

distal ends of the thirty-two radial spines are disposed regularly in five parallel zones, and while two zones (the two polar) contain only the points of every four spines, three zones (the single equatorial and the two tropical) contain the points of every eight spines. The four meridian planes are in *Actinastrum* the same as in the *Icosacantha*, crossed in the spineless axis at angles of 45° . But in the *Icosacantha* each of the two perradial meridian planes contains six radial spines (two equatorial and four polar), each of the two interradian meridian planes only four tropical spines. Whereas in *Actinastrum* each of the two primary or perradial meridian planes contains ten spines (two equatorial, four tropical, and four polar), each of the two secondary or interradian meridian planes six spines (two equatorial and four tropical). We find therefore altogether thirty-two radial spines in three orders; eight equatorial, sixteen tropical, and eight polar spines.

Only one other genus of Radiolaria exhibits the same characteristic disposition of thirty-two radial spines as *Actinastrum*, and this is *Chiastolus*; but here the two opposite spines of each pair are grown together and form one diametral spine; and the sixteen diametral spines are crossed in the centre of the capsule. In *Actinastrum*, as in *Astrolophus* and *Actinelius*, the central ends or bases of all the spines are pyramidal, and the triangular faces of the neighbouring spines rest one upon another (as in the greater number of *Acanthonida*). The form of the radial spines in all *Astrolophida* is quite simple, without lateral processes or apophyses; chiefly cylindrical, more rarely compressed, two-edged or quadrangular.

The central capsule in all *Astrolophida* is spherical, and in the younger specimens contains a single large concentric and lobed nucleus, but in the older specimens a large number of small nuclei. The surrounding jelly-veil or calymma seems commonly to envelop the spines perfectly. The piercing pseudopodia radiate everywhere between the spines, and are very numerous and thin. The circulating granules in them are sometimes red (*Actinelius purpureus*).

Synopsis of the Genera of Astrolophida.

Radial spines of indefinite number and of irregular disposition.	{	Spines of equal size,	317. <i>Actinelius</i> .
	{	Spines of unequal size,	318. <i>Astrolophus</i> .
Radial spines thirty-two, disposed regularly in five parallel zones,			319. <i>Actinastrum</i> .

Genus 317. *Actinelius*,¹ Haeckel, 1865, Zeitschr. f. wiss. Zool., Bd. xv. p. 364.

Definition.—*Astrolophida* with a variable and undetermined number of simple radial spines, all of equal size, united in the centre of the spherical central capsule.

¹ *Actinelius* = Radiant sun; ακτις, "λιος.