

*laster palæocrystallus*¹ than to any other species; it may however be distinguished by its general habit, by the form and character of the pedicellariæ, and by the posture and character of the armature of the adambulacral plates. Neither of the three forms above referred to could possibly be mistaken for *Pedicellaster scaber*.

Family ASTERIIDÆ, Gray, 1840, *emend.*

The investigations of the last decade have resulted in the establishment of more definite morphological limits for this cosmopolitan family than were formerly recognised, and the removal of several genera whose plan of structure is essentially different.

The genera now classed together in the family Asteriidæ constitute a well-defined group, the alliance of which is natural and self-evident. They are enumerated in the following table.

Synopsis of the Genera included in the Family ASTERIIDÆ.

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| A. Abactinal skeleton well developed. | |
| a. Abactinal skeleton reticulate. | |
| a. Abactinal plates bearing definite spines | <i>Asterias.</i> |
| b. Abactinal plates bearing large spherical tubercles | <i>Uniofphora.</i> |
| b. Abactinal skeleton composed of broad imbricating plates, covered with thick membrane masking the plates and their appendages | |
| | <i>Calvasterias.</i> |
| B. Abactinal skeleton more or less aborted. | |
| a. Rays five. Form subpentagonal | <i>Anasterias.</i> |
| b. Rays numerous and elongate | <i>Pycnopia.</i> |

Genus *Asterias*, Linné.

Asterias (pars), Linné, *Systema Naturæ*, 1766, ed. xii. p. 1098.

Stellonia (pars), Nardo, *De Asteriis*, Oken's *Isis*, 1834, p. 716.

Uraster (Agassiz), Forbes, *Mem. Wern. Soc.* 1839, vol. viii. p. 114.

Asteracanthion (pars), Müller and Troschel, *Monatsb. d. k. preuss. Akad. d. Wiss. Berlin*, April 1840, p. 102.

Leptasterias, Verrill, *Proc. Boston Soc. Nat. Hist.*, 1866, vol. x. p. 350.

Coscinasterias, Verrill, *Trans. Conn. Acad. Arts and Sci.*, 1871 (1867), vol. i. part 2, p. 248.

Margaraster, Hutton, *Cat. Echin. New Zealand*, 1872, p. 4 (non *Margaraster*, Gray).

Marthasterias, Jullien, *Bull. Soc. Zool. France*, 1878, p. 141.

¹ Doubt has been expressed by Drs. Danielssen and Koren (*Nyt Mag. f. Naturvidensk.*, Bd. xxvii. p. 270; *Den Norske Nordhavs-Expedition*, 1876-1878, *Zoologi*, xi. *Asteroida*, Christiania, 1884, p. 39) as to the validity of this species, which they consider to be identical with *Pedicellaster typicus*. The arguments drawn from certain points of structure, which they state were insufficiently described by Sars, strongly support that view; nevertheless, whilst acknowledging the cogency of the facts adduced by my learned colleagues and with full respect for their judgment, I venture to retain the species, at least for the present, as, after the examination of further specimens referred to *Pedicellaster typicus*, I am still inclined to believe that the two forms are distinct. I hope, on a future occasion, to be able to compare them side by side and finally settle the question.