

Each small plate or aglet is pierced in its centre by a single radial canalicule or porule. The dimpled surface, so produced, resembles somewhat the dimpled plates of *Ceriaspis*, &c. Different from these innumerable very small dimples of the surface are the twenty larger "spinal dimples," or the concave larger plates, which are originally pierced by the twenty radial spines. Before we describe these, we must examine the spines themselves.

The twenty radial spines of all observed Sphærocapsida (sixteen species) agree perfectly with those of the genus *Acanthonia* (p. 749), and especially with *Acanthonia tetracopa*, *Acanthonia denticulata*, &c. All twenty spines, regularly disposed according to the Müllerian law of the Icosacantha, are of equal size, constantly four-edged prismatic, of equal breadth throughout their whole length. The prominent four edges are parallel, sometimes smooth, at other times elegantly denticulated. The central bases of the twenty spines are pyramidal, without leaf-cross, and propped one upon another with their triangular faces, as in the majority of the *Acanthonida*.

The relation of the twenty radial spines to the spherical shell exhibits in the five genera described very peculiar and important differences. In the first described genus, in *Sphærocapsa*, the spines are exactly as long as the shell-radius, and therefore are not prominent over the surface of the shell, with which they are firmly connected; the truncated distal end of the spine lies therefore here in the surface of the shell itself, and is connected with it by its four edges, between which four open aspinal pores remain, as in *Tessaraspis*, &c. (Pl. 135, figs. 6-10). In the next allied genus, *Astrocapsa* (Pl. 133, figs. 9, 10), the spines are longer than the shell-radius, and therefore more or less prominent over its surface; the piercing part of each spine is also surrounded by four aspinal pores. In the two following genera, *Porocapsa* and *Cannocapsa* (Pl. 133, figs. 7, 8), the radial spines are shorter than the shell-radius and therefore quite hidden and withdrawn inside the shell, which they do not reach. But in the ideal prolongation of each spine the shell is pierced by a single large opening, the "perspinal pore" or "perspinal hole," composed of the four united aspinal pores. Whilst in *Porocapsa* the perspinal pores are simple, they are prolonged in *Cannocapsa* into cylindrical tubes, open at both ends. The twenty perspinal holes of these Porocapsida are therefore derived by confluence of the eighty original aspinal pores of the Astrocapsida and preserve the same regular disposition, according to the Müllerian law of the Icosacantha. Finally, the same law as is valid also in the last genus is found in *Cenocapsa*; here the radial spines have completely disappeared, and the whole skeleton is a simple sphere, but of the same structure, and with the same twenty perspinal pores as in *Porocapsa*. It is very interesting that this spineless *Cenocapsa* among the ACANTHARIA exhibits the same shell (a simple hollow sphere) as a last reduced form, which *Cenosphæra* among the Sphærellaria produces as a primitive ancestral form of numerous genera.