

Article XXX.—NOTICE OF A NEW GENUS OF MARINE
ALGÆ, FOSSIL IN THE NIAGARA SHALE.

By R. P. WHITFIELD.

PLATE LIII.

In Volume XXXIX of the Proceedings of the Academy of Natural Sciences of Philadelphia for 1888, page 131, Dr. Ringueberg describes a fossil under the name *Inocaulis anastomotica*, of which the Museum possesses three individuals. Two of these are in the James Hall Collection and the third, by much the best preserved individual, is from the collection donated to the Museum by the late John J. Crooke, formerly of this city and Staten Island.

The specimens under consideration in the Hall Collection have been associated with and considered as examples of *Dictyonema retiformis* Hall, from which they differ materially on close examination. The Crooke specimen has been in the Museum collection some years, but was so heavily coated with varnish that but little importance had been attached to it, until after freeing it from this coating it is found to be a remarkably fine individual, showing features so similar to dried examples of *Fucus* that it at once attracts attention.

The organism is so unlike *Inocaulis* that I have considered it more natural to place it among the marine algæ, but finding no genus of fossil alga that will correspond to it, I have concluded to propose for it the new name *Palæodictyota* from its strong similarity to the living form *Dictyota* Lameroux.

Palæodictyota, new genus.

Frond flat or funnel-shaped (flat only from disruption). Branches compressed, membranaceous, much wrinkled on the surface; decoumpoundly branched with occasional anastomosings of the edges; extremities of branches showing two and occasionally three points; older stipes two or three mm. wide, above one mm., and near the outer extremities often only points.

Geological horizon, Niagara Group.

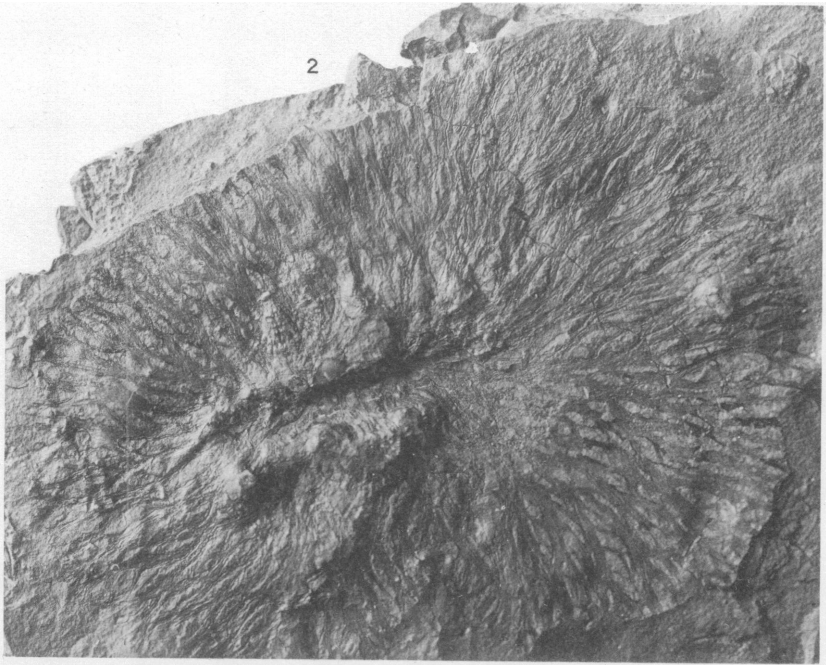
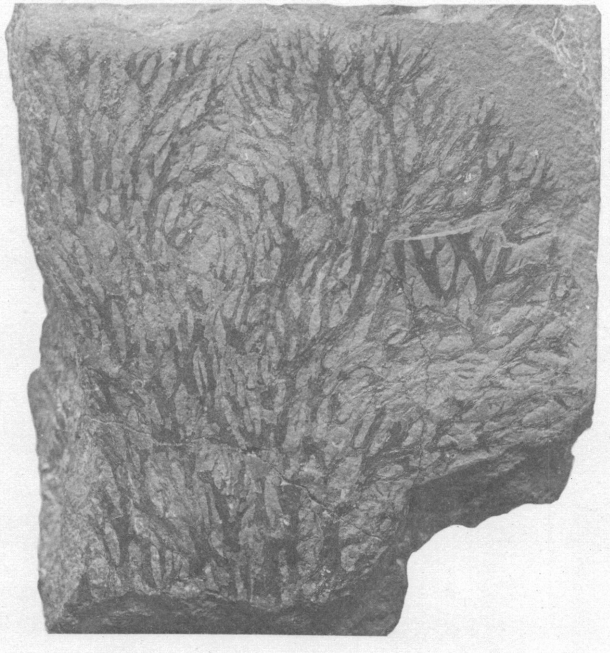
Dr. Ringueberg described this form as cited above in 1888, but in tracing out its affinities I find that in May, 1884, in Bulletin No. 1, Vol. I, of the State University of Missouri, Dr. J. W. Spencer described and figured the same thing under the name *Inocaulis ramulosus*, in an article on Graptolites, from specimens obtained from the Niagara Group at the 'Jolly-cut,' Hamilton, Ont.

There can be no question as to the distinction between the present forms and the true *Inocaulis*, the types of which are before me, as the specimens on which that genus was founded present such a distinctive feature in being covered on the surface with fine setæ, like short stiff hairs, which show so distinctly on the edges of the stipes as to present the appearance of a much worn surface of a specimen of *Stenopora*. Although the substance when present has the same carbonaceous Graptolitic character as in this form, the mode of growth is very distinctive.

In comparing the present form with *Dictyonema*, with which it is associated in the shale beds, it is found to be much more flexuose in its growth and stronger than *D. retiformis*. Besides it is destitute of the ridged straight radiating bars of *Dictyonema* and the connecting bars between the rays, leaving the quadrangular spaces or openings between.

The Museum possesses the three individuals above mentioned. Two of these are fragments only and are flattened on the shale; the third one presents an oval disc of eight and a half by about ten and a half cm. in dimensions with the central portion or base of the frond forming a deep gash on the surface where it passes into the shale below. From this depression the stipes radiate on all sides to the outer margin of the disc, but the substance of the specimens has been mostly removed, leaving only the imprint, preserving the characteristic wrinkling of the surface, like that on the bark of a dried twig.

Formation and Locality.—In the shales of the Niagara Group at Lockport, N. Y., associated with the two species of *Dictyonema*, *D. gracilis* and *D. retiformis* Hall, and with *Inocaulis plumulosus* Hall.



PALAEDICTYOTA RAMULOSA *Spencer sp.*

Heliotype Co., Boston.

