

for the most part concave within. The nucleus is situated at the center, and in perfect specimens is vertical and acute. On either side of the nucleus, in the line of the longer diameter, there exists a conspicuous groove, which gradually widens in passing from the center out to the edge. With the exception of the nucleus, which barely separates them, these grooves divide the operculum externally into two equal parts. These are, respectively, the dorsal and ventral limbs. The ventral [dorsal] limb is smooth on the outside or broken only by concentric lines. Its convexity is greatest at the nucleus. The dorsal [ventral] limb has nearly, sometimes quite, the same degree of convexity, but may be readily distinguished from the ventral [dorsal] by the presence of two obscure ridges radiating from the nucleus to the margin and inclosing a triangular space along the central portion of the limb. The two limbs are so situated relatively to each other as to give to the base of the operculum a curvature equal to that indicated by the form of the aperture of the shell. In the interior of the operculum there is a little pit directly beneath the nucleus. From this point radiate two strong wedge-shaped ridges corresponding to the exterior grooves. There are also two ridges of similar form running from the same point to the margin of the dorsal limb, lying beneath and included within the limits of the triangular space seen on the outside of that limb. All of these ridges are widest at their junction with the margin. They severally terminate in the central pit and divide the interior into four unequal parts.

"The surface of the operculum is covered with fine concentric striæ, from 8 to 10 in the space of .06 of an inch. Along with these there sometimes occur coarser lines of growth. The interior is both radially and concentrically striated. The concentric lines are mostly coarser, fewer in number, and far less regularly disposed than those on the outside. The radiating lines are very numerous, and with the concentric lines give to the interior a singularly reticulated appearance under the magnifier. They are barely visible to the naked eye.

"This is a well marked species and offers but little variation of form. It is closely related to *Hyolithes communis* Billings (Can. Nat., vol. vi, p. 214, December, 1871), but is nevertheless quite distinct therefrom. In *H. communis*, according to Mr. Billings, the shell is sometimes longitudinally striated, which is not the case, so far as observed, in the shells of this species. The operculæ are also different. In the operculum of *H. communis* there are but two ridges in the interior. These correspond to the longitudinal ridges of our species as shown in figure 2b. There is also a slight variation in the rate of tapering of the two species. They are, therefore, entirely different. A species of about the same size and form occurs in the Potsdam sandstone of Wisconsin (16th Reg. Rep., p. 135*, pl. vi, figs. 30 and 31)."

The species last referred to by Mr. Ford has a similar apical angle, but the cross section and the operculum are quite different. I also