

SYSTEMATICAL SURVEY  
OF  
THE LITHOTHAMNIA

BY

M. FOSLIE

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SYSTEMATICAL SURVEY

THE LITHOANIA

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AKTIEFÖRETAGET I LITHOANIA

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In the following I will give a preliminary systematical survey of the calcareous algæ frequently referred to *Lithothamnion*, *Lithophyllum* and *Melobesia*, here principally based on the development of the sporangia.

Gen. **Archæolithothamnion** (Rothpl.) Fosl. mscr.

Sporangia solitary, grouped in zonate, more or less limited beds.

Sect. I. **Endosporæ** Fosl. mscr.

The sporangia beds growing down into the frond.

Type: *A. Aschersoni* (Schw.) Fosl. mscr.

Sect. II. **Episporæ** Fosl. mscr.

The sporangia beds not growing down into the frond.

Type: *A. crispatum* Hauck ex parte?<sup>1)</sup>

Gen. **Lithothamnion** Phil. emend.

The sporangia in superficial or subimmersed soriform conceptacles at first isolated, later the isolating walls often dissolved, through gelifated tips corresponding with muciferous canals in the roof.

The cystocarps in superficial conceptacles of a more or less conical shape.

<sup>1)</sup> The specimen which underlies this determination is not any original specimen or determined by Hauck, but a specimen which, however, in habit almost fully coincides with that species as described by him. Further investigations must decide it, and if the supposed identity is wrong I propose to name the species in question *A. platycarpum*.

Subgen. I. **Eulithothamnion** Fosl.Sect. I. **Innatæ** Fosl.

The conceptacles of sporangia growing down into the frond.

Type: *L. ramosissimum* Reuss.

Sect. II. **Evanidæ** Fosl.

The conceptacles of sporangia not growing down into the frond.

Type: *L. corticiformis* (Kütz.) Fosl. mscr.<sup>1)</sup>

Subgen. II. **Lithonema** Fosl. mscr.

Thallus parasitical, the hypothallic cells as rhizoids penetrate the tissue of other calcareous algæ.

Type: *L. deformans* (Solms) Fosl. mscr.

Gen. **Phymatolithon** Fosl. mscr.

The sporangia in immersed conceptacles with depressed or cup-shaped roof intersected with a number of muciferous canals, connected with the latter by gelifated tips.

The cystocarps in immersed conceptacles, which at first by raising, form slightly elevated prominences on the surface of the frond, afterwards decorticated and the roof cup-shaped with a central canal.

Type: *Ph. polymorphum* (L.) Fosl. mscr.

Gen. **Clathromorphum** Fosl. mscr.

The sporangia in immersed conceptacles which at first by raising form slightly elevated prominences on the surface of the frond, afterwards decorticated and the roof immersed, intersected with some muciferous canals.

Sect I. **Endobotroideæ** Fosl. mscr.

The conceptacles growing down into the frond.

Type: *Cl. compactum* (Kjellm.) Fosl. mscr.

<sup>1)</sup> In another species of this section I have seen some difference in the development of the sporangia which perhaps makes it necessary to found a separate genus or subgenus.

Sect. II. **Epibotroideæ** Fosl. mscr.

The conceptacles not growing down into the frond.

Type: *Cl. circumscriptum* (Strömf.) Fosl. mscr.

Gen. **Goniolithon** Fosl. mscr.

The sporangia in subimmersed conceptacles of a hemispheric-conical shape with a single orifice and in a certain state intersected with a number of delicate canals. The base of the conceptacle with a feebly overarched disc, connected with the centre of the roof by an attenuating, simple cell-row ending through the roof in a cylindric, gellinated plug, the latter disappears and the orifice arises. The sporangia issue around the overarched disc, which frequently forms a small prominence on the bottom, towards maturity loosening themselves from the disc and then connected with the canals by a short tap (always?).

Subgen. I. **Eugoniolithon** Fosl. mscr.

Type: *G. papillosum* (Zan.) Fosl. mscr.

Subgen.? II. **Cladolithon** Fosl. mscr.<sup>1)</sup>

The disc not overarched(?).

Type: *G. byssoides* (Phil) Fosl. mscr.

Gen. **Lithophyllum** Phil. emend.

The sporangia in immersed conceptacles, which at first by raising form slightly elevated prominences on the surface of the frond, issuing around an overarched disc, hemispheric-conical, and the latter at first connected with the centre of the roof by a coarse, parenchymatic tap, the centre of which upwards ending through the roof in a cylindric gellinated plug, afterwards the tap gets by

<sup>1)</sup> In this with doubt supposed subgenus I do not exactly know whether the disc in an earlier stage is connected with the roof by a simple cell-row.

and by dissolved, frequently at first in the middle and then upwards, the plug disappears and a single pore arises simultaneously with a decorticating of the whole superficial prominence or a part of it, seen from above forming a depressed point-like hole on the surface of the frond.

Type: *L. incrustans* Phil.

Gen. **Melobesia** Lamour. emend.

The sporangia in superficial or slightly immersed conceptacles of a subconic- or hemispheric-conical shape with a single orifice, issuing around or between a bundle of cylindric-clubshaped paraphyses.

Type: *M. pustulata* Lamour.

Gen. (Subgen.?) **Choreonema** Schm. emend.

The sporangia in more or less superficial conceptacles of a conic or hemispheric-conical shape with a single orifice. The disc on the base of the conceptacle feebly overarched (always?), at first connected with the roof by a more or less circle formed group of cylindrical, simple (onecelled?) filaments afterwards disappearing, around which the sporangia issue.

Subgen. I. **Heteroderma** Fosl. mscr.

Thallus crustlike.

Type: *Ch. Notarisii* (Duf.) Fosl. mscr.

Subgen. II. **Chætolithon** Fosl. mscr.

Thallus parasitical, the hypothallic celles as rhizoids penetrate the tissue of other calcareous algæ.

Type: *Ch. Thuretii* (Born.) Schm.

By some later occasion I will state my reasons as to this classification and at the same time give an account of some cases of development in more than one direction; nor do I here enumerate the different species which are connected with the named types, although I have had the opportunity to examine most of the described species, thanks especially to Dr. Bornet, who with his well-known liberality has also shown me the favour to send me for examination Mr. Thuret's large collection of Lithothamnia, and among these are many type specimens. However, as I am still wanting some original specimens which I have not yet had the opportunity to examine and, considering the rather great vagueness that has been prevailing as regards the nomenclature I think it better to defer such a connecting list till some other — as I hope, not very distant — time.

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The first thing that struck me when I entered the city was the sight of the people. They were all dressed in the same way, and they all looked as if they were poor. I had heard that the people of this country were poor, but I had not expected to see them so poor. They were all dressed in rags, and they all looked as if they were starving. I had heard that the people of this country were poor, but I had not expected to see them so poor. They were all dressed in rags, and they all looked as if they were starving.

The second thing that struck me was the sight of the houses. They were all built of mud, and they were all very small. I had heard that the houses of this country were built of mud, but I had not expected to see them so small. They were all built of mud, and they were all very small. I had heard that the houses of this country were built of mud, but I had not expected to see them so small.

The third thing that struck me was the sight of the streets. They were all very narrow, and they were all very dirty. I had heard that the streets of this country were very narrow, but I had not expected to see them so dirty. They were all very narrow, and they were all very dirty. I had heard that the streets of this country were very narrow, but I had not expected to see them so dirty.