

ginals seem to be of the same size, both rectangular, and the plates of the supra-marginal row directly over those of the marginal series. Further out on the arms, the plates are pentagonal, those of the two rows alternating in position, and dove-tailing, and the supra-marginals are smaller than the marginals. One of the marginals, about half-way out on the arm, is 1.25 mm. high and of about the same breadth. The smaller triangular plates which cover the greater part of the arm average about .5 to .6 mm. in height. On one of the arms (the one directed downward in the upper left-hand figure on the plate), the small triangular plates seem to be arranged in rows parallel to the axis of the arm, but the plates on the longer arm seem to be more irregular, although a general arrangement in rows can be seen. On this arm there are a number of very small plates scattered about, especially on the top of the arm, thus adding to the irregularity. The triangular shape of these plates gives the arm a neat pattern, the plates making diagonal rows backward and forward from the row of large plates along the top of the arm. The madreporite, which is nearly circular in outline, and 2 mm. in diameter, is in position, but slightly tipped down at the inner side, in an interradius, and not far from the centre of the abactinal side of the disk. The surface is probably worn, for it appears perfectly smooth.

In the fragment of the arm which is directed upward in the upper left-hand figure and in the lowest figure on the plate, the small plates are broken away, disclosing the ambulacral plates. These plates, which are long and rather thick, seem to be alternate in position. Two of the plates, well shown in the lower figure, and indicated by an arrow, seem to be pierced by pores near their proximate ends, two pores piercing each plate vertically. Near the outer end of the more perfect arm there is a space where a few of the small triangular plates are missing, and here also the ambulacral plates can be seen from the upper side. Each plate has a narrow keel on that side. (See the middle figure on the plate, between the two brachiopods). Other details of the plates of the actinal side are unknown.

This species seems to be most nearly related to *Palæaster magnificus* Miller,* to which species my attention has been called by Professor Schuchert, who has most kindly loaned me photographs of the type. *Palæaster? magnificus* is a large starfish (6 inches in diameter), found in the Waynesville division of the Richmond formation in Ohio. Like *Palæaster? wilsoni*, it has two rows of large marginals and a row of large plates

*Jour. Cincinnati Society Nat. Hist., vol. 7, p. 16, pl. 4, figs. 3, 3a, 1884.