

NOTES
ON TWO LITHOTHAMNIA

FROM FUNAFUTI

BY

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NOTES

ON TWO ELLIPTIC CURVES

FROM TORONTO

BY

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The important boring to ascertain the structure of coral-reefs which has taken place during the past years on Funafuti in the South Sea¹⁾ affords an interesting view of the fact, that the calcareous algae often act as a kind of mortar in holding together the reef-building corals, and even to higher degree contribute to this building work. The specimens from the said boring which is brought down to a considerable depth show, that these algae occasionally if not frequently occupy a rather prominent part in bulk.

During a visit to London last spring I had the opportunity through the kindness of Prof. John W. Judd to see, in the Geological Department of the Royal Society of Science, some samples from the above mentioned boring. However, the grinding for microscopic examination was not so far advanced, that the calcareous algae were fitted for a more careful investigation to determine the species, or to ascertain with certainty the proportion in bulk.

Besides the boring other investigations simultaneously have been undertaken, as dredgings so as to get a general view of the present flora and fauna of the atoll of Funafuti. Among the collections thus brought together are also some *Lithothamnium*. I have examined two specimens of them. The one is according to the label picked up from the considerable depth of 41 fathoms off Tutaga. I consider it a form hitherto not described of *L. Philippii* and propose to name it

Lithothamnium Philippii Fosl. f. *funafutiensis* Fosl. mscr.

The specimen coincides in the main with the typical form of that species hitherto only known from the Mediterranean, but no

1) W. J. Sollas, Report to the Committee of the Royal Society appointed to Investigate the Structure of a Coral Reef by Boring. — Proc. of the Royal Society. Vol. 60. London 1897. P. 50.

doubt rather widely dispersed. It forms a thin crust surrounding a compressed coral, about 21 cm. long and 12 cm. broad, with an irregular and rather rough surface. The crust frequently is but 1 mm. thick, here and there somewhat thinner. It clings closely and rather firmly to the substratum, in most places sending forth a great many processes partly and most frequently short and wart-like, partly longer and branch-like, varying between 1 and 4 mm. in height and 1 and 5 mm., generally about 2 mm. in diameter, and these processes sometimes carry other wart-like excrescences. However, the unevenness of the crust is in the main caused either by the substratum or the growing over of extraneous objects, especially Foraminifera, and it should be borne in mind that the appearance of several of the said processes may be accounted for in the same way. The conceptacles of sporangia agree with those in the typical form with the exception of generally being a little smaller, or 600—750 μ in diameter, and the roof intersected with 70—80 muciferous canals. Besides more closely and firmly clinging to the substratum than the typical form, *f. funafutiensis* especially differs from that as regards the structure. On that point I have been in doubt whether it perhaps represents a separate species, but only a solitary fragment of the specimen has been examined and here a great number of Foraminifera grows together with the alga or sticks to it, overgrown little by little and in some parts of a section even forming almost alternate layers with the latter. Therefore the structure is rather irregular especially with regard to the hypothallus. The latter is often feebly developed, in the examined fragment not forming regular curved cell-rows as in the typical form, but frequently more or less bent and rather short rows with irregular or elongated cells up to 24 μ long, but commonly shorter. The perithallic layers nearly agree with those in the typical form, although often less regular than in the latter owing to the disturbing influence in the development caused by animals or divers extraneous objects, the cells, however, as a rule being of the same shape and size as in the said form. Therefore, I should be most inclined to consider the present specimen as a

somewhat stunted form of *L. Philippii*. It will be pictured on a subsequent occasion.

The other specimen mentioned is according to the label from „the Consolidated Rock, forming platform Hurrigan Beach, Funafuti“. Also this specimen has stuck to corals. It is infested with some fragments of green algae showing that it has grown in the litoral or uppermost part of the sublitoral region, as the labels appears to indicate. It is to be referred to

Goniolithon oncodes (Heydr.) Fosl.

The specimen agrees in habit with that species, the longest diameter being about 5.5 cm., but the thickness rather varying and apparently not exceeding 7 mm., with a smooth surface or nearly so. It is somewhat sparingly furnished with conceptacles of sporangia about 200 μ in diameter.

This specimen corresponds with the said species also in structure except that the perithallus is not so continuous as in typical specimens, but gets here and there overgrown with a new and irregular hypothallus, which, however, as a rule is due to external circumstances. Therefore the structure is less regular than in the typical form. Besides being quite burdened with inferior animals, especially with numerous passages produced by worms, the plant is in part interpenetrated with perforating green algae.

