

Shell formed of calcium-carbonate, of the same nature and appearance as in Gasteropods.

Dr. Holm says that species of *Hyalolithus* have been described under the following generic names:—*Hyalolithes*, Eich. *Orthoceras*, Munst., *Theca*, J. Sow, *Pugiunculus*, Barr., *Vaginella* (pars.) d'Orb. *Cleodora* (pars.) Ludw. *Cleidotheca* (pars.) *Centrotheca* (pars.) Salt. *Cryptocaris* (pars.) Barr. *Camerotheca* (pars.) *Diplothea* (pars.) Matt. *Orthotheca* (pars.) Novak, *Pharetrella* (pars.) Hall, *Ceratotheca* (pars.) *Bactrotheca* (pars.) Novak.

Although Dr. Holm rejects *Orthotheca* Novak as a genus he accepts the term as of sub-generic value, and divides *Hyalolithes* into two subgenera as follows:

Subgenus 1, *ORTHOTHECA*, Novak, 1887.

Mouth quite transverse, forming one plane, Operculum thereby also flat or slight convex, seldom with the nucleus concave, but always having the edge of the operculum in one and the same plain. The dorsal part of the operculum is never distinctly semiconical.

Subgenus *HYALITHUS*, sensu. str., Eichwald, 1840.

Edge of the orifice on the dorsal side semi-circular projecting, on the ventral side the edge is transverse, therefore the mouth of the shell forms two planes coming together at an obtuse angle. Operculum having the same form as the mouth, and similarly angled, and consisting of a small lunate ventral part and a semi-conical dorsal part.

Dr. Holm has been at great pains to arrange systematically the forty species of *Hyalolithes* which have passed under his observation, and as he has in almost all cases been able to show the exact geological horizon from which these species have come, the arrangement is of great value to the biologist. In his sub-genus *Orthotheca* we find the following sections:

1. *Teretes*. The transverse section circular or almost circular—Cambrian (Kjerulfi to Forchammeri Zone).

2. *Complanati*. The transverse section perfectly rounded, but with the dorsal side distinctly, though slightly flattened. Lower Cambrian.

3. *Plicati*. The transverse section, reniform, cordiform or triangular, with the dorsal edge of the section concave, the dorsal side strongly grooved. Cambrian (Elandicus-Forchammeri Zone).

4. *Semjelliptici*. The transverse section semi-elliptical or subtrapezoidal. The lateral edges sharp or almost sharp. The dorsal side plain or very slightly grooved. The aperture usually obliquely cut, with the ventral side projecting (—*Bactrotheca*, p. p., Nov.) Lower Silurian.

5. *Quadrangulares*. The transverse section almost rectangular.