consists of a simple ring only, surrounding the central capsule, and armed commonly with simple thorns or with larger branched spines. The branches of these spines are constantly free, never joining together. Therefore the shell exhibits no trace of fenestration or lattice-work, no pores or gates, except the simple large gate of the ring itself. In all other Stephoidea we find secondary gates or lattice-work.

The first known form of this family is *Lithocircus annularis*, described by Johannes Müller in 1858 (Abhandl. d. k. Akad. d. Wiss. Berlin, p. 29, Taf. i. fig. 1). He observed already the central capsule ("Blase") surrounded by the circular ring of silex, and the calymma ("Strahlige Gallert") enveloping the whole body. The peculiar structure of the soft body, particularly the "area porosa" on the basal pole of the central capsule, and the pseudopodial cone within it, were first accurately described by Hertwig (in 1879). A great number of simple rings, similar to these, were found in the Challenger collection, and are here arranged in six genera and forty-eight species.

The simple ring of silex, which alone forms the skeleton of the Stephanida, corresponds to the primary or sagittal ring of the other Stephoidea, and lies therefore vertically in the median or sagittal plane of the body. We can therefore distinguish on it four different segments, rods or bows, two of which are more horizontal, two more vertical. The former are one upper bow or apical rod, and one lower bow or basal rod. The latter are one posterior bow or dorsal rod, and one anterior bow or ventral rod. Sometimes each of these four component bows is distinguished by a corner-spine, or by a pair of divergent branches.

In the two simplest (and probably oldest) genera of Stephanida, in *Archicircus* and *Lithocircus*, the dorsal and ventral rods of the ring are equal and cannot be distinguished; therefore the fundamental form is here amphithect, diphragmatic, or biradial (the poles of the sagittal axis being equal). In the four other genera the dorsal rod is more straight (often vertical) and more or less different from the ventral, convexly curved rod; therefore the fundamental form is here dipleuric or bilateral, as in the greater number of all Nassellaria (the poles of the sagittal axis being unequal). The general form of the ring in this latter case is commonly obliquely ovate or nearly triangular, the basal pole being more pointed, the apical pole more rounded (Pl. 81).

The rods or bows of the ring are either roundish or cylindrical (with circular or elliptical transverse section), or they are prismatic or angular (commonly with triangular transverse section). In the latter case one edge usually is prominent in the sagittal plane (on the convex outside of the ring), whilst two other edges diverge laterally on both sides of it. The inner or concave margin of the ring is commonly smooth.

The inner perimeter of the large gate, enclosed by the ring, is commonly rounded (elliptical or ovate), rarely angular. However, the outer perimeter of the ring is