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HOLOTHUROIDEA

Key to the Orders

1. Pedicels and papillae absent, or are present only as anal papillae..... 2.
1. Pedicels and/or papillae present..... 3.
2. Body cylindrical, respiratory trees and tentacle ampullae absent; spicules as anchors and plates or wheels or sigmoid bodies, but no tables or phosphatic deposits..... Apodida Brandt, 1835.
2. Body more or less tapering posteriorly to a caudal appendage; respiratory trees present; spicules as tables, fusiform rods or perforated plates, anchors sometimes present, wheels and sigmoid bodies absent, phosphatic bodies often present. Molpadida Haeckel, 1896.
3. Tentacles dendritic or digitiform; retractors present..... 4.
3. Tentacles peltate; retractors absent..... 5.
4. Tentacles digitiform, the digits sometimes bifurcate..... Dactylochirotida Pawson and Fell, 1965.
4. Tentacles dendritic..... Dendrochirotida Grube, 1840.
5. Respiratory trees absent, mesentery of posterior loop of intestine attached to right dorsal inter-radius..... Elasipodida Theel, 1882.
5. Respiratory trees present, mesentery of posterior loop of intestine attached to right ventral inter-radius..... Aspidochirotida Grube, 1840.

DENDROCHIROTIDA

Key to the Families (after Pawson and Fell, 1965)

1. Body partly or completely invested by plates..... 2.
1. Body more or less naked, not enclosed by a test; calcareous deposits small, inconspicuous..... 4.
2. Body enclosed by a test comprising conspicuous imbricate plates; sole lacking..... 3.
2. Body invested dorsally by conspicuous plates; sole present..... Psolidae Perrier, 1902.
3. Calcareous ring complex, with long paired posterior processes..... Placothuriidae Pawson and Fell, 1965.
3. Calcareous ring simple, lacking posterior processes..... Paracucumidae Pawson and Fell, 1965.
4. Calcareous ring complex, with paired or unpaired posterior processes..... 5.
4. Calcareous ring simple, lacking posterior processes..... Cucumariidae Ludwig, 1894, emend. Pawson and Fell
5. Processes composed of a mosaic of small pieces..... Phyllophoridae Ostergren, 1907, emend. Pawson and Fell
5. Processes entire..... Sclerodactylidae Panning, 1949.

CUCUMARIIDAE
Key to the Subfamilies
(after Pawson, 1970)

1. Ten tentacles..... 2.
1. More than ten tentacles (15 to 25); calcareous deposits plates or tables..... Thyonidiinae
Heding and Panning, 1954
2. Calcareous deposits plates only..... Cucumariinae
Panning, 1949
2. Calcareous deposits plates and cups..... Colochirinae
Panning, 1949

SCLERODACTYLIDAE
Key to the Subfamilies

1. Ten tentacles..... Sclerodactylinae
Panning, 1949
1. More than ten tentacles (15 to 20)..... Clabdolinae
Heding and Panning, 1954

PHYLLOPHORIDAE
Key to the Subfamilies
(after Pawson, 1970)

1. Radial pieces of calcareous ring with moderately long posterior projections, which are divided into a few large elements..... Phyllophorinae
Ostergren, 1907
1. Calcareous ring with very long posterior projections; ring and projections made up of a mosaic of minute pieces..... 2.
2. Tentacles 10..... Thyoninae Panning,
1949
2. Tentacles 15-20..... Semperiellinae Heding and Panning,
1954

APODIDA

Key to the Families

- 1. Deposits as anchors and anchor plates..... Synaptidae
Burmeister, 1832.
- 1. Deposits as wheels..... 2.
- 2. Wheels with 8 or more spokes..... Myriotrochidae
Ostergren, 1898.
- 2. Wheels with 6 or less spokes..... Chiridotidae
Ostergren, 1898.