

THREE NEW LITHOTHAMNIA

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THREE NEW LITHOGRAMS

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Archæolithothamnion Sibogae A. Web. et Fosl. mscr.

Thallus freely developed at the bottom, 3—6 cm. in diameter, subdichotomously or irregularly divided branches issuing from a thickened centre, rather scattered and curved, knotty, 4—5 mm. in diameter, with obtuse ends. Sporangia 60—85 μ long and 35—40 μ broad.

A longitudinal section of a branch shows pretty regular cup-shaped layers of tissue. The cells are in the axile parts frequently elongated, 14—28 μ long and 7—11 μ broad. The perithallic cells are frequently square or somewhat rounded, about 8 μ in diameter.

The species is plainly distinct from any other known species of the present genus. It approaches in habit certain forms of *Lithophyllum fasciculatum*.

Stat. 96, Siboga expedition: South-east side of Pearl-bank, Suluarchipelago, in 15 m. water.

Lithothamnion pulchrum A. Web. et Fosl. mscr.

Thallus freely developed at the bottom, forming roundish shrub-like masses 5—9 cm. in diameter, subdichotomously or irregularly divided branches issuing from a slightly thickened centre, often with side-branches issuing at an almost right angle, somewhat crowded, cylindrical or subcompressed, seldom tapering, 2.5—3 mm. thick, with obtuse ends.

With reference to structure the axile cells on a longitudinal section of a branch frequently are rectangular, 14—25 μ long and 8—14 μ broad, the perithallic cells mostly smaller and often more or less rounded.

Judging from a solitary but empty conceptacle on a section just below the surface of the frond the species appears to be a true *Lithothamnion*. It is covered with a few layers of cells and to be considered an overgrown one. However, the conceptacles in this species apparently are rather superficial and very seldom growing down into the frond. The said one is on a section about 550μ in diameter by a height of about 220μ .

The species much resembles in habit partly *L. tophiforme* f. *typica* partly f. *squarrosa*, but differs especially in the branches being more uniform in thickness and the cells frequently larger.

Stat. 315, Siboga expedition: Sailus Besar, south-east off Celebes, picked up from a depth of up to 36 m.

Lithothamnion erubescens Fosl.

New or crit. calc. Alg. p. 9.

f. *haingsisiana* A. Web. et Fosl. mscrip.

Thallus frequently forming roundish nodules up to about 9 cm. in diameter, the cells often slightly broader with slightly thicker walls than in the type.

It seems to be impossible to draw any true limit between *L. erubescens* found on the coast of Brazil and the present form occurring in great masses at Haingsisi near Timor. Cp. A. Weber van Bosse, Alg. l'archip. Malaisien in Ann. Jard. Bot. Buitenzorg, p. 132, pl. XVIII—XIX. The present form is now and then attached like the type, which I name f. *americana*, but afterwards apparently detaches itself and lies free at the bottom, and the cells are frequently slightly coarser than in the type. Judging from a solitary conceptacle of sporangia seen on a section it may be supposed, that the said organs on the whole agree with those in f. *americana*.

In some of the specimens collected the branches are not so densely crowded as in both the said forms, and upwards often with rather compressed branches, thus forming transitions to f. *prostrata*.

Stat. 60, Siboga expedition: Haingsisi, Samau Island, Timor.

Lithophyllum Reinboldi A. Web. et Fosl. mscr.

Thallus at first forming thin crusts on corals or other hard objects, from which issue densely crowded, short and fastigate, much anastomosing, more or less knotty branches with rounded thickened and often blunt ends, about 4—5 mm. in diameter, at length frequently forming roundish balls up to 8 cm. in diameter. Conceptacles of sporangia crowded, convex but very little prominent, 300 - 400 μ in diameter seen from above. Sporangia four-parted, about 125 by 80 μ .

On a longitudinal section of a branch the cells are on the whole irregular and without any real stratification. They are frequently rounded, 12—25 μ in diameter, occasionally somewhat vertically elongated. Here and there are to be seen curved but indistinct rows of minute cells at intervals of a number of larger cells, to a certain degree corresponding with the cup-shaped layers of tissue in most other species.

The species much approaches in habit densely branched specimens of *Lithophyllum racemus* f. *crassa*, being however quite different in structure, in which respect it stands near to *Lithoph. Børgesenii*.

Stat. 91, Siboga expedition: Moearas-reef, inner Side: East coast of Borneo.

Stat. 240, Siboga expedition: Banda.

It is also known from Samoa (Museum Godeffroy), and Zanzibar, Changu-reef (Dr. Stuhlmann), according to specimens in Bot. Mus. Hamburg.

