

spine) are also partly *Cladophracta* (the *Stauraspida*, Pl. 137, figs. 5–8), partly *Peltophracta* (the *Lychnaspida*, Pls. 135–136). The differences and relations of these tribes are placed synoptically in the following table :—

Synopsis of the four tribes of <i>Dorataspidæ</i> .	A. <i>Diporaspida</i> . Two opposite apophyses on each radial spine. Two primary aspinal meshes.	B. <i>Tessaraspida</i> . Four crossed apophyses on each radial spine. Four primary aspinal meshes.
<p><i>a. Cladophracta</i> All twenty spines (or a part of them) without lattice-plates.</p> <p><i>b. Peltophracta</i> All twenty spines with lattice-plates.</p>	<p>1. Tribe <i>Phractaspida</i>.</p> <p>2. Tribe <i>Ceriaspida</i>.</p>	<p>3. Tribe <i>Stauraspida</i>.</p> <p>4. Tribe <i>Lychnaspida</i>.</p>

All *Dorataspidæ* are true *Icosacantha*, and the twenty spines, composing the spherical shell, are equally developed, regularly disposed according to the Müllerian law, and of equal size ; also the distance of their plates from the common centre is equal. Nevertheless they are never of perfectly the same form ; in consequence of their peculiar disposition in five zones (each with four spines) certain slight differences are effected, so that with accurate knowledge of the peculiar shell-composition it is generally not difficult to distinguish the spines of the equatorial, the two tropical, and the two polar zones.

Already the central bases, by which the twenty spines are united in the centre of the sphere, exhibit certain differences in the five zones. Commonly these bases are small pyramids, all meeting with their apex in the centre, and the triangular faces of the neighbouring pyramids are supported one upon another. The four equatorial pyramids are commonly six-sided, the other sixteen five-sided ; but sometimes there are eight six-sided and twelve five-sided basal pyramids ; two opposite polar spines on each pole having a six-sided base (like the four equatorial), the other two polar spines on each pole having a five-sided base (like the eight tropical). Rarely the central bases are perfectly grown together, forming a single spherical central piece of acanthin.

The three different fundamental forms of radial spines, which are found in all *ACANTHARIA*, the cylindrical, the two-edged, and the four-edged (spines with circular, with elliptical, and with square transverse section respectively) occur also in the different groups of *Dorataspidæ* ; but commonly the two-edged or compressed form is prevalent in the *Diporaspida*, the four-edged or quadrangular form in the *Tessaraspida*. In the majority of species the spines are thickened in the shell-face, where the apophyses arise, and thinner towards the two ends. Usually the outer or distal part of the spine (outside the shell) is longer than the inner or proximal part (inside