

plates appear to form too broad a border on the abactinal surface for this genus; but we find that in the young stages of other species of this genus (e.g., in *Dytaster biserialis* and *Dytaster exilis*) the supero-marginal plates form a definite border in the immature phase, even when they are confined entirely to the lateral wall in the adult. In like manner the very small and limited actinal interradial areas seemed at first to throw doubt upon the correctness of the reference of this example to *Dytaster*, but this again is found to be warranted by the early condition of other species. The character of the adambulacral plates and their armature, the character of the abactinal paxillæ and of the pedicellariæ, accord perfectly with those of *Dytaster*. On these grounds I have placed it in this genus, and consider that it is probably nearly allied to *Dytaster biserialis*.

The form, as we know it at present, is readily distinguished from all the other members of the genus by the unarmed marginal plates, the character of the abactinal paxillæ, and the simple armature of the adambulacral plates.

Genus *Plutonaster*, Sladen.

Plutonaster, Sladen in Narr. Chall. Exp., 1865, vol. i. p. 610.

Disk comparatively large and flat. Rays usually elongate, more or less rigid.

Marginal plates rectangular; the supero-marginal plates thick and massive, forming a well-defined and often broad border on the abactinal surface. The plates of the superior and inferior series directly superposed, contingent horizontal margins straight. The supero-marginal plates usually devoid of spines; the infero-marginal plates frequently with one small rudimentary spine, but even this is sometimes aborted or absent altogether. The general surface of the plates of both series covered with small papilliform granules.

Abactinal area with small closely packed pseudo-paxillæ. No definite medio-radial line of plates. Papulæ generally distributed. Abactinal plates at the sides of the ray arranged in more or less definite obliquely transverse series.

Actinal interradial areas large, with numerous well-defined intermediate (ventral) plates, arranged in regular columns, the breadth of the plates decreasing as they approach the margin.

Armature of the adambulacral plates consisting of:—(1.) A longitudinal furrow series of short, subequal, cylindrical spinelets, sometimes radiating slightly apart. (2.) Two or more longitudinal series of papilliform granules on the actinal surface, the innermost occasionally spiniform. One large conical spinelet may be present on the actinal surface, but frequently only on plates near the extremity of the ray. In some forms (the subgenus *Tethyaster*) the armature of the actinal surface of the adambulacral plates is disposed in a co-ordinated group rather than in definite longitudinal series, and in these cases it is usually more distinctly spiniform in character.

Madreporiform body large, sometimes compound, placed about its own diameter distant from the margin, more or less concealed by paxillæ (except in the subgenus *Tethyaster*).