

simple, smooth, without spines and equatorial girdle. Both polar spines sword-shaped triangular, two-edged, about as long as the radius of the disk, and as broad at the base as the inner medullary shell.

*Dimensions*.—Diameter of the disk 0·15, of the outer medullary shell 0·05, of the inner 0·02; length of the polar spines 0·08, basal breadth 0·02.

*Habitat*.—Indian Ocean, Madagascar, Rabbe, surface.

### Subgenus 2. *Astrostylus*, Haeckel.

*Definition*.—Margin of the disk with a solid equatorial girdle or a corona of radial spines.

#### 3. *Phacostylus amphipyramis*, n. sp.

Disk with spiny surface, four and a half times as broad as the outer, and fourteen times as broad as the inner medullary shell. Pores irregular, roundish; eight to ten on the radius. Margin of the disk with a corona of irregular, radial spines. Both opposite polar spines pyramidal, twice as long as broad, and nearly as long as the radius of the disk.

*Dimensions*.—Diameter of the disk 0·22, of the outer medullary shell 0·05, of the inner 0·016; length of the polar spines 0·1, basal breadth 0·05.

*Habitat*.—Western Tropical Pacific, Station 225, depth 4475 fathoms.

#### 4. *Phacostylus caudatus*, n. sp. (Pl. 32, fig. 6).

*Astrosestrum caudatum*, Haeckel, 1881, Prodrömus et Atlas (pl. xxxii. fig. 6).

Disk with smooth surface, two and a half times as broad as the outer, and six times as broad as the inner medullary shell. Pores regular, circular; six to seven on the radius of the disk. Margin with a solid equatorial girdle, and irregularly bordered with eight to ten conical spines; two opposite of these are much longer than the others. (This species can be derived from *Astrosestrum*, two opposite marginal spines being much more strongly developed than the six to eight others.)

*Dimensions*.—Diameter of disk 0·12, of the outer medullary shell 0·05, of the inner 0·02; length of the polar spines 0·1 to 0·25, basal breadth 0·025.

*Habitat*.—North Pacific, Station 244, depth 2900 fathoms.

#### 5. *Phacostylus maximus*, n. sp.

Disk with smooth surface, five times as broad as the outer, and ten times as broad as the inner medullary shell. Pores regular, circular; twenty to twenty-two on the radius. Margin with a solid equatorial girdle, bearing on the periphery one hundred to one hundred and twenty plain teeth, and two very large polar spines, which are cylindrical, longer than the diameter of the disk, and as broad at the furrowed base as the radius of the outer medullary shell. (Similar to *Sethostylus dentatus*, Pl. 34, fig. 1, but much larger, and with a double medullary shell.)