

## Family GYMNASTERIIDÆ, Perrier, 1884.

The older known genera included in this family were originally classed by Perrier<sup>1</sup> in the Goniasteridæ. They were subsequently removed by Viguiet,<sup>2</sup> with the exception of *Gymnasteria*, to the Asterinidæ. Latterly, in the new classification proposed by M. Perrier,<sup>3</sup> they were separated as an independent family, *Gymnasteria* being taken as the type form and again united with the genera which were separated from it by Viguiet.

I fully concur in the course adopted by Perrier and maintain the family as established by him, notwithstanding the fact that more than one of the recently discovered genera appear to diminish considerably the difference supposed to exist between the Gymnasteriidæ and Asterinidæ.

I have added several genera to those ranked by Perrier in the Gymnasteriidæ, and of these one or two have unquestionably many affinities with the Asterinidæ; but the balance of their structural "points" seems to me to warrant their classification with the Gymnasteriidæ. To those who take the broad view of taxonomic relationship inseparable from a theory of descent involving the assumption of organic form being dependent on variation and adaptation, this interlocking, as it might be termed, of allied families need not, in my opinion, invalidate the acceptance of the independent existence of two types or families, because some of their component forms show intermediate and transitional characters. This, indeed, seems to me to be a case which might be expected to occur under favourable circumstances; although in general these intermediate phases have disappeared.

*Synopsis of the Genera included in the Family GYMNASTERIIDÆ.*

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| A. Marginal and abactinal plates devoid of spines.  |                      |
| a. Abactinal plates irregular or substellate, not forming a composite reticulated mesh-work. Adambulacral armature: furrow series consisting of two spines; actinal spines one or two. Marginal plates large. A pair of specially localised pedicellariæ at the base of the rays on the abactinal surface . . . . . | <i>Asteropsis.</i>   |
| b. Abactinal plates forming a composite reticulated mesh-work. Adambulacral armature: furrow series consisting of one spine; one actinal spine. Marginal plates small, pear-shaped, obliquely placed and strongly imbricating. No localised pedicellariæ at the base of the rays . . . . .                          | <i>Dermasterias.</i> |
| B. Marginal plates with spines.   |                      |
| a. With a medio-radial series of large spines. Supero-marginal plates forming the margin, bearing large isolated spines. Abactinal plates rounded, forming regular longitudinal series . . . . .  | <i>Gymnasteria.</i>  |

<sup>1</sup> Révis. Stell. Mus., p. 27 (*Archives de Zool. expér.*, 1875, t. iv. p. 291).

<sup>2</sup> *Archives de Zool. expér.*, 1878, t. vii. p. 204.

<sup>3</sup> *Nouv. Archives Mus. Hist. Nat.*, 2e Sér., 1884, t. vi. p. 165.