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GEORGE T. HASTINGS

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## Unusual Lichen Occurrences

Search of some of our remoter mountain tops during the past summer, primarily for unusual lichens, has been rewarded not only with rare lichens, but some new stations for northern flowering plants. On the Shawangunk Mountain ridge, at Sam's Point, and northward, were found the boreal lichen, Cetraria islandica, a glacial relict in our territory, and a much rarer boreal species, Cetraria saepincola, which Mrs. G. P. Anderson says was the second station ever reported in the territory of the Torrey Botanical Club, although she found it later in the summer on North Mountain in the Catskills. At the same time we found another station for Potentilla tridentata, on the cliffs of Sam's Point, and also, even rarer in our territory, Arenaria groenlandica, which I have not hitherto seen south of the Taconic Mountains (Mount Everett, in Massachusetts and Brace Mountain in New York), although I think it has been found on Spruce Knob, at 4600 feet, in West Virginia. The elevation of Sam's Point is 2250 feet.

After receiving the rare and beautiful northern Appalachian lichen *Parmelia Cladonia*, from friends who found it in the Adirondacks, and northern New England (Archibald T. Shorey, from Basin Mountain, Adirondacks; Frederick K. Vreeland, Blue Mountain, Adirondacks; Mrs. Laura Woodward Abbott, Jay Peak, Vermont; and George Dillman, Old Speck Mountain, in western Maine), and getting the "look" of the thing in one's eye, I found it in ample quantity on Peekamoose Mountain, 3863 feet high, in the southwestern Catskills, in September. It was reported from Panther Mountain, some miles north of Peekamoose, years ago, but the specimen is not available, so the Peekamoose location restores it definitely to the range of the club. I believe it may occur on other remote Catskill summits and shall look farther for it.

A trip to the Pine Barrens of New Jersey, in the vicinity of Double Trouble, and Wading River, on Sept. 24, with Dr. A. W. Evans, of the Osborn Botanical Laboratory, Yale University, author of the recent authoritative monograph on the Cladoniae of Connecticut (Mrs. Gladys P. Anderson and Mr. and Mrs. William Gavin Taylor providing transportation), proved very instructive to the writer and rewarding to Dr. Evans. He found two Cladonias which are southern species, which have

evidently migrated northward along the warm coastal strip, in the same manner as the numerous southern flowering plants which are found in the flora of the coast strip and the Barrens. They were *Cladonia didyma*, and *Cladonia verticillata*, in a form with dense squamules sometimes almost covering the lowest rank of cups.

What is probably the sole occurrence of the Iceland Moss, *Cetraria islandica*, in the Harriman State Park, and perhaps in the Hudson Highlands, was re-discovered, in a very small colony, at 1350 feet, on the Appalachian Trail, on Fingerboard Mountain. Several more colonies of it were found on Schunemunk, Mountain, west of the Highlands and higher, (1690 feet), in addition to a small occurrence noted last year.

Speculations as to the method of its establishment were roused by discovery of a small colony of the tiny squamulose lichen, Lecidea russellii, on a glacial boulder of Wallkill Valley limestone, transported southeast by the ice into the Highlands. and now used as a cairn on the Ramapo-Dunderberg Trail on Fingerboard Mountain, in the Harriman Park. This species is frequent on limestone ledges in western New Jersey and in western Orange County, New York. It was found on Shenandoah Mountain, in Putnam County, N. Y. on a club trip last April, probably on the ancient Grenville limestone. If it is an exclusively lime-loving lichen, (although that is not certain, but awaits later search) the problem of its transportation to the limestone boulder in the park is stimulating. Was it transported, in the form of its extremely minute spores, or in soredia or thallus fragments on the feet of a bird. Or did it migrate from one scattered Grenville limestone outcrop in the Highlands to another, eastward to its present site, possibly along the retreating ice front of the Pleistocene continental glacier? We shall look further to see if it is limited to limestone or may occur on the pre-Cambrian granites or gneisses. The problem is like that suggested by the rare occurrence of the usually, though not exclusively lime-loving walking Fern, on glacial limestone boulders, lying on granite, at Upper Cohasset Lake, in the Harriman Park and near Sand Pond, north of Beaver Lake, in Sussex County, N. J. But Dr. E. T. Wherry has reported the Walking Fern on various other substrata than lime: I found it in September on Catskill sandstone on the Gulf Road, west of Watson Hollow. in Ulster County.

RAYMOND H. TORREY