

Family SOLASTERIDÆ, Perrier, 1884.

Notwithstanding the remarkable and in many respects archaic characters of the genera *Solaster* and *Crossaster*, they have until quite recently been classed with the Echinasteridæ. The discovery of deep-sea forms more or less closely allied has, however, excited closer attention, and in 1884 Perrier¹ established the family Solasteridæ, which comprised *Korethraster*, *Lophaster*, *Radiaster*, *Ctenaster*, *Solaster*, and *Crossaster*.

With this classification I fully concur, reserving only any expression of opinion as to the validity of the position of *Radiaster* and *Ctenaster* in this family, in consequence of my want of knowledge of the structure of the forms in question. I have on these grounds not included them in the following table.

I have added to the family two new genera, *Peribolaster* and *Rhipidaster*, the former approaching *Korethraster* in its affinities and the latter *Crossaster*.

Synopsis of the Genera included in the Family SOLASTERIDÆ.

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| A. Armature of the adambulacral plates in two series at right angles to each other | SOLASTERINÆ. |
| a. No actinal intermediate plates along the ray. | |
| α. With one series of well-developed marginal paxillæ. | |
| α. Abactinal structure reticulate. With widely spaced penicillate paxillæ. Papulæ numerous | <i>Crossaster</i> . |
| β. Abactinal structure formed of stellate plates. With small closely crowded paxillæ. Papulæ single or few | <i>Solaster</i> . |
| b. With two series of well-developed marginal paxillæ | <i>Lophaster</i> . |
| b. A continuous series of actinal intermediate plates along the ray, each of which bears an obliquely placed comb of spines | <i>Rhipidaster</i> . |
| B. Armature of the adambulacral plates forming with that of the actinal intermediate or infero-marginal plates a single transverse series | KORETHRASTERINÆ. |
| a. Abactinal plates polygonal or rounded in outline. The spines composing the paxilliform tufts naked and free | <i>Korethraster</i> . |
| b. Abactinal plates cruciform; forming wide meshes. The spines composing the paxilliform tufts in membranous sacs which are united together in the interior of the group | <i>Peribolaster</i> . |

Subfamily SOLASTERINÆ, Sladen, 1888.

Genus *Crossaster*, Müller and Troschel.

Crossaster, Müller and Troschel, Monatsber. d. k. preuss. Akad. d. Wiss. Berlin, 1840 (April), p. 103.

The question of the validity of recognising *Crossaster*, *Solaster*, and *Lophaster*, as independent genera, has been so fully discussed by recent writers, that I do not propose to touch upon the subject further than to state that I maintain the three genera as

¹ *Nouv. Archives Mus. Hist. Nat.*, 1884, 2e Série, t. vi. p. 164.