

Dr. Minakshi Kumari
P.G. Dept. Of Zoology,
Maharaja College, ARA.

B.Sc. Part-I
Zoology (Hons.)
Paper – I– A.

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CLASSIFICATION OF ECHINODERMATA: --

Subclass 3. Irregularia

1. Body oval or circular, flattened oral-aborally.
2. Mouth central or displaced anteriorly on oral surface.
3. Anus marginal, outside the apical system of plates.
4. Tube feet generally not locomotor.

Order 1. Holectypoida

1. Test regular with simple ambulacral and centrally located peristome and apical system.
2. Lantern present.
3. Mostly extinct.

Examples : *Holectypus*, *Echinoneus*.

Order 2. Cassiduloida

1. Aboral ambulacral areas petaloid, forming a five-armed figure like petals of a flower.
2. Lantern absent.
3. Mostly extinct.

Examples : *Cassidulus*

Order 3. Clypeastroida

1. Test flattened with oval or rounded shape.
2. Mouth central, anus excentric.
3. Aboral ambulacral areas petaloid.
4. Aristotle's lantern present.
5. Gills absent.
6. Bottom dwellers.

Examples: Sand dollars : *Clypeaster*, *Echinarachinus*.

Order 4. Spatangoida

1. Test oval or heart-shaped with excentric mouth and anus.
2. Four aboral ambulacral areas pataloid.
3. Lantern absent.
4. Gills absent.
5. Burrowing.

Examples : Heart urchins; *Spatangus*, *Echinocardium lovenia*, *Hemipneustes*. *P*

CLASS 4. Holothuroidea

(Gr., holothurion, sea cucumber + eidos, form)

1. Sea cucumbers.
2. No arms and no spines.
3. Body elongate on oral-aboral axis, body wall leathery.

4. Mouth anterior, surrounded by tentacles.
5. Ambulacral grooves concealed , tube feet with suckers.
6. Usually with respiratory tree for respiration.

Order 1. Dendrochiota

1. Tentacles irregularly branched.
2. Tube feet numerous, on the sole or all ambulacral or entire surface.
3. Respiratory tree present.

Examples : *Cucumaria*, *Thyone*.

Order 2. Aspidochiota

1. Tentacles peltate or leaf-like.
2. Tube feet numerous, sometimes forming a well-developed sole.
3. Respiratory tree present.

Examples : *Holothuria*, *Actinopyga*.

Order 3. Elasipoda

1. Tentacles leaf-like.
2. No respiratory tree.
3. Tube feet webbed together to form fins.
4. Deep-sea dwellers.

Example : *Pelagothuria*.

Order 4. Molpadonia

1. 15 digitate tentacles.
2. No tube feet.
3. Posterior end tail-like.
4. Respiratory tree present.

Examples : *Molpadia*, *Caudina*.

Order 5. Apoda

1. Worm-like sea cucumbers.
2. No tube feet and respiratory tree.
3. Burrowing.

Examples : *Leptosynapta*, *Synapta*.

Subphylum II. Pelmatozoa

(Gr., pelmatos, stalk + zooios, animal)

1. Stalked and sedentary echinoderms.

CLASS 5. Crinoidea

(Gr., crinon, lily + eidos, form)

1. Sea lillies.
2. Body attached during part or whole of life by an aboral stalk.

3. Mouth and anus on oral surface.
4. Arms with pinnules.
5. Tube feet without suckers, no madreporite, spines and pedicellariae
6. Ciliated ambulacral grooves on oral surface.

Order : Articulata

1. Living sea lillies and feather stars.
2. Feather stars non-sessile and free swimming .

Examples : *Antedon* (Sea lily), *Neometra* (feather star).
