

TWO NEW LITHOTHAMNIA

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Lithothamnion monostromaticum Fosl. msr.

Thallus forming crusts of indefinite shape on *Nitophyllum*, monostromatic except in the neighbourhood of the conceptacles. Sporangia-conceptacles subprominent, flattened in the central parts, 250—400 μ in diameter.

The plant forms at first delicate suborbicular crusts on *Nitophyllum*, which little by little become confluent and at length form somewhat extended crusts of indefinite shape. Occasionally new crusts may be formed upon the primary. Judging from a scanty material the species is monostromatic except where reproductive organs appear or are in development. When seen from the surface the cells are partly square with a little rounded corners, 7—10 μ in diameter, partly and most frequently more or less elongated, or up to about 15 μ long. On a vertical section they are somewhat rounded and of about the same diameter as seen from the surface, or slightly elongated partly in horizontal partly in vertical direction.

The conceptacles of sporangia are at first convex, subprominent, circular in circumference or now and then almost oblong when seen from above. Afterwards they frequently appear to become decorticated in the central parts and flattened, or occasionally almost disc-shaped, 250—400 μ in diameter and traversed by a number of delicate musiferous canals. The sporangia are four-parted, about 60 μ long and 30 μ broad. The conceptacles of cystocarps are hemispheric-conical, rather low and of about the same diameter as the former. A few smaller conceptacles in company with the preceding are perhaps those of antheridia.

The species stands nearest to *Lithothamnion corticiforme*. It is hitherto only known from New Zealand.

Lithothamnion lamellatum Setch. et Fosl. msr.

Thallus lamellate, scantily prolificating, horizontally extended and partly attached; conceptacles of sporangia subprominent, flattened in the central parts, 350–600 μ in diameter.

This species forms suborbicular or irregular lamels, which in the specimens seen are scantily prolificating, 2–3 cm. in diameter and 300–500 μ thick. It seems to have been loosely attached to rocks or stones and at the same time covering or in part attached to other Algae, especially *Corallina*, but on the other hand rather clinging to the substratum, with more or less free margin, somewhat lobed and undulate. In the lower part of the plant small scutellate or cupulate new thalli occasionally are formed, which little by little become confluent, partly resembling similar formations in *Lithophyllum expansum*.

A vertical section of an almost freely developed part of a crust shows a vigorous hypothallium composed of cells which are frequently 18–32 μ long and 5–8 μ thick, sending forth rather short perithallic rows partly upwards, partly here and there even downwards too. The perithallic cells are much varying in length, partly almost square, partly and most frequently vertically elongated, 8–15 μ , now and then 18 μ or occasionally even up to 24 μ long.

The conceptacles of sporangia are developed almost everywhere except in the peripheral portions of the thallus and are as a rule crowded. They are subprominent, at length flattened or now and then slightly depressed in the central parts, 350–600 μ in diameter when seen from above, traversed by 40–60 coarse muciferous canals. The sporangia are four-parted, about 250 μ long and 120 μ broad.

The species stands near to *L. syntrophicum* and in structure it also approaches *L. conchatum*. On the other hand it reminds one much of certain forms of *L. lichenoides*.

It is only known from California, where it has been collected at Dypress Point, Monterey County by W. A. Setchell and R. E. Gibbs.
