

**CATALOGUE OF THE RECENT  
ECHINIDA, OR SEA EGGS: IN THE  
COLLECTION OF THE BRITISH  
MUSEUM. PART I.- ECHINIDA  
IRREGULARIA**

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Catalogue of the Recent Echinida, Or Sea Eggs: In the Collection of the British Museum. Part I.-  
echinida irregularia by John Edward Gray

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**JOHN EDWARD GRAY**

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OR  
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OF  
THE BRITISH MUSEUM.

[J. E. Gray]

PART I.—ECHINIDA IRREGULARIA.



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1865.

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## PREFACE.

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THE chief object in preparing this Synopsis has been to give, at one view, a complete Catalogue of all the Specimens of Sea Eggs (*Echinida*) at present in the British Museum Collection, and an account of the species known to exist in other Collections, but which are desiderata in the British Museum, so as to enable travellers, collectors, and others, to assist in completing the National Collection.

After the short description of the Genera and Species, a detailed list of the synonyma referring to the different authors who have described and figured the species, there is added an enumeration stating the condition, country, origin of, by whom presented, and other peculiarities of each specimen of the kind in the Museum Collection.

The Second Part is in forwardness, and will be printed as soon as completed.

JOHN EDWARD GRAY.

BRITISH MUSEUM,  
16th March, 1855.



CATALOGUE  
OF  
ECHINIDA.

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Subdivision II.—The IRREGULARIA.

Vent lateral, dorsal, or inferior (not in the middle of the back); body not globular, variously shaped; jaws horizontal, separate or wanting; anus and mouth covered with small scales; ambulacra short, often confined to the vertex, and generally interrupted on the margin, sometimes appearing again near the mouth; shell covered with numerous generally equal-sized bristle-like spines, rarely scattered with thicker and more elongated ones.

Echinida, the annectant group, *Gray, Ann. Phil.* 1826, 5.  
Echinides, Sect. 2, part. and sect. 1. *Lamk. Hist.* iii, 267.  
Irregularia, *Latr. Fam. Nat. R. A.* 533, 1825.  
Catocystos and Pleurocystos, *Klein Echin.* 13; *Lesteb.* 97-153.

Section 1. MESOSTOMA, mouth subcentral, round, or pentagonal.

Mesostoma, *Latr. Fam. R. A.* 533, 1825.  
Les Clypeastres, *Agassiz, Prod.*  
Les Echinides paracentrostome, *Blainv. Dict. Sc. Nat.*  
Clypeasteroidea, *Agassiz; Bronn, Gesch. d. Nat.* 193, 1846.  
Catocystos, part., *Klein*, 12.  
Emmesostomi, part., *Klein*, 37.  
Catocysti emmesostomi, part., *Van Phelsum.*  
Pleurocysti Emmesostomi, *Van Phelsum.*



*a. Jaws distinct.*

Echinides paracentrosomes dentes, *Blainv. D. S. N.*

## Fam. 3. SCUTELLIDÆ.

Shell thick, pentagonal, elliptical, or circular, covered with small uniform bristles, supported by very close, very small, very uniform tubercles on all parts of the shell; mouth five sided; vent posterior, marginal, or infra-marginal; jaws composed of five horizontal plates, pivoted on two pillars, which fit into two pits in their lower surface; teeth simple, obliquely truncated, and inserted in a groove in the middle of the jaws; internal cavity of the shell simple, or divided into compartments by perpendicular septa, or pillars; ambulacra formed of single series of double pores, forming dorsal petals, and straight or anastomosing lines on the lower surface; genital plates five, forming a circle round the madreporiform plate; ocellar plates five, interposed between the genital plates and the apex of the ambulacra.

Scutellidæ, *Gray, Ann. Phil.* x. 1825, 5; *Synop. Brit. Mus.* 1840; 1842, 115.

Clypeastrea, *Agassiz, Prod.—Ann. Nat. Hist.* i. 302; *DeLong in Lamk. Hist.* iii. 273.

Les Echinides paracentrostomes dentes, *Blainv. Dict. Sc. Nat.* ix. 185; *DeLong in Lamk. Hist.* ed. 2, iii. 271.

Clypeasteroides,  $\gamma$  Scutellæ, *Agassiz; Bronn, Gesch. d. Nat.* 196.

Clypeasteroidea,  $\beta$  Clypeastriteæ, *Agassiz; Bronn, Gesch. d. Nat.*

195.

Mesostoma, part., *Latr. Fam. N. H. A.* 533, 1825.

Clypeaster, *Lamk. Syst.* 349.

Des Clypeasteroides, *Agassiz & Desor, Ann. Sci. Nat.* 1847, 129.

The crustaceous covering of the body is usually thickened internally by an additional coat, and is strengthened by internal columns, which enable them to resist the action of the sea for a length of time.

The shells are formed of twenty bands of pieces, but the continuation of the ambulacral bands are often very much dilated and perforated.

This family is allied to the *Echinades*, by the nearly equal-sized spines, and having jaws, &c.; to the annectant families of the order *Stellerides*, by their jaws being only used for pressing the food, and by the radiated lobed form of some of the species.

*Synopsis of the Genera.*

- I. Pores of each ambulacral band united by a cross groove.
- A. *Infra-ambulacral grooves, simple, straight, not branched.*
- a. *Ambulacral petals broad, closed at end.*
1. CLYPHASTER, under-side concave.  
b. *Ambulacral petals narrow, open at end.*
  2. LAGANUM, vent inferior; body pentagonal.
  3. ARACHNOIDES, vent supra-marginal; body circular.
- B. *Infra-ambulacral grooves branched near end, or waved; vent inferior.*
- c. *Ambulacral petal narrow, open at the end.*
4. ECHINARACHNIUS, discoidal entire; vent sub-marginal; oral grooves just branched at the end.
  5. DENDRASTER, discoidal entire; vent sub-marginal; oral grooves much branched.
  6. ROTULA, discoidal pierced, and lobed; vent sub-oral.
  7. LEODIA, discoidal pierced; edge entire; vent sub-oral.  
d. *Ambulacral petals broad, closed at the end.*
  8. ECHINODISCUS, discoidal pierced; vent sub-marginal; oral grooves round or slightly branched.
  9. MELLITA, discoidal pierced; vent sub-oral; oral grooves waved.
  10. ECHINOGLYCES, discoidal pierced; vent sub-oral; oral grooves much branched.
- II. *Pores of each ambulacral band not united by a cross groove.*
11. MOULINEIA, discorded, edge festooned.
  12. ECHINOCTAMUS, oblong, edge rounded.
  13. FIBULARIA, sub-spherical.
- I. *Pores of each ambulacral band united in pairs by a cross groove; cavity of the shell strengthened internally, at least on the margin.*
- A. *Infra-ambulacral groove, simple, straight, not branched.*
- a. *Ambulacral petals broad, closed at the end.*
1. CLYPHASTER.  
Shell pentagonal, truncated behind, beaked in front, swollen, sometimes conic, or sub-conic; beneath flat; ambulacral petals very broad, sometimes costulated, arched, and circumscribed by very broad periferous zones, corresponding with five narrow

straight grooves on the lower side, continued to the mouth; vent small, infra-marginal; mouth pentagonal, deeply sunk in; jaws very strong, with two high wings; teeth vertical; cavity of the shell with many vertical septa; genital pores five, at top of ambulacra, and not continuous with the madreporiform plate.

Clypeaster, §\*, *Lamk. Syst.* 349, 1801.

Clypeaster, *Lamk. Hist.* ed. 2. iii.; *Desmordin, Etudes*, ii. 212; *Agassiz & Desor, Ann. Sci. Nat.* 1847, 129.

Clypeasteroidea β Clypeastritæ, *Agassiz; Bronn, Gesch. d. Nat.* 195.

Echinanthus, sp. *Leske; Breynus.*

Echinanthus, *Gray, Ann. Phil.* 1825, 5. \*

Echinorodum, *Van Phelsum*, 38.

Scutum angulare, *Klein.*

\* Vent in margin; margin very thick, rounded; base concave.

† Back convex.

#### 1. ECHINANTHUS ROSACEUS.

Ambulacral petal very broad and strongly rounded; back regularly rounded; anus in the margin; jaws higher than broad, ambulacra close at the end.

Echinus rosaceus, *Linn. S. N.*, 3186.

Krizo estrollado, *Parva Descrip.* 139, t. 52, f. 1-10.

Scutum angulare humile, a, *Klein Gall.* 84, t. 9, f. 13.

Echinanthus humilis, *Leske ap. Klein*, 185, t. 17, f. A. t. 18, f. 13;

*Ency. Meth.* t. 145, f. 56; *Seba*, iii. t. 11, f. 2, 3, & 13, 14;

*Knorr Delc.* v, 1, f. 12; *Gray, Ann. Phil.* 1825, 5.

Echinorhodum, *Van Phelsum*, 38, 44.

Clypeaster rosaceus, *Lamk. Hist.* iii.; *Eth.* t. 144, f. 78, t. 145,

f. 1, 2, 5, 6; *DeLong, Ency. Meth.* ii. 299; *Blainv. D. S. N.*

ix. 448; lx. 197; *Zooph.* 216; *Desmoul. Tab. Syn.* 212;

*Agass. Prod.* 187; *Agassiz & Desor*, l. c. 130.

Clypeaster incurvatus, *Desmoul. Tab. Syn.* 212. (*Ency. Meth.* t. 145, f. 56.)

*Monstrosities*, ambulacra four, and ambulacra six-rayed, *Mus. Paris.*

Hab. West Indies.

a. Adult. St. Vincent's, W. Indies. Mr. Guilding's Collection.

b. Half grown, cut across, showing the column inside. St. Vincent's, West Indies. Mr. Guilding's Collection.

c, d. Half grown, without spines.

e, f. Adult and young, covered with spines.