

## NOTES.

**THE FRUCTIFICATION OF LYGINODENDRON OLD-HAMIUM.**—In many of the slides recently prepared by Mr. Lomax from a large Dulesgate block, I have detected sporangia which seem to have every mark of belonging to *Lyginodendron*, short of direct continuity with the petiole. In five of the slides the sporangia are aggregated together in clusters of eight, being coherent at the base, though free at the apex. They are about 4 mm. in length and 1 mm. in width, and they taper to the apex and slightly to the base. Transverse sections of clusters at three different levels show that the periphery of the cluster is surrounded with tissue of the characteristic structure of the *Lyginodendron* pinna. The epidermis, hypoderm and lacunar tissue are all present at the base of the cluster, while the two former continue to the apices of the sporangia. Thus each sporangium has the exposed part of its wall thicker than that towards the centre of the cluster. These clusters are associated in all five slides with small petioles of *Lyginodendron*.

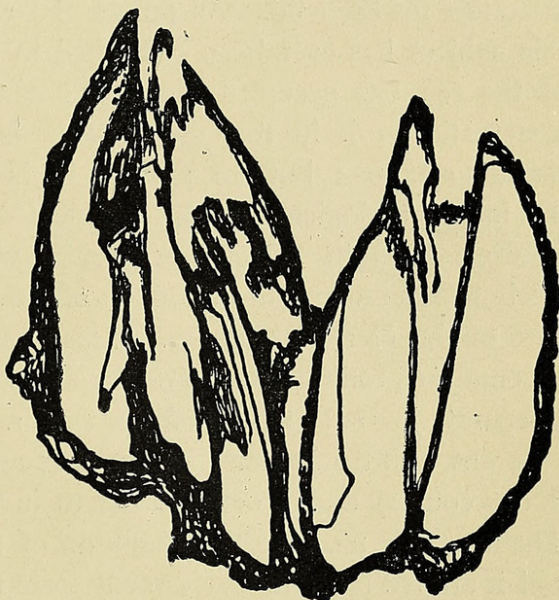


FIG. 31. Tracing of photograph of a longitudinal section ( $\times 12$ ).

The form and size of these clusters strongly suggest the *Calymmatotheca* type of fructification, which has been made familiar to all in the frontispiece to Dr. Scott's 'Studies in Fossil Botany.' The arguments in favour of this being the fructification of *Lyginodendron* are clearly stated in this work.



Hence for the two reasons, (1) association both in impressions and in petrifications with *Lyginodendron*, (2) the structure of the tissue in which the sporangia are embedded, the claim of these clusters to be the fructifications of *Lyginodendron* is overwhelmingly strong.

My thanks are due to Professor F. W. Oliver for the loan of several confirmatory slides.

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#### ALGOLOGICAL NOTES.—

**III. PRELIMINARY REPORT ON THE PHYTOPLANKTON OF THE THAMES.**—Freshwater Plankton-investigations, so vigorously prosecuted on the continent, have received little or no attention in England. As far as the writer is aware no paper on this subject has ever been published in this country. The Plankton of the sea has occupied English botanists since some years, and systematic work in this direction is being done at some of our marine stations; but we possess nothing whatever comparable to the inland biological stations established on the continent; take for example Plön in Schleswig-Holstein, which is practically devoted solely to research on the Plankton of the numerous small lakes of this part of the German Empire. This special line of research has here become so proficient and prolific, as to admit of the publication of a separate journal<sup>1</sup> to embody its results.

It was with the intention of drawing attention to this kind of work in our country that I commenced to investigate the Plankton of the Thames—the more as the Plankton of the artificial waters at Kew, which are fed more or less directly from the river, seemed to promise good results. And indeed a little over a month's investigation has given such interesting results that I venture now to publish a general account of the Plankton without being able to say anything as to its periodicity.

Investigations of the Plankton of rivers have not been often carried out as yet. Lauterborn<sup>2</sup> in 1893 published the results of some collecting, performed on the Rhine near Ludwigshafen; his list consists chiefly of animals, two Diatoms being the sole representatives of the vegetable kingdom. It is really Bruno Schröder who first gives

<sup>1</sup> Forschungsberichte aus der biologischen Station zu Plön, edited by the Director Dr. O. Zacharias. Stuttgart. Appeared first in 1893.

<sup>2</sup> Beiträge zur Rotatorienfauna des Rheins und seiner Altwasser. Zoolog. Jahrbücher, 1893.





Benson, Margaret. 1902. "The fructification of *Lyginodendron oldhamium*." *Annals of botany* 16, 575–576.

<https://doi.org/10.1093/oxfordjournals.aob.a088890>.

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