
**CALOPLACA PYRACEA (ACH.) TH. FR., A CRUSTACEOUS
LICHEN ON THE SANDSTONE SIDEWALKS OF EAST
CLEVELAND, OHIO.**

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Owing to the frequent rains last summer more algae seemed to grow on the sidewalks than ever before. They were yellowish-green, represented a species of *Cystococcus*, and occasionally covered the entire surface of the stones. Here and there small specks of a grayish color appeared on them, a fungal growth several mm. in diameter. The mycelium spread out and continued to do so while its central part began to disappear. In these centers algae again commenced to grow while the mycelium stretched out more and more, surrounding the algae like a ring continually increasing in size. It frequently happened that some mycelium located itself on the central part of this algal layer, thus apparently repeating the former process. It was on these layers of mycelium that apothecia were forming in great numbers. They were yellow to orange-yellow with their rim-like external part, the so-called exciple, lighter in color. When young they were somewhat convex but later on mostly flat.

The apothecia contained asci in a more or less mature condition. The spores were very seldom simple, except when quite young and filled with granular protoplasm, but usually even when rather young they were two-celled. Nearly fullgrown spores as well as ripe ones were always two-celled. Although the two-celled spores of this lichen are said to be generally "polar-bilocular," none of this type could be ascertained in the specimens examined.

All the lichen specimens were concentrically arranged on the stones wherever they had space enough to spread; when full grown their diameter reached 50 to 70 mm. or even more. In the central part of an examined specimen was found an algal layer of

40 mm. diameter, surrounded by a mycelium 15 mm. wide. In another specimen of about the same size the central part of the algal layer was covered again by a mycelium 12 mm. in diameter, so that now this mycelium was surrounded by an algal and a fungal layer in the shape of concentric rings. The apothecia in the last mentioned case were distributed as well on the inner as on the outer mycelium.

The apothecia are usually provided with a great number of asci, each containing 8 colorless, more or less elliptical spores, which are liable because of their small size (11-16x7-8 mic.) to be blown to long distances by the wind.

On finding a proper substratum, as seems to have been the case here, the algae on the moist sandstone, they reproduce innumerable new plants. They lead a symbiotic life, apparently without either benefit or harm to the algal symbiont, but certainly with benefit to the fungal part.
