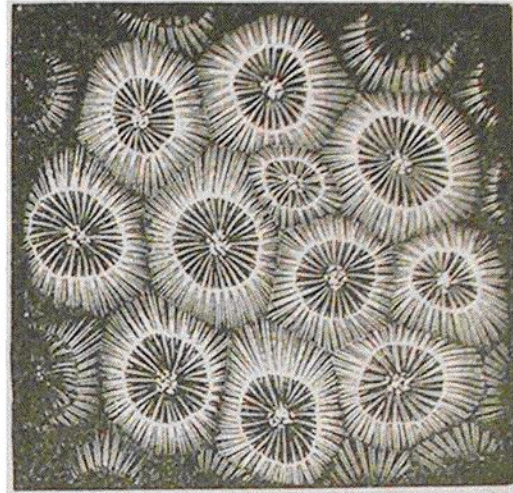


begin to exceed the width usual to the species, a new mouth opens, commencing a new polyp ; and thus the growth of the mass involves multiplication by buds. The small calicle near the centre of the figure is from one of the new interstitial buds.

Species of *Porites* also grow into hemispheres and rude hillock-like forms, through the same method of budding, and some of the masses in the tropical Pacific have a diameter of even twenty feet. Myriads of living polyps are combined in a single such mass, for each is but a fifteenth or a twentieth of an inch in diameter.



ORBICELLA CAVERNOSA.

Often there is a lateral growth of the polyp and thereby of the zoöphyte without much upward growth ; and spreading leaves are thus made, and bowl-like shapes. Where there is lateral budding, the leaves have generally an edge of young polyps from the new buds that are there opening, as in the *Gemmipores*, and some foliaceous *Madrepores* ; where there is superior budding, and sometimes in the case of inferior, the new polyps appear some distance from the edge, the growing margin spreading on in advance of the buds that open in it, as in the *Echinopores*.

Besides the method of budding explained in the above remarks, there is also a kind of superior budding called *spontaneous fission*, which consists in a spontaneous subdivision of a polyp, by which two are made out of one. In such cases the disk of the polyp has not a distinct limit of growth, as in the above, but tends to enlarge indefinitely ; and when there is a beginning of an increase beyond the proper adult size, a new mouth opens in the disk, a short distance from the old one, and at the same time its edges extend downward and make a new stomach beneath it ; finally tentacles are developed between the two mouths, and then each polyp separates with its part of