No pedicellariæ are present.

Anal aperture subcentral.

Actinostome nearly closed by the mouth-plates.

Remarks.—In this genus is included the handsome North-Atlantic form to which Sir Wyville Thomson gave the name of *Archaster bifrons*. It differs in some respects from the majority of species which I place in the genus, especially in the character of the adambulacral armature, and in the spinulation of the plates of the actinal interradial areas. The marginal plates are also more conspicuously armed. In so far, however, as the adambulacral armature is concerned, it will be found to correspond with the earlier stages of the armature in the majority of species of *Plutonaster*, and the characters of which are still exhibited on the plates near the extremity of the ray. After careful study I see no reason for separating this Asterid from the other forms which I have grouped together under the name of *Plutonaster*.

The two starfishes which have long been known under the names of *Astropecten subinermis*, Philippi sp., and *Archaster parelii*, Düben and Koren, are in my opinion very close allies of the present group of species. They exhibit, however, several constant differences which seem to me of a secondary character, and I have therefore placed them in a subgenus (*Tethyaster*) under *Plutonaster*, to which reference will be made on a succeeding page.

Synopsis of the Species included in the Genus Plutonaster *herein described.*

I. Madreporiform body compound, hidden. Adambulacral armature in parallel longitudinal series: granuliform on the actinal surface. Adambulacral plates long and narrow.
- A. Supero-marginal plates with a prominent dorsal spine . . . . . *bifrons.*
- B. Supero-marginal plates devoid of dorsal spines.
  - a. Infero-marginal plates armed with a spine. Rays elongate.
    - *a.* Large marginal plates. Paxillæ tabulate and compact. No tubercle on the supero-marginal plates. Granulation of the marginal plates truncate and obtuse.
      - *α.* Supero-marginal plates broader than the paxillar area. Secondary adambulacral armature with a well-developed row of spinelets; those external in groups on each plate (two or three groups) . . . . . *marginatus.*
      - *β.* Supero-marginal plates narrower than the paxillar area. Secondary adambulacral armature all granular, subequal, equidistantly spaced, not grouped . . . . . *rigidus.*
    - *b.* Small marginal plates. Paxillæ simple, radiating. Conical tubercle on the supero-marginal plates. Granulation of marginal plates conically pointed . . . . . *ambiguus.*
  - b. Infero-marginal plates devoid of a spine, or only with a minute rudiment in old age. Rays short and thick.
    - *a.* Disk broad, rays narrow . . . . . *notatus.*
    - *b.* Disk small, rays broad . . . . . *abbreviatus.*