
- O. kugleri* Jeannet, 1928a:6–7, pl. 1: figs. 1–7, pl. 6: fig. 1; 1928b:220–221. [Venezuela, Trinité Island.] (Priabonian/Jacksonian.)
- O. mullerriedi* Sánchez Roig, 1949:160–162, pl. 30: figs. 2–3. [Cuba. Brodermann (1949:325) says it is Middle to Upper Eocene.]
- O. nancei* Cooke, 1941b:305–306, figs. 1–3. [Venezuela.] (Upper Santa Anita.)
- O. pinguis* Palmer in Sánchez Roig, 1949:165, pl. 28: figs. 2–3. [Cuba. Brodermann (1949:325) says it is Middle to Upper Eocene.]
- O. putnamii* Israelsky, 1933a:275–276, pl. 18: figs. 1–4. [Mexico.]
- O. rotundus* Cooke, 1942:9, pl. 2: figs. 1–3. [U.S.A.]
- O. sanchezi* Lambert, 1931e:292, pl. 17: fig. 8. [Cuba. Although Sánchez Roig says it is Lower Oligocene, Brodermann (1949:325) places it in the Middle and Upper Eocene.]
- O. sanjosephi* Sánchez Roig, 1953c:155–156, pl. 7: figs. 1–2. [Cuba.]
- O. zyndeli* Jeannet, 1928a:7–8, pl. 1: figs. 8–9; 1928b:220–221. [Venezuela, Trinité Island.] (Priabonian/Jacksonian.)

Genus *Bonaireaster* Pijpers

## UPPER EOCENE

*Bonaireaster* Pijpers, 1933:84–86. Type-species: *B. rutteni* Pijpers, 1933:84–86, pl. 1: figs. 1–6. [Dutch West Indies, Netherland Antilles, off Venezuelan coast.]

Genus *Haimea* Michelin

## UPPER EOCENE

- H. camagueyana* Sánchez Roig, 1949:122–123, pl. 50: figs. 6–7. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:322) says it is Middle to Upper Eocene.]
- H. globulosa* Sánchez Roig, 1949:124. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:322) says it is Middle to Upper Eocene.]
- H. hernandezii* Sánchez Roig, 1952c:11, pl. 6: fig. 5. [Cuba.]
- H. pusilla* Sánchez Roig, 1949:123. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:322) says it is Middle to Upper Eocene.]
- H. truncata* Sánchez Roig, 1949:124–125, pl. 50: figs. 8–9. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:322) says it is Middle to Upper Eocene.]

## MIDDLE EOCENE

- H. cylindrica* Sánchez Roig, 1953c:141, pl. 3: figs. 6–7. [Cuba.]
- H. gigantea* Sánchez Roig, 1953c:143, pl. 3: fig. 11. [Cuba.]
- H. pentagona* Sánchez Roig, 1953c:142–143, pl. 3: figs. 8–9. [Cuba.]
- H. subcylindrica* Sánchez Roig, 1953c:141–142, pl. 3: figs. 4–5. [Cuba.]

Genus *Pauropygus* Arnold and Clark

In the *Treatise*, Wagner and Durham (Durham et al., 1966:U448) consider *Pauropygus* a synonym of *Haimea* Michelin.

## EOCENE

*Pauropygus* Arnold and H. L. Clark, 1927:30–32. Type-species: *Echinolampas ovumserpentis* Guppy. [Jamaica.]

## PALEOGENE

*P. clarki* Lambert, 1931e:294, pl. 17: figs. 10–12. [Cuba.]

## EOCENE

- P. altus* Arnold and H. L. Clark, 1927:33, pl. 4: figs. 15–17. [Jamaica.]
- P. convexus* Arnold and H. L. Clark, 1927:33–34, pl. 4: figs. 18–20. [Jamaica.]
- P. cylindricus* Arnold and H. L. Clark, 1927:34–35, pl. 4: figs. 12–14. [Jamaica.]
- P. elevatus* Arnold and H. L. Clark, 1927:35, pl. 5: figs. 1–3. [Jamaica.]
- P. latus* Arnold and H. L. Clark, 1927:35–36, pl. 5: figs. 4–6. [Jamaica.]
- P. meunieri* Lambert var. *inflata* Lambert in Lambert and Jacquet, 1936:351, pl. 23: figs. 9–10. [Senegal, West Africa.]
- P. meunieri* Lambert var. *latipetala* Lambert in Lambert and Jacquet, 1936:351, pl. 23: fig. 11. [Senegal, West Africa.]
- P. meunieri* Lambert var. *sulcata* Lambert in Lambert and Jacquet, 1936:351, pl. 23: fig. 12. [Senegal, West Africa.]
- P. parvipetalus* Arnold and H. L. Clark, 1927:38–39, pl. 5: figs. 13–15. [Jamaica.]
- P. platypetalus* Arnold and H. L. Clark, 1927:39, pl. 5: figs. 16–18. [Jamaica.]
- P. pyramidoides* Arnold and H. L. Clark, 1927:39–40, pl. 5: figs. 19–21. [Jamaica.]
- P. rotundus* Arnold and H. L. Clark, 1927:40–41, pl. 6: figs. 1–3. [Jamaica.]
- P. rugosus* Arnold and H. L. Clark, 1927:41, pl. 6: figs. 4–6. [Jamaica.]
- P. stenopetalus* Arnold and H. L. Clark, 1927:41–42, pl. 6: figs. 7–9. [Jamaica.]

## UPPER EOCENE

*P. stefaninii* Lambert, 1931e:293–294, fig. 1, pl. 17: fig. 9. [Île Saint-Barthélemy, West Indies.]

**Suborder Uncertain****Family Uncertain****Genus *Amblypygus* L. Agassiz**

## OLIGOCENE

*A. checchiae* Socin, 1942:52–53. [Somaliland, East Africa.]

## UPPER EOCENE

*A. douvillei* Lambert in Sánchez Roig, 1949:126–127, pl. 36: fig. 4. [Cuba.]

## MIDDLE EOCENE

*A. depressus* Sánchez Roig, 1953c:144–145, pl. 3: fig. 10. [Cuba.]

**Genus *Echinogalerus* König**

## UPPER CRETACEOUS

*E. bochotnicensis* Kongiel, 1950:316–317, 323–324, pl. 2: figs. 1–4. [Poland.] (Upper Maestrichtian.)

**Genus *Rhopostoma* Cooke**

## PALEOCENE

*Rhopostoma* Cooke, 1959:26. Type-species: *Ananhytes cruciferus* Morton. [New Jersey, U.S.A.]

**Order CLYPEASTEROIDA A. Agassiz****Suborder CLYPEASTERINA A. Agassiz****Family CLYPEASTERIDAE L. Agassiz****Genus *Clypeaster* Lamarck**

## RECENT

- C. chesheri* Serafy, 1970:663–674, figs. 1, 2c, 2d, 3–7. [Caribbean-Gulf of Mexico.]  
*C. cyclopilus* H. L. Clark, 1941:118–120, pl. 10: fig. 1. [Cuba.]

- C. elongatus* H. L. Clark, 1948:308–309, pl. 48: fig. 30, pl. 49: fig. 31, pl. 50: fig. 33. [Galápagos Islands, Eastern Pacific Ocean.]  
*C. euclastus* H. L. Clark, 1941:120–121, pl. 10: fig. 2. [Cuba.]  
*C. eurychorius* H. L. Clark, 1925c:10–11, pl. 3. [Off Natal Coast, South Africa.]  
*C. euryptetalus* H. L. Clark, 1925d:99, pl. 11: figs. a–c. [Pacific Ocean.]  
*C. micropetalus* H. L. Clark, 1925b:317–318, pl. 33. [Angola, southwest Africa.]  
*C. miniaceus* H. L. Clark, 1925a:150–151, pl. 9: fig. 5. [Macclesfield Bank, Indian Ocean.]  
*C. oliveirai* Krau, 1952:703–705, fig. 1, pls. 1–7. [Tropical Atlantic.]  
*C. oshimensis* Ikeda, 1935a:103–104, pl. 7: figs. 1–5. [Japan.]  
*C. subdepressus* (Gray) *lobulatus* Bernasconi, 1956:35–36, fig. 2. [Brazil.]

## PLEISTOCENE

- C. canimarensis* Palmer in Sánchez Roig, 1949:78. [Cuba.]  
*C. japonicus* Döderlein *alta* Hayasaka and Morishita, P., 1947:44–45, pl. 2: figs. 2a–b. [China.] (Riukiu Ls.)  
*C. japonicus* Döderlein *plana* Hayasaka and Morishita, P., 1947:44, pl. 4: figs. 3a–b. [Hsiaokangshan, Kaohsiungshien, Taiwan, China.] (Riukiu Ls.)

## TERTIARY

- C. eurychorus* Arnold and H. L. Clark, 1934:141, pl. 1: figs. 1–2. [Jamaica.]

## LOWER TERTIARY

- C. chiapasensis* Mullerried, 1951:211–216, figs. 1–3. [Mexico.]

## PLIOCENE

- C. blumenthali* Lambert and Jeannet, 1928a:219. [Malaysia.]  
*C. brevipetalus* Martin in Jeannet and Martin, 1937:246–247, fig. 29. [Java, Indonesia.]

- C. malumbangensis* Israelsky, 1933b:301–302, pl. 1: fig. 1. [Philippine Islands, South Pacific Ocean.]
- C. mombasanus* Currie, 1938:85–86, pl. 8: figs. 9a–c. [Kenya, east Africa.]
- C. okinawa* Cooke, 1954:47, pl. 11: figs. 1–2. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)

## UPPER PLIOCENE

- C. marquerensis* Durham, 1950:41, pl. 43: figs. 2–3. [California, U.S.A.]

## MIDDLE PLIOCENE

- C. revellei* Durham, 1950:41, pl. 43: figs. 1, 7. [California, U.S.A.]

## MIOCENE

- C. abruptus* Sánchez Roig, 1926:49–50, pl. 8: fig. 2, pl. 9: fig. 1. [Cuba.]
- C. aciculatus* Checchia-Rispoli, 1925:31–33, fig. 10, pl. 11: fig. 5. [Southern Italy.]
- C. aegyptiacus* (Wright) Michelin var. *syrticus* Desio, 1934:197–198, fig. 11, pl. 19: fig. 1, pl. 20: fig. 1. [Libya.]
- C. aichinoi* Checchia-Rispoli, 1925:30–31, fig. 9, pl. 8: figs. 2, 2a–b, pl. 14: fig. 3. [Southern Italy.]
- C. annandalei* Koehler *caviventer* Deraniyagala, 1961:154, pl. 5: figs. 5–6. [Ceylon.]
- C. borgesii* Lambert, 1934:247–248, pl. 5: fig. 1. [Angola, southwest Africa.]
- C. cermenatii* Checchia-Rispoli, 1925:29–30, fig. 8, pl. 5: fig. 1, pl. 14: figs. 1, 1a–d. [Southern Italy.]
- C. cerullii* Checchia-Rispoli, 1925:40–42, fig. 15, pl. 1: fig. 3, pl. 5: figs. 3, 3a–c. [Southern Italy.]
- C. cipollae* Checchia-Rispoli, 1925:53–54, fig. 20, pl. 1: figs. 4, 4a, pl. 11: figs. 1, 1a–b, 2–4. [Southern Italy.]
- C. concavus* Cotteau *puertoricanus* Gordon, 1963: 635–636, fig. 2a, pl. 81: figs. 5–6. [Puerto Rico, West Indies.] (Cibao marl.)
- C. cortesei* Checchia-Rispoli, 1925:49–50, pl. 1: figs. 2–2a, pl. 20: figs. 1–3. [Southern Italy.]
- C. defiorei* Checchia-Rispoli, 1940a:13–14, fig. 7, pl. 1: figs. 2–2a. [Italy.]
- C. epianthus* Meznerics, 1941:87–88, pl. 2: fig. 1, pl. 3: fig. 2. [Hungary.]

- C. franchii* Checchia-Rispoli, 1925:43–44, fig. 17, pl. 18: figs. 1, 1a–b. [Southern Italy.]
- C. henjamensis* Clegg, 1933:25–26, pl. 3: figs. 2a–c, 3a. [Persian Gulf.]
- C. julii* Roman, 1952:408, footnote 2. [Antigua Island, British West Indies. For *Anomalanthus gregoryi* Lambert, 1915, not *Clypeaster gregoryi* Lambert, 1913.]
- C. kemencensis* Meznerics, 1941:88, pl. 2: fig. 3, pl. 3: fig. 6. [Hungary.]
- C. kugleri* Jeannet, 1928b:220. [Venezuela.]
- C. lamegoi* Marchesini Santos, 1958:14–15, 20–21, pl. 3: figs. 1–3. [Brazil.]
- C. libycus* Desio, 1929:321–322, fig. 33, pl. 34: figs. 1a–b. [Oasis of Giarabùb, Libya.]
- C. maulwarensis* Clegg, 1933:23–24, pl. 3: figs. 1a–c. [Persian Gulf.]
- C. minihagali* Deraniyagala, 1956:4, pl. 3: figs. 1–2. [Ceylon, Indian Ocean.]
- C. mutellensis* de Loriol var. *italica* Checchia-Rispoli, 1940a:4–5, fig. 1, pl. 2: figs. 1–1a. [Italy.]
- C. paulinoi* Marchesini Santos, 1958:15–16, 21, pl. 4: figs. 1–6. [Brazil.]
- C. portentosus* Desmoulin var. *turriculata* Checchia-Rispoli, 1940a:9–11, fig. 5, pl. 1: fig. 1. [Italy.]
- C. pulchellus* Checchia-Rispoli, 1925:23–24, fig. 6, pl. 13: figs. 3, 3a–b. [Southern Italy.]
- C. saipanicus* Cooke, 1957:362, pl. 119: figs. 14–17. [Mariana Island, West Pacific Ocean.]
- C. tyrrenicus* Checchia-Rispoli, 1925:27–29, fig. 7, pl. 8: figs. 1, 1a–b, pl. 14: fig. 2, pl. 22: figs. 1–1a. [Southern Italy.]
- C. zamboninii* Checchia-Rispoli, 1925:39–40, fig. 14, pl. 3: figs. 3, 4, 4a, 5, pl. 4: figs. 3–4, pl. 23: figs. 4–4a. [Southern Italy.]

## UPPER MIOCENE

- C. crassus* Kier, 1963:30–32, fig. 24, pl. 11: figs. 1–3, table 1. [Florida, U.S.A.] (Tamiami Fm.)
- C. romani* Kier, 1964a:610. [For *C. crassus* Kier, 1963, not L. Agassiz, 1840.]

## MIDDLE MIOCENE

- C. cremai* Checchia-Rispoli, 1929b:26–29, fig. 1, pl. 2: figs. 1–6. [Cyrenaica, Libya.]
- C. egregius* Peron and Gauthier var. *dallonii* Lambert, 1938a:279–283, fig. 1. [North Africa.]

- C. garganicus* Checchia-Rispoli, 1938:46–48, pl. 2: figs. 1–3. [Monte Gargano, Italy.]
- C. insignis* Seguenza var. *distincta* Imbesi Smedile, 1958:42–43, pl. 21: fig. 5, pl. 22: figs. 2–2a. [Southern Italy.] (Tortonian?)
- C. insignis* Seguenza var. *robusta* Imbesi Smedile, 1958:24–25, pl. 8: figs. 2–2a. [Southern Italy.] (Helvetian.)
- C. kugleri* Jeannet, 1928a:19, pl. 2: figs. 4–6. [Venezuela.]
- C. millosevichi* Checchia-Rispoli, 1923:2–5, figs. 1–3, pl. 1: figs. 1, 1a–b. [Sardinia.]
- C. novaresei* Checchia-Rispoli, 1925:15–17, fig. 1, pl. 9: figs. 1, 1a–c, pl. 23: figs. 1–1a. [Southern Italy.] (Helvetian.)
- C. patae* Imbesi Smedile, 1958:27–28, pl. 8: figs. 3, 3a–b, pl. 9: figs. 1, 1a–b. [Southern Italy.] (Helvetian.)
- C. reidii* Wright var. *campanulata* Imbesi Smedile, 1958:39–40, pl. 16: fig. 3. [Southern Italy.] (Tortonian.)
- C. reidii* Wright var. *notha* Imbesi Smedile, 1958:31–32, pl. 11: figs. 2, 2a–b. [Southern Italy.] (Helvetian.)
- C. tariccoi* Checchia-Rispoli, 1923:5–7, fig. 4, pl. 1: figs. 2, 2a–b. [Sardinia.]
- C. tavanii* Imbesi Smedile, 1958:41–42, pl. 20: figs. 2, 2a–c, 3, 3a, pl. 22: figs. 1–1a. [Southern Italy.] (Tortonian.)
- C. trevisani* Imbesi Smedile, 1958:40–41, pl. 17: figs. 2, 2a–b, pl. 19: figs. 1, 1a–b. [Southern Italy.]
- C. tumescens* Imbesi Smedile, 1958:30–31, pl. 9: figs. 2, 2a–c, pl. 11: figs. 1, 1a–b. [Southern Italy.] (Helvetian.)

## LOWER MIOCENE

- C. elevatus* Sánchez Roig, 1949:83–84, pl. 8: figs. 1–3, pl. 10: fig. 1. [Cuba.] (Güines Fm.)
- C. herrerae* Lambert in Sánchez Roig, 1926:49, pl. 8: fig. 1. [Cuba.]
- C. latirostris* Agassiz var. *prolata* Venzo, 1935:227, pl. 18: fig. 6. [Italy.] (Lower Aquitanian.)
- C. palmeri* Sánchez Roig, 1949:85. [Cuba. Although Sánchez Roig says it is Miocene, Brodermann (1949:319) places it in the Lower Miocene.]
- C. pinarensis* Lambert and Sánchez Roig, 1934:22–24, 2 figs. [Cuba. Although Lambert considers it Oligocene, Brodermann (1949:319) says it is Lower Miocene.]

- C. vasatensis* Lambert, 1928b:94–95; 1928e:15, pl. 6: figs. 1–2. [France.] (Langhian/Burdigalian.)

## OLIGOCENE/MIOCENE

- C. dalpiazii* Socin, 1942:50–51. [Somaliland, East Africa.]
- C. moronensis* Sánchez Roig, 1951:41–42, pl. 23: fig. 1, pl. 24: fig. 1. [Cuba.]

## OLIGOCENE

- C. brodermanni* Sánchez Roig, 1949:74–75, pl. 9: figs. 1–3. [Cuba. Brodermann (1949:319) says it is Upper Oligocene.]
- C. marinanus* Jackson, 1937:231, pl. 12: fig. 2, pl. 13: fig. 1. [Mexico.]
- C. ovatus* Palmer in Sánchez Roig, 1949:73–74. [Cuba. Brodermann (1949:319) says it is Upper Oligocene.]
- C. topilanus* Jackson, 1937:232, pl. 13: figs. 2–3. [Mexico.]

## UPPER OLIGOCENE

- C. densus* Sánchez Roig, 1949:90–91, pl. 11: figs. 1–3. [Cuba.]
- C. guillermi* Sánchez Roig, 1952e:119–120, pl. 7: fig. 2. [Cuba.]
- C. guadalupense* Sánchez Roig, 1952e:121–122, pl. 6: fig. 2, pl. 10: fig. 2. [Cuba.]
- C. hernandezii* Sánchez Roig, 1949:94, pl. 50: figs. 1–2. [Cuba.]
- C. maribonensis* Sánchez Roig, 1949:77, pl. 9: figs. 6–7. [Cuba. Although Sánchez Roig says it is Pleistocene, Brodermann (1949:319) places it in the Upper Oligocene.]
- C. pileus* Israelsky, 1924:138, pl. 2: fig. 2, pl. 3: fig. 2. [Mexico.]
- C. planus* Sánchez Roig, 1949:93, pl. 9: figs. 4–5. [Cuba.]
- C. polygonalis* Sánchez Roig, 1949:84–85, pl. 7: figs. 1–2. [Cuba. Although Sánchez Roig says it is Lower Miocene, Brodermann (1949:320) says it is from the Upper Oligocene.]
- C. profundus* Sánchez Roig, 1949:91–92, pl. 6: figs. 1–3. [Cuba.]
- C. sanchezi* Lambert in Sánchez Roig, 1926:48–49, pl. 6: fig. 1, pl. 7: figs. 1–2. [Cuba.]

- C. sandovali* Sánchez Roig, 1949:89–90, pl. 13: figs. 1–2. [Cuba.]  
*C. sanrafaelensis* Palmer in Sánchez Roig, 1949:75. [Cuba.]  
*C. tenuicoronae* Palmer in Sánchez Roig, 1949:87, pl. 14: fig. 3. [Cuba. Although Sánchez Roig says it is Middle Oligocene, Brodermann (1949:320) considers it Upper Oligocene.]

## LOWER OLIGOCENE

- C. lopezriosi* Sánchez Roig, 1953c:139, pl. 1: fig. 6. [Cuba.]

## UPPER EOCENE

- C. calzadai* Via and Padreny, 1970:94–96, fig. 3b. [Can Vilet, Castelltersol, province of Barcelona, Spain.] (Biarritzian-Bartonian.)  
*C. moianensis* Via and Padreny, 1970:90–93, fig. 1. [Moianés, province of Barcelona, Spain.] (Biarritzian-Bartonian.)

**Genus *Anomalanthus* Bell**

In the *Treatise*, Durham (Durham et al., 1966:U462) considers *Anomalanthus* a synonym of *Clypeaster* Lamarck.

## OLIGOCENE

- A. elevatus* Sánchez Roig, 1952e:138–139, pl. 9: figs. 1–2. [Cuba.]  
*A. guadalupense* Sánchez Roig, 1952e:136–137, pl. 7: fig. 1, pl. 15: fig. 2. [Cuba.]  
*A. rojasi* Sánchez Roig, 1952e:138, pl. 14: figs. 1–2, pl. 16: fig. 1. [Cuba.]

## UPPER OLIGOCENE

- A. gigas* Sánchez Roig, 1953a:54, pls. 1–2. [Cuba.]  
*A. oligocenicus* Sánchez Roig, 1949:95, pl. 9: figs. 1–2. [Cuba.]  
*A. zanoletti* Sánchez Roig, 1952e:137, pl. 12: figs. 1–2, pl. 13: fig. 1. [Cuba.]

**Genus *Bunactus* Pomel**

Durham (Durham et al., 1966:U462), in the *Treatise*, considers *Bunactus* an objective synonym of *Clypeaster*.

## LOWER MIOCENE

- B. sanchezi* Lambert *altus* Sánchez Roig, 1952e:127, pl. 3. [Cuba.]  
*B. sanchezi* Lambert *gigantea* Sánchez Roig, 1952e:127–128, pl. 2. [Cuba.]

## OLIGOCENE

- B. aguayoi* Sánchez Roig, 1952e:126, pl. 1: fig. 1. [Cuba.]

## UPPER OLIGOCENE

- B. santanae* Sánchez Roig, 1952e:126–127, pl. 1: fig. 2. [Cuba.]

**Genus *Coronanthus* Lambert**

In the *Treatise*, Durham (Durham et al., 1966:U463) considers *Coronanthus* a subjective synonym of *Clypeaster*.

## RECENT

- Clypeaster* (*Coronanthus*) *pateriformis* Mortensen, 1948a:99. [Philippine Islands.]

## OLIGOCENE

- C. (C.) artilesi* Sánchez Roig, 1952c:4–5, pl. 1: fig. 4. [Cuba.]  
*C. conceptionis* Sánchez Roig, 1952e:128–129, pl. 8: figs. 1–2. [Cuba.]

**Genus *Herrerasia* Sánchez Roig**

Durham (Durham et al., 1966:U463) in the *Treatise* considers *Herrerasia* a subjective synonym of *Clypeaster*.

## LOWER MIOCENE

- Herrerasia* Sánchez Roig, 1952e:135. Type-species: *Clypeaster profundus* Sánchez Roig. [Cuba.]



**Genus *Hesperaster* H. L. Clark**

## RECENT

*Hesperaster* H. L. Clark, 1938:411. Type-species: *H. arachnoides* H. L. Clark, 1938:411–413, pl. 27: fig. 2. [Western Australia.]

## QUATERNARY

*H. crassus* H. L. Clark, 1938:413–414, fig. 35A. [Western Australia.]

**Genus *Orthanthus* Mortensen**

In the *Treatise*, Durham (Durham et al., 1966: U463) considers *Orthanthus* a subjective synonym of *Clypeaster*.

## RECENT

*Clypeaster (Orthanthus) aloysioi* Brito, 1959:1–4, fig. 1, pls. 1–2. [Brazil.]  
*C. (O.) durandi* Cherbonnier, 1959b:370–372, figs. 8a–e, 9a–d. [French Guiana, South America.]

**Genus *Paratinanthus* Lambert and Thiéry**

In the *Treatise*, Durham (Durham et al., 1966: U463) considers *Paratinanthus* a subjective synonym of *Clypeaster*.

## OLIGOCENE

*P. lamberti* Sánchez Roig, 1952e:132–133, pl. 16: fig. 2. [Cuba.]

**Genus *Platyclypeina* Lambert and Thiéry**

In the *Treatise* Durham (Durham et al., 1966: U463) considers *Platyclypeina* a synonym of *Clypeaster* Lamarck.

## MIOCENE

*Clypeaster (Platyclypeina) subcrustulum* Desio, 1929:324–325, fig. 34, pl. 34: fig. 2. [Oasis of Giarabùb, Libya.]

**Genus *Rhaphidoclypus* A. Agassiz**

In the *Treatise*, Durham (Durham et al., 1966: U462) considers *Rhaphidoclypus* A. Agassiz a subjective synonym of *Clypeaster* Lamarck.

## RECENT

*Clypeaster (Rhaphidoclypus) fervens* Koehler var. *hiradicus* Mortensen, 1948d:86–87, pl. 22: figs. 8, 10–11, pl. 65: fig. 12. [Japan.]  
*C. (R.) reticulatus* (Linnaeus) var. *sundaicus* Mortensen, 1948d:77–78, pl. 17: figs. 3–10. [Indo-Pacific.]

## OLIGOCENE

*C. (R.) armadilloensis* Sánchez Roig, 1953c:139–140, pl. 2: figs. 1–2. [Cuba.]

## UPPER OLIGOCENE

*R. costulatus* Sánchez Roig, 1952e:130, pl. 13: fig. 2. [Cuba.]  
*R. rojasi* Sánchez Roig, 1952e:130–131, pl. 5: fig. 2. [Cuba.]

**Genus *Rojasaster* Sánchez Roig**

In the *Treatise*, Durham (Durham et al., 1966: U463) considers *Rojasaster* a subjective synonym of *Clypeaster*.

## UPPER OLIGOCENE

*Rojasaster* Sánchez Roig, 1952e:133–134. Type-species: *Clypeaster hernandezi* Sánchez Roig. [Cuba.]  
*R. camagueyanus* Sánchez Roig, 1952e:134–135, pl. 4: figs. 1–2, pl. 6: fig. 1. [Cuba.]

**Genus *Stolonoclypus* A. Agassiz**

In the *Treatise*, Durham (Durham et al., 1966: U462) considers *Stolonoclypus* a subjective synonym of *Clypeaster* Lamarck.

## RECENT

*Clypeaster (Stolonoclypus) lutkeni* Mortensen, 1948d:121–123, figs. 67–68, pl. 25: figs. 3–5, pl. 27:

fig. 3, pl. 68: figs. 21–22; 1948e:69. [West Indies.]  
*C. (S.) nummus* Mortensen, 1948d:127, pl. 14: figs. 4–6, pl. 16: fig. 3, pl. 68: fig. 12; 1948e:69. [Tahiti, Society Islands, South Pacific Ocean.]

#### MIOCENE

- S. ichnusae* Checchia-Rispoli, 1928:12–17, fig. 3, pl. 2: fig. 4. [Sardinia.]  
*S. incertus* Checchia-Rispoli, 1928:19–20, pl. 2: fig. 3. [Sardinia.]  
*S. pusillus* Checchia-Rispoli, 1928:8–9, fig. 2, pl. 1: figs. 1–1a, pl. 3: fig. 6. [Sardinia.]

#### Genus *Tholeopelta* Lambert and Thiéry

In the *Treatise*, Durham (Durham et al., 1966: U463) considers *Tholeopelta* a subjective synonym of *Clypeaster*.

#### OLIGOCENE

*T. herrerae* Sánchez Roig, 1951:40–41. [Cuba.]

#### Genus *Zanolettia* Sánchez Roig

In the *Treatise*, Durham (Durham et al., 1966: U463) considers *Zanolettia* a subjective synonym of *Clypeaster* Lamarck.

#### OLIGOCENE

*Zanolettia* Sánchez Roig, 1951:39. Type-species: *Z. zanolettii* Sánchez Roig, 1951:40, pl. 23: figs. 2–3. [Cuba.]

#### UPPER OLIGOCENE

*Z. gigantea* Sánchez Roig, 1952c:3–4, pl. 12: figs. 1–2. [Cuba.]

#### Family ARACHNOIDIDAE Duncan

##### Subfamily ARACHNOIDINAE Duncan

#### Genus *Arachnoides* Leske

#### RECENT

*A. tenuis* H. L. Clark, 1938:415–417, pl. 27: figs. 3–4. [Western Australia.]

#### Genus *Fellaster* Durham

#### RECENT/PLIOCENE

*Fellaster* Durham, 1955:125–127, figs. 1f, 8i, 26f, 29b. Type-species: *Arachnoides zelandiae* Gray. [New Zealand.]

#### Subfamily AMMOTROPHINAE Durham

*Ammotrophinae* Durham, 1955:127. Type-genus: *Ammotrophus* H. L. Clark. [South Australia and Tasmania.]

#### Genus *Ammotrophus* H. L. Clark

#### RECENT

*Ammotrophus* H. L. Clark, 1928:471. Type-species: *A. cyclius* H. L. Clark, 1928:471–474, fig. 140. [South Australia.]  
*A. platyterus* H. L. Clark, 1928:474–475, fig. 141. [South Australia.]

#### Genus *Scutellinoides* Durham

#### MIOCENE

*Scutellinoides* Durham, 1955: 128–129. Type-species: *Scutellina patella* Tate. [Australia.]

#### Suborder LAGANINA Mortensen

#### Genus *Pentedium* Kier

#### MIDDLE EOCENE

*Pentedium* Kier, 1967:989–990. Type-species: *P. curator* Kier, 1967: 990–993, figs. 1–3, pl. 129: figs. 3–4, pl. 130: figs. 2–7. [Georgia, U.S.A. Family is not known for this genus.]

#### Family FIBULARIIDAE Gray

#### Genus *Fibularia* Lamarck

Because of confusion concerning the type-species of this genus, some of these species probably belong to *Echinocyamus*.

## RECENT

- F. craniolaris* H. L. Clark, 1928:477. [South Australia.]  
*F. plateia* H. L. Clark, 1928:477-478, fig. 142. [South Australia.]

## TERTIARY

- F. rhedeni* Lambert and Jeannet, 1928a:219. [Malaysia.]

## UPPER TERTIARY

- F. scrobiculata* Lambert, 1931c:85, fig. 5, pl. 3: figs. 27-29. [Algiers, North Africa.]

## MIOCENE

- F. dubarensis* Kier, 1957b:870-871, fig. 7c-e, pl. 104: figs. 9-11. [British Somaliland, East Africa.] (Dubar series.)  
*F. excavata* H. L. Clark, 1945:320-321, pl. 42: figs. d-f. [Fiji, South Pacific Ocean.]  
*F. sandalina* Szörényi, 1953:13, 60, pl. 5: figs. 6-6a. [Ukraine.]

## MIDDLE MIOCENE

- F. sadeki* Lambert, 1931d:209, pl. 5: figs. 25-30. [Egypt.] (Helvetian.)  
*F. sulcata* Lambert, 1928b:92, fig. 8. [France.] (Helvetian.)

## LOWER MIOCENE

- F. junior* Lambert, 1928b:91-92, fig. 7. [France.] (Langhian/Burdigalian.)

## OLIGOCENE

- F. africana* Checchia-Rispoli, 1929a:4-6, pl. 1: figs. 1-4. [Cyrenaica, Libya.]  
*F. cimex* Lambert, 1938a:278-279, pl. 19: figs. 9-11. [Algeria, North Africa.]  
*F. cyrenaica* Checchia-Rispoli, 1929a:6-8, pl. 1: figs. 5-8. [Cyrenaica, Libya.]

## EOCENE

- F. abrardi* Lambert, 1924b:98, fig. 1. [France.]

## UPPER EOCENE

- F. alabamensis* Cooke, 1959:31, pl. 9: figs. 20-22. [Alabama, U.S.A.] (Probably Moodys Branch Fm.)  
*F. minuta* Palmer in Sánchez Roig, 1949:64-65. [Cuba.]

## MIDDLE EOCENE

- F. barbadosensis* Kier, 1966b:4-7, figs. 1(pt.), 2(pt.), 3(pt.), 4, 5a, 6a(pt.), 8, 9, pl. 1: figs. 1-3. [Barbados, Lesser Antilles, West Indies.] (Upper Scotland Fm.)  
*F. farallonensis* Cooke, 1961:16, pl. 4: figs. 1-6. [Trinidad, Caribbean Ocean.]

## CENOZOIC/CAINOZOIC?

- F. jacksoni* Hawkins in Arnold and H. L. Clark, 1927:27-28, 76-77, pl. 4: figs. 3-5, pl. 22: figs. 1-3. [Jamaica, West Indies.]

Genus *Cyamidia* Lambert and Thiéry

## EOCENE

- C. paucipora* Brunnschweiler, 1962:162-164, fig. 1. [Western Australia.] (Cuisian/Lutetian.)

Genus *Echinocyamus* van Phelsum

Because of confusion concerning the type-species of this genus, some of these species may belong to *Fibularia*.

## RECENT

- E. apicatus* Mortensen, 1948d:195-196, figs. 98, 114, pl. 46: figs. 40-45; 1948e:71. [Australia.]  
*E. convergens* Mortensen, 1948d:191-192, fig. 102b, pl. 46: figs. 56-58; 1948e:72. [Providence Island, West Indian Ocean.]  
*E. crenulatus* H. L. Clark, 1925a:164-165, pl. 9: figs. 3-4. [Gambia, northwest Africa.]

- E. grandis* H. L. Clark, 1925a:165–166, pl. 9: figs. 6–8. [Gambia, northwest Africa and Seychelle Islands, Indian Ocean.]
- E. planissimus* H. L. Clark, 1938:422–423, pl. 27: figs. 5–8. [Western Australia.]
- E. terminalis* Grant and Hertlein, 1938b:48–49, figs. 5, 6a–b. [Mexico.]
- E. scaber* de Meijere var. *subconicus* Mortensen, 1948d:188, pl. 46: figs. 34–36; 1948e:71. [Malaysia, Kei Island.]

## PLEISTOCENE

- E. prostratus* Nisiyama, 1968:50–52, figs. 31a–d. [Southern Japan, Ryukyu Island.]

## MIOCENE

- E. chipolanus* Cooke, 1942:29–30, pl. 1: figs. 9–11. [U.S.A.] (Chipola Fm.)
- E. lipparinii* Airaghi, 1939:283–284, pl. 12: figs. 20–23. [North Africa.]
- E. parviporus* Kier, 1964b:1124–1125, figs. 331c–e, pl. 302: figs. 11–15. [Marshall Islands, West Pacific Ocean.]
- E. subpiriformis* Cottreau, 1933:544, pl. 27: figs. 3–3b. [France.]
- E. woodi* Currie, 1930:172, pl. 16: fig. 1. [East Africa.]

## OLIGOCENE

- E. schoelleri* Castex, 1947:31. [France.]

## UPPER OLIGOCENE

- E. avilensis* Lambert, 1931e:298–299, fig. 2. [Cuba. Although Sánchez Roig says it is Tertiary, Brodermann (1949:321) places it in Upper Oligocene of Cuba.]

## EOCENE

- E. jacqueti* Lambert, 1936a:349–350, pl. 21: figs. 16–18. [Senegal, West Africa.]
- E. jeanneti* Lambert, 1931d:200, fig. 11, pl. 5: figs. 31–33. [Egypt.]
- E. rostratus* Lambert, 1929:193, figs. 1–2. [Madagascar, off east coast of Africa.]

## UPPER EOCENE

- E. macneili* Cooke, 1959:32–33, pl. 9: figs. 6–8. [Alabama, U.S.A.] (Probably Moodys Branch Fm.)
- E. petalus* Kier, 1964b:1121–1124, fig. 330, pl. 302: figs. 1–7. [Marshall Islands, West Pacific Ocean.]

## MIDDLE EOCENE

- E. bisexus* Kier, 1968b:12–21, figs. 11–23, pl. 3: figs. 1–6, pl. 4: figs. 1–2. [Georgia, U.S.A.]
- E. caribbeanensis* Kier, 1966b:7–8, figs. 10 (part), 11(part), 12a–d, pl. 1: figs. 4–5. [Barbados, Lesser Antilles, West Indies.] (Upper Scotland Fm.)
- E. basseae* Lambert, 1936c:30, pl. 3: fig. 26. [Madagascar, off East Africa.] (Lower Lutetian.)
- E. maropiensis* Lambert, 1936c:30, pl. 3: figs. 23–25. [Madagascar, off East Africa.] (Lower Lutetian.)

## LOWER EOCENE

- E. cyphostomus* Lambert in Lambert and Jacquet, 1936:349, pl. 21: figs. 12–15. [Senegal, West Africa.]
- E. cyphostomus* Lambert var. *sulcata* Lambert in Lambert and Jacquet, 1936:349, pl. 21: fig. 15. [Senegal, West Africa.]
- E. planus* Lambert, 1933a:32–33, pl. 2: figs. 13–15. [Madagascar, off East Africa.]

## UPPER CRETACEOUS

- E. kamrupensis* Das Gupta, 1929:26, pl. 2: fig. 3. [India.] (Upper Senonian.)

Genus *Eoscutum* Lambert

## EOCENE

- Scutellina* (*Eoscutum*) *orientalis* Vialov and Manouilenko, 1939:151–153, 167–169, pl. 1: figs. 1, 2a–d, 3–4, 6. [U.S.S.R.] (Alai stage.)
- S.* (*E.*) *orientalis* Vialov and Manouilenko var. *elongata* Vialov and Manouilenko, 1939:160–161, 174–175, pl. 2: figs. 4a–d. [U.S.S.R.] (Alai stage.)
- S.* (*E.*) *orientalis* Vialov and Manouilenko var. *kalizkyi* Vialov and Manouilenko, 1939:155–156, 170–171, pl. 1: fig. 5. [U.S.S.R.] (Alai stage.)

- S. (E.) orientalis* Vialov and Manouilenko var. *naliwkini* Vialov and Manouilenko, 1939:156-157, 171, pl. 2: figs. 5a-c. [U.S.S.R.] (Alai stage.)
- S. (E.) orientalis* Vialov and Manouilenko var. *pentagona* Vialov and Manouilenko, 1939:158-160, 172-174, pl. 2: figs. 2a-c, 3. [U.S.S.R.] (Alai stage.)
- S. (E.) orientalis* Vialov and Manouilenko var. *rotula* Vialov and Manouilenko, 1939:157-158, 171-172, pl. 1: figs. 7a-c, 8, pl. 2: figs. 1a-c. [U.S.S.R.] (Alai stage.)

### Genus *Fibulariella* Mortensen

#### RECENT

- Fibularia (Fibulariella)* Mortensen, 1948d:219; 1948e:72. Type-species: *Fibularia acuta* Yoshizawa. [Indo-Pacific Ocean.]
- F. (F.) angulipora* Mortensen, 1948d:224-225, fig. 121, pl. 46: figs. 1-4, 12-14; 1948e:72. [Gulf of Siam.]
- F. (F.) oblonga* Gray var. *ambonensis* Mortensen, 1948d:223-224, pl. 46: figs. 10-11. [Malaysia and south, west, and north Australia.]

### Genus *Lenicyamidia* Brunnschweiler

#### EOCENE

- Lenicyamidia* Brunnschweiler, 1962:165. Type-species: *L. compta* Brunnschweiler, 1962:165-169, figs. 2-3. [Western Australia.] (Cuisian/Lutetian.)

### Genus *Leniechinus* Kier

#### MIDDLE EOCENE

- Leniechinus* Kier, 1968b:4-5. Type-species: *L. hericki* Kier, 1968b:5-12, figs. 1-3, 5-10, pl. 1: figs. 3-4, pl. 2: figs. 1-5. [Georgia, U.S.A.]

### Genus *Lenita* Desor

#### EOCENE

- L. israelskyi* Grant and Hertlein, 1938b:49, pl. 8: figs. 6-7, 9. [U.S.A.]

### Genus *Porpitella* Pomel

#### MIDDLE EOCENE

- P. micra* H. L. Clark, 1937a:248-249, figs. 1-3. [Alabama, U.S.A.] (Claiborne Fm.)
- P. paleocaenica* Villatte, 1966a:518-519, pl. 1: figs. 1-3. [France.]

### Genus *Scutellina* L. Agassiz

#### EOCENE

- S. balcanica* Gočev, 1933:47, pl. 7: figs. 13-17. [Bulgaria.]
- S. conica* Gočev, 1933:48, pl. 7: figs. 18a-d. [Bulgaria.]
- S. transsylvanica* Barbu and Dragoș, 1957:647-649, pl. 2: figs. 3, 6, 8, 9, pl. 3: figs. 10-14, 18-19. [Rumania.] (Upper Lutetian.)
- S. transsylvanica* Barbu and Dragoș var. *oblonga* Barbu and Dragoș, 1957:650-653, pl. 2: figs. 2, 5. [Rumania.] (Upper Lutetian.)
- S. transsylvanica* Barbu and Dragoș var. *orbiculata* Barbu and Dragoș, 1957: 649-650, pl. 2: figs. 4, 7, pl. 3: figs. 15, 17, 20-21. [Rumania.] (Upper Lutetian.)

### Genus *Tarphypygus* Arnold and H. L. Clark

#### EOCENE

- Tarphypygus* Arnold and H. L. Clark, 1927:42. Type-species: *T. ellipticus* Arnold and H. L. Clark, 1927:43, pl. 6: figs. 10-12. [Jamaica. West Indies.]
- T. notabilis* Arnold and H. L. Clark, 1927:43-44, pl. 6: figs. 13-15. [Jamaica, West Indies.]

#### UPPER EOCENE

- T. palmeri* Sánchez Roig, 1949:170. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:328) considers it Middle to Upper Eocene.]
- T. sulcatus* Sánchez Roig, 1949:170-171, pl. 50: fig. 5. [Cuba. Although Sánchez Roig says it is Upper Oligocene, Brodermann (1949:328) considers it Middle to Upper Eocene.]

Genus *Togocyamus* Oppenheim

## PALEOCENE

- T. alloiteaui* Roman and Gorodiski, 1959:51-52, pl. 3: figs. 20-23. [Senegal.]

## Family LAGANIDAE A. Agassiz

Genus *Laganum* Link

## NEOGENE

- L. boschi* Martin in Jeannet and Martin, 1937: 253-254, figs. 35, 36a-b. [Dutch East Indies, West Pacific Ocean.]

## RECENT

- L. boninense* Mortensen, 1948d:328-330, fig. 162b, pl. 55: figs. 1-3, pl. 70: fig. 12; 1948e:70. [Bonin Island (Japan), West Pacific Ocean.]
- L. centrale* H. L. Clark, 1925a:155-156, pl. 9: figs. 1-2. [Tongatabu Reefs, Tonga Archipelago, South Pacific Ocean.]
- L. depressum* L. Agassiz var. *alienum* Mortensen, 1948d:322-323, pl. 53: figs. 31-32; 1948e:69. [Indo-Pacific.]
- L. depressum* L. Agassiz var. *tenue* Mortensen, 1948d:319-322, pl. 53: figs. 3-4, 9; 1948e:69. [Indo-Pacific.]
- L. dickersoni* Israelsky var. *keiense* Mortensen, 1948d:327-328, fig. 199c, pl. 53: figs. 2-5, pl. 70: figs. 11, 13; 1948e:70. [Malaysia.]
- L. dyscritum* H. L. Clark, 1932:216-217, pl. 1: figs. 5-9. [Low Isles, Tuamotu Archipelago, South Pacific Ocean.]
- L. fudsiyama* Döderlein var. *africanum* Mortensen, 1948d: 342-344, pl. 55: fig. 10; 1948e:70. [Natal, eastern Union of South Africa.]
- L. fudsiyama* Döderlein var. *indicum* Mortensen, 1948b:8; 1948d:342, pl. 55: figs. 5-6, 11-13; 1948e:70. [Mauritius, Indian Ocean.]
- L. joubini* Koehler var. *formosum* Mortensen, 1948d:331, pl. 55: fig. 4; 1948e:70. [Mauritius, Indian Ocean.]
- L. mirable* H. L. Clark, 1925a:158-159, pl. 9: figs. 9-10. [Madras, southeast India.]

## PLIOCENE

- L. dickersoni* Israelsky, 1933b:302-303, pl. 2: figs. 1-9. [Philippine Islands, South Pacific Ocean.]
- L. equaepetala* Israelsky, 1933b:303-304, pl. 2: figs. 10-12. [Philippine Islands.]
- L. fudsiyama* Döderlein *untensis* Cooke, 1954:48, pl. 9: figs. 7-11. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)

## MIOCENE

- L. pachycraspedum* Nisiyama, 1968:73-74, pl. 15: figs. 9-10, 17. [Japan.] (Shirahama (Susaki) Fm.)

## LOWER MIOCENE

- L. fudsiyama* Döderlein *takunagai* Otuka, 1938: 18-19, pl. 2: figs. 22-23. [Japan.] (Siroyama Ss.)

## OLIGOCENE

- L. leptum* Jackson, 1937:233, pl. 13: fig. 4. [Mexico.]

## UPPER EOCENE

- L. cubanum* Weisbord, 1934:48-50, pl. 4: figs. 8-10. [Cuba.]
- L. lamberti* Sánchez Roig, 1949:108-109, pl. 16: fig. 2. [Cuba. Although Sánchez Roig says it is Upper Oligocene, Brodermann (1949:323) considers it Middle to Upper Eocene.]
- L. ocalanum* Cooke, 1942:23-24, pl. 2: figs. 7-10. [U.S.A.]
- L. santanae* Sánchez Roig, 1949:109-110, pl. 15: figs. 1-2. [Cuba. Although Sánchez Roig says it is Upper Oligocene, Brodermann (1949:323) considers it Middle to Upper Eocene.]

Genus *Jacksonaster* Lambert and Thiéry

## PLIOCENE

- J. gauthieri* Lambert, 1931d:214-215, pl. 6: figs. 2-4. [Red Sea.]
- J. herklotzi* Jeannet in Jeannet and Martin, 1937: 262-263, figs. 40a-c, 41-42. [Java, Indonesia.]

## OLIGOCENE

- J. acunai* Lambert in Sánchez Roig, 1926:59-60, pl. 13: figs. 6-7, 9. [Cuba.]  
*J. acunai* Lambert var. *nuevitasensis* Lambert in Sánchez Roig, 1926:60, pl. 13: fig. 9. [Cuba.]  
*J. sanchezi* Lambert in Sánchez Roig, 1926:61, pl. 13: figs. 4-5, 8. [Cuba.]  
*J. torrei* Lambert in Sánchez Roig, 1926:61-64, pl. 12: figs. 1-3. [Cuba.]

## UPPER EOCENE

- J. depressus* Sánchez Roig, 1949:108, pl. 16: figs. 6-7. [Cuba.]  
*J. remediensis* Sánchez Roig, 1949:106-107, pl. 16: fig. 5. [Cuba.]

## MIDDLE EOCENE

- J. sandiegensis* Sánchez Roig, 1949:107-108, pl. 16: figs. 3-4. [Cuba.]

Genus *Peronella* Gray

## RECENT

- P. japonica* Mortensen, 1948d:277-280, figs. 177c, 178c, 180b, 184a, 187a, pl. 49: figs. 1, 6-12; 1948e:71. [Japan.]  
*P. keiensis* Mortensen, 1948d:291-292, figs. 163e, 182c, 187e, pl. 49: figs. 2-5, pl. 72: figs. 7-8, 14; 1948e:71. [Malaysia.]  
*P. lesueuri* (Valenciennes) var. *gadiana* Mortensen, 1948d:270-272, fig. 177b, pl. 50: figs. 4-5, 9-10; 1948e:70. [Malaysia.]  
*P. oblonga* Mortensen, 1948d:299-300, fig. 188c, pl. 51: figs. 33-34; 1948e:71. [India.]  
*P. orbicularis* (Leske) var. *concaua* Mortensen, 1948d:289-291, fig. 170c, pl. 51: figs. 26-28; 1948e:71. [Malaysia.]

## PLIOCENE

- P. kamimura* Cooke, 1954:47-48, pl. 11: figs. 5-6. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)  
*P. merrilli* Israelsky, 1933b:304-305, pl. 2: figs. 17-19. [Philippine Islands.]

- P. motobu* Cooke, 1954:48, pl. 10: figs. 1-2. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)  
*P. ragayana* Israelsky, 1933b:305, pl. 2: figs. 13-16. [Philippine Islands.]

## EOCENE

- P. kloosi* Molengraaff, 1929:76-77, pl. 26: figs. 3-4. [Curaçao, Dutch West Indies.]  
*P. lamberti* Mortensen, 1927b:73, pl. 4: figs. 4-7; 1948d:256. [Spain. New name for *Echinodiscus rostratus* Lambert, 1927b.]  
*P. martini* Molengraaff, 1929:73-76, pl. 25: figs. 2-3, pl. 26: figs. 1-2. [Curaçao, Dutch West Indies.]

## UPPER EOCENE

- P. caribbeana* Weisbord, 1934:52-53, pl. 5: figs. 7-9. [Cuba.]  
*P. cubae* Weisbord, 1934:53-54, pl. 5: figs. 4-6. [Cuba.]  
*P. quinquenodulata* Weisbord, 1934:50-52, pl. 5: figs. 1-3. [Cuba.]

Genus *Peronellites* Hayasaka and Morishita

## MIOCENE

- Peronella* (*Peronellites*) Hayasaka and Morishita, A., 1947:101. Type-species: *Peronella* (*Peronellites*) *ovalis* Hayasaka and Morishita, A., 1947:101-103, pl. 8: figs. 3, 5. [China.]

Genus *Rumphia* Desor

## UPPER OLIGOCENE

- R. elegans* Sánchez Roig, 1949:100-101, pl. 16: fig. 1. [Cuba.]

Genus *Sismondia* Desor

## MIDDLE MIOCENE

- S. naganoensis* Morishita, 1953:218-219, fig. 2, pl. 1: figs. 1-2. [Japan.] (Lower part of Aoki Fm.)

## LOWER MIOCENE

*S. javana* Gerth *ladronensis* Nisiyama, 1968:59–61, pl. 13: figs. 6, 8–10, 13–16, pl. 14: figs. 3–8. [Sai-pan Island, Mariana Islands, Western Pacific.] (Donny-Tagpochau Fm., Aquitanian.)

## OLIGOCENE

*S. convexa* Nisiyama, 1937:41–45, figs. 1–13. [Bonin Islands, Japan.]

## EOCENE

*S. crustula* Hawkins in Arnold and H. L. Clark, 1927:28, 78–79, pl. 22: figs. 4–5. [Jamaica, West Indies.]

## LOWER EOCENE

*S. barabirensis* Lambert, 1931d:200–201, pl. 5: figs. 34–36. [Egypt.]

## Family NEOLAGANIDAE Durham

Neolaganidae Durham, 1954:680. Type-genus: *Neolaganum* Durham. [Gulf of Mexico.]

Genus *Neolaganum* Durham

## UPPER EOCENE

*Neolaganum* Durham, 1954:680–681. Type-species: *Laganum archerensis* Twitchell. [Gulf of Mexico.]  
*N. durhami* Cooke, 1959:52, pl. 21: figs. 5–7. [Florida, U.S.A.] (Inglis and Ocala Ls.)

Genus *Cubanaster* Sánchez Roig

## UPPER EOCENE

*Cubanaster* Sánchez Roig, 1952a:3. Type-species: *Jacksonaster torrei* Lambert in Sánchez Roig, 1926. [Cuba.]  
*C. acunai* Lambert *gigas* Sánchez Roig, 1952a:5, pl. 3: fig. 1. [Cuba.]  
*C. camagueyensis* Sánchez Roig, 1952a:4, pl. 2: figs. 3–4. [Cuba.]

*C. herrerae* Sánchez Roig, 1952a:6–7, pl. 1: fig. 7, pl. 3: fig. 2. [Cuba.]  
*C. planipetalum* Sánchez Roig, 1952a:7–8, pl. 1: figs. 2, 5. [Cuba.]  
*C. santanae* Sánchez Roig, 1952a:8, pl. 1: figs. 3–4. [Cuba.]

Genus *Durhamella* Kier

## MIDDLE EOCENE

*Durhamella* Kier, 1968b:23–24. Type-species: *Laganum ocalanum* Cooke. [Georgia, U.S.A.]

Genus *Neorumphia* Durham

## UPPER OLIGOCENE

*Neorumphia* Durham, 1954:681–682. Type-species: *Rumphia elegans* Sánchez Roig. [Cuba.]

Genus *Sanchezella* Durham

## EOCENE

*Sanchezella* Durham, 1954:682. Type-species: *Jacksonaster sanchezi* Lambert. [West Indies.]

Genus *Weisbordella* Durham

## UPPER EOCENE

*Weisbordella* Durham, 1954:682. Type-species: *Peronella caribbeana* Weisbord. [Gulf of Mexico.]

Genus *Wythella* Durham

## UPPER EOCENE

*Wythella* Durham, 1954:682–684. Type-species: *Laganum eldridgei* Twitchell. [Gulf of Mexico.]

## Suborder SCUTELLINA Haeckel

## Family SCUTELLIDAE Gray

Genus *Scutella* Lamarck

## MIOCENE

*S. almerai* Lambert *parva* Szörényi, 1953:19, 67, pl. 1: figs. 6, 6a–b. [Ukraine.]



- S. checchiai* Desio, 1929:305–307, fig. 28, pl. 33: figs. 1a–b, pl. 38: figs. 2a–b. [Oasis of Giarabùb, Libya.]
- S. checchiai* Desio var. *occidentalis* Desio, 1934:193, fig. 8, pl. 17: fig. 1. [Libya.]
- S. eichwaldi* Szörényi, 1953:19–20, 67–68, pl. 1: fig. 5. [Ukraine.]
- S. floridana* Cooke, 1942:19, pl. 4: figs. 9–10. [U.S.A.] (Hawthorn Fm.)
- S. isidis* Fourtau var. *bardiensis* Desio, 1929:304–305, pl. 39: figs. 1a–b. [Oasis of Giarabùb, Libya.] (Vindobonian.)
- S. robecchibricchettii* Desio, 1929:309–311, fig. 30, pl. 38: figs. 1a–b. [Oasis of Giarabùb, Libya.]
- S. stefaninii* Desio, 1929:307–309, fig. 29, pl. 40: figs. 3a–b. [Oasis of Giarabùb, Libya.]
- S. stefaninii* Desio var. *syrtica* Desio, 1934:194–195, fig. 10, pl. 18: figs. 1a–b. [Libya.]
- S. szoerenyiae* Sándor, 1969:255, pl. 1: figs. 1–2, pl. 2: fig. 1. [Hungary.]

## MIDDLE MIOCENE

- S. media* Schaffer, 1962:151–153, figs. 1d–e, pl. 17: figs. 2–3. [Austria.] (Upper Helvetian.)
- S. montagnai* Mirigliano, 1957:9–12, fig. 1, pl. 1: figs. 1–2. [Italy.]
- S. multiconcava* Schaffer, 1962:154–156, fig. 10, pl. 17: figs. 4–5, pl. 18: figs. 1–5. [Austria.] (Lower Tortonian.)
- S. styriaca* Schaffer, 1962:153–154, fig. 9, pl. 19: fig. 1. [Austria.] (Middle Tortonian.)
- S. vindobonensis* Laube *planata* Kókay in Somos and Kókay, 1960:341–342, 346, pl. 16: figs. 1–2, pl. 17: fig. 3. [Hungary.]
- S. vindobonensis* Laube *secunda* Schaffer, 1962:157–159, fig. 11, pl. 19: figs. 2, 4. [Austria.] (Middle to upper Tortonian.)

## LOWER MIOCENE

- S. hobartha* Kühn, 1936:40–43, figs. 2–3, pl. 1: figs. 1–3. [Austria.] (Burdigalian/Aquitanian.)
- S. pseudosubrotundaeformis* Venzo, 1933:208–209; 1935:223–225, pl. 18: fig. 4. [Italy. New name for *S. subrotundaeformis* Oppenheim, 1903, not Schaueroth, 1865.] ( Chattian to Aquitanian.)
- S. scurellensis* Venzo, 1933:209; 1935:226–227, pl. 18: figs. 1–2, pl. 19: fig. 4. [Italy.]

## PALEOGENE

- S. niponica* Nagao, 1928:16, pl. 1: figs. 5–6. [Japan.]

## OLIGOCENE

- S. chiesai* Airaghi, 1939:268, pl. 12: figs. 3–6. [North Africa.]
- S. habanensis* Sánchez Roig, 1949:113–114, pl. 33: fig. 2. [Cuba. Brodermann (1949:328) says it is Lower to Upper Oligocene.]

## UPPER EOCENE

- S. camagueyana* Weisbord, 1934:56–57, pl. 5: figs. 13–14. [Cuba.]
- S. cubae* Weisbord, 1934:55–56, pl. 5: figs. 10–12. [Cuba.]

Genus *Parascutella* Durham

## LOWER MIOCENE

- Parascutella* Durham, 1953a:349–350. Type-species: *Scutella leognanensis* Lambert. [France.] (Burdigalian.)

## Family PROTOSCUTELLIDAE Durham

- Protoscutellidae Durham, 1955:153. Type-genus: *Protoscutella* Stefanini. [Gulf of Mexico and the Atlantic coast of North America.]

Genus *Protoscutella* Stefanini

## MIDDLE EOCENE

- P. pentagonium* Cooke, 1942:18, pl. 2: figs. 4–6. [U.S.A.]

Genus *Periarchus* Conrad

## UPPER EOCENE

- P. kawi* Cooke, 1942:16, pl. 1: figs. 12–14. [U.S.A.]
- P. lyelli* Conrad *floridanus* Fischer, 1951:60–64, figs. 4–5, pl. 1: figs. 1–4. [U.S.A.]
- P. rutriformis* Paulson, 1958:362–365, figs. 5–6, 8. [North Carolina, U.S.A.]

## Family EOSCUTELLIDAE Durham

Eoscutellidae Durham, 1955:156. Type-genus: *Eoscutella* Grant and Hertlein. [California and Oregon, U.S.A.]

Genus *Eoscutella* Grant and Hertlein

## UPPER EOCENE

*Eoscutella* Grant and Hertlein, 1938b:54. Type-species: *Scutella coosensis* Kew. [North America.]

## Family DENDRASTERIDAE Lambert

Genus *Dendraster* L. Agassiz

## RECENT

*D. excentricus* (Eschscholtz) var. *elongatus* H. L. Clark, 1935:122-123. [California, U.S.A. (off the Coronados Islands).]

*D. laevis* H. L. Clark, 1948:312-313, pl. 50: figs. 34-36. [California, U.S.A., and northwest Mexico.]

*D. mexicanus* H. L. Clark, 1948:313, 317, pl. 51: figs. 37-39. [Lower California, U.S.A.]

*D. rugosus* H. L. Clark, 1948:318-319, pl. 52: figs. 40-41. [Lower California Bay, San Sebastian Vizcaino, U.S.A.]

## QUATERNARY

*D. vizcainoensis* Grant and Hertlein, 1938b:90, pl. 8: figs. 1-3. [California, U.S.A.]

## UPPER PLEISTOCENE

*D. vizcainoensis* Grant and Hertlein *similaris* Grant and Hertlein, 1938b: 90-91, pl. 27: figs. 1-2, pl. 28: fig. 8. [California, U.S.A.] (Palos Verdes Fm.)

## PLIOCENE

*D. gibbsii* Rémond var. *mirus* Stewart in Woodring, Stewart, and Richards, 1940: 66, 80, pl. 44: figs. 4-5. [California, U.S.A.] (Siphonalia zone, Etchegoin Fm.)

## UPPER PLIOCENE

*D. casseli* Grant and Hertlein, 1938b: 81-82, pl. 1: figs. 1-3, pl. 30: fig. 3. [California, U.S.A.]

## MIDDLE PLIOCENE

*D. granti* Durham, 1950:41-42, pl. 47: figs. 3-12. [California, U.S.A.]

## LOWER PLIOCENE

*D. elsmerensis* Durham, 1949:50-62, fig. 2f, pl. 1: figs. 2-4, 6. [U.S.A.]

Genus *Orchoporus* Lambert and Thiéry

In the *Treatise*, Durham (Durham et al., 1966: U481) considers *Orchoporus* a synonym of *Merriamaster* Lambert.

## MIDDLE MIOCENE

*O. lamberti* Grant and Hertlein, 1938b:52, pl. 9: figs. 3, 6. [California, U.S.A.]

Genus *Scaphechinus* A. Agassiz

## MIOCENE

*Echinarachnius* (*Scaphechinus*) *ravitalis* Nisiyama, 1951:3-5, figs. 1-3. [Japan.] (Taya Fm.)

Genus *Anorthoscutum* Lambert and Thiéry

In the *Treatise*, Durham (Durham et al., 1966: U481) considers *Anorthoscutum* a synonym of *Scutellaster* Cragin.

## UPPER PLIOCENE

*A. oregonense* Clark *quaylei* Grant and Hertlein, 1938b:93, pl. 21: fig. 13, pl. 30: fig. 11. [California, U.S.A. For *Dendraster* (*Calaster*) *oregonensis gibbosus* Kew.] (Upper Wildcat Fm.)

## Family ECHINARACHNIIDAE Lambert

Genus *Echinarachnius* Leske

In the *Treatise*, Durham (Durham et al., 1966: U482) considers *Echinarachnius* Leske a subjective synonym of *Arachnoides* Leske.

## RECENT

- E. brevis* Ikeda, 1936a:1231–1233, figs. 1a–c. [Japan.]  
*E. griseus* Mortensen, 1927a:195–200, figs. 1a, 2, pl. 1: figs. 1–4. [Japan.]

## NEOGENE

- Echinarachnius (Echinarachnius) laganolithinus* Nisiyama, 1940–1941:830–832, fig. 12, pl. 44: fig. 21, pl. 45: figs. 1–9. [Japan.] (Sibikawa Ss. beds.)  
*E. (E.) microthyroides* Nisiyama, 1940–1941:828–829, fig. 11, pl. 44: figs. 17–20. [Japan.] (Suenomayama beds.)

## LOWER PLEISTOCENE

- E. parma* (Lamarck) var. *sakhalinensis* Argamakova, 1934:25, 40, pl. 1: fig. 3. [U.S.S.R.]

## PLIOCENE

- E. alaskensis* Durham, 1957:628–629, pl. 72: figs. 6, 8. [Alaska, U.S.A.]  
*E. humilis* Nisiyama, 1968:100–101, pl. 16: fig. 8. [Japan.] (Chôkai Fm.)

## MIDDLE PLIOCENE

- E. naganoensis* Morishita, 1953:220–222, fig. 3a, pl. 1: fig. 4. [Japan.] (Upper part of Ogawa Fm.)

## MIOCENE

- E. gabpii* Rémond *kleinPELLI* Grant and Hertlein, 1938b:60. [U.S.A. New name for *Scutella gabpii* var. *tenuis* Kew, 1915.] (Lower San Pablo Grp.)  
*E. rumoensis* Hayasaka and Shibata, 1952:82–85, figs. 1a–c. [Japan.] (Tôgeshita Fm.)  
*E. subtumidus* Nisiyama and Hashimoto, 1950:39–42, figs. 1–3. [Japan.]

## UPPER MIOCENE

- E. kewi* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 2: fig. 3 and plate explanation. [California, U.S.A.]

## MIDDLE MIOCENE

- E. blancoensis* (Kew) var. *etheringtoni* Weaver, 1942:6, pl. 3: figs. 7–8. [U.S.A.] (Astoria Fm.)  
*E. minoensis* Morishita, 1955:229–231, pl. 11: figs. 5–7. [Japan. New name for *Sismondia naganoensis* Morishita, 1953, invalidated.]

Genus *Allaster* Nisiyama

## OLIGOCENE/MIOCENE

- Allaster* Nisiyama, 1968:127–128. Type-species: *A. rotundatus* Nisiyama, 1968:128–129, pl. 17: fig. 5, pl. 18: figs. 1, 4. [Japan.] (Takinoue Fm.)

Genus *Astrodapsis* Conrad

## UPPER PLIOCENE

- A. israelskyi* Jordon and Hertlein, 1926:424–425, pl. 27: figs. 4, 6. [Cedros Island, off lower California, U.S.A.]  
*A. kewi* Jordan and Hertlein, 1926:425–426, pl. 27: figs. 2–3. [Cedros Island, off lower California, U.S.A.]

## PLIOCENE/MIOCENE

- A. nipponicus* Nisiyama, 1948:602–604, pl. 88: figs. 1–6, 8, 10–13. [Japan.]

## UPPER MIOCENE

- A. altus* Kew var. *antiquus* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 15 and plate explanation. [California, U.S.A.] (Mid-middle Cierbo.)  
*A. armstrongi* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 14 and plate explanation. [California, U.S.A.] (Mid-middle Cierbo.)  
*A. auguri* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 4 and plate explanation. [California, U.S.A.] (Early upper Briones.)

- A. blakei* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 7 and plate explanation. [California, U.S.A.] (Early lower Neroly.)
- A. brewerianus* Rémond var. *bitterensis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 9 and plate explanation. [California, U.S.A.] (Upper Briones; doubtful lower and early middle Cierbo.)
- A. brewerianus* Rémond var. *emergens* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 11 and plate explanation. [California, U.S.A.] (Early lower Cierbo.)
- A. brewerianus* Rémond var. *junior* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 18 and plate explanation. [California, U.S.A.] (Late middle Cierbo.)
- A. cierboensis* Kew var. *branchensis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: figs. 12–12a and plate explanation. [California, U.S.A.] (Cierbo; late upper Briones.)
- A. clarki* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 1 and plate explanation. [California, U.S.A.] (Late upper Cierbo.)
- A. cutleri* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 1 and plate explanation. [California, U.S.A.] (Early upper Cierbo.)
- A. davisii* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 3 and plate explanation. [California, U.S.A.] (Late upper Cierbo.)
- A. desaixii* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 5 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)
- A. diabloensis* Kew var. *superior* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 16 and plate explanation. [California, U.S.A.] (Late middle Cierbo.)
- A. elevatum* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 12 1/2 and plate explanation. [California, U.S.A.] (Early lower Cierbo.)
- A. englishi* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 7 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)
- A. galei* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 8 and plate explanation. [California, U.S.A.] (Upper Briones to lower to middle Cierbo.)
- A. goudkoffi* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 6 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)
- A. gregersenii* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 4 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)
- A. gregersenii* Grant and Eaton var. *fragilis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 2 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)
- A. gregersenii* Grant and Eaton var. *varians* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 8 and plate explanation. [California, U.S.A.] (Middle and late upper Cierbo.)
- A. hertleini* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 9: fig. 2 and plate explanation. [California, U.S.A.] (Later lower Neroly.)
- A. hootsi* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: figs. 11a–b and plate explanation [California, U.S.A.] (Early lower Cierbo.)
- A. isabellae* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 2 and plate explanation. [California, U.S.A.] (Late upper Cierbo.)
- A. johnsoni* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 3 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)
- A. johnsoni* Grant and Eaton *simile* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 3a and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)
- A. major* Kew var. *parens* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 6 and plate explanation. [California, U.S.A.] (Early lower Neroly.)
- A. ovalis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 17 and plate explanation. [California, U.S.A.] (Late middle Cierbo.)
- A. perrini* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 8: fig. 6 and plate explanation. [California, U.S.A.] (Middle to lower Neroly.)
- A. quaylei* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 9 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)
- A. reedi* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: figs. 13–13a and plate explanation. [California, U.S.A.] (Mid-middle Cierbo.)
- A. salinasensis* Richards, 1935:61–63, pl. 7: figs. 2a–c. [California U.S.A.]
- A. schencki* Grant and Hertlein, 1938b:76, fig. 8. [California, U.S.A.]
- A. schencki* Grant and Hertlein var. *mirandaensis* Grant and Eaton in Eaton, Grant, and Allen,

1941: pl. 9: figs. 4–4a and plate explanation. [California, U.S.A.] (Early upper Neroly.)

*A. schucherti* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 6 and plate explanation. [California, U.S.A.] (Upper Briones.)

*A. schucherti* Grant and Eaton var. *affinis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 10 and plate explanation. [California, U.S.A.] (Late upper Briones.)

*A. woodringi* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 8: fig. 1 and plate explanation. [California, U.S.A.] (Early lower Neroly.)

### Genus *Kewia* Nisiyama

#### MIOCENE/OLIGOCENE

*K. minuta* Shibata, 1960:308–310, figs. 3–4, pl. 35: figs. 3–9. [Japan.]

#### MIDDLE MIOCENE

*K. ugoensis* Shibata, 1960:307–308, figs. 1–2, pl. 35: figs. 1–2. [Japan.]

#### OLIGOCENE

*Echinarachnius (Kewia) elongatus* Nisiyama, 1940–1941:824–826, fig. 9, pl. 44: figs. 13–16. [Japan.] (Japanese Saghalien.)

*E. (K.) parvus* Nisiyama, 1940–1941:822–823, pl. 44: figs. 7–12. [Japan.] (Japanese Saghalien.)

### Genus *Nipponaster* Durham

#### PLIOCENE/MIOCENE

*Nipponaster* Durham, 1952:844–846, fig. 1d. Type-species: *Astrodropsis nipponicus* Nisiyama. [Japan.]

### Genus *Pseudoastrodropsis* Durham

In the *Treatise*, Durham (Durham et al., 1966: U482) considers *Pseudoastrodropsis* Durham an objective synonym of *Nipponaster* Durham.

#### PLIOCENE/MIOCENE

*Pseudoastrodropsis* Durham, 1953b:756. Type-species: *Astrodropsis nipponicus* Nisiyama. [Japan.]

New name for *Nipponaster* Durham, 1952, not *Nipponaster* Lambert, 1920.]

#### LOWER PLIOCENE

*P. nitidiusculus* Nisiyama, 1968:126–127, pl. 16: figs. 15–17, pl. 17: figs. 2–3, 6. [Japan.]

#### MIOCENE

*P. intermedius* Nisiyama, 1968:125–126, pl. 16: figs. 9–12, 14. [Japan.] (Kawabata Fm.)

### Genus *Remondella* Durham

#### LOWER PLIOCENE

*Remondella* Durham, 1955:168–169, figs. 14e, 36a, 36c. Type-species: *Clypeaster gabbii* Rémond. [California, U.S.A.]

### Genus *Tenuirachnius* Durham

#### UPPER MIOCENE

*Tenuirachnius* Durham, 1955:169, fig. 36b. Type-species: *Scutella gabbii* Rémond *tenuis* Kew = *Echinarachnius gabbii* (Rémond) *kleinpelli* Grant and Hertlein. Not *E. tenuis* Yoshiwara. [California, U.S.A.]

### Genus *Vaquerosella* Durham

#### LOWER MIOCENE

*Vaquerosella* Durham, 1955:166–167, figs. 16c, 21e, 21f, 36d, 36e. Type-species: *Scutella andersoni* Twitchell. [Baja California, U.S.A.]

### Family MONOPHORASTERIDAE Lahille

#### Genus *Karlaster* Santos

#### MIOCENE

*Karlaster* Marchesini Santos, 1958:16–18, 21–22. Type-species: *Karlaster pirabensis* Marchesini Santos, 1958:18–19, pl. 5: figs. 1–3. [Brazil.]

## Family MELLITIDAE Stefanini

Genus *Mellita* L. Agassiz

## RECENT

- M. grantii* Mortensen, 1948d:428-429, fig. 244c, pl. 15: fig. 3, pl. 59: figs. 4-5; 1948e:72. [Gulf of California, U.S.A./Mexico.]
- M. lata* H. L. Clark, 1940a:437-439, pl. 60: fig. 1, pl. 61: fig. 1, pl. 62: figs. 1-2. [Eastern Pacific Ocean.]
- M. latiambulacra* H. L. Clark, 1940a:439-442, pl. 62: figs. 3-6. [Caribbean Ocean.]
- M. notabilis* H. L. Clark, 1947:77-78. [West coast of Central America.]
- M. platensis* Bernasconi, 1947:117-118. [Argentina.]
- M. quinquiesperforata* (Leske) *tenuis* H. L. Clark, 1940a:442-444, pl. 60: fig. 2, pl. 61: fig. 2. [Florida, U.S.A.]

## UPPER PLEISTOCENE

- M. kanakoffi* Durham, 1961b:5-7, fig. 1d, pl. 2: fig. 2. [California, U.S.A.]

## UPPER MIOCENE

- M. acclinensis* Kier, 1963:40-45, figs. 36-41, pl. 15: figs. 1-3, tables 3-4. [Florida, U.S.A.] (Tamiami Fm.)

Genus *Encope* L. Agassiz

## RECENT

- E. cocoli* H. L. Clark, 1948:330, pl. 56: figs. 48-49. [Cocos Island, Costa Rica.]
- E. ecuadorensis* H. L. Clark, 1948:333-334, pl. 59: figs. 54-55. [Ecuador.]
- E. fragilis* H. L. Clark, 1948:335-336, pl. 60: figs. 56-57. [Mexico, Petatlan Bay to Tenacatita Bay.]
- E. insularis* H. L. Clark, 1948:336-337, pl. 61: figs. 58-59. [Mexico, Socorro and Clarion Islands.] (Revilla Gigedo Gp.)
- E. irregularis* H. L. Clark, 1948:332-333, pl. 58: figs. 52-53. [Colombia to Costa Rica.]
- E. laevis* H. L. Clark, 1948:327-328, pl. 54: fig. 45, pl. 55: fig. 46. [Nicaragua.]

- E. micropora* L. Agassiz var. *borealis* A. H. Clark, 1946:6-7, pl. 4. [Pacific Ocean.]
- E. micropora* L. Agassiz *galapagensis* A. H. Clark, 1946:7. [Pacific Ocean.]
- E. perspectiva* L. Agassiz *jonesi* A. H. Clark, 1946: 7-8. [Pacific Ocean.]
- E. wetmorei* A. H. Clark, 1946:2-5, pls. 1-2 (upper fig.) [Pacific Ocean.]

## RECENT/PLEISTOCENE

- E. arcensis* Durham, 1950:44, pl. 37: fig. 8, pl. 40: figs. 5-6. [California, U.S.A.]

## PLEISTOCENE

- E. grandis* Agassiz *inezana* Durham, 1950:45-46, pl. 37: fig. 10, pl. 38: fig. 4. [California, U.S.A.]

## PLEISTOCENE/LATE MIOCENE

- E. michelini* Agassiz *imperfurata* Kier, 1963:33-36, figs. 25-30, pl. 5: fig. 1, pl. 6: figs. 3-4, table 2. [Florida, U.S.A.]

## TERTIARY

- E. homala* Arnold and H. L. Clark, 1934:142-143, pl. 2: fig. 1. [Manchester Parish, Jamaica.]

## PLIOCENE

- E. macrophora* Ravenel *tamiamiensis* Mansfield, 1932:48, pl. 17: fig. 8. [U.S.A.]
- E. secoensis* Cooke, 1961:18-19, pl. 8: fig. 1, pl. 9: figs. 1-2. [Venezuela.]

## UPPER PLIOCENE

- E. carmenensis* Durham, 1950:44-45, pl. 37: fig. 5, pl. 40: fig. 4, pl. 44: fig. 1. [California, U.S.A.]
- E. shepherdii* Durham, 1950:48, pl. 37: fig. 11, pl. 38: fig. 6, pl. 40: fig. 2. [California, U.S.A.]

## MIDDLE PLIOCENE

- E. angelensis* Durham, 1950:43-44, pl. 37: fig. 15, pl. 42: figs. 1, 3-4, 10. [California, U.S.A.]

## LOWER PLIOCENE

- E. chaneyi* Durham, 1950:45, pl. 37: fig. 7, pl. 43: fig. 6. [California, U.S.A.]  
*E. loretoensis* Durham, 1950:46, pl. 37: fig. 4, pl. 41: figs. 1, 4-5. [California, U.S.A.]  
*E. scrippsae* Durham, 1950:47-48, pl. 37: fig. 14, pl. 41: figs. 2, 3, 6, pl. 42: figs. 2, 5-8. [California, U.S.A.]  
*E. sverdrupi* Durham, 1950:48-49, pl. 37: fig. 6, pl. 39: figs. 4, 6. [California, U.S.A.]

## MIOCENE

- E. kugleri* Jeannet, 1928b:220. [Venezuela?]  
*E. peruviana* Brighton, 1926a:61-69, figs. 1-7, pls. 3-5. [Peru.]  
*E. vonderschmitti* Jeannet, 1928b:220. [Locality?]  
*E. wiedenmayeri* Jeannet, 1928b:220. [Venezuela.]

## MIDDLE MIOCENE

- E. kugleri* Jeannet, 1928a:23-26, figs. 4-6, pl. 3: figs. 5-6. [Venezuela.] (Serie de Capadare.)  
*E. vonderschmitti* Jeannet, 1928a:26-28, figs. 7-8, pl. 3: figs. 7-8. [Venezuela.] (Serie de Capadare, couches d'Ojo de Agua.)  
*E. wiedenmayeri* Jeannet, 1928a:20-23, fig. 3, pl. 3: figs. 1-4. [Venezuela.] (Couches d'Ojo de Agua, base des Calcaires de Capadare.)

Genus *Mellitella* Duncan

## PLIOCENE/MIOCENE

- Encope* (*Melitella* [sic]) *falconensis* Cooke, 1961: 19-20, pl. 8: figs. 2-4. [Venezuela.]

## Family ASTRICLYPEIDAE Stefanini

Genus *Astriclypeus* Verrill

## MIOCENE

- A. manni* Verrill *minoensis* Morishita, 1952:113, pl. 11: fig. 1. [Japan.] (Shukunohora Ss.)

## LOWER MIOCENE

- A. manni* Verrill *ambigenus* Nisiyama, 1935:140-145, figs. 3a-c, pl. 8: figs. 1-3. [Japan.]

Genus *Amphiope* L. Agassiz

## MIOCENE

- A. bioculata* Desmoulin var. *bentivegnae* Desio, 1934:191, fig. 7, pl. 16: figs. 1a-b. [Libya.]  
*A. bioculata* Desmoulin var. *pelatensis* Fabre, 1933: 33-36. [France.]

## MIDDLE MIOCENE

- A. dallonii* Lambert, 1931c:88-89, pl. 3: fig. 30. [Algiers, North Africa.] (Helvetian.)  
*A. labriei* Lambert, 1928b:113-114; 1928e: pl. 8: fig. 3. [France.] (Helvetian.)  
*A. nuragica* Comaschi Caria, 1956:186, pl. 1. [Sardinia, Mediterranean Sea.] (Helvetian.)

Genus *Echinodiscus* Leske

## RECENT

- E. auritus* Leske var. *siamensis* Mortensen, 1948d: 404-406, pl. 56: figs. 1-3, pl. 71: figs. 1, 4-5, 10-11, 13-14, 17, 22; 1948e:72. [Indo-Pacific.]

## MIOCENE/OLIGOCENE

- E. transiens* Nisiyama, 1968:133-134, pl. 17: fig. 1. [Japan.] (Yamaga Fm.)

## LOWER TERTIARY

- E. ginauensis* Clegg, 1933:10-11, pl. 1: figs. 4a-4b. [Persian Gulf.]

## PALEOGENE

- E. chikuzenensis* Nagao, 1928:17, pl. 1: figs. 15-17. [Japan.]

Genus *Tretodiscus* Pomel

In the *Treatise*, Durham (Durham et al., 1966: U489) considers *Tretodiscus* a synonym of *Echinodiscus* Leske.

## MIOCENE

- T. fuchsi* (Fourtau) var. *giarabubensis* Desio, 1929: 315-316, fig. 31, pl. 38: figs. 3-4. [Oasis of Giarabùb, Libya.]

Family **ABERTELLIDAE** Durham

Abertellidae Durham, 1955:177. Type-genus: *Abertella* Durham. [Caribbean and Atlantic coast of North America.]

Genus *Abertella* Durham

## MIOCENE

*Abertella* Durham, 1953a:350–351. Type-species: *Scutella aberti* Conrad. [U.S.A.]

## MIDDLE MIOCENE

*A. kewi* Durham, 1957:627–628, fig. 2, pl. 72: figs. 1, 7. [Mexico.]

## LOWER MIOCENE

*A. palmeri* Durham, 1957:626–627, pl. 72: figs. 4, 9–10. [Guatemala.]

Family **SCUTASTERIDAE** Durham

Scutasteridae Durham, 1955:178. Type-genus: *Scutaster* Pack. [California, U.S.A.]

Genus *Scutaster* Pack

## LOWER MIOCENE

*S. vaquerosensis* Loel and Corey, 1932:179–180, pl. 5: figs. 1a–b, 3. [California, U.S.A.] (Vaqueros Fm.)

*S. vaquerosensis* Loel and Corey var. *kewi* Loel and Corey, 1932:180, pl. 5: fig. 4. [California, U.S.A.] (Vaqueros Fm.)

Suborder **ROTULINA** DurhamFamily **ROTULIDAE** GrayGenus *Rotula* Schumacher

## QUATERNARY/PLIOCENE

*R. orbiculus* (Linné) *angolensis* Gonçalves and Roman, 1963:101–106, pls. 1–5. [Angola, southwest Africa.]

Genus *Rotuloidea* Etheridge

## LOWER MIOCENE

*R. vieirai* Dartevelle, 1953:103–107, figs. 22–23, pl. 6: fig. 4, pl. 7: figs. 1–2, pl. 16: figs. 1–8. [Luanda, northwest Angola, southwest Africa.] (Upper Burdigalian.)

Suborder **Uncertain**Family **Uncertain**Genus *Runa* L. Agassiz

## UPPER PLIOCENE

*R. paromaica* Argamakova, 1934:29, 41–42, fig. 14, pl. 1: fig. 7. [U.S.S.R.]

Superorder **ATELOSTOMATA** ZittelOrder **CASSIDULOIDA** ClausOrder **GALEROPYGOIDA** Mintz

GALEROPYGOIDA Mintz, 1968:1287–1288.

Family **GALEROPYGIDAE** LambertGenus *Galeropygus* Cotteau

## MIDDLE JURASSIC

*G. marcoui* Desor var. *recincta* Mercier, 1935:29–30. [France.] (Lower Bajocian.)

*G. welschi* Lambert, 1935a:529–530, pl. 26: figs. 10–11. [France.] (Bathonian.)

Genus *Hyboclypus* L. Agassiz

## MIDDLE JURASSIC

*H. schlumbergeri* Lambert, 1935a:531. [France, Alsace.] (Bathonian.)



**Genus *Laticlypus* Szörényi**

UPPER JURASSIC

*Laticlypus* Szörényi, 1966:446–447. Type-species:  
*L. giganteus* Szörényi, 1966:448–449, figs. 1–5.  
[Hungary.] (Oxfordian or upper Dogger.)

**Genus *Stegopygus* Devriès and Alcaydé**

UPPER CRETACEOUS

*Stegopygus* Devriès and Alcaydé, 1966:21–25. Type-species: *S. langeensis* Devriès, 1966:21–25, pls. 1–2. [France.] (Cenomanian.)

**Family CLYPEIDAE Lambert****Genus *Clypeus* Leske**

UPPER JURASSIC

*C. rostellus* Currie, 1925:64–65, pl. 10: figs. 3a–c.  
[Somaliland, East Africa.] (Corallian.)  
*C. wylliei* Currie, 1925:63–64, pl. 10: figs. 1a–c, 2.  
[Somaliland, East Africa.] (Bathonian.)

**Genus *Crotoclypeus* Pomel**

In the *Treatise*, Kier (Durham et al., 1966:U499) considers *Crotoclypeus* Pomel a subjective synonym of *Clypeus* Leske.

JURASSIC

*C. cottreai* Besairie and Lambert in Lambert, 1933a:11. [Madagascar, off East African coast.]

**Genus *Dactyloclypeus* Maccagno**

In the *Treatise*, Kier (Durham et al., 1966:U499) considers *Dactyloclypeus* a subjective synonym of *Clypeus* Leske.

JURASSIC

*Clitopygus* (*Dactyloclypeus*) Maccagno, 1947b:126–129, pl. 1: figs. 11, 11a–b. Type-species: *Clypeus wylliei* Currie. [North Africa.]

**Genus *Bothryopneustes* Fourtau**

MIDDLE JURASSIC

*B. besairiei* Besairie, 1936:128, pl. 8: figs. 10–12. Madagascar, off East Africa coast.] (Upper Bathonian.)  
*B. galhauseni* Lambert, 1933b:58–59, pl. 2: figs. 17–19. [North Africa.] (Bathonian.)

**Genus *Clypeobrissus* Currie**

In the *Treatise*, Kier (Durham et al., 1966:U499) considers *Clypeobrissus* Currie a subjective synonym of *Bothryopneustes* Fourtau.

JURASSIC

*Clypeobrissus* Currie, 1925:69. (Bathonian.) Type-species: *C. somaliensis* Currie, 1925:69–70, fig. 13, pl. 10: figs. 6a–c, 7. [Somaliland, East Africa.] (Corallian.) [Bathonian according to Currie (1927:411).]

**Genus *Pseudopygurus* Lambert**

UPPER JURASSIC

*P. ambroggii* Petitot, 1954:83–86, figs. 1–2, pl. 1: figs. 1–7. [Morocco.] (Oxfordian.)

MIDDLE JURASSIC

*P. hathirae* Parnes, 1961:217–222, fig. 1, pl. 1: figs. 1–6. [Israel.] (Middle Callovian.)

**Genus *Pygurus* L. Agassiz**

UPPER CRETACEOUS

*P. lampassiformis* Tzankov, 1934:204–205, 218–219, pl. 2: fig. 2. [Bulgaria.] (Santonian.)

MIDDLE JURASSIC

*P. cottreai* Besairie, 1930:196–197, pl. 9: figs. 2–2a. [Madagascar, off East Africa.] (Callovian.)

## MIDDLE JURASSIC

- P. depressus* Agassiz var. *somaliensis* Currie, 1925: 65–67, fig. 11, pl. 10: figs. 4a–c. [Somaliland, East Africa.] (Bathonian/Callovian.)
- P. smelliei* Currie, 1925:67–69, fig. 12, pl. 10: figs. 5a–c. [Somaliland, East Africa. According to Currie (1927:411) this species is from the Bathonian.]

Subgenus *Pygurus* (*Pygurus*)

## LOWER CRETACEOUS

- Pygurus* (*Pygurus*) *complanatus* Tanaka, 1965: 128–129, pl. 15: figs. 1a–c, 2a–c. [Japan.]

Genus *Echinopygus* d'Orbigny

In the *Treatise*, Kier (Durham et al., 1966:U499) considers *Echinopygus* a subjective synonym of *Pygurus* (*Pygurus*).

## UPPER CRETACEOUS

- Pygurus* (*Echinopygus*) *tinocoi* Beurlen, 1966: 458–459, fig. 2, pl. 1: fig.2. [Brazil.] (Cenomanian.)

## LOWER CRETACEOUS

- Pygurus* (*Echinopygus*) *jagueyanus* Cooke, 1955:98, pl. 23: figs. 5–9. [Colombia.] (Upper Albanian.)

## JURASSIC

- E. checchiae* Maccagno, 1947b:134–136, fig. 4c, pl. 1: figs. 14, 14a–b. [Somaliland, East Africa.]

## Family NUCLEOLITIDAE L. Agassiz and Desor

Genus *Nucleolites* Lamarck

## EOCENE

- N. bakalovi* Gočev, 1933:48–49, pl. 7: figs. 8–12. [Bulgaria.]

## CRETACEOUS

- N. wilderae* Ikins, 1940:76, pl. 6: figs. 5a–c. [Texas, U.S.A.]

## UPPER CRETACEOUS

- N. simpaticus* Sánchez Roig, 1952d:51–52, pl. 17: figs. 7–8. [Cuba.] (Senonian.)
- N. tornacensis* Smiser, 1935b:50, pl. 4: figs. 11a–d. [Belgium.] (Cenomanian.)

Genus *Clitopygus* Pomel

In the *Treatise*, Kier (Durham et al., 1966:U501) considers *Clitopygus* a subjective synonym of *Nucleolites* Lamarck.

## UPPER CRETACEOUS

- C. cantrainei* Smiser, 1935b:51, pl. 4: figs. 12a–d. [Belgium.] (Cenomanian.)

## MIDDLE JURASSIC

- C. basseae* Lambert, 1936c:22, pl. 4: figs. 14–16. [Madagascar, off East Africa.] (Callovian.)
- C. moutieri* Mercier, 1932:233–234, pl. 10: figs. 7a–b. [France.] (Upper Bathonian.)

Genus *Echinobrissus* Gray

In the *Treatise*, Kier (Durham et al., 1966:U501) considers *Echinobrissus* an objective synonym of *Nucleolites*.

## UPPER CRETACEOUS

- E. chirakhanensis* Chiplonker, 1939:237–238, pl. 25: figs. 3a–b. [India.] (Cenomanian.)
- E. cremai* Checchia-Rispoli, 1921:24–25, pl. 8: figs. 10–13. [Tripoli, Libya.] (Senonian.)
- E. cubensis* Weisbord, 1934:27–28, pl. 2: figs. 1–3. [Cuba.]
- E. franchii* Checchia-Rispoli, 1921:25–26, pl. 8: figs. 14–17, pl. 9: fig. 4. [Tripoli, Libya.] (Senonian.)
- E. hierosolymitanus* Blanckenhorn, 1925 [1924]:95, pl. 7: figs. 19–23. [Palestine, Israel.] (Turonian/Santonian.)
- E. malwaensis* Chiplonker, 1939:236–237, pl. 25: figs. 1a–b. [India.] (Cenomanian.)
- E. rajnathi* Chiplonker, 1939:238–240, pl. 25: figs. 2a–b. [India.] (Cenomanian.)

## MIDDLE JURASSIC

- E. pilensis* Jesionek-Szymańska, 1963:349–351, 402, 413, text-pl. 5: figs. 1–5, pl. 3: figs. 3a–d. [Poland.] (Upper Bathonian.)

Genus *Catopygus* L. Agassiz

## UPPER EOCENE

- C. riveroi* Sánchez Roig, 1952d:50–51, pl. 17: figs. 5–6. [Cuba.]

## CRETACEOUS

- C. jeanneti* Lambert, 1931e:303, pl. 17: figs. 19–23. [Cuba.]

## UPPER CRETACEOUS

- C. conformis* Desor var. *conoideus* Tzankov, 1934: 203, 218, pl. 1: fig. 12. [Bulgaria.] (Maestrichtian/Upper Campanian.)
- C. inflatus* Regnéll, 1955:22–27, pl. 1: figs. 1a–d. [Sweden.] (Maestrichtian?)
- C. irregularis* Smiser, 1935b:56–57, pl. 5: figs. 7a–i. [Belgium and Holland.] (Maestrichtian?)
- C. mississippiensis* Cooke, 1953:15–16, pl. 5: figs. 3–6. [Mississippi, U.S.A.] (Upper Maestrichtian.)
- C. rodriguezii* Lambert and Roig in Sánchez Roig, 1926:71, pl. 10: figs. 1–3. [Cuba.] (Senonian.)
- C. subcircularis* Smiser, 1935b:56, pl. 5: figs. 6a–d. [Belgium and Holland.] (Maestrichtian?)
- C. zinai* Airaghi, 1939:259, pl. 11: figs. 3–4. [North Africa.] (Maestrichtian?)

Genus *Clypeopygus* d'Orbigny

## UPPER CRETACEOUS

- C. bulgaricus* Tzankov, 1934:200–201, 217–218, pl. 2: figs. 1a–b. [Bulgaria.] (Maestrichtian.)
- C. dallonii* Lambert, 1935c:360–361, pl. 16: figs. 4–6. [Algeria, North Africa.] (Santonian.)
- C. damujiensis* Sánchez Roig, 1952d:49–50, pl. 17: fig. 3. [Cuba.] (Senonian.)
- C. habanensis* Weisbord, 1934:32–34, pl. 3: figs. 1–3. [Cuba.]

Genus *Oolopygus* d'Orbigny

## UPPER CRETACEOUS

- O. convexus* Smiser, 1935b:59, pl. 6: figs. 1a–d. [Belgium.] (Maestrichtian.)
- Catopygus (Oolopygus) gonzalezi* Sánchez Roig, 1953c:145–146, pl. 4: figs. 1–2. [Cuba.]
- O. jandrainensis* Smiser, 1935b:58, pl. 5: figs. 9a–d. [Belgium.] (Maestrichtian.)

Genus *Phyllobrissus* Cotteau

## UPPER CRETACEOUS

- P. oblongus* Smiser, 1935b:53, pl. 5: figs. 2a–f. [Belgium.] (Maestrichtian.)

## LOWER CRETACEOUS

- P. artesianus* Hawkins, 1926:189–191, fig. 23. [England.] (Aptian.)
- P. zulianus* Cooke, 1961:6–7, pl. 1: figs. 10–12. [Venezuela.] (Aptian.)

Genus *Plagiochasma* Pomel

## LOWER CRETACEOUS

- P. coxwellense* Melville, 1952:2–5, fig. 1, pl. 1: figs. 1a–c. [England.] (Upper Aptian.)

Genus *Trematopygus* d'Orbigny

In the *Treatise*, Kier (Durham et al., 1966:U505) considers *Trematopygus* an objective synonym of *Plagiochasma* Pomel.

## UPPER CRETACEOUS

- T. novaki* Zázvorka, 1952:1–4, 3 figs., pl. 1. [Bohemia.] (Lower Turonian.)

Genus *Pygorhynchus* L. Agassiz

## UPPER OLIGOCENE

- P. riveroi* Sánchez Roig, 1949:125–126, pl. 17: fig. 1. [Cuba.]

## UPPER EOCENE

- Cassidulus (Pygorhynchus) berryi* Kellum, 1926:15, pl. 1: figs. 4–7. [North Carolina, U.S.A.]
- C. (P.) carolinensis* Twitchell var. *cravenensis* Kellum, 1926:15, pl. 1: figs. 1–3. [North Carolina, U.S.A.]
- C. (P.) sabistonensis* Kellum, 1931:51. [North Carolina, U.S.A. New name for *C. berryi* Kellum, 1926, not Twitchell, 1915.]

## UPPER CRETACEOUS

- P. conicus* Smiser, 1935b:48, pl. 4: figs. 9a–d. [Belgium.] (Maestrichtian.)
- P. ovalis* Smiser, 1935b:47, pl. 4: figs. 7a–d. [Belgium.] (Maestrichtian.)

Genus *Botriopygus* d'Orbigny

In the *Treatise*, Kier (Durham et al., 1966:U506) considers *Botriopygus* an objective synonym of *Pygorhynchus* L. Agassiz.

## UPPER CRETACEOUS

- B. jesumariae* Sánchez Roig, 1949:129–130. [Cuba.] (Senonian.)
- B. lamberti* Checchia-Rispoli, 1933b:17–18, pl. 2: figs. 13–16. [North Africa.] (Maestrichtian.)
- B. millosevichi* Checchia-Rispoli, 1933b:14–16, pl. 2: figs. 8–12. [North Africa.] (Maestrichtian.)
- B. vinassai* Serra, 1935:123–124, pl. 5: figs. 1, 1a–c. [Tripoli, North Africa.] (Maestrichtian.)

## LOWER CRETACEOUS

- B. royoii* Lambert, 1935f:524, pl. 58: figs. 8–9. [Spain.] (Aptian.)

## Family ECHINOLAMPADIDAE Gray

Genus *Echinolampas* Gray

## RECENT

- E. alexandri* de Loriol var. *forcipulata* Mortensen, 1948c:286, fig. 272b, pl. 3: figs. 8–9, pl. 4: fig. 10, pl. 14: figs. 10–12. [Indian Ocean.]

- E. alexandri* de Loriol var. *sibogae* Mortensen, 1948c:285–286, fig. 268c, 270b, 272c, pl. 14: figs. 2, 5–6, 13. [Malaysia.]
- E. koreana* H. L. Clark, 1925a:183–184, pl. 10: figs. 4–5. [Korean Strait, eastern channel between South Korea and southwest Japan.]

## TERTIARY

- E. madurensis* K. Martin, 1919:54, 111. [Java, Indonesia.] (Neogene.)

## LOWER TERTIARY

- E. omanensis* Clegg, 1933:11–12, pl. 1: figs. 5a–c. [Arabia.]
- E. peyroti* Castex, 1930:33–34, pl. 2: figs. 5–7. [France.]

## PLIOCENE

- E. woodi* Currie, 1930:176–177, pl. 16: fig. 6. [Mombasa Island, East Africa.]

## MIOCENE

- E. atrophus* Lambert *podolicus* Szörényi, 1953:34–35, 85–86, pl. 6: figs. 4, 4a–b. [Ukraine.]
- E. consolationis* Sánchez Roig, 1953c:148–149, pl. 4: figs. 9–11. [Cuba.]
- E. delorenzoi* Mirigliano, 1938:46–50, fig. 1, pl. 1: figs. 1–3. [Italy.]
- E. hemisphericus* Lamarck var. *bardiensis* Desio, 1929:330–331, fig. 37, pl. 36: fig. 2. [Oasis of Giarabùb, Libya.] (Porto Bardia.)
- E. hemisphericus* Lamarck var. *cyrenaicus* Desio, 1929:329–330, fig. 36, pl. 36: figs. 1a–b. [Oasis of Giarabùb, Libya.] (Porto Bardia.)
- E. mestrei* Sánchez Roig, 1926:75–76, pl. 10: fig. 7. [Cuba.]
- E. paraensis* Marchesini Santos, 1958:12–14, 20, pl. 1: figs. 1–2, pl. 2: fig. 5. [Brazil.]
- E. percrassus* Meznerics, 1941:90, pl. 2: fig. 4, pl. 3: fig. 4. [Hungary.]
- E. vadaszi* Roman in Roman and Gonçalves, 1965:309. [Hungary and Czechoslovakia. For *E. (Heteroclypeus) hungaricus* Vadasz, 1915, not *E. hungarica* Dornyai, 1913.]
- E. woodringi* Durham, 1961:481, figs. 1A, 2A, pl. 68: figs. 2–3, 7. [Costa Rica.]

## LOWER MIOCENE

- E. concavus* Hayasaka, 1947:103–105, pl. 9: fig. 2; 1948:89–90. [China.]  
*E. visedoi* Lambert, 1935b:367, pl. 41: figs. 1–3. [Spain.] (Aquitanian.)

## OLIGOCENE

- E. camagueyensis* Weisbord, 1934:81–83, pl. 8: figs. 9–11. [Cuba.]  
*E. daguini* Castex, 1930:36, pl. 3: figs. 1–3. [France.] (Stampian.)  
*E. rollandi?* Lambert, 1931c:107, pl. 6: fig. 1. [Tunis, North Africa.]  
*N. santaclarae* Sánchez Roig, 1951:55–56, pl. 32: figs. 1–2. [Cuba.]

## UPPER OLIGOCENE

- E. cojimarensis* Sánchez Roig, 1949:152–153, pl. 19: figs. 4–5. [Cuba.]  
*E. hemisphericus* Lambert var. *cubensis* Palmer in Sánchez Roig, 1949:149–150. [Cuba. Although Palmer considered this species Lower Miocene, Brodermann (1949:321) says it is Upper Oligocene.]  
*E. munozii* Sánchez Roig, 1949:157–158, pl. 19: figs. 1–3. [Cuba. Brodermann (1949:321) says it is Lower to Upper Oligocene.]  
*E. umbella* Palmer in Sánchez Roig, 1949:151–152. [Cuba. Although Palmer cites this as Oligocene, Brodermann (1949:321) says this species is Upper Oligocene.]

## OLIGOCENE OF EOCENE

- E. marcaisi* Lambert, 1937:92–93, pl. 2: fig. 4. [Morocco.] (Lower Lutetian.)

## EOCENE

- E. altissima* Arnold and H. L. Clark, 1927:47–48, pl. 9: figs. 1–4. [Jamaica, British West Indies.]  
*E. anceps* Chautard and Lambert var. *inflata* Lambert in Lambert and Jacquet, 1936:355, pl. 22: fig. 9. [Senegal, West Africa.]  
*E. anceps* Chautard and Lambert var. *planipetala* Lambert in Lambert and Jacquet, 1936:355, pl. 22: figs. 7–8. [Senegal, West Africa.]

- E. atascaderensis* Brighton, 1926b:370, figs. 3a–d. pl. 26: fig. i. [Peru.] (Atascadero Ls.)  
*E. bothriopygoides* Lambert, 1937:87, pl. 3: figs. 9–11. [Morocco.]  
*E. brachytona* Arnold and H. L. Clark, 1927:49–50, pl. 9: figs. 5–6. [Jamaica, British West Indies.]  
*E. cuvillieri* Lambert in Lambert and Jacquet, 1936:356, pl. 22: figs. 12–14. [Senegal, West Africa.]  
*E. jacqueti* Lambert in Lambert and Jacquet, 1936:355–356, pl. 22: figs. 4–6. [Senegal, West Africa.]  
*E. macrostoma* Lambert in Lambert and Jacquet, 1936:356–357, pl. 23: figs. 1–3. [Senegal, West Africa.]  
*E. marioi* Roman in Roman and Gonçalves, 1965: 289–290. [Cuba. New name for *Palaeolampas elongata* Roig, 1953, not *E. elongata* Laube, 1868.]  
*E. menchikoffi* Lambert, 1935c:364–365, pl. 16: figs. 10–11. [Libya, North Africa.]  
*E. paragoga* Arnold and H. L. Clark, 1927:50–51, pl. 9: figs. 9–13. [Jamaica.]  
*E. rombellipsoidalis* Thirring, 1936:57–58, pl. 2: figs. 13–14. [Hungary.]  
*E. strongyla* Arnold and H. L. Clark, 1927:51, pl. 9: figs. 14–17. [Jamaica.]

## UPPER EOCENE

- E. chiesai* Airaghi, 1939:273, pl. 11: figs. 8–11. [North Africa.]  
*E. nuevitasensis* Weisbord, 1934:65–67, pl. 7: figs. 4–6. [Cuba.]

## MIDDLE EOCENE

- E. africanus* de Loriol var. *tanofrei* Socin, 1946: 163–171, figs. 1a–d. [North Africa.] (Priabonian/Lutetian.)  
*E. barcensis* Tavani, 1946:177–178, figs. 1a–b. [North Africa.] (Lower Lutetian.)  
*E. bombos* Nisiyama, 1968:17–19, pl. 10: figs. 10–11, pl. 11: figs. 1–6, 9. [Bonin Islands, off southeast Japan.] (Lutetian.)  
*E. caranoi* Checchia-Rispoli, 1950a[1945]:29–30, pl. 2: figs. 2, 2a–b. [Somaliland, East Africa.]  
*E. dubaleni* Castex, 1930:32–34, pl. 3: figs. 4–6. [France.] (Upper to Middle Lutetian.)  
*E. ellipsoidalis* d'Archiac var. *chalossensis* Castex, 1930:32. [France.] (Lutetian.)

- E. gignouxii* Lambert, 1933a:35, pl. 2: fig. 25. [Madagascar, off East Africa.] (Lutetian.)
- E. migiurtinus* Checchia-Rispoli, 1950a[1945]:24–26, pl. 1: figs. 2, 2a–b. [Somaliland, East Africa.]
- E. migliorinii* Checchia-Rispoli, 1950a[1945]:28–29, pl. 2: figs. 1, 1a–b. [Somaliland, East Africa.]
- E. newillei* Castex, 1930:34–35, pl. 2: figs. 8–10. [France.] (Middle Lutetian.)
- E. parvula* Lambert, 1936c:31–32, pl. 3: figs. 13–15. [Madagascar, off East Africa.] (Lower Lutetian.)
- E. venzoi* Roman in Roman and Gonçalves, 1965:303. [Isle of Rhodes, southeast Aegean Sea. New name for *E. rhodiensis* Venzo, 1934, not *E. rhodiensis* Laube, 1868.] (Lutetian.)

## LOWER EOCENE

- E. valettei* Lambert, 1933a:34–35, pl. 2: figs. 23–24. [Madagascar, off East Africa.]

## PALEOCENE

- E. hanguensis* Davies, 1943:68–69, pl. 11: figs. 2–5. [India.]

**Genus *Cylindrolampas* Lambert**

In the *Treatise*, Kier (Durham et al., 1966:U507) considers *Cylindrolampas* a subjective synonym of *Echinolampas* Gray.

## MIDDLE EOCENE

- Echinolampas* (*Cylindrolampas*) *migliorinii* Venzo, 1934a:127–128, pl. 12: figs. 7a–c. [Isle of Rhodes, southeast Aegean Sea.] (Lutetian.)
- E.* (*C.*) *rhodiensis* Venzo, 1934a:128–130, pl. 12: figs. 5a–b, 6a–c. [Isle of Rhodes, southeast Aegean Sea.] (Lutetian.)
- E.* (*C.*) *sandiegensis* Sánchez Roig, 1953c:151–152, pl. 5: figs. 3–4. [Cuba.]

**Genus *Cypholampas* Lambert**

In the *Treatise*, Kier (Durham et al., 1966:U507) considers *Cypholampas* a subjective synonym of *Echinolampas* Gray.

## MIDDLE EOCENE

- Echinolampas* (*Cypholampas*) *eocenicus* Sánchez Roig, 1953c:149, pl. 5: figs. 1–2. [Cuba.]
- E.* (*C.*) *subnucleus* Venzo, 1934a:125–126, pl. 12: figs. 3a–c. [Isle of Rhodes, southeast Aegean Sea.] (Lutetian.)

**Genus *Hypsoclypus* Pomel**

In the *Treatise*, Kier (Durham et al., 1966:U506) considers *Hypsoclypus* a subjective synonym of *Echinolampas* Gray.

## MIOCENE

- Echinolampas* (*Hypsoclypus*) *checciai* Roman in Roman and Gonçalves, 1965:305. [Sicily, Yugoslavia, and Ukraine. New name for *Hypsoclypus lamberti* Checchia-Rispoli, 1917, not *E. lamberti* Cotteau, 1894.]
- E.* (*H.*) *deserticus* Desio, 1929:332–335, pl. 37: figs. 2a–b. [Oasis of Giarabùb, Libya, North Africa.]

## MIDDLE MIOCENE

- H. fuentesi* Sánchez Roig, 1953a:55, pl. 5, pl. 6 (pars). [Cuba.]
- H. holguinensis* Sánchez Roig, 1953a:54–55, pls. 3–4 (pars). [Cuba.]

**Genus *Isolampas* Lambert**

In the *Treatise*, Kier (Durham et al., 1966:U507) considers *Isolampas* a subjective synonym of *Echinolampas* Gray.

## MIOCENE

- Echinolampas* (*Isolampas*) *garciai* Sánchez Roig, 1952c:7, pl. 3: fig. 3. [Cuba.]

## LOWER MIOCENE

- E.* (*I.*) *cavaionensis* Venzo, 1935:229–230, pl. 17: figs. 27–28. [Italy.] (Lower Aquitanian.)

## UPPER OLIGOCENE

- E.* (*I.*) *globulosus* Sánchez Roig, 1952c:7–8, pl. 1: figs. 7–8. [Cuba.]

**Genus *Macrolampas* Lambert**

In the *Treatise*, Kier (Durham et al., 1966:U507) considers *Macrolampas* a subjective synonym of *Echinolampas* Gray.

## LOWER MIOCENE

*Echinolampas* (*Macrolampas*) *gigas* Sánchez Roig, 1953a:55-56, pl. 3. (pars), pls. 7-8. [Cuba.]

**Genus *Progonolampas* Bittner**

In the *Treatise*, Kier (Durham et al., 1966:U507) considers *Progonolampas* a subjective synonym of *Echinolampas* Gray.

## UPPER OLIGOCENE

*Echinolampas* (*Progonolampas*) *moronensis* Sánchez Roig, 1953c:152-153, pl. 6: figs. 1-2. [Cuba.]

*E. (P.) tenuipetalum* Sánchez Roig, 1952c:6-7, pl. 3: figs. 1-2. [Cuba.]

*E. (P.) torrense* Sánchez Roig, 1953c:152, pl. 5: figs. 5-6. [Cuba.]

**Genus *Psammolampas* Lambert**

In the *Treatise*, Kier (Durham et al., 1966:U507) considers *Psammolampas* a subjective synonym of *Echinolampas* Gray.

## OLIGOCENE

*Echinolampas* (*Psammolampas*) *kugleri* Jeannet, 1959:201-203, pl. 2: figs. 4-6, pl. 9. [Trinidad, West Indies.]

**Genus *Heteroclypeus* Cotteau**

In the *Treatise*, Kier (Durham et al., 1966:U507) considers *Heteroclypeus* a subjective synonym of *Echinolampas* Gray.

## MIOCENE

*H. wiedenmayeri* Jeannet, 1928b:220. [Locality?]

## MIDDLE MIOCENE

*H. wiedenmayeri* Jeannet, 1928a:33-34, pl. 4: figs. 8-13, pl. 6: fig. 8. [Venezuela.] (Calcaire de Capadare.)

**Genus *Hypsoheteroclypus* Szörényi**

In the *Treatise*, Kier (Durham et al., 1966:U508) considers *Hypsoheteroclypus* a subjective synonym of *Echinolampas* Gray.

## MIOCENE

*Hypsoheteroclypus* Szörényi, 1953:76-78. Type-species: *H. doma* Pomel. [Algiers, North Africa.]

*H. plagiosomus* Lambert *corsicanus* Szörényi 1953: 28-29, 78-79, pl. 4: figs. 1, 1a-b. [Europe.]

*H. vicinoconoideus* Szörényi, 1953:33, 83-84, pl. 6: figs. 2, 2a-b, 3. [Europe.]

**Genus *Palaeolampas* Bell**

In the *Treatise*, Kier (Durham et al., 1966:U506) considers *Palaeolampas* a subjective synonym of *Echinolampas* Gray.

## EOCENE

*P. alta* Arnold and H. L. Clark, 1927:52-53, pl. 10: figs. 1-3. [Jamaica, West Indies.]

*P. plateia* Arnold and H. L. Clark, 1927:53-54, pl. 10: figs. 4-6. [Jamaica, British West Indies.]

## MIDDLE EOCENE

*P. elongatus* Sánchez Roig, 1953a:56-57, pl. 4 (pars). [Cuba.]

**Genus *Planilampas* Mortensen**

In the *Treatise*, Kier (Durham et al., 1966:U508) considers *Planilampas* a subjective synonym of *Echinolampas* Gray.

## RECENT

*Planilampas* Mortensen, 1948c:297. Type-species: *Echinolampas sternopetala* Agassiz and Clarke. [Japan.]

## UPPER OLIGOCENE

*P. circularis* Sánchez Roig, 1953a:57, pl. 9. [Cuba.]

**Genus *Progonolampas* Bittner**

In the *Treatise*, Kier (Durham et al., 1966:U507) considers *Progonolampas* a subjective synonym of *Echinolampas* Gray.

## MIDDLE MIOCENE

*P. candeli* Lambert, 1931c:52, pl. 3: fig. 10. [North Africa.] (Sahelian-Tortonian.)

## UPPER OLIGOCENE

*P. sanchezi* Lambert in Sánchez Roig, 1949:159, pl. 19: figs. 6–7. [Cuba.]

**Genus *Arnaudaster* Lambert**

## LOWER CRETACEOUS

*A. colombianus* Cooke, 1955:96, pl. 22: figs. 1–9. [Colombia.] (Upper Albian.)

**Genus *Conolampas* A. Agassiz**

## RECENT

*C. diomedea* Mortensen, 1948a:95–96. [Philippine Islands.]

*C. malayana* Mortensen, 1948c:309–310, fig. 273c, pl. 7: figs. 4–6, pl. 13: figs. 11, 14; 1948e:68. [Kei Islands, Indonesia.]

*C. murrayana* Mortensen, 1948b:2–3, pl. 1: figs. 1–3. [Maldivé Islands, Indian Ocean off south India.]

**Genus *Parapygus* Pomel**

## UPPER CRETACEOUS

*P. mossoroensis* Maury, 1925:500–503, pl. 24: fig. 9. [Brazil.]

**Genus *Plesiolampas* Duncan and Sladen**

## PALEOGENE

*P. auraduensis* Kier, 1957b:857–858, pl. 104: figs. 2–4. [British Somaliland, East Africa.] (Lower Auradu Series.)

*P. curriae* Kier, 1957b:856–857, fig. 6, pl. 103: figs. 13–14. [British Somaliland, East Africa.] (Lower Auradu Series.)

**Family FAUJASIIDAE Lambert****Genus *Faujasia* d'Orbigny**

## UPPER CRETACEOUS

*F. chelonium* Cooke, 1953:14, pl. 4: figs. 11–14. [Texas, U.S.A.] (Upper Maestrichtian.)

*F. eccentricipora* Lees, 1928:661–662, pl. 46: figs. 2a–b. [Arabia.] (Maestrichtian.)

*F. praeacutus* Egorov in Dzhaliilov and Egorov, 1969:109–111, figs. 3a–e. [Tadzhik, U.S.S.R. (Central Asia).] (Upper Senonian.)

*F.?* *transversus* Smiser, 1935b:65, pl. 7: figs. 1a–e. [Holland.] (Maestrichtian.)

## LOWER CRETACEOUS

*F. araripensis* Beurlen, 1966:456–458, fig. 1, pl. 1: figs. 1a–b. [Brazil.] (Albian?)

*F. rancheriana* Cooke, 1955:97, pl. 23: figs. 10–14. [Colombia.] (Upper Albian.)

**Genus *Australanthus* Bittner**

## UPPER CRETACEOUS

*Procassidulus* (*Australanthus*) *madrugensis* Sánchez Roig, 1949:140–141, pl. 18: figs. 4–6. [Cuba.]

**Genus *Domechinus* Kier**

## UPPER CRETACEOUS

*Domechinus* Kier, 1962:141–142. Type-species: *Faujasia chelonium* Cooke. [Texas, U.S.A.] (Maestrichtian.)

*D. teixeirai* Gonçalves in Roman and Gonçalves, 1965:270–271, figs. 2–3, pl. 2: figs. 10–11, 13. [Mozambique, southeast Africa.]

**Genus *Eurypetalum* Kier**

## UPPER CRETACEOUS

*Eurypetalum* Kier, 1962:140. Type-species: *Echinolampas faujasia* Desmoulin. [Europe.] (Senonian.)



**Genus *Gongrochanus* Kier**

## UPPER CRETACEOUS

*Gongrochanus* Kier, 1962:131–132. Type-species: *Cyrtoma herscheliana* M'Clelland. [India.] (Senonian.)

**Genus *Hardouinia* Haime in d'Archiac and Haime**

## UPPER CRETACEOUS

*H. clypeus* Cooke, 1955:98–99, pl. 25: figs. 1–5. [Alabama, U.S.A.] (Santonian.)

*H. mcglameryae* Cooke, 1953:24, pl. 8: figs. 23–26. [Alabama, U.S.A.] (Upper Maestrichtian?)

*H. potosiensis* Lambert, 1936e:5–6, pl. 1: figs. 2–4. [Mexico.] (Santonian?)

*H?* *stetsoni* Stephenson, 1936:371–372, pl. 1: figs. 2–4. [North America.]

*H. waagei* Holland and Feldmann, 1967:252–255, fig. 1. [North Dakota, U.S.A.] (Maestrichtian.)

**Genus *Lefortia* Cossmann**

## UPPER CRETACEOUS

*L. trojana* Cooke, 1953:17, pl. 4: figs. 8–10. [Mississippi, U.S.A.] (Middle Maestrichtian.)

**Genus *Petalobrissus* Lambert**

## UPPER CRETACEOUS

*P. burckhardti* Lambert, 1936e:5, pl. 1: figs. 7–8. [Mexico.] (Lower Senonian.)

*P. (Echinobrissus) setifensis* Coquand var. *punica* Lambert, 1931c:97, pl. 4: fig. 31. [Tunis, North Africa.] (Upper Senonian.)

**Genus *Pygurostoma* Cotteau and Gauthier**

## UPPER CRETACEOUS

*P. passionensis* Cooke, 1949a:1–3, fig. 1. [Central America.]

**Genus *Stigmatopygus* d'Orbigny**

## UPPER CRETACEOUS

*S. lamberti* Besairie, 1930:228, pl. 23: figs. 1–8. [Madagascar, off East Africa.] (Upper Campanian.)

*S. lehmani* Gonçalves in Roman and Gonçalves, 1965:269–270, fig. 1, pl. 2: figs. 5–9, 12. [Mozambique, southeast Africa.]

**Family ARCHIACIIDAE Cotteau and Triger****Genus *Archiacia* L. Agassiz**

## UPPER CRETACEOUS

*A. lorioli* Checchia-Rispoli, 1921:26–27, pl. 9: figs. 12–13. [Tripoli, Libya, North Africa.] (Cenomanian.)

**Genus *Gentilia* Lambert**

## UPPER CRETACEOUS

*G. chouberti* Lambert, 1937:77–78, fig. 4. [Morocco.] (Upper Cenomanian.)

*G. syriensis* Kier, 1962:156–157, figs. 129–131, pl. 23: figs. 5–11. [Syria.] (Cenomanian.)

**Family CASSIDULIDAE L. Agassiz and Desor****Genus *Cassidulus* Lamarck**

## RECENT

*C. delectus* Krau, 1960:157–159, pls. 1–4. [Brazil.]

*C. infidus* Mortensen, 1948c:215, pl. 2: figs. 6–8; 1948e:67. [Tropical Atlantic.]

*C. mitis* Krau, 1954:455–475, pls. 1–5, pl. 6: fig. 21. [Brazil.]

## TERTIARY

*C. platypetalus* Arnold and H. L. Clark, 1934:144, pl. 1: figs. 3–5. [Jamaica, British West Indies.]

*C. sphaeroides* Arnold and H. L. Clark, 1934:144–145, pl. 1: figs. 6–8. [Jamaica, British West Indies.]

## UPPER OLIGOCENE

*C. rojasi* Sánchez Roig, 1953c:146–147, pl. 4: figs. 3–5. [Cuba.]

## UPPER EOCENE

*C. ericoni* Fischer, 1951:65–68, figs. 6–8, pl. 2: figs. 1–2, pl. 3: figs. 1–3. [U.S.A.]  
*Cassidulus (Cassidulus) trojanus* Cooke, 1942:32, pl. 2: figs. 22–25. [U.S.A.]

## MIDDLE EOCENE

*C. mestieri* Kier, 1966b:10, fig. 16, pl. 1: figs. 9–11. [Barbados, Lesser Antilles, West Indies.] (Upper Scotland Fm.)  
*C. senni* Kier, 1966b:8–9, figs. 14–15, pl. 1: figs. 6–8. [Barbados, Lesser Antilles, West Indies.] (Upper Scotland Fm.)

## PALEOCENE

*C. faberi* Ravn, 1927:327–329, pl. 2: figs. 4–6, 7a–d. [Denmark.] (Danian.)

## UPPER CRETACEOUS

*C. cubensis* Weisbord, 1934:28–30, pl. 2: figs. 9–11. [Cuba.]  
*C. emmonsii* Stephenson, 1928:7–10, pl. 3: figs. 3–8, pl. 4. [North Carolina, U.S.A.] (Maestrichtian/Upper Senonian.)  
*C. kellumi* Stephenson, 1928:5–7, pls. 1–2, pl. 3: figs. 1–2. [North Carolina, U.S.A.] (Maestrichtian/Upper Senonian.)  
*C. mercedensis* Anderson, 1958:85–86, pl. 6: figs. 2a–b. [California, U.S.A.]  
*C. taylori* Warren, 1926:11, pl. 1: figs. 10–13. [Alberta, Canada.] (Birch Lake Member, Belly River Group.)

**Genus *Glossaster* Lambert**

In the *Treatise*, Kier (Durham et al., 1966:U514) considers *Glossaster* a subjective synonym of *Cassidulus* Lamarck.

## UPPER CRETACEOUS

*G. welschi* Gauthier in Lambert, 1931c:74–75, pl. 3: figs. 18–19. [Algiers, North Africa.] (Maestrichtian/Upper Senonian.)

**Genus *Nucleopygus* L. Agassiz**

## MIOCENE

*N. lebescontei* Tournouer var. *ancegavensis* Cottreau, 1933:545–546, pl. 27: figs. 4, 4a–b. [France.]

## UPPER EOCENE

*N. tamarindensis* Sánchez Roig, 1952d:54, pl. 16: figs. 2–3. [Cuba.]

## UPPER CRETACEOUS

*N. atlanticus* Kossmat *brevior* Dartevelle, 1953:51–52, pl. 5: figs. 2, 4–5, 10–11, 13. [Belgian Congo, south Central Africa.] (Turonian/Cenomanian.)  
*N.?* *gallagheri* Richards, 1962:200–201, pl. 92: figs. 3–4. [New Jersey, U.S.A.] (Navesink Fm., Maestrichtian.)  
*N. geayi* Cottreau, 1922a:121–122, pl. 2: figs. 10, 10a–b. [Madagascar, off East Africa.] (Maestrichtian/Danian.)  
*N. kailensis* Gauthier in Lambert, 1931c:30, pl. 1: figs. 29–30. [North Africa.] (Cenomanian.)  
*N. sanctaluciae* Sánchez Roig, 1952d:52–53, pl. 16: figs. 4–5. [Cuba.]

## LOWER CRETACEOUS

*N. piveteaui* Lambert, 1931c:64–65, pl. 7: figs. 5–7. [Algiers, North Africa.] (Neocomian.)

**Genus *Rhyncholampas* A. Agassiz**

## PLEISTOCENE/PLIOCENE

*R. ayresi* Kier, 1963:45–48, figs. 43–46, pl. 16: figs. 3–6. [Florida, U.S.A.] (Caloosahatchee.)

## UPPER OLIGOCENE

*R. cervantesi* Sánchez Roig, 1949:145, pl. 36: figs. 5–6. [Cuba.]

## LOWER OLIGOCENE

*R. rodriguezi* Lambert and Roig in Sánchez Roig, 1926:72, pl. 10: figs. 4–6. [Cuba.]

## MIDDLE EOCENE

*R. magnei* Castex, 1947:32–33, pl. 2: figs. 5–7. [France.] (Lutetian.)

## LOWER EOCENE

*R. anceps* Lambert, 1933a:33–34, pl. 2: figs. 17–19. [Madagascar, off East Africa.]

*R. tuderii* Lambert, 1937:85–86, pl. 3: figs. 6–8. [Morocco.]

**Genus *Anisopetalus* Arnold and Clark**

In the *Treatise*, Kier (Durham et al., 1966:U515) considers *Anisopetalus* a subjective synonym of *Rhyncholampas* A. Agassiz.

## EOCENE

*Anisopetalus* Arnold and H. L. Clark, 1927:44–45.  
Type-species: *A. ellipticus* H. L. Clark in Arnold and H. L. Clark, 1927:45–46, pl. 6: figs. 16–20. [Jamaica, British West Indies.]

## MIOCENE

*A. oliveirai* Marchesini Santos, 1958:11–12, 19–20, pl. 2: figs. 1–4. [Brazil.]

## UPPER EOCENE

*A. brodermanni* Sánchez Roig, 1952c:9–10, pl. 4: figs. 1–3. [Cuba.]

*A. caobaense* Sánchez Roig, 1952c:10–11, pl. 5: figs. 1–3. [Cuba.]

*A. cookii* Sánchez Roig, 1952c:8–9, pl. 4: fig. 4, pl. 5: figs. 4–5. [Cuba.]

**Genus *Galerolampas* Cotteau**

In the *Treatise*, Kier (Durham et al., 1966:U515) considers *Galerolampas* a subjective synonym of *Rhyncholampas* A. Agassiz.

## MIDDLE EOCENE

*G. murardi* Gorodiski, 1951:323–325, pl. 1: figs. 8–9c. [Senegal, West Africa.] (Lutetian.)

## LOWER TERTIARY

*Cassidulus (Galerolampas) fontis* Cooke, 1942:35, pl. 2: figs. 26–29. [U.S.A.] (Lower Eocene or Paleocene.)

**Genus *Rhynchopygus* d'Orbigny**

## PLIOCENE

*Cassidulus (Rhynchopygus) evergladensis* Mansfield, 1932:48, pl. 18: figs. 1–10. [U.S.A. Kier (1962:180) placed this species with *Rhyncholampas*.]

## EOCENE

*R. matleyi* Hawkins in Arnold and H. L. Clark, 1927:54–55, 79–80, pl. 11: figs. 3–4, pl. 22: figs. 6–8. [Jamaica, British West Indies.]

*R. peruvianus* Brighton, 1926b:366–369, figs. 2a–g, pl. 26: figs. a–d. [Peru.] (Atascadero Ls.)

*R. punctatus* Arnold and H. L. Clark, 1927:55–56, pl. 11: figs. 5–7. [Jamaica, British West Indies.]

## UPPER EOCENE

*C. (R.) zanolettii* Sánchez Roig, 1952d:55–56, pl. 16: figs. 6–7. [Cuba.]

## UPPER CRETACEOUS

*R. macari* Smiser, 1935b:63, pl. 6: figs. 6a–e. [Holland.] (Maestrichtian.)

**Genus *Paralampas* Duncan and Sladen**

In the *Treatise*, Kier (Durham et al., 1966:U515) considers *Paralampas* a subjective synonym of *Rhynchopygus* d'Orbigny.

## EOCENE

*P. besairiei* Lambert, 1929:193, figs. 3–4. [Madagascar, off East Africa. Figured in Besairie and Lambert, 1930:114, pl. 10: figs. 5–6.]

*P. conceptionis* Sánchez Roig, 1953c:153–154, pl. 6: fig. 5. [Cuba.]

#### UPPER EOCENE

*Cassidulus (Paralampas) globosus* Fischer, 1951:71–72, figs. 8–10, pl. 4: figs. 1–5. [U.S.A.]

#### Genus *Procassidulus* Lambert

In the *Treatise*, Kier (Durham et al., 1966:U515) considers *Procassidulus* a subjective synonym of *Rhynchopygus* d'Orbigny.

#### RECENT

*P. malayanus* Mortensen, 1948c:223–226, figs. 203–209, pl. 1: figs. 27–30, pl. 11: figs. 1, 3, 6, 10, 14–15, 18–20; 1948e:67. [Kei Islands, Indonesia.]

#### LOWER MIOCENE

*P. jeanneti* Sánchez Roig, 1949:137, pl. 17: figs. 2–3. [Cuba.]

#### OLIGOCENE

*P. zinai* Airaghi, 1939:274, pl. 11: fig. 12. [North Africa.]

#### UPPER OLIGOCENE

*P. avilensis* Palmer in Sánchez Roig, 1949:134–135, pl. 4: figs. 6–8. [Cuba.]

*P. brodermanni* Sánchez Roig, 1949:135, pl. 17: figs. 6–7. [Cuba. Although Sánchez Roig says it is Eocene, Brodermann (1949:326) places this species in the Upper Oligocene.]

*P. circularis* Palmer in Sánchez Roig, 1949:139–140, pl. 17: figs. 4–5. [Cuba.]

*P. echevarriai* Sánchez Roig, 1953c:145, pl. 4: fig. 8. [Cuba.]

*P. habanensis* Sánchez Roig, 1949:138, pl. 4: fig. 5. [Cuba. Although Sánchez Roig says it is Oligocene, Brodermann (1949:326) says this species is Upper Oligocene.]

#### EOCENE

*P. apianus* Besairie and Lambert, 1930:113, pl. 9: figs. 4–6. [Madagascar, off East Africa.]

*P. lambayensis* Lambert in Lambert and Jacquet, 1936:351–352, pl. 22: figs. 1–3. [Senegal, West Africa.]

#### UPPER EOCENE

*P. mooni* Lambert, 1931d:202, pl. 5: figs. 8–11. [Egypt.] (Priabonian.)

#### PALEOCENE

*P. gliberti* Smiser, 1935b:60, pl. 6: figs. 3a–d. [Belgium.] (Montian.)

#### UPPER CRETACEOUS

*Lefortia (Procassidulus) barrabei* Besairie, 1930:228–229, pl. 24: figs. 4, 4a, 5. [Madagascar, off East Africa.] (Upper Senonian, probably Campanian.)

*P. basseae* Lambert, 1936c:24–25, pl. 2: figs. 13–15. [Madagascar, off East Africa.] (Upper Campanian.)

*P. clericii* Checchia-Rispoli, 1933b:18–21, fig. 8, pl. 1: fig. 16. [North Africa.] (Maestrichtian.)

*P. luacesi* Sánchez Roig, 1949:135–136, pl. 18: figs. 1–3. [Cuba.]

*P. minutus* Sánchez Roig, 1949:133, pl. 17: figs. 8–11. [Cuba.]

*P. neltneri* Lambert, 1931c:31–32, pl. 1: figs. 26–28. [North Africa.] (Cenomanian.)

*P. simpatiae* Sánchez Roig, 1949:138–139, pl. 17: figs. 12–13. [Cuba.]

#### Family CLYPEOLAMPADIDAE Kier

Clypeolampadidae Kier, 1962:187. [Europe and India.]

#### Genus *Clypeolampas* Pomel

#### UPPER CRETACEOUS

*C. toroensis* Sánchez Roig, 1952d:48–49, pl. 16: fig. 1. [Cuba.] (Senonian.)

Family **PLIOLAMPADIDAE** Kier

PLIOLAMPADIDAE Kier, 1962:192.

Genus ***Pliolampas*** Pomel

## UPPER MIOCENE

*P. dilatatus* Callegari, 1930:10–11, figs. 17–17a. [Italy.] (Helvetian.)

## EOCENE

*P. trevisani* Checchia-Rispoli, 1936:306–307, pl. 16: figs. 3, 3a–b, pl. 17: fig. 6. [Sicily, southwest of Italy.]

## MIDDLE EOCENE

*P. lorioli* (Fourtau) var. *excentrica* Gorodiski, 1951: 325–327, pl. 1: figs. 2–4. [Senegal, West Africa.] (Lutetian.)

Genus ***Breynella*** Gregory

In the *Treatise*, Kier (Durham et al., 1966:U517) considers *Breynella* a synonym of *Pliolampas* Pomel.

## UPPER CRETACEOUS

*B. baixadoleitensis* Maury, 1934a:153–154, pl. 15: figs. 2–3. [Brazil, Rio Grande do Norte.] (Probably Turonian.)

Genus ***Eurhodia*** Haime

## MIOCENE

*E. falconensis* Jeannet, 1928b:220. [Venezuela.]

## MIDDLE MIOCENE

*E. falconensis* Jeannet, 1928a:32–33, fig. 10, pl. 4: figs. 2–7, pl. 6: fig. 7. [Venezuela.] (Couches d'Ojo de Agua, serie Capadare.)

## EOCENE

*E. corralesi* Sánchez Roig, 1951:61, pl. 33: figs. 4–5. [Cuba.]

## MIDDLE EOCENE

*E. freneixae* Roman and Gorodiski, 1959:21–22, pl. 2: figs. 5–9. [Senegal.] (Upper Lutetian.)

## LOWER EOCENE

*E.?* *elbana* Cooke, 1942:36–37, pl. 5: figs. 5–8. [U.S.A.]

## PALEOCENE

*E. morrissi* (d'Archiac) var. *salsensis* Davies and Pinfold, 1937:62–63, fig. 4c, pl. 7: figs. 20, 25. [India.] (Upper Khairabad Ls. Ranikot.)

Genus ***Gitolampas*** Gauthier

## MIDDLE MIOCENE

*G. sendaica* Nisiyama, 1968:22–24, fig. 26a, pl. 30: figs. 3, 5–7. [Japan.] (Moniwa Fm.)

## UPPER CRETACEOUS

*G. lamberti* Checchia-Rispoli, 1921:18–20, pl. 7: figs. 5–24, pl. 9: fig. 3. [Tripoli, Libya.] (Senonian.)  
*G. zuffardii* Checchia-Rispoli, 1921:20–21, figs. 1–2, pl. 7: figs. 5–24, pl. 9: fig. 3. [Tripoli, Libya.] (Senonian.)

Genus ***Gitolampopsis*** Checchia-Rispoli

In the *Treatise* Kier (Durham et al., 1966:U518) considers this to be a subjective synonym of *Gitolampas*.

## UPPER CRETACEOUS

*Gitolampopsis* Checchia-Rispoli, 1921:18–20. Type-species: *Gitolampas lamberti* Checchia-Rispoli. [Tripoli, Libya.] (Senonian.)

Genus ***Echanthus*** Cooke

In the *Treatise*, Kier (Durham et al., 1966:U518) considers *Echanthus* a subjective synonym of *Gitolampas* Gauthier.

## PALEOCENE

*Echanthus* Cooke, 1942:37. Type-species: *E. georgiensis* Twitchell. (Clayton Fm.)

**Genus *Ilarionia* Dames**

## EOCENE

*I. deflorei* Checchia-Rispoli, 1936:305–306, pl. 16: figs. 2–2a, pl. 17: figs. 7–7a. [Sicily, southwest of Italy.]

## MIDDLE EOCENE

*I. jeanneti* Castex, 1947:33, pl. 2: figs. 8–11. [France.] (Lutetian.)

*I. sindensis* Duncan and Sladen *madagascariensis* Cottreau, 1935:262–264, pl. 1: figs. 5, 5a–c. [Madagascar, off East Africa.] (Lower Lutetian.)

**Genus *Neocatopygus* Duncan and Sladen**

## MIDDLE EOCENE

*N. caobaense* Sánchez Roig, 1953c:154, pl. 6: figs. 3–4. [Cuba.]

**Genus *Santeelampas* Cooke**

## MIDDLE EOCENE

*Santeelampas* Cooke, 1959:61. Type-species: *Catopygus oviformis* Conrad. [South Carolina, U.S.A.]

**Genus *Studeria* Duncan**

## UPPER OLIGOCENE

*S. rositae* Sánchez Roig, 1953c:147, pl. 4: figs. 6–7. [Cuba.]

**Genus *Tristomanthus* Bittner**

In the *Treatise*, Kier (Durham et al., 1966:U520) considers *Tristomanthus* Bittner a subjective synonym of *Studeria* Duncan.

## PLIOCENE

*Pliolampas* (*Tristomanthus*) *elevatus* Martin in Jeannet and Martin, 1937:268–269, figs. 48a–c. [Dutch East Indies, West Pacific Ocean.]

*P. (T.) javanus* Jeannet in Jeannet and Martin, 1937:267–268, figs. 46a–d, 47a–c. [Dutch East Indies, West Pacific Ocean.]

## MIOCENE

*T. podjarkovi* Szörényi, 1953:25–26, 74–75, pl. 4: figs. 4, 4a–b. [Ukraine.]

*T. podolicus* Szörényi, 1953:26, 75–76, pl. 6: figs. 6, 6a–b. [Ukraine.]

**Genus *Termieria* Lambert**

## PALEOCENE

*Termieria* Lambert, 1931c:30–31. Type-species: *T. henrici* Lambert, 1931c:31, pl. 1: figs. 31–35. [North Africa, Morocco.] (Danian.)

**Genus *Zuffardia* Checchia-Rispoli**

## UPPER CRETACEOUS

*Z. cerullii* Checchia-Rispoli, 1933a:4–8, pl. 1: figs. 1–4. [North Africa.] (Maestrichtian.)

**Family APATOPYGIDAE Kier****Genus *Apatopygus* Hawkins**

## RECENT

*A. occidentalis* H. L. Clark, 1938:425–428, fig. 36, pl. 28: figs. 1–3. [Western Australia.]

**Family Uncertain****Genus *Astropygaulus* Checchia-Rispoli**

## UPPER CRETACEOUS

*Astropygaulus* Checchia-Rispoli, 1945[1943]:82–85. Type-species: *A. trigonopygus* Checchia-Rispoli, 1945[1943]:82–85, figs. 1–2, pl. 2: figs. 1–2. [Somaliland, East Africa.] (Cenomanian.)

**Genus *Centropygus* Ebray**

MIDDLE JURASSIC

*C. pictaviensis* Lambert, 1935a:530-531, 1 fig., pl. 26: figs. 12-15. [France.] (Callovian.)

**Genus *Echinanthus* Leske**

EOCENE

*E. ? varnensis* Gočev, 1933: 52-53, fig. 9, pl. 7: figs. 1-2. [Bulgaria.]

MIDDLE EOCENE

*E. neuvillei* Castex, 1930:29-30, pl. 1: figs. 9-12. [France.] (Upper Lutetian.)

*E. reguanti* Roman and Villatte in Reguant, Roman and Villatte, 1970:903-905, figs. 4B, 5, pl. 33: figs. 9-11. [N 4 km from the road to Sau, province of Barcelone, Spain.] (Lower Biarritzian.)

LOWER EOCENE

*E. basseae* Lambert, 1936c:31, pl. 3: figs. 27-30. [Madagascar, off East Africa.] (Lower Lutetian.)

UPPER CRETACEOUS

*E. pumilus* Duncan and Sladen var. *abiadensis* Lees, 1928:662, pl. 46: fig. 3. [Arabia.] (Maestrichtian.) These species probably should be referred to *Gitolampas*. See Kier (1962:226) for a discussion of *Echinanthus*.

**Genus *Lovenilampas* Maury**

UPPER CRETACEOUS

*Lovenilampas* Maury, 1934b:3-5. Type-species: *Lovenia baixadoleitensis* Maury, 1934b:3-5, fig. 1. [Brazil.]

**Order HOLASTEROIDA Durham and Melville****Family COLLYRITIDAE d'Orbigny****Subfamily COLLYRITINAE Beurlen**

COLLYRITINAE Beurlen, 1934:63-64, fig. 8. [Europe.]

**Genus *Collyrites* Desmoulins**

UPPER JURASSIC

*C. segestina* Checchia-Rispoli, 1940b:23-25, fig. 1. [Sicily, southwest of Italy.]

MIDDLE JURASSIC

*C. tuarkyrensis* Poretskaya, 1968b:286-287, figs. 37-38, pl. 67: figs. 1a-e. [Nedr, U.S.S.R.] (Callovian.)

**Genus *Cardiopelta* Pomel**

UPPER JURASSIC

*Collyrites (Cardiopelta) bicordata* (Leske) var. *baltica* Beurlen, 1934:91. [Europe.] (Oxfordian.)

*C. (C.) capistrata* Goldfuss mut. *antecedens* Beurlen, 1934:92, fig. 14c. [Europe.] (Oxfordian.)

MIDDLE JURASSIC

*C. (C.) bicordata (Leske) primitiva* Jesionek-Szymańska, 1963:375-378, 403, 414, text-pl. 11: figs. 1-9, pl. 6: figs. 2a-c, 3. [Poland.] (Upper Callovian.)

**Genus *Orbignyana* Ebray**

MIDDLE JURASSIC

*O. quenstedti* Beurlen, 1934:49-50, fig. 2c. [Europe.] (Bathonian.)

**Genus *Pygorhytis* Pomel**

MIDDLE JURASSIC

*P. ovalis* Leske var. *dimota* Vialov, 1930:868. [Asiatic Russia.] (Callovian.)

*P. ringens* Agassiz *wiekensis* Jesionek-Szymańska, 1963:362-363, 403, 414, text-pl. 7: figs. 1-5, pl. 5: figs. 2a-d. [Poland.] (Upper Callovian.)

**Order DISASTEROIDA Mintz**

DISASTEROIDA Mintz, 1968:1287-1288.

## Family DISASTERIDAE A. Gras

Genus *Disaster* Agassiz

LOWER CRETACEOUS

*D. dallonii* Lambert, 1931c:62, pl. 3: fig. 1. [Algiers, North Africa.] (Berriasian.)

Genus *Collyropsis* Gauthier

UPPER JURASSIC

*Collyropsis (Collyropsis)* Beurlen, 1934:130-131.  
Type-species: *Collyropsis (Collyropsis) carinata* Leske. [Europe.]

Genus *Procollyropsis* Beurlen

In the *Treatise*, Wagner and Durham (Durham et al., 1966:U527) consider *Procollyropsis* a subjective synonym of *Collyropsis*.

MIDDLE JURASSIC

*Collyropsis (Procollyropsis)* Beurlen, 1934:129.  
Type-species: *Disaster platypygus* Quenstedt. [Europe.]

## Family ACROLUSIIDAE Mintz

ACROLUSIIDAE Mintz, 1968:1278. Type-genus: *Acrolusia* Lambert.

## Family TITHONIIDAE Mintz

TITHONIIDAE Mintz, 1968:1278.

Genus *Corthya* Pomel

UPPER EOCENE

*C. ambayraci* Lambert, 1924a:5-7, figs. 1-3. [France.] (Bartonian.)

Genus *Oustechinus* Lambert

UPPER JURASSIC

*Oustechinus* Lambert, 1931c:92-93. Type-species: *O. basseae* Lambert, 1931c:93, fig. 7, pl. 3: figs. 31-32. [Tunis, North Africa.] (Tithonian.)

Genus *Tithonia* Pomel

LOWER CRETACEOUS

*T. arctica* Jeannet, 1955:553-555, fig. 1, pl. 25: figs. 1-5. [Greenland.] (Valanginian.)

UPPER JURASSIC

*T. houdardi* Lambert, 1933c:179-180, pl. 7: fig. 18. [France.] (Oxfordian.)  
*T. solignaci* Lambert, 1931c:92, fig. 6, pl. 3: fig. 34. [Tunis, North Africa.] (Tithonian.)

MIDDLE JURASSIC

*T. blondeti* Démoly and Lambert in Démoly, 1928: 140, pl. 1: figs. 4-8. [France.] (Bathonian.)  
*Metaporinus (Tithonia) praeconvexa* Jesionek-Szymańska, 1963:390-395, 403, 414, text-pl. 1: figs. 2, 9, text-pl. 13: figs. 4-12, text-pl. 14: figs. 1-9, pl. 7: figs. 2a-d, 3a-b. [Poland.] (Upper Callovian.)

## Family HOLASTERIDAE Pictet

Genus *Holaster* Agassiz

UPPER CRETACEOUS

*H. feralis* Cooke, 1953:26-27, pl. 9: figs. 1-5, pl. 10: fig. 7, [Colorado, U.S.A.] (Turonian.)  
*H. feruglioi* Melinossi, 1935:32-39, figs. 1a-b, 2. [South America.]  
*H. hermitei* Vidal, 1921:12-13, pl. 2: fig. 3, pl. 3: fig. 3, pl. 4: fig. 8. [Spain.] (Santonian.)  
*H. lorioli* Blanckenhorn, 1925[1924]:96. [Palestine, Israel.] (Upper Cenomanian.)  
*H. marinellii* Stefanini, 1928:177-178, pl. 20: figs. 10a-f. [Karakorum, Mongolia.] (Cenomanian.)



*H. mortenseni* Bernasconi, 1954:397-400, pl. 1.  
[Tierra del Fuego, Argentina.] (Senonian?)

#### LOWER CRETACEOUS

- H. clypeatulus* Nisiyama, 1950b:35-36, figs. 1-3, pl. 4: figs. 8-9. [Japan.] (Albian/Aptian.)  
*H. lerichei* Dartevelle, 1953:131-135, fig. 40, pl. 9: figs. 1-4. [Angola, southwest Africa.] (Upper Albian.)  
*H. vanhoepeni* Besairie and Lambert, 1930:115-116, pl. 10: figs. 1-2. [Zululand, East Africa.] (Albian.)

#### Genus *Basseaster* Lambert

##### UPPER CRETACEOUS

*Basseaster* Lambert, 1936c:25. Type-species: *B. rostratus* Lambert, 1936c:25, pl. 3: figs. 8-12, pl. 4: fig. 10. [Madagascar, off East Africa.] (Maestrichtian.)

#### Genus *Cardiaster* Forbes

##### UPPER CRETACEOUS

- C. deciper* Cooke, 1953:27-28, pl. 10: figs. 3-6. [Arkansas, U.S.A.] (Lower Maestrichtian.)  
*C. hilli* Cooke, 1958:50-51, pl. 7: figs. 9-14. [New Jersey, U.S.A.]  
*C. leonensis* Stephenson, 1941:62-63, pl. 5: figs. 4-7, pl. 6: figs. 5-6. [U.S.A.] (Navarro Group. Maestrichtian.)  
*C. moabiticus* Blanckenhorn, 1925[1924]:96, pl. 7: fig. 24. [Palestine, Israel.] (Santonian.)  
*C. palmeri* Sánchez Roig, 1949:172-173, pl. 5: figs. 3-5. [Cuba.]  
*C. perorientalis* Nisiyama, 1968:151-152, pl. 18: figs. 6-7. [Japan.] (Maestrichtian/Senonian.)

##### LOWER CRETACEOUS

*C. kelleri* Haughton, 1924:99-100. [Angola, southwest Africa. See Haughton (1925:279-280) for English translation.] (Upper Albian.)

#### Genus *Echinocorys* Leske

##### PALEOCENE

- E. legindensis* Wind, 1959:125, pl. 2: figs. 1-6. [Denmark.] (Danian.)  
*E. obliquus* Ravn *assymetrica* Kongiel, 1935:205(37), pl. 7: figs. 1a-b, 2a-c, 3. [Poland.] (Danian.)  
*E. obliquus* Ravn *lata* Kongiel, 1935:204(36), pl. 6: figs. 4a-c. [Poland.] (Danian.)  
*E. obliquus* Ravn var. *recta* Kongiel, 1935:205(37), pl. 7: figs. 4a-d. [Poland.] (Danian.)  
*E. pentagonalis* Kongiel, 1949:32-34, figs. 34-61, pl. 17: figs. 8-11, pl. 18: figs. 1-8. [Poland.] (Danian.)  
*E. semiglobosus* Kongiel, 1949:29-30, figs. 34-61, pl. 15: fig. 12, pl. 16: figs. 1-4. [Poland.] (Danian.)

##### CRETACEOUS

- E. ovatus* Leske var. *cubensis* Sánchez Roig, 1926:88-89, pl. 11: fig. 6, pl. 12: fig. 4. [Cuba.]  
*E. sulcatus* Goldfuss *hannae* Köster, 1950:440-452, figs. 1a-e, 2a-e, 3a-c, 5-6. [Germany.]

##### UPPER CRETACEOUS

- E. belgicus* Lambert var. *pruvosti* Smiser, 1935a:30, pl. 2: figs. 2a-d. [Belgium.] (Senonian.)  
*E. darderi* Lambert, 1935b:363-364, pl. 42: figs. 1-2. [Spain.] (Maestrichtian.)  
*E. edhemi* Böhm, 1927:193-194, pl. 12: fig. 1a. [Bithynia, Asia Minor.] (Senonian.)  
*E. gravesi* Desor var. *rossiensis* Kongiel, 1936b: 2-6, pl. 1: figs. 3a-b, pl. 2: figs. 1-4, pl. 3: figs. 1-4. [Poland.]  
*E. katsharavai* Tzaghareli, 1949:179-180, 259-260, fig. 1, pl. 13: figs. 1-3. [Georgia, U.S.S.R.]  
*E. lamberti* Smiser, 1935a:32-33, figs. 14a-b, pl. 2: figs. 3a-d, 4a-d. [Belgium.] (Senonian.)  
*E. mamontoffi* Charles in Lambert and Charles, 1937:386-388, pl. 9: figs. 9-11. [Asia Minor.]  
*E. ogormani* Lambert in Lambert and Charles, 1937:393, fig. 6. [France.]  
*E. ovatus* Leske *cubensis* Sánchez Roig, 1949:175-176, pl. 4: figs. 3-4. [Cuba.]  
*E. ovatus* Leske *villarensis* Sánchez Roig, 1949:176, pl. 21: figs. 1-2. [Cuba.]

- E. pustulosus* (Leske) *daniensis* Wind, 1959:127–128. [Denmark.] (Senonian.)
- E. renngarteni* Moskvín, 1959:260–261, fig. 65, pl. 10: figs. 2a–c. [Caucasus, U.S.S.R.]
- E. sumbaricus* Djabarov, 1968:288–289, fig. 39, pl. 67: figs. 2a–e. [Nedr, U.S.S.R.]
- E. tenuituberculatus* Leymerie var. *madagascariensis* Besairie, 1930:227, pl. 25: figs. 1, 1a–b. [Madagascar, off East Africa.] (Lower Maestrichtian.)
- E. yoloensis* Anderson, 1958:85, pl. 6: figs. 1a–d. [California, U.S.A.] (Lower Senonian.)

### Genus *Ananchites* Lamarck

Wagner and Durham (Durham et al., 1966:U528) consider *Ananchites* a subjective synonym of *Echinocorys* Leske.

#### CRETACEOUS

- A. argentinus* de Saez, 1930:58–60, 2 figs. [Argentine. De Saez refers to the genus as *Ananchytes*.]
- A. austriaca* Traub, 1938:39–40, pl. 1: figs. 8a–c. [Germany.]

### Genus *Galeola* Quenstedt

In the *Treatise*, Wagner and Durham (Durham et al., 1966:U528) consider *Galeola* a subjective synonym of *Echinocorys* Leske.

#### UPPER CRETACEOUS

- G. papillosa* Quenstedt *basiplana* Ernst, 1970:55, fig. 6. [Northwest Germany.] (Upper Campanian.)

### Genus *Spatagoides* Bayle

#### UPPER CRETACEOUS

- S. aichinoi* Checchia-Rispoli, 1931:3–6, fig. 1, pl. 1: figs. 4–6. [Cirenaica, East Libya.] (Maestrichtian.)
- S. martellii* Checchia-Rispoli, 1931:7–11, fig. 2, pl. 1: figs. 1–3. [Cirenaica, East Libya.] (Maestrichtian.)
- S. striatoradiatus* Leske var. *conicus* Smiser, 1935b: 71, pl. 8: fig. 1g. [Holland.] (Maestrichtian.)
- S. striatoradiatus* Leske var. *depressus* Smiser, 1935b: 71–72, pl. 8: fig. 1h. [Holland.] (Maestrichtian.)

- S. striatoradiatus* Leske var. *elevatus* Smiser, 1935b: 71, pl. 8: fig. 1e. [Holland.] (Maestrichtian.)
- S. tripolitanus* Checchia-Rispoli, 1931:11–14, fig. 3, pl. 1: figs. 7–8. [Cirenaica, East Libya.] (Maestrichtian.)

### Genus *Galeaster* Seunes

#### PALEOCENE

- G. carinatus* Ravn, 1927:342–343, pl. 2: figs. 9a–d. [Denmark.] (Danian.)
- G. dagestanensis* Poslavskaia and Moskvín, 1960: 59–60, fig. 9, pl. 2: figs. 6a–e. [Southern U.S.S.R.]

#### UPPER CRETACEOUS

- G.?* *muntschiensis* Tzaghareli, 1949:183–184, 260–261, fig. 2, pl. 13: figs. 6–8. [Georgia, U.S.S.R.]

### Genus *Hagenowia* Duncan

#### UPPER CRETACEOUS

- H. blackmorei* Wright and Wright, 1949:467–470, figs. 14–16. [England.] (Senonian.)
- H. infulasteroides* Wright and Wright, 1949:470–472, figs. 17–18. [England.] (Senonian.)

### Genus *Martinosigra* Nielson

In the *Treatise*, Wagner and Durham (Durham et al., 1966:U530) consider this genus an objective synonym of *Hagenowia* Duncan.

#### UPPER CRETACEOUS

- Martinosigra* Nielsen, 1942:163. Type-species: *Cardiaster rostratus* Forbes. [Europe.] (Senonian.)
- M. elongata* Nielsen, 1942:163–166, pl. 2: fig. 2. [Denmark.] (Senonian.)

### Genus *Hemipneustes* Agassiz

#### NEOGENE

- H. striatoradiatus* d'Orbigny var. *giganteus* Tzan-kov, 1930:27–29, 71, fig. 1, pl. 1: figs. 1–3. [Bulgaria.] (Aturien.)

## UPPER CRETACEOUS

- H. nicklesi* Vidal, 1921:10–11, figs. 1–2, pl. 2: fig. 1, pl. 3: fig. 1. [Spain.] (Campanian.)  
*H. perrieri* Cottreau, 1935:261–262, pl. 1: figs. 4, 4a–b. [Madagascar, off East Africa.] (Maestrichtian.)  
*H. sardanyolae* Vidal, 1921:11–12, figs. 3–4, pl. 2: fig. 2, pl. 3: fig. 2. [Spain.] (Campanian.)  
*H. zuffardii* Checchia-Rispoli, 1921:30–31, pl. 9: figs. 8–11. [Tripoli, Libya.] (Senonian.)

Genus *Ismidaster* Böhm

## UPPER CRETACEOUS

- Ismidaster* Böhm, 1927:194–195. Type-species. *I. toulai* Böhm, 1927:194–195, pl. 11: figs. 3a–c. [Bithynia, Asia Minor.] (Senonian.)

Genus *Labrotaxis* Casey

## LOWER CRETACEOUS

- Holaster* (*Labrotaxis*) Casey, 1960:260–261. Type-species: *H. (L.) cantianus* Casey, 1960:261–263, fig. 1, pl. 44: figs. 1–4. [Kent, southeast England.] (Lower Albian.)

Genus *Lampadaster* Cotteau

## UPPER CRETACEOUS

- L. lamberti* Tzankov, 1934:211–212, 220, pl. 4: figs. 1a–b, 2a–b. [Bulgaria.] (Maestrichtian.)

Genus *Pseudananchys* Pomel

## UPPER CRETACEOUS

- P. rydzewski* Kongiel, 1936a:4–5, 9. [Poland.] (Maestrichtian.)  
*P. stephensoni* Cooke, 1953:26, pl. 9: figs. 6–9. [Texas, U.S.A.] (Santonian?)

Genus *Pseudholaster* Pomel

## LOWER CRETACEOUS

- P. androaviensis* Lambert, 1933a:17, pl. 2: fig. 26. [Madagascar, off East Coast of Africa.] (Albian.)

Genus *Pseudofaster* Lambert

## CRETACEOUS

- P. schmidti* Moskvina, 1959:270, fig. 79, pl. 17: figs. 1a–c. [Caucasus, U.S.S.R.]

## UPPER CRETACEOUS

- P. renngarteni* Schmidt, 1938:80–82, pl. 25: figs. 1a–5, pl. 26: figs. 1a–3. [U.S.S.R.] (Maestrichtian.)

Genus *Rispolia* Lambert

## UPPER CRETACEOUS

- R. cottreaudi* Besairie and Lambert, 1930:107–108, pl. 9: fig. 1. [Madagascar, off East Africa.] (Maestrichtian.)

Genus *Stegaster* Pomel

## UPPER CRETACEOUS

- S. novoi* Lambert, 1931a:M6–M7, fig. 1, pl. 1: figs. 1–4. [Spain.] (Aturien.)

## UPPER CRETACEOUS

- S. charlesi* Lambert, 1931a:M7, fig. 3, pl. 1: figs. 8–9. [Asia Minor.] (Maestrichtian.)  
*S. mairei* Lambert, 1931a:M8, fig. 2, pl. 1: figs. 12–13. [West Africa.]  
*S. zonarius* Lambert, 1931a:M7–M8, pl. 1: fig. 7. [Daghestan, Asiatic Russia.] (Upper Senonian.)

Genus *Seunaster* Lambert in Blayac

In the *Treatise*, Wagner and Durham (Durham et al., 1966:U533) consider *Seunaster* a subjective synonym of *Stegaster* Pomel.

## UPPER CRETACEOUS

- S. georgicus* Rouchadzé, 1940:95–97, 143–144, 164–165, figs. 4a–d, pl. 1: figs. 2a–e. [Georgia, U.S.S.R.] (Maestrichtian/Campanian.)

- S. georgicus* Rouchadzé *lata* Rouchadzé, 1940:97, 143–144, 164–165, fig. 4d, pl. 1: figs. 2a–e. [Georgia, U.S.S.R.] (Maestrichtian/Campanian.)
- S. lamberti* Charles in Lambert and Charles, 1937: 383–384, pl. 8: figs. 6–8. [Asia Minor.] (Maestrichtian.)
- S. lazicus* Rouchadzé, 1940:97–98, 144, 165, figs. 5a–c, pl. 1: figs. 3a–e. [Georgia, U.S.S.R.] (Maestrichtian/Campanian.)

### Suborder URECHININA H. L. Clark

#### RECENT

URECHININA H. L. Clark, 1925a:185. [In the *Treatise* Durham (Durham et al., 1966:U277) states: "The suborder Urechinata was proposed by H. L. Clark (1946) for irregular echinoids with a sternum in which the 'labrum [is] followed by a single plate.' As defined, this suborder includes some but not all of the Holasteroidea as proposed subsequently by Durham and Melville (1957)." This taxon is not used in the *Treatise*.]

### Family URECHINIDAE Duncan

#### Genus *Chelonechinus* Bather

#### MIOCENE

*Chelonechinus* Bather, 1934:808, 860–861. Type-species: *C. suvae* Bather, 1934:808–809, 811–832, 861, figs. 1–12, pls. 108–110. [Fiji Islands, South Pacific Ocean.]

#### UNKNOWN

*C. javanensis* Bather, 1934:809, 835, 862, fig. 16. [Java, South Pacific, Malay Archipelago.]

#### Genus *Plexechinus* A. Agassiz

#### RECENT

*P. spectabilis* Mortensen, 1948a:110–111. [Philippine Islands.]

### Genus *Sternopatagus* de Meijere

#### RECENT

*S. sinensis* Bather, 1934:847–848. [China Sea.]

### Order POURTALESIOIDA Mintz

POURTALESIOIDA Mintz, 1968:1287–1288.

### Family POURTALESIIDAE A. Agassiz

#### Genus *Pourtalesia* A. Agassiz

#### RECENT

- P. aurorae* Koehler, 1926:43–48, pl. 105: figs. 1–8, pl. 121: fig. 3. [Antarctic.]
- P. debilis* Koehler, 1926:49–51, pl. 105: fig. 9, pl. 106: figs. 1–10, pl. 122: fig. 1. [Antarctic.]
- P. laguncula* A. Agassiz *beringiana* Baranova, 1955: 340–341, fig. 5. [Bering Sea.]

### Family STENONASTERIDAE Lambert

#### Genus *Stenonaster* Lambert

#### AGE UNKNOWN

*S. douvillei* Lambert, 1928d:263–265, figs. 1–2. [France. *Stenonaster* Lambert 1922 replaces *Stonocorys* Lambert and Thiéry, 1917, (not Burmeister, 1835, nor Rambur, 1839) proposed to replace *Stenonia* Desor, 1858, (not Gray, 1853). Found with *Jeronia pyrenaica* and *Echinocorys douvillei* in the "carriere Bourda de la 'Costa Blanche', a l'Est de Mousis, 2 km à l'W de Lasseube."]

### Family SOMALIASTERIDAE Wagner and Durham

#### Genus *Somaliaster* Hawkins

#### UPPER CRETACEOUS

*Somaliaster* Hawkins, 1935a:53, 56. Type-species: *S. magniventer* Hawkins, 1935a:53–56, figs. 8–14, pl. 7: figs. 2a–c, 3a–c. [Somaliland, East Africa.] (Upper Senonian.)

*S. magniventer* Hawkins var. *checcchiai* Maccagno, 1941:93-95, pl. 11: figs. 10-11. [North Africa.] (Senonian.)

### Genus *Brightonia* Kier

#### PALEOCENE

*Brightonia* Kier, 1957b:871-872. Type-species: *B. macfadyeni* Kier, 1957b:872-873, fig. 13, pl. 104: figs. 12-13. [British Somaliland, East Africa.] (Lower Auradu Series.)

### Genus *Leviechinus* Kier

#### PALEOCENE

*Leviechinus* Kier, 1957b:873-874. Type-species: *Pericosmus gregoryi* Currie. [British Somaliland, East Africa.] (Lower Auradu Series.)

### Family Uncertain

#### Genus *Coraster* Cotteau

#### PALEOCENE

*C. vilanovae* Cotteau var. *alapiensis* Lambert in Flandrin, 1929:344-345, pl. 2: figs. 3a-c, 4a-c. [Asia Minor.] (Danian.)

#### PALEOCENE/UPPER CRETACEOUS

*C. deleau* Lambert in Deleau, 1938:186, pl. 5: fig. 2. [Algiers, North Africa.] (Danian-Maestrichtian.)

#### CRETACEOUS

*C. caucasicus* Moskvina, 1959:276-277, fig. 87, pl. 18: figs. 3a-c. [Caucasus, U.S.S.R.]

*C. cubanicus* Moskvina, 1959:277, fig. 88, pl. 18: figs. 4a-c. [Caucasus, U.S.S.R.]

#### UPPER CRETACEOUS

*C. ansaltensis* Moskvina, 1959:279, fig. 91, pl. 18: figs. 7a-c. [Dagestan and Turkmenistan, U.S.S.R.]

*C. frechi* Böhm, 1927:195-196, pl. 12: figs. 5a-b. [Bithynia, Asia Minor.] (Senonian.)

*C. manuelitae* Sánchez Roig, 1952c:12, pl. 6: figs. 8-9. [Cuba.] (Senonian.)

### Genus *Corechinus* Kongiel

#### PALEOCENE

*Corechinus* Kongiel, 1936a:3-4, 8-9. Type-species: *C. pulaviensis* Kongiel, 1936a:3-4, 8-9. [Poland. Figured in Kongiel, 1935: pl. 1: fig. 4, pl. 2: figs. 6a-c.] (Middle siwak. Danian.)

### Genus *Turanglaster* Solovyev and Melikov

#### UPPER CRETACEOUS

*Turanglaster* Solovyev and Melikov, 1963:107. Type-species: *T. nazkii* Solovyev and Melikov, 1963:107-109, fig. 1, pl. 10: figs. 1-2. [Turkmen and Azerbaijan, U.S.S.R.]

### Order SPATANGOIDA Claus

#### Genus *Pictaviechinus* Mintz

#### MIDDLE JURASSIC

*Pictaviechinus* Mintz, 1967:2747. Type-species: *Pygomalus* [sic] *pictaviensis* Lambert and Thiéry. [Mintz referred *Pygomalus pictaviensis* Lambert and Thiéry to a new genus, *Pictaviechinus*, but included no description of the genus. *Pictaviechinus* is, therefore, a nomen nudum.] (Bathonian.)

### Suborder TOXASTERINA A. G. Fischer

#### Family TOXASTERIDAE Lambert

#### Genus *Toxaster* L. Agassiz

#### UPPER CRETACEOUS

*T. millosevichi* Checchia-Rispoli, 1936:300-302, pl. 16: figs. 1-1a, pl. 17: fig. 3. [Sicily, southwest of Italy.] (Cenomanian.)

## LOWER CRETACEOUS

- T. gabrieli* Denizot, 1935:141-142, pl. 5: fig. 3. [France.] (Upper Hauterivian.)
- T. laffitei* Devriès, 1960:21-22, pl. 5: figs. 10-20, pl. 35: figs. 15-16. [Algeria, North Africa. Mintz (1967:2748) referred *Toxaster laffitei* to a new genus *Devriesia* Mintz but included no description of the genus. *Devriesia* is, therefore, a nomen nudum.] (Berriasian.)
- T. mattaueri* Devriès, 1960:21, pl. 5: figs. 1-9, pl. 35: fig. 2. [Algeria, North Africa.] (Aptian.)
- T. maurus* Lambert, 1931c:40-41, pl. 2: figs. 13-15. [North Africa.] (Hauterivian.)
- T. sanchuensis* Tanaka, 1965:131-133, figs. 3a-c, pl. 15: figs. 5a-b, 6a-b, pl. 16: figs. 1a-c, 2a-c. [Japan.] (Neocomian.)

**Genus *Pliotoxaster* Fourtau**

Fischer (Durham et al., 1966:U551), in the *Treatise*, considers *Pliotoxaster* a subjective synonym of *Toxaster*.

## LOWER CRETACEOUS

- P. inflatus* Smiser, 1936:465, pl. 63: figs. 1, 4, 15, 23-25. [Texas, U.S.A.] (Comanchean.)

**Genus *Allotoxaster* Nisiyama**

## UPPER JURASSIC

- Allotoxaster* Nisiyama, 1968:181-182. Type-species: *Toxaster tosaensis* de Loriol. [Japan.] (Callovian-Tithonian.)

**Genus *Aphelaster* Lambert**

## LOWER CRETACEOUS

- A. serotinus* Tanaka and Shibata, 1961:70-72, figs. 1-2, pl. 10: figs. 1-6. [Japan.] (Barremian/Hauterivian.)

**Genus *Douwillaster* Lambert**

## LOWER CRETACEOUS

- D. hourcqii* Collignon, 1950:11-12, pl. 2: figs. 2-3. [Madagascar, off East Africa.] (Albian.)

**Genus *Heteraster* d'Orbigny**

## LOWER CRETACEOUS

- H. adkinsi* Lambert, 1927a:270. [Texas, U.S.A.] (Comanche Series.)
- H. aguilerai* Buitron, 1970:32-34, pl. 7: figs. 1-5. [Barranca Salitriillo, San Juan Raya, Puebla, Mexico.]
- H. alencasterae* Buitron, 1970:34-35, pl. 6: figs. 1-6. [Barranca Salitriillo, San Juan Raya, Puebla, Mexico.]
- H. cesarensis* Cooke, 1955:101, pl. 24: figs. 1-4. [Colombia.] (Neocomian.)
- H. checchiai* Alberti, 1950:133-135, pl. 1: figs. 1-12. [Italian Somaliland, Africa.]
- H. danubiensis* Chiriac, 1956:87-88, pl. 10: figs. 1a-d, E. [Rumania.] (Aptian.)
- H. mattaueri* Devriès, 1960:62-63, pl. 13: figs. 1-11. [Algeria, North Africa.] (Upper Albian.)
- H. nexilis* Nisiyama, 1950a:42-44, figs. 1-3. [Japan.] (Neocomian.)

## UPPER JURASSIC

- H. musandamensis* Lees, 1928:642-643, figs. 9-10, pl. 44: figs. 4a-b. [Arabia.]

**Genus *Enallaster* d'Orbigny**

In the *Treatise*, Fischer (Durham et al., 1966:U553) considers *Enallaster* a subjective synonym of *Heteraster* d'Orbigny.

## LOWER CRETACEOUS

- E. roscheni* Richards, 1947:39-40, pl. 2: figs. 4-6. [Peru.] (Aptian.)
- E. transiens* Devriès, 1956a:254-260, pl. 1-3. [Algeria, North Africa.] (Albian.)
- E. yuasensis* Tanaka and Okubo, 1954:223-224, pl. 7: fig. 6. [Japan.] (Barremian.)

**Genus *Epiaster* d'Orbigny**

In the *Treatise*, Fischer (Durham et al., 1966:U553) considers *Epiaster* a subjective synonym of *Heteraster* d'Orbigny.

## UPPER EOCENE

- E. angolensis* Haughton, 1924:101, pl. 4: fig. 5.  
[Angola, southwest Africa.]

## UPPER CRETACEOUS

- E. africanus* Checchia-Rispoli, 1947a:17-18, pl. 1: figs. 1-1a. [Somaliland, East Africa.] (Cenomanian.)
- E. caranoi* Checchia-Rispoli, 1947a:16-17, pl. 2: figs. 4-4a. [Somaliland, East Africa.] (Cenomanian.)
- E. carvalhoi* Darteville, 1953:142-143, pl. 10: figs. 1-2. [Angola, southwest Africa.] (Senonian?)
- E. chiapasensis* Lambert, 1935d:370-371, pl. 16: fig. 22. [Mexico.] (Lower Senonian.)
- E. migliorinii* Checchia-Rispoli, 1947a:19-20, pl. 1: figs. 5-7. [Somaliland, East Africa.] (Cenomanian.)
- E. ovalis* Checchia-Rispoli, 1947a:14-15, pl. 2: fig. 5. [Somaliland, East Africa.] (Cenomanian.)
- E. pulcher* Checchia-Rispoli, 1947a:20-21, pl. 1: figs. 4, 4a-b. [Somaliland, East Africa.] (Cenomanian.)
- E. somaliensis* Checchia-Rispoli, 1947a:11-14, pl. 1: figs. 2-3, pl. 2: figs. 1-3. [Somaliland, East Africa.] (Cenomanian.)
- E. somaliensis* Checchia-Rispoli var. *rotundata* Checchia-Rispoli, 1947a:13, pl. 1: fig. 2. [Somaliland, East Africa.] (Cenomanian.)
- E. trauthi* Kühn, 1925:182-183, 186-187, pl. 11: figs. 5-6. [Austria.] (Maestrichtian?)
- E. variabilis* Kühn, 1925:181-182, 186-187, pl. 11: figs. 2-4. [Austria.] (Maestrichtian?)

## LOWER CRETACEOUS

- E. alpinus* Lambert and Jeannet, 1928b:116. [France.] (Albian?)
- E. angolensis* Haughton, 1925:281, pl. 15: fig. 5. [Angola, southwest Africa.] (Upper Albian?)
- E. besairiei* Lambert, 1933a:18-19, pl. 3: fig. 4. [Madagascar, off East Africa.] (Middle Albian.)
- E. boipebensis* Brito, 1964:7-8, pl. 1: fig. 1, pl. 2: fig. 3. [Brazil.] (Albian.)
- E. blanckenhorni* Blanckenhorn, 1925[1924]:98-99, pl. 8: figs. 26-27. [Palestine, Israel.] (Albian.)
- E. dartoni* Cooke, 1955:108-109, pl. 28: figs. 1-10. [New Mexico, U.S.A.] (Aptian?)

- E. fourtaui* Lambert, 1931d:190, pl. 6: figs. 5-6. [Egypt.] (Aptian?)
- E. jeanneti* Collignon, 1950:13-14, pl. 2: figs. 4, 4a-b. [Madagascar, off East Africa.] (Albian.)
- E. mortenseni* Checchia-Rispoli, 1947a:10-11, pl. 1: figs. 8-9. [Somaliland, East Africa.] (Albian.)
- E. renfroae* Cooke, 1955:109, pl. 29: figs. 1-4. [Texas, U.S.A.] (Upper Albian?)
- E. toxasteroides* Lobacheva and Poretskaya, 1967:182-185, figs. 1-2, pl. 1: figs. 1-9. [Turkmen, U.S.S.R.] (Upper Barremian to lower Aptian.)

Genus *Isomicraster* Lambert

## CRETACEOUS

- I. brueti* Lambert, 1931c:101-102, pl. 4: figs. 8-9. [Tunis, North Africa.] (Aturien.)

## UPPER CRETACEOUS

- I. danei* Cooke, 1953:29, pl. 11: figs. 11-13. [Arkansas, U.S.A.] (Campanian/Santonian?)
- I. faasi* Rouchadzé, 1940:124-125, 153-154, 173-174, figs. 16-17, pl. 3: figs. 4a-c. [Georgia, U.S.S.R.]
- I. gregalis* Böhm, 1927:198-199, pl. 12: figs. 2a-b. [Bithynia, Asia Minor.] (Senonian.)
- I. mexicanus* Lambert, 1935d:371-372, fig. 2. [Mexico.] (Lower Cenomanian.)
- I. rossi* Cooke, 1953:29, pl. 11: figs. 15-16. [Texas, U.S.A.] (Turonian.)

Genus *Isopatagus* Mortensen

## RECENT

- Isopatagus* Mortensen, 1948a:113. Type-species: *I. obovatus* Mortensen, 1948a:113. [Philippine Islands.]

Genus *Macraster* Roemer

## CRETACEOUS

- M. triangularis* Sánchez Roig, 1949:217, pl. 34: figs. 1-2. [Cuba.]

## UPPER CRETACEOUS

*M. meghilensis* Lambert, 1931c:100–101, pl. 4: figs. 6–7. [North Africa.] (Cenomanian.)

## LOWER CRETACEOUS

*Hemiaster (Macraster) cascajalensis* Cooke, 1949b: 85–86, pl. 22: figs. 6–11. [Peru.] (Albian/Neocomian?)

*M. denisonensis* Smiser, 1936:471, pl. 66: figs. 1–4. [Texas, U.S.A.] Comanchean.)

*M. ibizaensis* Jeannet, 1934c:387; 1935a:183–185, fig. 3, pl. 1: figs. 4–6. [Balearic Islands, western Mediterranean.] (Aptian/Urgonian.)

*M. kentensis* Adkins, 1930:106–108, pl. 11: figs. 1–3, 5. [Texas, U.S.A.] (Comanche Series—Ft. Worth and Duck Creek Fms.)

*M. obesus* Adkins, 1930:116–119, pl. 10: figs. 2–4, pl. 11: fig. 6. [Texas, U.S.A.] (Comanche Series, Weno Fm.)

*M. obtritus* Lambert, 1931c:67, pl. 3: figs. 8–9. [North Africa.] (Aptian.)

*M. pseudoelegans* Adkins, 1930:108–110, pl. 10: figs. 1, 5, pl. 11: fig. 4. [Texas, U.S.A.]

*M. roberti* Lambert var. *ovatus* Smiser, 1936:472, pl. 64: figs. 11–14. [Texas, U.S.A.] (Comanchean.)

*M. solitariensis* Smiser, 1936:472, pl. 65: figs. 13, 15, 16, 18, 19. [Texas, U.S.A.] (Comanchean.)

**Genus *Mokotibaster* Lambert**

## UPPER CRETACEOUS

*Mokotibaster* Lambert, 1933a:17–18. Type-species: *M. hourcqi* Lambert, 1933a:18, pl. 3: figs. 1–3. [Madagascar, off East Africa.] (Lower Maestrichtian.)

**Genus *Palmeraster* Sánchez Roig**

## UPPER EOCENE

*Palmeraster* Sánchez Roig, 1949:268–269. Type-species: *P. palmeri* Sánchez Roig, 1949:269, pl. 31: figs. 2–4. [Cuba.]

## OLIGOCENE

*P. japonicus* Morishita, 1956:194–195, pl. 2: figs. 1a–c. [Japan.] (Ashiya Group.)

## UPPER EOCENE

*P. herrerae* Sánchez Roig, 1952b:17–18, pl. 1: figs. 2–3. [Cuba.]

*P. zanolettii* Sánchez Roig, 1952b:17, pl. 5: figs. 3–4. [Cuba.]

**Genus *Paraheteraster* Nisiyama**

## LOWER CRETACEOUS

*Paraheteraster* Nisiyama, 1968:188–190. Type-species: *Washitaster? macroholcus* Nisiyama. [Japan.] (Barremian to Albian.)

**Genus *Somalechinus* Checchia-Rispoli**

## UPPER CRETACEOUS

*Somalechinus* Checchia-Rispoli, 1945[1943]:85–87. Type-species: *S. gibbosus* Checchia-Rispoli, 1945[1943]:85–87, pl. 1: figs. 1–3. [Somaliland, East Africa.] (Cenomanian.)

**Suborder HEMIASTERINA A. G. Fischer****Family HEMIASTERIDAE Clark****Genus *Hemiaster* Agassiz**

## EOCENE

*H. despujolsi* Lambert, 1937:90, pl. 3: figs. 18–19. [Morocco.]

*H. digonus* d'Archaic var. *kohaticus* Davies, 1943: 70, pl. 11: figs. 6–9. [India.]

## UPPER EOCENE

*H. globulosus* Sánchez Roig, 1949:240–241, pl. 42: figs. 11–13. [Cuba. Although Sánchez Roig cites it as Upper Oligocene, Brodermann (1949:323) says it is Upper Eocene.]

## PALEOCENE

*H. hawkinsi* Lambert, 1933a:22–23, pl. 4: fig. 19. [Madagascar, off East Africa.] (Danian.)

*H. moscovensis* Cooke, 1959:68, pl. 28: figs. 5–9. [Alabama, U.S.A.] (Porters Creek Clay.)



*H. vistulensis* Kongiel, 1936a:5-7, 9. [Poland. Figured by Kongiel, 1935: pl. 5: figs. 2a-c, 3.] (Lower and middle siwak. Danian.)

## CRETACEOUS

*H. amelianus* Cooke, 1953:35, pl. 16: fig. 1. [Guatemala.]  
*H. sphericus* Lambert, 1935d:372-373, pl. 16: figs. 18-19. [Mexico.] (Between San Bartholomeo and La Concordia.)

## UPPER CRETACEOUS

- H. amurensis* Schmidt in Schmidt and Vereshchagin, 1960:229, pl. 1: figs. 6-7. [U.S.S.R.]  
*H. arcolensis* Cooke, 1953:32-33, pl. 12: figs. 12-16. [Alabama, U.S.A.] (Santonian.)  
*H. balboi* Airaghi, 1939:263, pl. 10: fig. 1. [North Africa.] (Turonian.)  
*H. barthouxi* Lambert, 1931d:196, pl. 5: figs. 48-49. [Egypt.] (Turonian.)  
*H. batalleri* Lambert, 1933d:187-188, pl. 1: figs. 14-16. [Spain.] (Maestrichtian.)  
*H. benhurensis* Stephenson, 1941:67, pl. 7: figs. 8-10. [U.S.A.] (Navarro Group. Maestrichtian.)  
*H. besairiei* Lambert, 1933a:22. [Madagascar, off East Africa.] (Campanian.)  
*H. catandubensis* Maury, 1934a:155, pl. 16: figs. 2-3. [Brazil, Rio Grande do Norte.] (Turonian.)  
*H. cedroensis* Maury, 1936:280-283, pl. 2: figs. 3, 7. [Brazil.] (Lower Turonian.)  
*H. cranium* Cooke, 1946:226-227, pl. 32: figs. 1-4. [U.S.A.] (Washita Group. Cenomanian.)  
*H. fourtaui* Chiplonker, 1937:64. [India. New name for *Hemiaster cenomanensis* Duncan, 1887, not Cotteau, 1887; *H. oldhami* Fourtau, 1918; not Noetling, 1897.] (Lower Cenomanian.)  
*H. gemellaroi* Checchia-Rispoli, 1936:302-303, pl. 16: figs. 5-5a, pl. 17: figs. 4-4a. [Sicily, southwest Italy.] (Cenomanian.)  
*H. gonzalezmunozii* Sánchez Roig, 1953c:170-171, pl. 11: figs. 3-4. [Cuba.]  
*H. heteropneustes* Lambert, 1936c:28-29, pl. 4: figs. 20-22. [Madagascar, off East Africa.] (Maestrichtian.)  
*H. holoambitatus* Chiplonker, 1937:64-65, pl. 6: figs. 4a-c. [India.] (Lower Cenomanian.)  
*H. integer* Lambert, 1933a:21-22, pl. 3: figs. 5-6. [Madagascar, off East Africa.] (Upper Turonian.)  
*H. jacksoni* Maury, 1925:518-521. [Brazil.] (Turonian?)  
*H. jacobi* Besairie and Lambert, 1930:109, pl. 9: figs. 2-3. [Madagascar, off East Africa.] (Maestrichtian.)  
*H. judinkensis* Schmidt in Schmidt and Vereshchagin, 1960:228-229, pl. 1: figs. 1-4. [U.S.S.R.]  
*H. labrici* Lambert, 1936d:84-85, fig. 1, pl. 6: figs. 5-7. [France.] (Upper Senonian.)  
*H. lamberti* Sánchez Roig, 1949:238-239, pl. 35: figs. 7-8. [Cuba.]  
*H. latesulcatus* Lambert, 1936a:206, pl. 24: figs. 3-4. [Madagascar, off East Africa.]  
*H. madagascariensis* Cottreau, 1922a:118-120, pl. 2: figs. 1-8. [Madagascar, off East Africa.] (Upper Senonian.)  
*H. madagascariensis* Cottreau *nana* Lambert, 1936a:205, pl. 24: figs. 5-6. [Madagascar, off East Africa.] (Maestrichtian.)  
*H. madrugensis* Weisbord, 1934:35-37, pl. 3: figs. 4-6. [Cuba.]  
*H. mutabilis* Lambert, 1933a:20-21, pl. 3: figs. 7-8. [Madagascar, off East Africa.] (Upper Turonian.)  
*H. narindensis* Lambert, 1933a:24, fig. 2. [Madagascar, off East Africa.] (Upper Maestrichtian.)  
*H. oliveirai* Marchesini Santos and de Souza Cunha, 1959:13-15, pl. 3: figs. 1-4. [Brazil.] (Maestrichtian.)  
*H. parallelus* Lambert, 1936a:206, pl. 24: figs. 1-2. [Madagascar, off East Africa.] (Upper Senonian?)  
*H. paronai* Checchia-Rispoli, 1921:27-29, pl. 8: fig. 24, pl. 9: figs. 14, 18. [Tripoli, Libya.] (Senonian.)  
*H. pseudoanticus* Lambert, 1933a:21, pl. 2: figs. 27-28. [Madagascar, off East Africa.] (Upper Turonian.)  
*H. rioupanemensis* Maury, 1925:502-505, pl. 24: fig. 10. [Brazil.]  
*H. sabinal* Cooke, 1953:34, pl. 13: figs. 7-10. [Texas, U.S.A.] (Santonian/Coniacian?)  
*H. sanctisebastiani* Maury, 1925:508-511, pl. 24: fig. 13. [Brazil.]  
*H. schoelleri* Lambert, 1938a:277-278, pl. 19: figs. 1-3. [Tunis, North Africa.] (Upper Cenomanian.)  
*H. siboneyensis* Weisbord, 1934:37-39, pl. 3: figs. 7-9. [Cuba.]  
*H. stoliczkai* Stefanini, 1928:179-180, pl. 21: figs. 2a-d, 3a-d. [Karakorum, Mongolia.] (Cenomanian.)

- H. teilhardi* Basse, 1928:115–116, figs. 3–4, pl. 7: figs. 1a–b. [South America.] (Cenomanian?)  
*H. tubillensis* Lambert, 1935f:519–520, pl. 57: figs. 10–11. [Spain.] (Upper Campanian.)  
*H. uwajimensis* Morishita, 1962:114–115, pl. 1: figs. 1–7. [Shikoku, Japan.] (Lower part of Yoshida group.)

## LOWER CRETACEOUS

- H. hourcqi* Lambert, 1936c:28, pl. 2: figs. 7–8. [Madagascar, off East Africa.] (Lower Albian.)  
*H. reineckeii* Haughton, 1924:102–103, pl. 4: fig. 4; 1925:282–283, pl. 15: fig. 4. [Angola, southwest Africa.] (Upper Albian.)  
*H. stefaninii* Lang in Montanaro-Gallitelli and Lang, 1937:204–205, pl. 9: fig. 12. [Zululand, Africa.] (Albian.)  
*H. zululandensis* Besairie and Lambert, 1930:116, pl. 10: figs. 3–4. [Zululand, East Africa.] (Albian.)

**Subgenus *Hemiaster* (*Mecaster*) Pomel**

## UPPER CRETACEOUS

- H. (M.) chirakhanensis* Chiplonker, 1939:240–241, pl. 25: figs. 4a–b. [India.] (Cenomanian.)

**Subgenus *Hemiaster* (*Trachyaster*) Pomel**

In the *Treatise*, Fischer (Durham et al., 1966:U559) considers *Trachyaster* Pomel a subgenus of *Hemiaster*.

## MIDDLE MIOCENE

- T. aichinoi* Checchia-Rispoli, 1927:2–5, figs. 1–3, pl. 1: figs. 1–2. [Cyrenaica, Eastern Libya.]  
*T. hlinnensis* Seneš, 1955:26–27, pl. 1: fig. 3. [Eastern Slovakia.] (Helvetian.)

## UPPER CRETACEOUS

- T. minutus* Sánchez Roig, 1949:241–242, pl. 42: figs. 6–8. [Cuba.]  
*T. simpaticus* Sánchez Roig, 1949:242–243, pl. 42: figs. 3–5. [Cuba.] (Maestrichtian.)

**Genus *Crucibrissus* Lambert**

## UPPER EOCENE

- C. cabrerai* Sánchez Roig, 1953a:67, pl. 10(pars), pl. 21. [Cuba.]

## MIDDLE EOCENE

- C. abichi* Meffert, 1931:38–39, pl. 6: figs. 10–11. [Armenia.] (Lutetian.)

**Genus *Distefanaster* Checchia-Rispoli**

## UPPER CRETACEOUS

- D. pygmeus* Lambert, 1933a:25, pl. 4: fig. 18. [Madagascar, off East Africa.] (Upper Maestrichtian.)

**Genus *Ditremaster* Munier-Chalmas**

## OLIGOCENE

- Opissaster* (*Ditremaster*) *oligocenicus* Stchépinsky, 1943a:225, 238–239, pl. 1: fig. 6; 1943b:225, pl. 1: fig. 6. [Turkey.]

## MIDDLE EOCENE

- D. granosus* Lambert, 1933a:40, pl. 4: fig. 17. [Madagascar, off East Africa.] (Lutetian.)  
*D. olbrechtsi* Darteville, 1953:148–153, figs. 48–50, pl. 11: figs. 1–5. [Congo and Angola, South Africa.] (Lutetian.)

**Genus *Hernandezaster* Sánchez Roig**

## UPPER OLIGOCENE

- Hernandezaster* Sánchez Roig, 1949:211–212. Type-species: *H. hernandezii* Sánchez Roig, 1949:212–213, pl. 33: figs. 3–5. [Cuba.]

**Genus *Holcopneustes* Cotteau**

## MIOCENE

- H.?* *pomeyrolii* Jeannet, 1952:413–416, pl. 12: figs. 1–5. [New Caledonia, southwest Pacific Ocean east of Queensland, Australia.]

## LOWER EOCENE

*H. obtritatus* Lambert, 1933a:40, pl. 4: fig. 11. [Madagascar, off East Africa.] (Lower Lutetian.)

## PALEOCENE

*H. narindensis* Lambert, 1933a:24–25, pl. 4: figs. 8–10. [Madagascar, off East Africa.] (Danian.)

Genus *Opissaster* Pomel

## MIOCENE

*O. herrerae* Lambert and Roig in Sánchez Roig, 1926:126–127, pl. 40: figs. 1–2, pl. 41: fig. 3. [Cuba.]

## MIDDLE MIOCENE

*O. rozieri* Lambert, 1928b:124–125. [France.] (Helvetian.)

## LOWER MIOCENE

*O. kugleri* Jeannet, 1928a:41–42, pl. 5: figs. 3–5, pl. 6: fig. 12; 1928b:220. [Venezuela.] (Serie superieure de Agua Salada.)

## EOCENE

*O. somaliensis* Currie, 1925:71–74, fig. 14, pl. 10: figs. 8a–c, 9, 10, 11a–b, 12. [Somaliland, East Africa.]

## MIDDLE EOCENE

*O. derasmoi* Checchia-Rispoli, 1950a[1945–1946]: 32–35, pl. 1: figs. 6–7. [Somaliland, East Africa.]  
*O. derasmoi* Checchia-Rispoli var. *angulatus* Kier, 1957b:879–880, pl. 105: figs. 7–9. [British Somaliland, East Africa.] (Karkar Series.)

## LOWER EOCENE

*O. farquharsoni* Currie, 1927:438–441, figs. 4a–c. [Somaliland, East Africa.]

## PALEOCENE

*O. auraduensis* Kier, 1957b:876–877, fig. 15a, pl. 105: figs. 3–5. [British Somaliland, East Africa.] (Lower Auradu Series.)

## UPPER CRETACEOUS

*O. cantabriae* Sánchez Roig, 1953c:171–172, pl. 11: figs. 5–6. [Cuba.]

Genus *Palhemiaster* Lambert

## LOWER CRETACEOUS

*P. ibericus* Jeannet, 1934c:388; 1935a:181–183, figs. 1–2, pl. 1: figs. 1–3. [Balearic Islands, western Mediterranean.] (Aptian/Urgonian.)

Genus *Sarsiaster* Mortensen

## RECENT

*Sarsiaster* Mortensen, 1950b:157–158. Type-species: *S. griegii* Mortensen, 1950b:157–158. [North Atlantic.]

Genus *Tessieria* Collignon

## UPPER CRETACEOUS

*Tessieria* Collignon, 1949:263. Type-species: *T. senegalensis* Collignon, 1949:263–268, figs. 1–2, pl. 9a: figs. 1–5. [Senegal, West Africa.] (Maestrichtian.)

Genus *Washitaster* Lambert

## LOWER CRETACEOUS

*W. barremicus* Tanaka and Okubo, 1954:220, pl. 7: fig. 3. [Japan.] (Barremian.)  
*W. japonicus* Tanaka and Okubo, 1954:220–221, pl. 7: fig. 4. [Japan.] (Albian.)  
*W.?* *macroholcus* Nisiyama, 1950a:44–46, figs. 4–6. [Japan.] (Neocomian.)

## Family PALAEOSTOMATIDAE Lovén

Genus *Paleostoma* Lovén

## EOCENE

- P. rochi* Lambert, 1937:88–89, pl. 3: figs. 15–17.  
[Morocco.]

Genus *Leiostomaster* Lambert

## LOWER CRETACEOUS

- L. bosei* Smiser, 1936:476, pl. 64: figs. 4–8. [Texas,  
U.S.A.] (Comanchean.)

Genus *Ornithaster* Cotteau

## UPPER CRETACEOUS

- O. cordiformis* Böhm, 1927:196–197, pl. 12: figs.  
3a–b. [Bithynia, Asia Minor.] (Senonian.)  
*O. sokolovi* Moskvin, 1959:275, fig. 84, pl. 18: figs.  
8a–c, 9a–b. [Caucasus, U.S.S.R.]

## Family PERICOSMIDAE Lambert

Genus *Pericosmus* L. Agassiz

## RECENT

- P. abatoides* H. L. Clark, 1925a:199–200, pl. 11:  
figs. 4–6. [East end of Barrier Island, South  
Pacific Ocean.]  
*P. akabanus* Mortensen, 1939c:38–42, pl. 3: figs.  
1–6, pl. 4: figs. 1–16. [Red Sea.]  
*P. bidens* Mortensen, 1950b:158. [Mauritius, east  
of Madagascar in the Indian Ocean.]  
*P. cordatus* Mortensen, 1950b:158. [Golo Islands,  
Japan.]  
*P. keiensis* Mortensen, 1950b:159. [Kei Islands,  
Indonesia.]  
*P. mauritanus* Mortensen, 1950b:159. [Mauritius,  
east of Madagascar in the Indian Ocean.]  
*P. melanostomus* Mortensen, 1948a:119–120. [China  
Sea.]  
*P. oblongus* Mortensen, 1950b:159. [Bali Sea, west-  
ern Pacific Ocean.]  
*P. tenuis* Mortensen, 1950b:159. [Mauritius, east  
of Madagascar in the Indian Ocean.]

## PLIOCENE

- P. schencki* Israelsky, 1933b:306–307, pl. 3: figs.  
1–2, pl. 4: fig. 1. [Philippine Islands, South Pacific  
Ocean.]

## MIOCENE

- P. artemisae* Sánchez Roig, 1953c:168–169, pl. 11:  
fig. 1. [Cuba.]  
*P. magnificus* Nisiyama, 1968:269–272, pl. 28: figs.  
1–2. [Japan.] (Aijiri Fm.)  
*P. valenzuelai* Sánchez Roig, 1953c:167–168, pl.  
10: fig. 5. [Cuba.]

## MIDDLE MIOCENE

- P. israelkyi* Durham, 1961a:481, 483, figs. 1I, 1L,  
2E, pl. 67: figs. 5, 8, 11. [Costa Rica.] (Burdig-  
alian/Helvetian.)  
*P. stehlini* Jeannet, 1928a:43–44, pl. 4: figs. 21–24;  
1928b:220. [Venezuela.] (Damsite series.)

## LOWER MIOCENE

- P. stefaninii* Socin, 1942:49–50. [Somaliland, East  
Africa.]

## UPPER OLIGOCENE

- P. blanquizalensis* Sánchez Roig, 1952c:21, pl. 13:  
fig. 2. [Cuba.]  
*P. camagueyanus* Sánchez Roig, 1949:246–247, pl.  
38: figs. 1–2. [Cuba.]  
*P. delgadoi* Sánchez Roig, 1953a:65, pl. 16(pars).  
[Cuba.]  
*P. giganteus* Sánchez Roig, 1952c:21–22, pl. 13:  
fig. 1, pl. 14: fig. 1. [Cuba.]

## MIDDLE OLIGOCENE

- P. gardensis* Venzo, 1933:210–211, pl. 12: fig. 2.  
[Italy.] (Rupelian.)

## EOCENE

- P. rojasi* Sánchez Roig, 1951:60–61, pl. 36: figs.  
2–3. [Cuba.]

## UPPER EOCENE

- P. cubanus* Palmer in Sánchez Roig, 1949:248. [Cuba.]  
*P. zanolettii* Sánchez Roig, 1953c:169–170, pl. 11: fig. 2. [Cuba.]

## MIDDLE EOCENE

- P. clarki* Lambert, 1933a:41, pl. 3: fig. 14. [Madagascar, off East Africa.] (Lutetian.)

## LOWER EOCENE

- P. gregoryi* Currie, 1927:430, figs. 7a–b. [Somaliland, East Africa.]

Subgenus *Pericosmus* (*Lambertona*) Sánchez Roig

## LOWER EOCENE

- Lambertona* Sánchez Roig, 1953b:257. Type-species: *Victoriaster lamberti* Sánchez Roig. [Cuba.]

Subgenus *Pericosmus* (*Victoriaster*) Lambert

## TERTIARY

- V. jamaicensis* Arnold and H. L. Clark, 1934:150, pl. 3: figs. 1–3. [Jamaica, West Indies.]

## LOWER MIOCENE

- V. lamberti* Sánchez Roig, 1926:129–130, pl. 42: fig. 1, pl. 43: fig. 1. [Cuba.]

Genus *Mundaster* Soares and Devriès

## UPPER CRETACEOUS

- Mundaster* Soares and Devriès, 1967:8. Type-species: *M. tentugalensis* Soares and Devriès, 1967:8–10, fig. 2, pl. 1: figs. 1–9. [Casal Novo do Rio and Carapinheira, Portugal.] (Upper Cenomanian to lower Turonian.)

## Family SCHIZASTERIDAE Lambert

Genus *Schizaster* L. Agassiz

## PLIOCENE

- S. alsiensis* Maccagno, 1947a:116–121, pl. 1: figs. 1–4. [Rome, Italy.]  
*S. jeanneti* Martin in Jeannet and Martin, 1937: 293–295, figs. 63a–c, 64. [Dutch East Indies, western Pacific Ocean.]  
*S. morlini* Grant and Hertlein, 1956:107–109, pl. 29: figs. 1–8. [California, U.S.A.]  
*S. portisi* Serra, 1932:888–893, fig. 1. [Italy.]  
*S. pratti* Israelsky, 1933b:305–306, pl. 4: figs. 2–3, pl. 5: figs. 1–4. [Philippine Islands, South Pacific Ocean.]

## MIDDLE PLIOCENE

- S. excavatus* Martin in Jeannet and Martin, 1937: 292–293, figs. 62a–b. [Dutch East Indies, western Pacific Ocean.]

## LOWER PLIOCENE

- S. kinsasaensis* Morishita, 1953:224–225, pl. 1: fig. 8. [Japan.] (Middle part of Ogawa Fm.)

## MIOCENE

- S. minihagali* Deraniyagala, 1956:4, pl. 3: figs. 3–4. [Ceylon, Indian Ocean.]  
*S. miyazakiensis* Morishita, 1956:197–199, pl. 3: figs. 1a–d, 2a–d, pl. 4: figs. 1a–d. [Japan.] (Miyazaki Group.)

## UPPER MIOCENE

- S. costaricensis* Durham, 1961a:483–484, figs. 1C, 1F, 2G, 2H, pl. 68: figs. 8, 10, 11, 13. [Costa Rica.]

## LOWER MIOCENE

- S. guirensis* Sánchez Roig, 1949:278–279, pl. 43: figs. 4–5. [Cuba.]  
*S. salutis* Sánchez Roig, 1949:278, pl. 45: figs. 3–4. [Cuba.]

*S. sanctamariae* Sánchez Roig, 1949:272, pl. 44: figs. 4–5. [Cuba. Although Sánchez Roig cites it as Upper Cretaceous, Brodermann (1949:328) says it is Upper Oligocene to Lower Miocene.]

## OLIGOCENE

*S. moronensis* Sánchez Roig, 1951:58–59, pl. 36: figs. 4–5. [Cuba.]

## UPPER OLIGOCENE

- S. cojimarensis* Sánchez Roig, 1949:270, pl. 44: figs. 1, 3. [Cuba.]  
*S. dumblei* Israelsky, 1924:141. [Mexico.]  
*S. habanensis* Sánchez Roig, 1949:270–271, pl. 45: figs. 1–2. [Cuba.]  
*S. llagunoi* Lambert and Roig in Sánchez Roig, 1949:274–275. [Cuba. Although Lambert cites it as Miocene, Brodermann (1949:328) says it is Middle Eocene/Upper Oligocene.]  
*S. munozii* Sánchez Roig, 1949:277, pl. 43: figs. 1–3. [Cuba.]  
*S. vedadoensis* Sánchez Roig, 1949:271–272, pl. 45: fig. 8. [Cuba.]

## EOCENE

- S. altissimus* Arnold and H. L. Clark, 1927:58, pl. 11: figs. 11–13. [Jamaica, West Indies.]  
*S. bathypetalus* Arnold and H. L. Clark, 1927:58–59, pl. 12: figs. 1–4. [Jamaica, West Indies.]  
*S. brachypetalus* Arnold and H. L. Clark, 1927:59–60, pl. 11: figs. 14–16. [Jamaica, West Indies.]  
*S. dyscritus* Arnold and H. L. Clark, 1927:61, pl. 12: figs. 7–9. [Jamaica, West Indies.]  
*S. hexagonalis* Arnold and H. L. Clark, 1927:61–62, pl. 12: figs. 10–11, pl. 13: figs. 1–3. [Jamaica, West Indies.]  
*S. narindensis* Lambert, 1933a:43, pl. 4: fig. 23. [Madagascar, off East Africa.]  
*S. pappi* Thirring, 1936:56–57, pl. 2: fig. 17. [Hungary.]

## UPPER EOCENE

- S. beckeri* Cooke, 1942:40, pl. 3: figs. 5–8. [U.S.A.]  
*S. caobaense* Sánchez Roig, 1949:273–274, pl. 44: fig. 2. [Cuba.] (Priabonian.)

- S. gerthi* Pijpers, 1933:96–97, fig. 157, pl. 1: fig. 19, pl. 2: figs. 10–12. [Dutch West Indies, Netherland Antilles, off Venezuelan coast.]  
*S. humei* Lambert, 1931d:204, pl. 5: figs. 12–14. [Egypt.] (Priabonian.)  
*S. santanae* Sánchez Roig, 1949:281–282, pl. 45: figs. 5–7. [Cuba. Although Sánchez Roig cites it as Upper Oligocene, Brodermann (1949:328) says it is Middle to Upper Eocene.]

## MIDDLE EOCENE

- S. delorenzoi* Checchia-Rispoli, 1950a[1945–1946]:35–36, pl. 2: figs. 5, 5a–c. [Somaliland, East Africa.]  
*S. gigas* Sánchez Roig, 1953a:66, pl. 20. [Cuba.]  
*S. marci* Castex, 1930:53–54, pl. 4: figs. 9–12. [France.] (Upper to Middle Lutetian.)  
*S. pentagonalis* Sánchez Roig, 1953a:65–66, pl. 19. [Cuba.]

## LOWER EOCENE

- S. alcaldei* Sánchez Roig, 1949:273, pl. 32: fig. 4. [Cuba. Brodermann (1949:327) says it is Lower Eocene.]  
*S. eopneustes* Lambert, 1933a:42, pl. 3: fig. 15. [Madagascar, off East Africa.]  
*S. leprosorum* Lambert, 1933a:42, fig. 8. [Madagascar, off East Africa.]  
*S. persica* Clegg, 1933:13–14, pl. 1: figs. 6a–c, 7a–c. [Persia (Iran).]

## UPPER PALEOCENE

- S. schlosseri* Traub, 1938:40, pl. 1: figs. 9a–b. [Germany.] (Thanetian.)

**Genus *Aplospatangus* Lambert**

In the *Treatise*, Fischer (Durham et al., 1966:U569) considers *Aplospatangus* a subjective synonym of *Schizaster* L. Agassiz.

## MIOCENE

- Schizaster* (*Aplospatangus*) *rojasi* Sánchez Roig, 1952c:25–26, pl. 15: figs. 1–3. [Cuba.]

## LOWER MIOCENE

*S. (A.) riveroi* Sánchez Roig, 1952c:27, pl. 15: figs. 4–5. [Cuba.]

Subgenus *Schizaster* (*Schizaster*) L. Agassiz

## MIOCENE

*S. (S.) fernandesi* Sánchez Roig, 1952c:25, pl. 9: fig. 3. [Cuba.]

Subgenus *Schizaster* (*Hypselaster*) Clark

## RECENT

*H. affinis* Mortensen, 1948a:121–123. [Philippine Islands.]

*H. dolosus* H. L. Clark, 1938:430–432, pl. 28: figs. 4–7. [Western Australia.]

## EOCENE

*H. perplexus* Arnold and H. L. Clark, 1927:56–57, pl. 11: figs. 8–10. [Jamaica, West Indies.]

Subgenus *Schizaster* (*Paraster*) Pomel

## RECENT

*Paraster erythraeus* Tortonese, 1932:1–6, figs. 1–7. [Red Sea.]

*Schizaster* (*Paraster*) *floridiensis* Kier and Grant, 1965:50–54, fig. 15, pl. 13: figs. 4–6, pl. 14: figs. 1–9. [Florida, U.S.A.]

## PLEISTOCENE

*P. sierrai* Sánchez Roig, 1951:63–64, pl. 40: fig. 1. [Cuba.]

## PLIOCENE

*P. eustatii* Engel, 1961:3–5, figs. 1–4. [Lesser Antilles, West Indies.]

*P. hyperocus* H. L. Clark, 1945:323–324, pl. 42: figs. L–M, pl. 43: fig. A. [Fiji, South Pacific Ocean.]

## MIOCENE

*P. saipanicus* Cooke, 1957:363–364, pl. 119: figs. 18–21. [Mariana Islands, Western Pacific Ocean.]

*P. tampicoensis* Israelsky, 1924:140. [Mexico.]

## OLIGOCENE

*P. tschopi* Palmer in Sánchez Roig, 1949:290–291, pl. 46: fig. 1. [Cuba. Although Palmer says this is Upper Eocene, Brodermann (1949:325) says it is Lower to Upper Oligocene.]

## EOCENE

*P. camagueyensis* Weisbord, 1934:68–70, pl. 7: figs. 9–11. [Cuba.]

*P. delgadoi* Sánchez Roig, 1953c:174, pl. 12: figs. 5–6. [Cuba.]

*S. (P.) taiwanicus* Hayasaka, 1948:98–101, pl. 2: fig. 4, pl. 5: figs. 2–5. [China.] (Slate Fm.)

## UPPER EOCENE

*P. cubitabellae* Weisbord, 1934:72–74, pl. 7: figs. 15–16. [Cuba.]

*P. nuevitasensis* Weisbord, 1934:67–70, pl. 7: figs. 7–8. [Cuba.]

*P. orientalis* Sánchez Roig, 1949:289–290, pl. 46: figs. 2–3. [Cuba. Although Sánchez Roig cites it as Upper Oligocene, Brodermann (1949:325) says it is Middle to Upper Eocene.]

*P. pastelilloensis* Weisbord, 1934:70–72, pl. 7: figs. 12–14. [Cuba.]

*P. pinarensis* Sánchez Roig, 1953c:173–174, pl. 12: figs. 3–4. [Cuba.]

## MIDDLE EOCENE

*S. (P.) karkarensis* Kier, 1957b:883–884, pl. 106: figs. 1–3. [British Somaliland, East Africa.] (Karkar Series.)

## PALEOCENE

*S. (P.) duroensis* Kier, 1957b:885–886, pl. 106: figs. 11–14. [British Somaliland, East Africa.] (Lower Auradu Series.)

*S. (P.) hunti* Kier, 1957b:882-883, pl. 106: figs. 5-7. [British Somaliland, East Africa.] (Lower Auradu Series.)

### Genus *Abatus* Troschel

#### RECENT

- A. curvidens* Mortensen, 1936a:226-228, pl. 3: fig. 9, pl. 9: figs. 17-20. [Antarctic Ocean.]  
*A. ingens* Koehler, 1926:58-65, pl. 111: fig. 9, pl. 113: fig. 7, pl. 117: figs. 3-5, 7-8, pl. 118: figs. 1-7, pl. 123: figs. a-k. [Antarctic.]

### Genus *Agassizia* Agassiz and Desor

#### MIOCENE

- A. algarbiensis* Da Veiga Ferreira, 1962:293-295, pl. 1: figs. 1-6. [Portugal.]  
*A. cyrenaica* Desio, 1929:340-342, pl. 39: figs. 3a-d. [Oasis of Giarabùb, Libya.]  
*A. cyrenaica* Desio var. *pseudoclevevi* Desio, 1929:343-344, pl. 39: figs. 4a-c. [Oasis of Giarabùb, Libya.]  
*A. cyrenaica* Desio var. *pseudoinflata* Desio, 1929:342-343, pl. 40: figs. 2a-c. [Oasis of Giarabùb, Libya.]  
*A. pinarensis* Sánchez Roig, 1952c:22-23, pl. 6: figs. 6-7. [Cuba.]  
*A. scrobiculata* Valenciennes var. *persica* Clegg, 1933:29-30, pl. 3: figs. 6a-d. [Persia (Iran).]

#### LOWER MIOCENE

- A. regia* Israelsky, 1924:142. [Mexico. Although Israelsky considered the Tuxpam Beds, from where this species was collected, to be Oligocene, these beds are now (Masuda, 1971:215-216) considered to be Early Miocene.]

#### OLIGOCENE

- A. avilensis* Sánchez Roig, 1949:260, pl. 41: figs. 4-6, 8. [Cuba.]  
*A. camagueyana* Weisbord, 1934:83-84, pl. 9: figs. 5-6. [Cuba.]  
*A. guanensis* Sánchez Roig, 1951:62-63, pl. 39: figs. 4-5. [Cuba.]

#### UPPER OLIGOCENE

- A. alveari* Sánchez Roig, 1949:258-259, pl. 41: fig. 7. [Cuba.]  
*A. lamberti* Palmer var. *oligocenicus* Palmer in Sánchez Roig, 1949:261-262, pl. 38, fig. 5. [Cuba. Although Palmer says it is Lower Oligocene, Brodermann (1949:316) says it is Upper Oligocene.]

#### LOWER OLIGOCENE

- A. lamberti* Palmer in Sánchez Roig, 1949:261, pl. 41: fig. 11. [Cuba. Although Palmer says it is Upper Eocene, Brodermann (1949:316) says it is Lower Oligocene.]

#### UPPER EOCENE

- A. caribbeana* Weisbord, 1934:74-76, pl. 8: figs. 1-6. [Cuba.]  
*A. flexuosa* Sánchez Roig, 1949:257-258, pl. 41: figs. 9-10. [Cuba.]

#### MIDDLE EOCENE

- A. caobaensis* Sánchez Roig, 1953c:172-173, pl. 12: figs. 1-2. [Cuba.]

### Subgenus *Agassizia* (*Anisaster*) Pomel

#### UPPER OLIGOCENE

- A. (A.) mossomi* Cooke, 1942:46-47, pl. 5: figs. 14-17. [U.S.A.]  
*A. (A.) wilmingtunica* Cooke, 1942:46, pl. 5: figs. 9-13. [U.S.A.]

### Genus *Eoagassizia* Grant and Hertlein

In the *Treatise*, Fischer (Durham et al., 1966:U575) considers *Eoagassizia* a subjective synonym of *Agassizia* (*Anisaster*) Pomel.

#### EOCENE

- Eoagassizia* Grant and Hertlein, 1938b:115-116. Type-species: *E. alta* Alex Clark in Grant and Hertlein, 1938b:116-117, fig. 11, pl. 12: figs. 5-7. [California, U.S.A.] (Probably Sierra Blanca.)



Genus *Amphipneustes* Koehler

## RECENT

*A. bifidus* Mortensen, 1950a:304–305, pl. 7: figs. 1–3, pl. 9: figs. 1, 7–9. [Antarctic.]

*A. similis* Mortensen, 1936a:231–233, pl. 4: figs. 1–7, pl. 9: figs. 21–26. [Antarctic Ocean.]

Genus *Antipneustes* Koehler (nom. van.)

In the *Treatise, Fischer* (Durham et al., 1966:U575) considers *Antipneustes* a synonym of *Amphipneustes* Koehler.

## RECENT

*A. brevisternalis* Koehler, 1926:83–87, pl. 112: figs. 2–6, pl. 124: fig. 3. [Antarctic.]

*A. marsupialis* Koehler, 1926:79–83, pl. 115: figs. 2, 5, 7–9, pl. 124: fig. 2. [Antarctic.]

*A. rostratus* Koehler, 1926:70–76, pl. 114: figs. 1–6, pl. 115: figs. 1, 3, 4, 6, pl. 116: figs. 1–6, pl. 117: figs. 1, 2, 6, 9, pl. 124: fig. 1. [Antarctic.]

*A. tumescens* Koehler, 1926:76–79, pl. 113: figs. 1–6. [Antarctic.]

Genus *Brisaster* Gray

## RECENT

*B. owstoni* Mortensen, 1950b:160. [Japan. Gulf of Tokio and Sagami Sea.]

## RECENT/PLIOCENE

*B. townsendi* A. Agassiz *woynari* Hertlein and Grant, 1960:132–133, pl. 25: fig. 5, pl. 26: figs. 1–3. [Southern California, U.S.A.] (San Diego Fm.)

## OLIGOCENE

*B. maximus* H. L. Clark, 1937b:368, pl. 24: fig. 9. [Oregon, U.S.A.] (Refugian Stage.)

Genus *Cagaster* Nisiyama

## MIOCENE

*Cagaster* Nisiyama, 1968:248–249. Type-species: *Schizaster recticanalis* Yoshiwara. [Japan.]

Genus *Diploporaster* Mortensen

## RECENT

*Diploporaster* Mortensen, 1950b:160. Type-species: *D. barbatus* Mortensen, 1950b:160. [Zanzibar, East Africa, Indian Ocean.]

Genus *Sinaechinus* Hayasaka

In the *Treatise, Fischer* (Durham et al., 1966:U576) considers *Sinaechinus* a subjective synonym of *Faorina* Gray.

## RECENT/PLIOCENE

*Sinaechinus* Hayasaka, 1948: 93–94. Type-species: *S. kawaguchii* Hayasaka, 1948:94–96, pl. 3: figs. 1–5, pl. 4: figs. 1a–c. [China.]

Genus *Hemifaorina* Jeannet and Martin

## MIOCENE

*Hemifaorina* Jeannet and Martin, 1937:289. Type-species: *Hemiaster tuber* Herklots. [Java, Indonesia.]

Genus *Linthia* Desor

## TERTIARY

*L. obesa* Arnold and H. L. Clark, 1934:148–149, pl. 2: figs. 4–6. [Jamaica, West Indies.]

## MIOCENE

*L. taiwanensis* Hayasaka, 1948:90–93, pl. 1: figs. 1a–b, pl. 2: figs. 1a–b. [China.] (Kansirei Fm., upper Kaizan Gp.)

## PALEOGENE

- L. desioi* Airaghi, 1934:73–74, pl. 5: figs. 12–14. [Libya, North Africa.]  
*L. praenipponica* Nagao, 1928:18, pl. 1: figs. 1–4. [Japan.]  
*L. yessoensis* Minato, 1950:158–159, figs. 1–2. [Japan.] (Lower Corbicula bed of the Ishikari Series.)

## OLIGOCENE

- L. boreasteria* Nisiyama, 1968:240–243, figs. 71a–b, 72a. [Northern Japan.] (Nissikutani Fm.)

## EOCENE

- L. atolladosae* Sánchez Roig, 1951:59–60, pl. 34: figs. 1–2. [Cuba.]  
*L. bulgarica* Gočev, 1933:56–58, figs. 12–14, pl. 5: fig. 1, pl. 6: fig. 1. [Bulgaria.]  
*L. heimei* Jeannet, 1936c:56–59, figs. 6–8. [Switzerland.]  
*L. mortenseni* Checchia-Rispoli, 1950b:36–38, pl. 1: figs. 4–4a. [Northeast Somalia, East Africa.]  
*L. mortenseni* Checchia-Rispoli var. *depressa* Checchia-Rispoli, 1950b:38, pl. 1: figs. 5, 5a–b. [Northeast Somalia, East Africa.]  
*L. pseudoglobalis* Thirring, 1936:60–61, pl. 1: figs. 6–8. [Hungary.]  
*L. suitensis* Jeannet, 1936c:65–69, figs. 13–15. [Switzerland.]

## UPPER EOCENE

- L. balboi* Airaghi, 1939:275–276, pl. 11: fig. 13. [North Africa.]  
*L. caraibensis* Jeannet, 1928a: 16–17, pl. 1: figs. 22–26, pl. 6: fig. 3; 1928b:220. [Trinité, off the coast of Venezuela.] (Priabonian or Jacksonian.)  
*L. garciai* Sánchez Roig, 1952c:24, pl. 9: fig. 2. [Cuba.]  
*L. hanoverensis* Kellum, 1926:15–16, pl. 1: figs. 8–9. [North Carolina, U.S.A.]  
*Schizaster (Linthia) ocalanus* Cooke, 1942:42–43, pl. 5: figs. 18–22. [U.S.A.]

## MIDDLE EOCENE

- L. darderi* Lambert, 1935b:369–370, pl. 41: fig. 7. [Spain.] (Lutetian.)

- L. mortenseni* Checchia-Rispoli, 1950a[1945–1946]: 36–38, pl. 1: figs. 4–5. [Somaliland, East Africa.]  
*L. mortenseni* Checchia-Rispoli var. *depressa* Checchia-Rispoli, 1950a[1945–1946]:37–38, pl. 1: figs. 5, 5a–b. [Migiurtinia(?), Somaliland, East Africa.]  
*L. rolandi* Castex, 1930:46–48, pl. 4: figs. 3–5. [France.] (Lutetian.)  
*L. trechmanni* Hawkins, 1924:319–321, pl. 18: figs. 6–7. [Jamaica, West Indies.]

## LOWER EOCENE

- L. arabica* Clegg, 1933:16–17, pl. 2: figs. 1a–c, 2a–c. [Arabia.]  
*L. gibba* Lambert, 1933a:41, fig. 7. [Madagascar, off East Africa.]  
*L. hargeisensis* Currie, 1943:27. [Somaliland, East Africa.] (Auradu Ls.)  
*L. hollandi* Barry in Barry and Le Blanc, 1942: 43–44, pl. 2: figs. 3–4. [Texas, U.S.A.]  
*L. somaliensis* Currie, 1927:432–435. [Somaliland, East Africa.]  
*L. sudanensis* Bather var. *brevipetala* Lambert and Pérébasquine, 1929:476–477, pl. 38: fig. 12. [North Africa.]

## PALEOCENE

- L. maverickensis* Gardner, 1933:110–111, pl. 4: figs. 13–14. [Texas, U.S.A.] (Midway Gp.)

## CRETACEOUS

- L. aguayoi* Sánchez Roig, 1949:265–266, pl. 48: figs. 1–2, pl. 49: fig. 1. [Cuba. Although Sánchez Roig cites it as Upper Oligocene, Brodermann (1949: 324) says it is Cretaceous.]

## UPPER CRETACEOUS

- L. alta* Sánchez Roig, 1949:266–267, pl. 49: figs. 3–5. [Cuba.]  
*L. avilensis* Sánchez Roig, 1949:264, pl. 32: figs. 2–3. [Cuba.]  
*L. brodermanni* Sánchez Roig, 1949:263–264, pl. 49: figs. 2–4. [Cuba.]  
*L. cretacica* Sánchez Roig, 1949:264–265, pl. 47: figs. 1–3. [Cuba.]  
*L. dainellii* Stefanini, 1928:182–184, pl. 21: figs. 6a–e, 7. [Karakorum, Mongolia.] (Cenomanian.)

- L. gonzalezmunozii* Sánchez Roig, 1952c:23–24, pl. 9: fig. 1. [Cuba.] (Senonian.)  
*L. mullerriedi* Lambert, 1935d:373, pl. 16: figs. 20–21. [Mexico.] (Lower Senonian.)

### Subgenus *Linthia* (*Lutetiaster*) Lambert

#### MIDDLE EOCENE

- L. lamberti* Castex, 1930:48, pl. 4: figs. 6–8. [France.] (Upper Lutetian.)  
*L. maccagnoii* Checchia-Rispoli, 1950a[1945–1946]: 38–39, pl. 1: figs. 3–3a. [Somaliland, East Africa.]

### Genus *Moira* A. Agassiz

#### RECENT

- M. lachesis* Mortensen, 1930:389–393, fig. 1, pl. 2: figs. 1–7, pl. 3: figs. 5–8, pl. 4: figs. 1–14. [Japan.]  
*M. lethe* Mortensen, 1930:392, fig. 2, pl. 3: figs. 1–4. [Queensland, Australia.]

#### MIOCENE

- M. adamthi* Clegg, 1933:27–29, pl. 3: figs. 4a–c, 5a–c. [Persian Gulf.]

#### LOWER MIOCENE

- M. obesa* Nisiyama, 1935:164–167, figs. 9a–c, pl. 8: figs. 6–16. [Japan.]

### Subgenus *Moira* (*Moiropsis*) A. Agassiz

#### UPPER MIOCENE

- M. depressa* Hayasaka, 1948:106–109, pl. 1: figs. 4a–c. [China.]

### Genus *Periaster* d'Orbigny

#### PALEOCENE/CRETACEOUS

- P. inconstans* Lambert, 1933a:25–26, pl. 4: fig. 15. [Madagascar, off East Africa.] (Danian/Upper Maestrichtian.)

#### CRETACEOUS

- P. kuhni* Mitzopoulos, 1960:285, pl. 3: figs. 4–6. [Greece.]

#### UPPER CRETACEOUS

- P. ciryi* Lambert, 1935f:520, pl. 57: figs. 13–15. [Spain.] (Coniacian.)  
*P. maugerii* Checchia-Rispoli, 1936:304–305, pl. 16: figs. 4–4a, pl. 17: fig. 5. [Sicily, southwest of Italy.] (Cenomanian.)  
*P. subsexangulatus* Airaghi, 1939:264, pl. 10: figs. 2–3. [North Africa.] (Maestrichtian.)  
*P. zinai* Airaghi, 1939:265, pl. 10: fig. 6. [North Africa.] (Maestrichtian.)

### Genus *Prenaster* Desor

#### EOCENE

- P. skorpili* Gočev, 1933:58–59, pl. 2: figs. 1a–b, pl. 4: fig. 6, pl. 7: fig. 19a–d. [Bulgaria.]

#### UPPER EOCENE

- P. jeanneti* Pijpers, 1933:93–94, fig. 156, pl. 1: figs. 9–12. [Netherlands Antilles, Dutch West Indies.]  
*P. nuevitasensis* Sánchez Roig, 1949:252, pl. 42: figs. 1–2. [Cuba. Although Sánchez Roig says it is Eocene, Brodermann (1949:326) says it is Middle to Upper Eocene.]  
*P. parvus* Palmer in Sánchez Roig, 1949:251–252, pl. 42: fig. 12. [Cuba.]  
*P. sanchezi* Lambert in Sánchez Roig, 1949:251, pl. 46: figs. 4–6. [Cuba. Although Sánchez Roig says it is Eocene, Brodermann (1949:326) says it is Middle to Upper Eocene.]

#### MIDDLE EOCENE

- P. clarcki* Sánchez Roig, 1949:252–253, pl. 46: figs. 7–8. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:326) says it is Middle Eocene.]

## CRETACEOUS

*P. elongatus* Sánchez Roig, 1949:250, pl. 50: figs. 3-4. [Cuba. Although Sánchez Roig says it is Lower Eocene, Brodermann (1949:326) says it is Cretaceous.]

Subgenus *Prenaster* (*Saviniaster*) Lambert

## RECENT

*S. enodatus* Chesher, 1968a:143-149, pls. 33-35. [Bahama Island, southeast of Florida, U.S.A.]

Genus *Proraster* Lambert

## UPPER CRETACEOUS

*P. atavus* (Arnaud) Lambert var. *mediterraneus* Kühn, 1925:185-187. [France.] (Lower Campanian.)

Genus *Sanfilippaster* Checchia-Rispoli

In the *Treatise*, Fischer (Durham et al., 1966:U578) considers *Sanfilippaster* a subjective synonym of *Proraster* Lambert.

## UPPER CRETACEOUS

*Sanfilippaster* Checchia-Rispoli, 1932b:313-316. Type-species: *Proraster geayi* Cotteau. [Madagascar, off East Africa, and Tripoli, Libya.] (Upper Senonian.)

Genus *Tripylus* Philippi

## PALEOCENE

*T. pseudoviviparus* Lambert, 1933a:27-28, pl. 4: figs. 1-7. [Madagascar, off East Africa.] (Danian.)

## UPPER CRETACEOUS

*T. antonibensis* Lambert, 1933a:28, pl. 4: figs. 12-14. [Madagascar, off East Africa.] (Upper Maestrichtian.)

## Suborder MICRASTERINA A. G. Fischer

## Family MICRASTERIDAE Lambert

Genus *Micraster* L. Agassiz

## PALEOCENE

*M. desori* Ødum, 1926:162-163, pl. 2: fig. 1. [Denmark.] (Danian.)

## CRETACEOUS

*M. depressus* Kongiel in Kongiel and Matweijewówna, 1937:116-117, 139-140, pl. 5: figs. 6-9. [Poland.]  
*M. elevatus* Sánchez Roig, 1949:218, pl. 47: figs. 4-5. [Cuba.]

## UPPER CRETACEOUS

*M. burgiensis* Lambert, 1935f:518, pl. 57: figs. 5-8. [Spain.] (Coniacian.)  
*M. coravium* Moskvina, 1959:283, fig. 97, pl. 22: figs. 1a-e, 2a-b. [Caucasus, U.S.S.R.]  
*M. gappi* Kühn, 1925:184-187, figs. 2a-c. [Austria.] (Coniacian.)  
*M. piriformis* Böhm, 1927:197-198, pl. 12: figs. 7a-c. [Bithynia, Asia Minor.] (Senonian.)  
*M. subglobosus* Moskvina, 1959:280, fig. 92, pl. 19: figs. 1a-e. [Caucasus, U.S.S.R.]  
*M. trangahyensis* Lambert, 1936c:27, pl. 2: figs. 9-10. [Madagascar, off East Africa.] (Upper Senonian.)  
*M. uddeni* Cooke, 1953:37-38, pl. 15: figs. 6-9. [Texas, U.S.A.] (Santonian.)  
*M. vistulensis* Kongiel, 1950:318-320, 325-326, pl. 2: figs. 5-8. [Poland.] (Upper Maestrichtian.)

Subgenus *Micraster* (*Micraster*) L. Agassiz

## UPPER CRETACEOUS

*M. (M.) schroederi* Stalley *planus* Maczyńska, 1968: 116-118, 168, pl. 5: figs. 2a-c, pl. 6: figs. 1a-2d, pl. 7: figs. 1a-e, text-pl. 5: figs. 1-3, text-pl. 6: figs. 1-3. [Poland.] (Campanian.)  
*M. (M.) bibicensis* Maczyńska, 1968:129-130, 168, pl. 13: figs. 1a-4, text-pl. 10: figs. 1-4. [Poland.] (Upper Campanian.)

**Subgenus *Micraster* (*Paramicraster*) Maczyńska**

## UPPER CRETACEOUS

*Micraster* (*Paramicraster*) Maczyńska, 1968:154–155.

Type-species: *M. (P.) latior* (Rowe). [Poland.] (Santonian.)

*M. (P.) cracoviensis* Maczyńska, 1968:155–157, 168, pl. 24: figs. 1a–e, pl. 25: figs. 1a–d, text-pl. 21: figs. 1–4. [Poland.] (Lower Campanian.)

**Genus *Brisopneustes* Cotteau**

## LOWER EOCENE

*B. desioi* Lambert, 1933a:36, pl. 3: fig. 13. [Madagascar, off East Africa.]

## PALEOCENE

*B. decaryi* Lambert, 1933a:19, pl. 3: figs. 9–10. [Madagascar, off East Africa.] (Danian.)

*B. schwetzeri* Poslavskaia and Moskvina, 1960:73–74, 81, fig. 24, pl. 6: figs. 2a–d, 3. [U.S.S.R.] (Danian.)

**Genus *Isopneustes* Pomel**

## PALEOCENE

*Micraster* (*Isopneustes*) *eysdenensis* Smiser, 1935b: 84, pl. 7: figs. 7a–g. [Belgium.] (Montian.)

*M. (I.) montensis* Smiser, 1935b:84, pl. 7: figs. 8a–d. [Belgium.] (Montian.)

**Family BRISSIDAE Gray****Genus *Brissus* Gray**

## RECENT

*B. gigas* Fell, 1947:145–150, figs. 1–2, pls. 13–14. [New Zealand.]

## PLIOCENE

*B. lasti* Stockley, 1927:116–117, pl. 21: fig. 6. [Zanzibar Protectorate, East Africa.]

## MIOCENE

*B. latidunensis* Clegg, 1933:30–33, pl. 3: figs. 7a–c. [Persian Gulf.]

## UPPER MIOCENE

*B. glenni* Cooke, 1959:82, pl. 36: figs. 5–6. [South Carolina, U.S.A.]

## LOWER MIOCENE

*B. kewi* Grant and Hertlein, 1938b:128–129, pl. 12: figs. 1–2. [California, U.S.A.] (Vaqueros Fm.)

## OLIGOCENE

*B. duperieri* Castex, 1947:33–34, pl. 2: figs. 21–22. [France.] (Lattorfian = Sannoisian.)

## UPPER EOCENE

*B. camagueyensis* Weisbord, 1934:76–78, pl. 9: figs. 1–2. [Cuba.]

## MIDDLE EOCENE

*B. caobaense* Sánchez Roig, 1953c:163, pl. 7: fig. 5, pl. 8: figs. 1–2. [Cuba.]

**Subgenus *Brissus* (*Allobrissus*) Mortensen**

Fischer (Durham et al., 1966:U582), in the *Treatise*, considers *Brissus* (*Allobrissus*) Mortensen a subjective synonym of *Brissus* Gray.

## RECENT

*Brissus* (*Allobrissus*) Mortensen, 1950b:162. Type-species: *Brissus agassizii* Döderlein. [Northern Pacific Ocean.]

*B. (A.) meridionalis* Mortensen, 1950b:162. [Australian region.]

## MIDDLE MIOCENE

*B. (A.) miocaenicus* Schaffer, 1961:149–156, fig. 1, pl. 1: figs. 1–6, pl. 2: figs. 1–9. [Austria.] (Tortonian.)

**Genus *Sandiegoaster* Sánchez Roig**

In the *Treatise*, Fischer (Durham et al., 1966:U582) considers *Sandiegoaster* a subjective synonym of *Brissus* Gray.

## MIDDLE EOCENE

*Sandiegoaster* Sánchez Roig, 1952b:12. Type-species: *S. durhami* Sánchez Roig, 1952b:12-13, pl. 5: fig. 2, pl. 6: fig. 2, pl. 7: fig. 2. [Cuba.]

**Genus *Aguayoaster* Sánchez Roig**

## MIDDLE EOCENE

*Aguayoaster* Sánchez Roig, 1952b:10-11. Type-species: *A. aguayoi* Sánchez Roig, 1952b: 11-12, pl. 8: figs. 3, 5-7. [Cuba.]

**Genus *Anabrissus* Mortensen**

## RECENT

*Anabrissus* Mortensen, 1950b:161. Type-species: *Brissus damesi* A. Agassiz. [Tropical Atlantic.]

**Genus *Anametalia* Mortensen**

## RECENT

*Anametalia* Mortensen, 1950b:161. Type-species: *Brissus sternaloides* Bolau. [Indonesia.]  
*A. grandis* Mortensen, 1950b:161. [Coast of Indo-China.]

**Genus *Arcaechinus* Kier**

## LOWER EOCENE

*Arcaechinus* Kier, 1957b:891. Type-species: *A. auraduensis* Kier, 1957b:891-893, fig. 18, pl. 107: figs. 6-8. [British Somaliland, East Africa.] (Upper Auradu Series.)

**Genus *Brissopatagus* Cotteau**

## LOWER MIOCENE/UPPER OLIGOCENE

*B. venzoi* Checchia-Rispoli, 1947b:518-520, pl. 1: figs. 1-13. [North Africa.] (Aquitanian/Chattian.)

## OLIGOCENE

*Eupatagus (Brissopatagus) avilensis* Sánchez Roig, 1951:45-46, pl. 33: figs. 2-3. [Cuba.]

## UPPER EOCENE

*E. (B.) alabamensis* Cooke, 1942:58-59, pl. 4: figs. 7-8. [U.S.A.]

*E. (B.) georgianus* Cooke, 1942:58, pl. 7: figs. 8-11. [U.S.A.]

*B. rojasi* Sánchez Roig, 1953c:164, pl. 9: figs. 5-6. [Cuba.]

## MIDDLE EOCENE

*B. collignoni* Lambert, 1933a:37-38, pl. 4: fig. 21. [Madagascar, off East Africa.] (Lutetian.)

*B. lummaui* Castex, 1930:41-42, pl. 4: figs. 1-2. [France.] (Lutetian.)

## PALEOCENE

*E.?* (*B.?*) *primus* Cooke, 1942:59, pl. 4: figs. 1-4. [U.S.A.] (Clayton Fm.)

**Genus *Brissopsis* L. Agassiz in Agassiz and Desor**

## RECENT

*B. micropetala* Mortensen, 1948a:124-125. [Philippine Islands.]

*B. obliqua* Mortensen, 1948a:125-126. [Philippine Islands.]

*B. persica* Mortensen, 1940c:107-110, fig. 23, pl. 2: figs. 5-11. [Iranian Gulf.]

*B. persica* Mortensen var. *elevata* Mortensen, 1940c: 110, pl. 2: fig. 12. [Iranian Gulf.]

*B. caparti* Cherbouner, 1959a:51-54, pl. 9: figs. A-O. [Gulf of Guinea, west central coast of Africa, Atlantic Ocean.]

*B. evanescens* Mortensen, 1950b:162. [Off Walfish Bay, South Africa.]

*B. jarlii* Mortensen, 1951:302-303, fig. 1, pl. 1: figs. 1-3. [Tropical West Africa.]

*B. similis* Mortensen, 1948a:123-124. [Philippine Islands.]

## PLIOCENE

- B. japonica* Nisiyama, 1968:281–283, pl. 25: fig. 7, pl. 26: figs. 8–9. [Japan.] (Kokumoto Fm.)  
*B. luzonica* (Gray) *cosibensis* Nisiyama, 1968:280–281, pl. 25: figs. 5–6. [Japan.] (Koshiha Fm.)

## UPPER MIOCENE

- B. makiyamai* Morishita, 1957:161–163, pl. 1: figs. 1–5. [Japan.]

## MEDIAL TERTIARY

- B. blanchi* Grant and Hertlein, 1938a:484–486, figs. 5–6, 8–10. [Mississippi, U.S.A. According to Cooke (1959:86) it is Middle Oligocene.]

## OLIGOCENE

- B. fermori* Vredenburg, 1922:413, pl. 30: fig. 2. [Burma.]

## UPPER OLIGOCENE

- B. aguayoi* Sánchez Roig, 1952c:15–16, pl. 6: figs. 1–2. [Cuba.]

## UPPER EOCENE

- B. steinhatchee* Cooke, 1942:49, pl. 5: figs. 29–32. [U.S.A.]

Genus *Brissoma* Pomel

In the *Treatise*, Fischer (Durham et al., 1966:U584) considers *Brissoma* a subjective synonym of *Brissopsis*.

## LOWER MIOCENE

- B. vonderschmitti* Jeannet, 1928a:37–38, pl. 4: figs. 16–19, pl. 6: figs. 9–11; 1928b:220. [Venezuela.] (Serie supérieure d'Agua Salada.)

## UPPER OLIGOCENE

- B. habanensis* Sánchez Roig, 1949: 224–225, pl. 35: figs. 3–4. [Cuba.]

Genus *Kleinia* Gray

In the *Treatise*, Fischer (Durham et al., 1966:U584) considers *Kleinia* a synonym of *Brissopsis*.

## LOWER MIOCENE

- Brissopsis* (*Kleinia*) *crescenticus* Wright var. *syriaca* Vautrin, 1933:104–106, pl. 12: figs. 2–3. [Asia Minor.] (Burdigalian.)

## MIDDLE EOCENE

- K. pulchra* Checchia-Rispoli, 1950a[1945–1946]:31–32, pl. 2: figs. 4–4a. [Somaliland, East Africa.]

Genus *Cionobrissus* A. Agassiz

## RECENT

- C. regularis* H. L. Clark, 1925a:221–222, pl. 10: figs. 6–7. [Challenger Sta. 188, west end of Torres Straits (Arafura Sea) between northern Australia and Indonesia.]

Genus *Cyclaster* Cotteau

## RECENT

- C. recens* Mortensen, 1950b:161–162. [Coast of Indo-China.]  
*C. regalis* Baker, 1969:266–270, figs. 1–18, pl. 1: figs. 1–4. [North of East Cape, Northern New Zealand.]

## TERTIARY

- C. sterea* Arnold and Clark, 1934:149–150, pl. 3: figs. 4–5. [Jamaica.]

## UPPER OLIGOCENE

- C. brodermanni* Sánchez Roig, 1949:221, pl. 35: figs. 1–2. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:319) says it is Upper Oligocene.]

## LOWER OLIGOCENE

- C. drewryensis* Cooke, 1942:50, pl. 3: figs. 9–11. [U.S.A.]

## EOCENE

- C. sanchezi* Lambert in Sánchez Roig, 1926:113–114, pl. 38: figs. 1–2. [Cuba. Although Lambert considered this species Late Cretaceous, according to Sánchez Roig (1949:219) it is Eocene.]

## MIDDLE EOCENE

- C. jeanneti* Lambert, 1933a:36–37, pl. 3: figs. 11–12. [Madagascar, off East Africa.] (Lower Lutetian.)

## PALEOCENE

- C. brunnicchi* Ravn, 1927:345–347, pl. 5: figs. 5a–e. [Denmark.] (Danian.)

## UPPER CRETACEOUS

- C. pfenderae* Basse and Lambert in Lambert, 1936c: 27–28, pl. 4: figs. 17–19. [Madagascar, off East Africa.] (Upper Campanian.)  
*C. pygmeus* Rouchadze, 1940:129–130, 155, 174–176, fig. 20, pl. 3: fig. 7. [Georgia, U.S.S.R.] (Maestrichtian.)

**Subgenus *Diplodetus* (*Protobrissus*) Lambert**

## PALEOCENE

- P. indolensis* Poslavskaja and Moskvina, 1960:78, 81–82, fig. 29, pl. 8: figs. 2a–e. [Crimea, U.S.S.R.] (Danian.)

## UPPER CRETACEOUS

- P. akkajensis* (Weber) in Moskvina, 1959:290, pl. 26: figs. 1a–e. [Crimea and Caucasus, U.S.S.R.]

**Genus *Eupatagus* L. Agassiz**

Lambert and Thiéry (1924:450) referred species previously considered to belong to *Eupatagus* to a pre-Linnean genus *Brissoides* Klein, 1734. Many

subsequent authors have done this also. Probably all the species listed below that were referred to *Brissoides* should be referred to *Eupatagus*.

## RECENT

- E. dyscritus* H. L. Clark, 1938:436–437, pl. 28: figs. 10–11. [Australia.]  
*E. rubellus* Mortensen, 1948a:129–130. [Philippine Islands.]

## MIOCENE

- E. cordis* Desio, 1929:345–347, pl. 33: figs. 3a–b. [Oasis of Giarabùb, Libya.] (Porto Bardia.)  
*E. marianensis* Nisiyama, 1968:291–293, pl. 27: figs. 7–8, 10–11. [Mariana Islands (Saipan), western Pacific Ocean.] (Nephrolepidina horizon.)

## MIDDLE MIOCENE

- E. nipponicus* Morishita, 1957:163–164, pl. 1: figs. 7–8. [Japan.]

## LOWER MIOCENE

- E. hollisi* Stockley, 1927:111–113, pl. 20: fig. 5. [Zanzibar Protectorate, East Africa.]

## OLIGOCENE

- E. mexicanus* Jackson, 1937:234–235, pl. 14, pl. 15: fig. 1. [Mexico.]

## UPPER OLIGOCENE

- B. camagueyanus* Sánchez Roig, 1949:206–207, pl. 25: fig. 1. [Cuba.]  
*B. habanensis* Sánchez Roig, 1949:204–205, pl. 23: fig. 4. [Cuba.]  
*B. lajasensis* Sánchez Roig, 1949:203–204, pl. 24: fig. 1. [Cuba.]  
*B. minutus* Sánchez Roig, 1949:205. [Cuba.]  
*B. palmeri* Sánchez Roig, 1949:205–206, pl. 25: figs. 4–5. [Cuba.]  
*B. sanchezi* Lambert in Sánchez Roig, 1949:211, pl. 24: figs. 2–3. [Cuba.]  
*B. santanae* Sánchez Roig, 1949:210–211, pl. 25: figs. 2–3. [Cuba.]



*B. zanolettii* Sánchez Roig, 1952c:12–13, pl. 7: figs. 1–2. [Cuba.]

## EOCENE

*E. alatus* Arnold and H. L. Clark, 1927:63–64, pl. 13: figs. 4–7. [Jamaica, West Indies.]

*E. attenuatus* Arnold and H. L. Clark, 1927:65, pl. 13: figs. 8–9. [Jamaica, West Indies.]

*B. cranium* Leske var. *somaliensis* Checchia-Rispoli, 1943a:100–103, pl. 2: figs. 1–2, pl. 3: fig. 5. [Somaliland, East Africa.]

*B. dainellii* Checchia-Rispoli, 1943a:105–107, pl. 1: figs. 3–6. [Somaliland, East Africa.]

*B. daradensis* Lambert in Lambert and Jacquet, 1936:357, pl. 23: figs. 4–5. [Senegal, West Africa.]

*E. defectus* Arnold and H. L. Clark, 1927:65–66, pl. 14: figs. 1–3. [Jamaica, West Indies.]

*B. fecundus* Checchia-Rispoli, 1943a:109–111, pl. 3: figs. 1–4. [Somaliland, East Africa.]

*E. hildae* Hawkins in Arnold and H. L. Clark, 1927:66–67, 81, pl. 22: figs. 9–10. [Jamaica, West Indies.]

*Brissoides (Eupatagus) lamberti* Collignon, 1930: 559–561, pl. 32: figs. 1, 1a–b. [Austria.]

*E. longipetalus* Arnold and H. L. Clark, 1927:67, pl. 14: figs. 4–6. [Jamaica, West Indies.]

*B. mihiurtinus* Checchia-Rispoli, 1943a:108–109, pl. 2: figs. 3–8. [Somaliland, East Africa.]

*B. migliorinii* Checchia-Rispoli, 1943a:103–105, pl. 1: figs. 1–2. [Somaliland, East Africa.]

*B. skourensis* Lambert, 1937:87–88, pl. 3: figs. 12–14. [Morocco.]

## UPPER EOCENE

*E. calistoides* Sánchez Roig, 1953c:160–161, pl. 6: fig. 8. [Cuba.]

*B. cuvillieri* Lambert, 1935e:42–43, pl. 1: figs. 7–8. [Egypt.] (Bartonian.)

*E. ingens* Zachos, 1968:161–163, fig. 1. [Florida, U.S.A.] (Jackson Stage, Ocala Ls.)

*E. siboneyensis* Weisbord, 1934:78–80, pl. 8: figs. 7–8. [Cuba.]

*B. stefaninii* Lambert and Roig in Sánchez Roig, 1949:207–208, pl. 23: fig. 1. [Cuba.]

*E. stevensi* Grant and Hertlein, 1938b:134–135, fig. 12. [California, U.S.A.] (Approximately Domenigine.)

*E. turibacoensis* Sánchez Roig, 1953c:157–158, pl. 8: figs. 3–4. [Cuba.]

## MIDDLE EOCENE

*E. brodermanni* Sánchez Roig, 1953c:159–160, pl. 9: figs. 1, 4. [Cuba.]

*E. caobaense* Sánchez Roig, 1952c:13–14, pl. 6: fig. 10. [Cuba.]

*E. casanovai* Sánchez Roig, 1953c: 159, pl. 9: figs. 2–3. [Cuba.]

*E. gadilhei* Roman and Gorodiski, 1959:60–61, pl. 3: figs. 39–41. [Senegal.] (Upper Lutetian.)

## LOWER EOCENE

*E. haburiensis* Khanna, 1967:214–220, fig. 1, pl. 1: figs. 1–8. [Rajasthan, India.] (Ypresian.)

Genus *Euspatangus* Cotteau

In the *Treatise*, Fischer (Durham et al., 1966:U586) considers *Euspatangus* a subjective synonym of *Eupatagus*.

## MIDDLE EOCENE

*E. rogeri* Pinar, 1951:47–49, fig. 8, pl. 1b: figs. 4–5. [Turkey.]

Genus *Megapatagus* Sánchez Roig

In the *Treatise*, Fischer (Durham et al., 1966:U586) considers *Megapatagus* a subjective synonym of *Eupatagus* L. Agassiz.

## UPPER OLIGOCENE

*Megapatagus* Sánchez Roig, 1953a:58–59. Type-species: *M. franciscanus* Sánchez Roig, 1953a:59–60, pls. 6(pars), 11. [Cuba.]

## OLIGOCENE

*M. depressus* Sánchez Roig, 1953a:60, pl. 12. [Cuba.]

## UPPER EOCENE

*M. turibacoensis* Sánchez Roig, 1953a:61, pl. 13. [Cuba.]

**Genus *Zanolettiaster* Sánchez Roig**

In the *Treatise*, Fischer (Durham et al., 1966:U586) considers *Zanolettiaster* a subjective synonym of *Eupatagus* L. Agassiz.

## UPPER OLIGOCENE

*Zanolettiaster* Sánchez Roig, 1952c:14. Type-species: *Z. herrerae* Sánchez Roig, 1952c:15, pl. 8: figs. 1-2, pl. 9: fig. 4. [Cuba.]

**Subgenus *Eupatagus* (*Gymnopatagus*) Döderlein**

## OLIGOCENE

- E. (G.) brevipetalum* Sánchez Roig, 1951:44-45, pl. 33: fig. 1, pl. 38: fig. 1. [Cuba.]  
*E. (G.) rogasi* Sánchez Roig, 1951:42, pl. 34: fig. 3. [Cuba.]  
*E. (G.) venturillae* Sánchez Roig, 1951:43, pl. 26: figs. 1-2. [Cuba.]  
*E. (G.) zanoletti* Sánchez Roig, 1951:43-44, pl. 32: fig. 3. [Cuba.]

**Genus *Fernandezaster* Sánchez Roig**

## EOCENE

*Fernandezaster* Sánchez Roig, 1952c:17. Type-species: *F. mortenseni* Sánchez Roig, 1952c:18, pl. 10: figs. 1-2. [Cuba, Although Sánchez Roig says it is Upper Oligocene, Fischer (Durham et al., 1966:U588) says it is Eocene.]

**Genus *Gillechinus* Fell**

## UPPER EOCENE

*Gillechinus* Fell, 1963a:213. Type-species: *G. cudmorei* Fell, 1963a:213-215, pls. 1(pt.), 2. [Victoria, Australia.]

**Genus *Gaultieria* Agassiz**

## PALEOGENE

*G. desioi* Airaghi, 1934:78-79, pl. 5: figs. 9-10. [Libya, North Africa.]

**Genus *Herreraster* Sánchez Roig**

## OLIGOCENE

*Herreraster* Sánchez Roig, 1951:52. Type-species: *H. herrerae* Sánchez Roig, 1951:53, pls. 30, 31. [Cuba.]

**Genus *Idiobryssus* Clark**

## RECENT

*Idiobryssus* H. L. Clark, 1939:173. Type-species: *I. coelus* H. L. Clark, 1939:173-175, pl. 17: figs. 1-2. [Galápagos Islands, Eastern Pacific Ocean.]

**Genus *Lajanaster* Sánchez Roig**

## MIOCENE

*L. jacksoni* Lambert and Roig var. *minor* Sánchez Roig, 1926: pls. 26, 27. [Cuba.]

## OLIGOCENE

- L. guevarai* Sánchez Roig, 1951:53-54, pl. 24: figs. 2-4. [Cuba.]  
*L. venturillae* Sánchez Roig, 1951:54-55, pl. 25: figs. 3-4. [Cuba.]

## UPPER OLIGOCENE

- L. hernandesi* Sánchez Roig, 1949:195, pl. 23: figs. 2-3. [Cuba.]  
*L. rogasi* Sánchez Roig, 1953a:58, pl. 10(pars). [Cuba.]

**Genus *Lissospatangus* Mortensen**

## RECENT

*Lissospatangus* Mortensen, 1950b:162. Type-species: *L. hirsutus* Mortensen, 1950b:162. [South of Australia.]

**Genus *Macropneustes* L. Agassiz**

## TERTIARY

*M. dyscritus* Arnold and H. L. Clark, 1934:151, pl. 4: figs. 1-2. [Jamaica, West Indies.]

*M. sinuosus* Arnold and H. L. Clark, 1934:152, pl. 4: fig. 3. [Jamaica, West Indies.]

*M. stenopetalus* Arnold and H. L. Clark, 1934:152-153, pl. 4: figs. 4-5. [Jamaica, West Indies.]

#### LOWER MIOCENE

*M. dubius* Israelsky, 1924:143, pl. 3: fig. 1. [Mexico. Although Israelsky considered the Tuxpam Beds, from where this species was collected, to be Oligocene, these beds are now considered (Masuda, 1971:215-216) to be Lower Miocene.]

#### OLIGOCENE

*M. brodermanni* Sánchez Roig, 1953a:62-63, pl. 15 (part), pl. 16 (part). [Cuba.]

*M. trevisani* Socin, 1942:51-52. [Somaliland.]

#### UPPER OLIGOCENE

*M. gomezmazae* Sánchez Roig, 1953a:63, pl. 17. [Cuba.]

#### EOCENE

*M. altus* Arnold and H. L. Clark, 1927:68, pl. 14: figs. 7-9. [Jamaica, West Indies.]

*M. angustus* Arnold and H. L. Clark, 1927:68-69, pl. 14: figs. 10-11, pl. 15: fig. 1. [Jamaica, West Indies.]

*M. parvus* Arnold and H. L. Clark, 1927:69-70, pl. 18: figs. 1-3. [Jamaica, West Indies.]

*M. rochi* Lambert, 1933b:77-78, pl. 3: fig. 13. [North Africa.]

#### Subgenus *Macropneustes* (*Deakia*) Pavay

#### UPPER EOCENE

*D. armadilloensis* Sánchez Roig, 1953c:165-166, pl. 10: figs. 1-2. [Cuba.]

#### Genus *Mariania* Airaghi

#### MIDDLE/LOWER MIOCENE

*M. euglypha* (Laube) var. *brevistella* Venzo, 1935: 233, pl. 17: figs. 29a-b. [Italy.] (Langhian.)

#### Genus *Mauritanaster* Lambert

#### UPPER OLIGOCENE

*M. depressus* Sánchez Roig, 1949:228-229, pl. 33: fig. 1. [Cuba.]

*M. marroquinensis* Sánchez Roig, 1953a:61-62, pl. 14. [Cuba.]

#### Genus *Meoma* Gray

#### RECENT

*M. cadenati* Madsen, 1957:474-479, figs. 1-3. [Senegal, West Africa.]

*M. frangibilis* Cheshier, 1970:750-753, figs. 7a-c, 8. [Panama, Bay of Panama (Pacific side).]

#### EOCENE

*M. antiqua* Arnold and H. L. Clark, 1927:70, pl. 15: fig. 2. [Jamaica, West Indies.]

#### MIDDLE EOCENE

*M. caobaensis* Sánchez Roig, 1952c:16-17, pl. 11: figs. 2-3. [Cuba.]

#### Subgenus *Meoma* (*Plethotaenia*) H. L. Clark

#### RECENT

*P. angularis* Cheshier, 1968a:111-121, figs. 20(pt.), 22(pt.), 23(pt.), 24, pls. 24-26. [Bahama Island to Barbados, Caribbean Sea.]

#### Subgenus *Meoma* (*Schizobrissus*) Pomel

#### PLEISTOCENE

*S. jacksoni* Lambert and Roig in Sánchez Roig, 1949:230-231, pl. 37: figs. 1-2. [Cuba.]

#### MIOCENE

*S.?* *siliceus* Desio, 1929:337-340, pl. 32: fig. 4. [Oasis of Giarabùb, Libya.] (Scegga-Altipiano Marm.)

## LOWER MIOCENE

*S. kawi* Durham, 1961a:484–485, figs. 1B, 1E, 2C, pl. 67: figs. 2, 6, 9. [Costa Rica.]

## EOCENE

*S. damiani* Jeannet, 1934a:388–389; 1934b:334–335. [Switzerland.]

Genus *Metalia* Gray

## RECENT

*M. latissima* H. L. Clark, 1925a:215–216, pl. 11: fig. 7, pl. 12: figs. 1–2. [Tuticorin in south Madras, India.]

## TERTIARY

*M. dubia* Arnold and H. L. Clark, 1934:153–154, pl. 5: figs. 4–6. [Jamaica, West Indies.]  
*M. jamaicensis* Arnold and H. L. Clark, 1934:154–155, pl. 5: figs. 1–3. [Jamaica, West Indies.]

## PLIOCENE

*M. waylandi* Stockley, 1927:116, pl. 21: figs. 4a–b. [Zanzibar Protectorate, East Africa.]

## LOWER MIOCENE/OLIGOCENE

*M. pelagica* Nisiyama, 1968:299–300, pl. 27: figs. 1–5, pl. 29: fig. 4. [Saipan, Mariana Islands, western Pacific Ocean.] (Donny Fm. Aquitanian.)

## OLIGOCENE

*M. cartagensis* Sánchez Roig, 1949:232–233. [Cuba.]

## UPPER OLIGOCENE

*M. palmeri* Sánchez Roig, 1953c:166–167, pl. 10: fig. 3. [Cuba.]

Genus *Prometalia* Pomel

In the *Treatise*, Fischer (Durham et al., 1966:U597) considers *Prometalia* a subjective synonym of *Metalia*.

## MIDDLE EOCENE

*P. besairiei* Lambert, 1933a:39–40, fig. 6. [Madagascar, off East Africa.] (Lutetian.)

Genus *Migliorinia* Checchia-Rispoli

## EOCENE

*Migliorinia* Checchia-Rispoli, 1942:305–309. Type-species: *M. migiurtina* Checchia-Rispoli, 1942:305–309, figs. 1–3, pl. 1: figs. 1–10. [Somaliland, East Africa.]

Genus *Pharaonaster* Lambert

## EOCENE

*P. migliorinii* Checchia-Rispoli, 1941:388–391, figs. 1–2. [North Africa.]

Genus *Thebaster* Checchia-Rispoli

In the *Treatise*, Fischer (Durham et al., 1966:U601) considers this genus a subgenus of *Pharaonaster*.

## EOCENE

*Thebaster* Checchia-Rispoli, 1941:393. Type-species: *Macropneustes fischeri* de Loriol. [Egypt.]

Genus *Plagiobrissus* Pomel

## RECENT

*P. pacificus* H. L. Clark, 1940b:351, pl. 2: figs. 3–4. [Panama, Pacific Ocean side.]

## MIOCENE

*P. abeli* Reidl, 1941:24–29, figs. 1–2. [Austria.]  
*P. costaricensis* Durham, 1961a:485–487, figs. 1G, 1J, 2F, pl. 68: figs. 6, 9, 12. [Costa Rica.]  
*P. malavassii* Durham, 1961a:487, figs. 1H, 1K, 2D, pl. 67: figs. 1, 3, 10, pl. 68: fig. 1. [Costa Rica.]

## MIDDLE MIOCENE

*P. lamberti* Jeannet, 1928a:38–41, fig. 12, pl. 5: figs. 1–2, pl. 6: figs. 13–14; 1928b:220. [Venezuela.] (Serie de Capadare, couches d'Ojo de Agua.)

## OLIGOCENE

- Eupatagus (Plagiobrissus) herrerae* Sánchez Roig, 1951:46-47, pl. 25: figs. 1-2. [Cuba.]  
*E. (P.) santanae* Sánchez Roig, 1951:47-48, pl. 37: fig. 2. [Cuba.]

## EOCENE

- P. abruptus* Arnold and H. L. Clark, 1927:71, pl. 18: figs. 4-5. [Jamaica, West Indies.]  
*P. elevatus* Arnold and H. L. Clark, 1927:71-72, pl. 19: figs. 2-4. [Jamaica, West Indies.]  
*P. latus* Arnold and H. L. Clark, 1927:72-73, pl. 18: figs. 6-7, pl. 19: fig. 1. [Jamaica, West Indies.]  
*P. perplexus* Arnold and H. L. Clark, 1927:74-75, pl. 20: fig. 6, pl. 21: figs. 1-2. [Jamaica, West Indies.]  
*P. robustus* Arnold and H. L. Clark, 1927:75, pl. 20: fig. 7, pl. 21: figs. 3-4. [Jamaica, West Indies.]

## UPPER EOCENE

- Eupatagus (Plagiobrissus) curvus* Cooke, 1942:56-57, pl. 7: figs. 5-7. [U.S.A.]  
*E. (P.) dixie* Cooke, 1942:55-56, pl. 6: figs. 1-3. [U.S.A.]  
*E. (P.) gardnerae* Cooke, 1942:56, pl. 7: figs. 1-4. [U.S.A.]  
*E. (P.) ocalanus* Cooke, 1942:57, pl. 6: figs. 4-8. [U.S.A.]

Subgenus *Plagiobrissus (Rhabdobrissus)* Cotteau

## UPPER EOCENE

- Brissoides (Rhabdobrissus) aloysii* Pijpers, 1933:89-91, figs. 154-155, pl. 1: fig. 18, pl. 2: figs. 7-9. [Netherland Antilles, Dutch West Indies.]

Genus *Mortensenaster* Lambert

## EOCENE

- M. barthouxi* Lambert, 1931d:203, pl. 8: fig. 4. [Isthmus of Suez, Red Sea area.]

Genus *Plesiaster* Pomel

## UPPER CRETACEOUS

- Micraster (Plesiaster) americanus* Stephenson, 1941:69-70, pl. 7: figs. 1-4. [U.S.A.] (Navarro Group, Maestrichtian.)

Genus *Plesiopatagus* Pomel

## MIDDLE EOCENE

- P. hourcqi* Lambert, 1933a:38, pl. 4: fig. 22. [Madagascar, off East Africa.] (Lower Lutetian.)

Genus *Rhynobrissus* A. Agassiz

## RECENT

- R. macropetalus* H. L. Clark, 1938:434-435, pl. 28: figs. 8-9. [Western Australia.]

## UPPER MIOCENE

- R. rostratus* Cooke, 1961:29, pl. 14: figs. 1-4. [Venezuela.]

Genus *Rojasia* Sánchez Roig

## EOCENE

- Rojasia* Sánchez Roig, 1951:57. Type-species: *R. rojasi* Sánchez Roig, 1951:58, pl. 35, pl. 36: fig. 1. [Cuba.]

Genus *Spatagobrissus* H. L. Clark

## RECENT

- Spatagobrissus* H. L. Clark, 1923:402-404. Type-species: *S. mirabilis* H. L. Clark, 1923:402, pl. 23: figs. 1-2. [South Africa.]

Genus *Spatangomorpha* Böhm

## MIDDLE EOCENE

- Eupatagus (Spatangomorpha) pinarensis* Sánchez Roig, 1953c:157, pl. 7: figs. 3-4. [Cuba.]

**Genus *Taimanawa* Henderson and Fell**

## TERTIARY

*T. mortenseni* Henderson and Fell, 1969:12–14, fig. 2b, pl. 5: fig. 1. [New Zealand.]

## LOWER MIOCENE

*Taimanawa* Henderson and Fell, 1969:3–6. Type-species: *T. pulchella* Henderson and Fell, 1969:6–9, figs. 1, 2a, 2c, pl. 2: fig. 2, pls. 3–4. [New Zealand.]

**Family UNIFASCIIDAE Cooke**

UNIFASCIIDAE Cooke, 1959:79. Type-genus: *Unifascia* Cooke. [Fischer (Durham et al., 1966:U582) in the *Treatise* considers this family a synonym of Brissidae Gray.]

**Genus *Unifascia* Cooke**

## MIDDLE EOCENE

*Unifascia* Cooke, 1959:79–80. Type-species: *Macropneustes carolinensis* Clark. [North Carolina, U.S.A.] (Castle Hayne Ls.)

**Family SPATANGIDAE Gray****Genus *Spatangus* Leske**

## RECENT

- S. beryl* Fell, 1963b:5–6, pl. 1: fig. 1, pl. 4: figs. 8–9, pl. 5: figs. 10–11, 13. [New Zealand.]  
*S. diomedae* Fell, 1963b:5–7. [Philippine Islands.]  
*S. multispinus* Mortensen, 1925:413–415, figs. 68–69. [Pacific Ocean.]  
*S. thor* Fell, 1963b:3–5, fig. 1, pl. 1: fig. 2, pl. 3: figs. 6–7, pl. 5: fig. 12. [New Zealand.]

## UPPER MIOCENE

*S. glenni* Cooke, 1959:80, pl. 35: figs. 1–5. [South Carolina, U.S.A.]

## UPPER EOCENE

*S. tapinus* Schenck, 1928:198–199, pl. 24: figs. 1–4. [California, U.S.A.] (Tejon Fm.)

## UPPER CRETACEOUS

*S. baixadoleitensis* Maury, 1934a:156–157, pl. 16: fig. 1. [Rio Grande do Norte, Brazil.] (Probably Turonian.)

**Genus *Prospatangus* Lambert**

In the *Treatise*, Fischer (Durham et al., 1966:U605) considers *Prospatangus* a synonym of *Spatangus* Gray.

## MIOCENE

- P. acuminatus* Szörényi, 1953:39, 91, pl. 7: figs. 5–5a. [Ukraine.]  
*P. fothiensis* Strauz, 1925:368–369, fig. 24. [Hungary. Another pagination given could be 214–215, fig. 24.]  
*P. hungaricus* Vadász var. *bukkensis* Kutassy, 1928:257–258. [Hungary.]

## MIDDLE MIOCENE

- P. cotteau* Lambert, 1928b:121–124. [France.] (Helvetian.)  
*P. venzoi* Laureri, 1962:100–101, pl. 2: figs. 2–2a, pl. 4: fig. 2. [Italy.] (Helvetian.)

**Genus *Atelospatangus* Koch**

## MIDDLE EOCENE

*A. magnus* Szörényi, 1963:192–193, pl. 15: figs. 5–7. [Hungary.]

**Genus *Hemimaretia* Mortensen**

## RECENT

*Hemimaretia* Mortensen, 1950b:160. Type-species: *Marietia elevata* Döderlein. [East Africa.]

**Genus *Maretia* Gray****RECENT**

*M. parvituberculata* H. L. Clark, 1925c:13–15, pl. 4. [Off Natal Coast, South Africa.]

*M. cordata* Mortensen, 1948a:132–133. [Philippine Islands.]

**MIOCENE**

*M. estenozii* Sánchez Roig, 1926:111–112, pl. 37: figs. 1–2. [Havana, Cuba.]

**Genus *Hemipatagus* Desor**

In the *Treatise*, Fischer (Durham et al., 1966:U609) considers *Hemipatagus* a subjective synonym of *Maretia* Gray.

**PLIOCENE**

*H. bandaensis* Martin in Martin and Jeannet, 1937:276, figs. 53a–c. [Dutch East Indies, western Pacific Ocean.]

**UPPER OLIGOCENE**

*H. cartagensis* Sánchez Roig, 1949:216–217. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:323) says it is Upper Oligocene.]

**Genus *Nacospatangus* A. Agassiz****Subgenus *Pseudomaretia* Koehler****RECENT**

*P. oblonga* Mortensen, 1950b:163. [Galápagos Islands, southeast Pacific Ocean.]

**Genus *Paramaretia* Mortensen****RECENT**

*Paramaretia* Mortensen, 1950b:160. Type-species: *P. multituberculata* Mortensen, 1950b:160. [New South Wales, Australia.]

**Subgenus *Atelospatangus* (*Semipetalion*) Szörényi****UPPER EOCENE**

*Atelospatangus* (*Semipetalion*) Szörényi, 1963:193–194. Type-species: *A. (S.) anomon* Szörényi, 1963:195–196, pl. 15: figs. 1–4. [Hungary.]

**Family LOVENIIDAE Lambert****Genus *Lovenia* Desor****RECENT**

*L. doederleini* Mortensen, 1950b:158. [Kei Islands, Malay Archipelago.]

*L. doederleini* Mortensen var. *acuminata* Mortensen, 1948a:138. [Philippine Islands.]

*L. hawaiiensis* Mortensen, 1950b:158. [Hawaiian Islands, Pacific Ocean.]

**MIOCENE**

*L. gigantea* H. L. Clark, 1945:325–326, pl. 43: fig. F. [Fiji, South Pacific Ocean.]

*L. minihagali* Deraniyagala, 1961:154, pl. 5: fig. 9. (Ceylon, Indian Ocean.)

*L. similis* H. L. Clark, 1945:327–328, pl. 43: fig. G. [Fiji, South Pacific Ocean.]

**MIDDLE MIOCENE**

*L. mortenseni* Čtyroký, 1965:108–118, figs. 1–6, pls. 1–6. [Czechoslovakia.] (Carpathian Fm.)

**OLIGOCENE**

*L. mexicana* Jackson, 1937:236–237, pl. 15: figs. 2–3. [Mexico.]

**UPPER OLIGOCENE**

*L. alabamensis* Cooke, 1959:77, pl. 32: figs. 14–17. [Alabama, U.S.A.] (Chickasawhay Ls.)

**UPPER EOCENE**

*L. macrotuberculata* Schaffer, 1960:431–434, figs. e–g. [Austria.]

## UPPER CRETACEOUS

- L. baixodoleitensis* Maury, 1934a:156, pl. 15: fig. 1. [Brazil, Rio Grande do Norte. Maury (1934b:3) made this species the type-species of a new genus *Lovenilampas*, which Kier (Durham et al., 1968: U523) put in incertae sedis.] (Probably Turoanian.)

Genus *Breynia* Desor

## PLIOCENE

- B. australasiae* Leach var. *aroensis* Currie, 1924: 64–66, pl. 4: fig. 6. [Aru Islands, off southwest coast of New Guinea.]  
*B. cordata* Hayasaka and A. Morishita, 1947: 122–124, pl. 10: fig. 1, pl. 11: fig. 1. [China.]  
*B. testudinaria* Hayasaka and A. Morishita, 1947: 125–126, pl. 11: fig. 2. [China.]  
*B. birmanica* Vredenburg, 1922:413, pl. 30: fig. 1. [Burma.]

## UPPER EOCENE

- B. sirtica* Airaghi, 1939:281–282, pl. 12: figs. 17–18. [North Africa.]

Genus *Echinocardium* Gray

## RECENT

- E. connectens* Mortensen, 1933:469–470, fig. 28. [St. Helena (Island), South Atlantic Ocean.]  
*E. fenauxi* Péquignat, 1963:3–8, figs. 1–3; 1964: 5–14, figs. 1–4, 5a, pls. 1–2. [South of France to Ligurian Sea.]  
*E. keiense* Mortensen, 1950b:163. [Kei Islands, Malay Archipelago.]

Genus *Homolampas* A. Agassiz

## RECENT

- H. lovenioides* Mortensen, 1948a:117–118. [Philippine Islands.]

## Suborder ASTEROSTOMATINA A. G. Fischer

## Family ASTEROSTOMATIDAE Pictet

Genus *Asterostoma* Agassiz

## MIDDLE EOCENE

- A. dickersoni* Sánchez Roig, 1949:180–181, pl. 31: fig. 1, pl. 32: fig. 1. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949: 317) says it is Middle Eocene.]  
*A. irregularis* Sánchez Roig, 1952b:7–8, pls. 2–3. [Cuba.]  
*A. subcircularis* Sánchez Roig, 1952c:19–20, pl. 2: figs. 1–2, pl. 11: fig. 1. [Cuba.]

Genus *Antillaster* Lambert

## MIOCENE

- A. lamberti* Jeannet, 1928b:220. [Venezuela.]

## MIDDLE MIOCENE

- A. lamberti* Jeannet, 1928a:36–37, pl. 4: figs. 14–15. [Venezuela.] (Serie Capadare, couches d'Ojo de Agua.)

## LOWER MIOCENE

- A. jaumei* Sánchez Roig, 1953a:64–65, pl. 15(pars). [Cuba.]

## OLIGOCENE

- A. depressus* Sánchez Roig, 1951:51, pl. 29: fig. 1. [Cuba.]  
*A. giganteus* Sánchez Roig, 1951:48–49. [Cuba.]  
*A. herrerae* Sánchez Roig, 1951:49–50, pl. 27: fig. 1, pl. 28: fig. 1. [Cuba.]  
*A. mortenseni* Sánchez Roig, 1952c:20–21, pl. 14: figs. 2–3. [Cuba.]  
*A. rojasi* Sánchez Roig, 1951:50–51, pl. 37: fig. 1, pl. 38: fig. 2. [Cuba.]

## UPPER OLIGOCENE

- A. brachypetalus* Sánchez Roig, 1952b:8–9, pl. 7: fig. 1. [Cuba.]



- A. cartagensis* Sánchez Roig, 1949:188–189, pl. 22: fig. 2. [Cuba.]  
*A. estenozii* Sánchez Roig, 1949:189–190, pl. 22: fig. 1. [Cuba.]  
*A. expansus* Sánchez Roig, 1953a:63–64, pl. 18. [Cuba.]  
*A. guevarai* Sánchez Roig, 1952b:9–10, pl. 4: figs. 1–2. [Cuba.]

## EOCENE

- A. arnoldi* H. L. Clark in Arnold and Clark, 1927: 62–63, pl. 15: fig. 3, pl. 16: figs. 16–17. [Jamaica, West Indies.]

## UPPER EOCENE

- A. bonairensis* Pijpers, 1933:88, pl. 2: figs. 1–3. [Dutch West Indies, Netherland Antilles.]

Genus *Brissolampas* Pomel

## UPPER OLIGOCENE

- B. santanae* Sánchez Roig, 1949:190–191, pl. 22: figs. 3–4. [Cuba.]

Genus *Heterobrissus* Manzoni and Mazzetti

## MIOCENE

- H. cypriotes* Currie, 1935b:32–33, pl. 3: figs. 1–1b. [Cyprus, eastern Mediterranean Sea.] (Facies I of Idalian Series.)

Genus *Archaeopneustes* Gregory

In the *Treatise*, Fischer (Durham et al., 1966:U622) considers *Archaeopneustes* a subjective synonym of *Heterobrissus* Manzoni and Mazzetti.

## LOWER PLIOCENE

- A. moorefieldi* Hall, 1966:1124–1125, pl. 145: figs. 1–3. [California, U.S.A.]

Genus *Linopneustes* A. Agassiz

## RECENT

- L. brachypetalus* Mortensen, 1950b:157. [New South Wales, Australia.]

Genus *Megapetalus* H. L. Clark

## UPPER MIOCENE

- Megapetalus* H. L. Clark, 1929:259–260. Type-species: *M. lovenioides* H. L. Clark, 1929: 260–261, pl. 31: figs. 1–6. [California, U.S.A.]

Genus *Moronaster* Sánchez Roig

## EOCENE

- Moronaster* Sánchez Roig, 1952b:13–14. Type-species: *M. moronensis* Sánchez Roig, 1952b: 14–15, pl. 9: figs. 1–2. [Cuba.]

Genus *Paleopneustes* A. Agassiz

## RECENT

- P. tholoformis* Chesher, 1968a:125–134, fig. 25, pl. 27, pl. 28: figs. e, f, pl. 29: figs. a, f. [Florida Strait to Barbados, Caribbean Sea.]

## PLIOCENE

- P. periturus* Nisiyama, 1968:165–167, figs. 61a–c. [Japan.] (Kiwada Fm.)  
*P. psoidoperiodus* Nisiyama, 1968:162–164, figs. 60a–c. [Japan.] (Nakamura Fm.)

## LOWER PLIOCENE

- P. holmani* Grant and Hertlein, 1938b:112–113, pl. 25: figs. 1–2. [California, U.S.A.] (Repetto Fm.)

## MIOCENE

- P. lepidus* Nisiyama, 1968:167–168, pl. 20: figs. 1, 4, pl. 21: fig. 1. [Japan.] (Nanao Fm.)

## UPPER OLIGOCENE

*P. elevatus* Israelsky, 1924:144, pl. 4: figs. 1a–b. [Mexico.]

Subgenus *Paleopneustes* (*Oopneustes*) Nisiyama

## MIDDLE MIOCENE

*Paleopneustes* (*Oopneustes*) Nisiyama, 1968:159. Type-species: *P. (O.) priscus* Nisiyama, 1968: 159–162, figs. 57–59, pl. 19: figs. 1–2, pl. 21: fig. 4. [Japan.] (Tsunaki Fm.)

Genus *Platybrissus* Grube

## PLEISTOCENE

*P. parvus* H. L. Clark, 1945:322–323, pl. 42: figs. J–K. [Fiji, South Pacific Ocean.]

Subgenus *Platybrissus* (*Eurypatagus*) Mortensen

## RECENT

*Eurypatagus* Mortensen, 1948a:133–134. Type-species: *E. ovalis* Mortensen, 1948a:134. [Philippine Islands.]

*E. grandiporus* Mortensen, 1948b:12, pl. 1: figs. 4–5. [Indian Ocean.]

Genus *Plesiozonus* de Meijere

## RECENT

*P. diomedae* Mortensen, 1948a:118–119. [Philippine Islands.]

Genus *Pseudoasterostoma* Sánchez Roig  
not *Pseudoasterostoma* Duncan, 1889

Presumably Sánchez Roig did not know that *Pseudoasterostoma* was preoccupied when he described his new genus. If his type-species is generically distinct, then a new generic name should be erected for it. In the *Treatise*, Fischer (Durham et al., 1966:U624) considers *Pseudoasterostoma* Duncan an objective synonym of *Prosostoma* Pomel.

## OLIGOCENE

*Pseudoasterostoma* Sánchez Roig, 1952b:5–6, pl. 1: fig. 1. Type-species: *Asterostoma cubensis* Cotteau. [Cuba.]

## UPPER OLIGOCENE

*P. fernandesi* Sánchez Roig, 1952b:6, pl. 6: fig. 1. [Cuba.]

*P. habanensis* Sánchez Roig, 1952b:6–7, pl. 5: fig. 1. [Cuba.]

Genus *Scrippsechinus* Allison, Durham and Mintz

## RECENT

*Scrippsechinus* Allison, Durham and Mintz, 1967:16. Type-species: *S. fisheri* Allison, Durham and Mintz, 1967:16–22, figs. 13–14, 21–32. [West from Chile.]

## Suborder Uncertain

## Family Uncertain

Genus *Barnumia* Cooke

## UPPER CRETACEOUS

*Barnumia* Cooke, 1953:29–30. Type-species: *B. browni* Cooke, 1953:30, pl. 16: figs. 2–5. [Guatemala.] (Campanian?)

Subgenus *Cottreaucorys* (*Cordastrum*) Nisiyama

## UPPER CRETACEOUS

*Cottreaucorys* (*Cordastrum*) Nisiyama, 1968:175. Type-species: *C. (C.) sulcatus* Nisiyama, 1968: 175–177, figs. 65a–c, pl. 18: figs. 10–11, pl. 20: fig. 2. [Japan.] (Miyakura Fm. Maestrichtian-Senonian.)

Genus *Gonzalezaster* Sánchez Roig

## EOCENE

*Gonzalezaster* Sánchez Roig, 1952b:15–16. Type-species: *Nudobrissus lamberti* Sánchez Roig.

(Roig, *Torreia*, Cuba No. 17:16, pl. 8: figs. 1, 4). [Cuba.]

**Genus *Homoeopetalus* Arnold and H. L. Clark**

TERTIARY

*Homoeopetalus* Arnold and H. L. Clark, 1934:146.  
Type-species: *H. axiologus* Arnold and H. L. Clark, 1934:147-148, pl. 2: figs. 2-3. [Jamaica, West Indies.]

**Genus *Nudobrissus* Lambert**

UPPER/MIDDLE EOCENE

*N. lamberti* Sánchez Roig, 1949:222-223, pl. 36: figs. 1-3. [Cuba. Brodermann (1949:324) says it is Middle to Upper Eocene.]

**Order NEOLAMPADOIDA Philip**

**Suborder NEOLAMPADINA Philip**

*Neolampadina* Philip, 1963a:725. Type-genus: *Neolampas* A. Agassiz.

**Family NEOLAMPADIDAE Lambert**

**Genus *Nannolampas* Mortensen**

RECENT

*Nannolampas* Mortensen, 1948c:339. Type-species: *Neolampas tenera* de Meijere. [Timor Sea, part of Indian Ocean.]

**Genus *Notolampas* Philip**

LOWER MIOCENE

*Notolampas* Philip, 1963a:719-720. Type-species: *N. flosculus* Philip, 1963a:720-722, fig. 2, pl. 107: figs. 1-10. [South Australia.]

**Genus *Pisolampas* Philip**

UPPER EOCENE

*Pisolampas* Philip, 1963a:718. Type-species: *P. concinna* Philip, 1963a:719, fig. 1, pl. 106, pl. 107: fig. 11. [South Australia.]

**Superclass GNATHOSTOMATA  
or ATELOSTOMATA**

**Order Uncertain**

**Genus *Menopygus* Pomel**

LOWER JURASSIC

*M. hebbriensis* Lambert, 1933b:57-58, pl. 1: figs. 8-9. [North Africa.] (Lower Domerian.)

**Doubtful Nominal Genera of Echinoids**

**Genus *Neopatagus* Sánchez Roig**

OLIOGOCENE

*Neopatagus* Sánchez Roig, 1953b:258-259. Type-species: *Breynia cubensis* Cotteau. [Cuba.]

**Genus *Oligopodia* Duncan**

PLIOCENE

*O. okinawa* Cooke, 1954:49, pl. 12: figs. 7-10. [Okinawa, Japan.] (Naha Ls. is lower part of Ryukyu Ls.)

MIOCENE

*O. tapeina* H. L. Clark, 1945:321-322, pl. 42: figs. G-I. [Fiji, South Pacific Ocean.]

UPPER EOCENE

*O. mortenseni* Castex, 1947:32, pl. 2: figs. 1-4. [France.] (Base du Calcaire de St.-Éstephe.)

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