

(commonly between ten and twenty) is also here variable in one and the same species. The greater number of observed species of *Astrophacus* resemble in a very remarkable manner the corresponding species of *Heliodiscus*, and differ only in the double medullary shell.

Subgenus 1. *Astrophacetta*, Haeckel.

*Definition*.—Surface of the disk smooth, without radial spines. Bases of the marginal spines free, without a connecting equatorial girdle.

1. *Astrophacus asteriscus*, n. sp.

Disk with smooth surface, three times as broad as the outer and eight times as broad as the inner medullary shell. Pores regular, circular; twelve to fourteen on the radius. Marginal spines fifteen to twenty, of variable size and disposition; the largest as long as the radius of the disk, as broad at the base as one pore. (Very similar to *Heliodiscus asteriscus*, Pl. 33, fig. 8, but differing in the double medullary shell.)

*Dimensions*.—Diameter of the disk 0.2, of the outer medullary shell 0.07, of the inner 0.025; length of the marginal spines 0.05 to 0.1, basal breadth 0.01.

*Habitat*.—Central Pacific, Station 265, depth 2900 fathoms.

2. *Astrophacus trochiscus*, n. sp. (Pl. 34, fig. 14).

Disk with smooth surface, three times as broad as the outer and seven times as broad as the inner medullary shell. Pores irregular, roundish; twelve to thirteen on the radius. Marginal spines sixteen to twenty, conical, of irregular variable size and disposition; the largest as long as the inner medullary shell. (Differs from *Heliodiscus trochiscus* in the double medullary shell.)

*Dimensions*.—Diameter of the disk 0.22, of the outer medullary shell 0.08, of the inner 0.03.

*Habitat*.—North Atlantic, Station 354, surface.

3. *Astrophacus solaris*, n. sp. (Pl. 32, fig. 1).

Disk with smooth surface, three times as broad as the outer and seven times as broad as the inner medullary shell. Pores subregular, roundish; twelve to fourteen on the radius. Marginal spines one hundred to one hundred and twenty, conical, flexuose, of irregular size and form; the largest one-third as long as the diameter of the disk. The spines lie not only in the equatorial plane (as is usual) but also in two to four crowded girdles on both sides of it. (Very similar to *Heliodiscus solaster*, Pl. 34, fig. 4, but of double the size, with double the number of spines and with a double medullary shell.)

*Dimensions*.—Diameter of the disk 0.3, of the outer medullary shell 0.11, of the inner 0.045; length of the spines 0.03 to 0.1, basal breadth 0.01 to 0.02.

*Habitat*.—Indian Ocean, Sunda Strait, Rabbe, surface.