Growths of chestnut 150 years old, have a diameter of about twenty inches when growing singly, while in open places they frequently attain a diameter of three feet in sixty years, and sometimes grow very much larger than this. Chestnut, however, is usually cut for railroad ties when fifty or sixty years old, and about fourteen inches through, although this tree and the oak more often escape the woodman than does the pine.

In considering the changes which have taken place, the question naturally arises, whether if the forests were left undisturbed they would return to their former condition. Undoubtedly this would eventually take place, but it would require more than three hundred years for the hemlock to regain its former habitat. The decline of certain species and the increase of others is largely due to the ruthless methods of deforestation which have been in vogue here from the very beginning. Were a scientific or rational system of forestry maintained, the forest growth would not undergo such abrupt changes, but would tend to conform more to its primitive condition, and the entire floral condition would resemble quite closely that of old. From an economic point of view, the decline of the hemlock, and the increase of the birch and poplar is probably of not much importance. The most valuable trees, the pine and chestnut, are still common, and undoubtedly will remain so. However, there are still many hundred acres of old pasture that might be more profitably occupied by pine forests.

AGRICULTURAL COLLEGE, Amherst, Mass.

A NEW GRIMMIA FROM MT. WASHINGTON.

E. G. BRITTON.

(Plate 7.)

Grimmia Evansi, SPEC. NOV. Plants forming low, dense, dirty tufts of a dark green or yellowish brown color, only the uppermost ends of the branches being green and free from gravel. Stems about 15mm. high with short fastigiate branches 5mm. long, naked and radiculose below, crowded above with spreading leaves which are about 1mm. long by 0.5–0.7 mm. broad, oblong, concave, acute or apiculate with inrolled margins above forming a more or less cucullate apex, the stout vein ending in or just below the point which occasionally is formed by a single short hyaline cell; apical cells rounded and indistinct, slightly sinuous, composed more or less of two irregular layers of

cells, or frequently with only one layer and occasional groups of bistromatic cells here and there, not papillose, but the thickened walls of the apical cells giving an irregular outline to the cross-sections of the leaves; basal cells in one layer, more distinct, oblong or quadrate, .013–.021mm. in diameter. Dioicous, only male plants collected, antheridia large, bright yellow, with or without paraphyses.

On rocks, Tuckerman's Ravine, Mt. Washington, N. H., alt. 1,230 m. July 30, 1890. Collected by Dr. Alexander W. Evans of Yale University, to whom this species is dedicated in recognition of his services to American bryology.

Dr. Evans' specimens have been compared with *Grimmia caespiticia* (Brid.) Jur. (*G. sulcata* Sauter) and with Limpricht's description and figures (Rab. Kryptfl. **4**: 2, 778, fig. 203). Though closely resembling this species in the form and structure of the leaves, ours lack the two prominent folds of the European species and the plants are coarser and more loosely tufted. Dr. Breidler kindly sent me specimens from the Austrian Alps for comparison and I hereby tender him and Mr. J. F. Collins my thanks, the drawings having been made by Mr. Collins.

EXPLANATION OF PLATE 7. — *Grimmia Evansi:* fig. 1, outlines of three foliage leaves, enlarged 12 diameters; fig. 2, perigonal leaves, flattened and torn on account of being very concave, enlarged 12 diameters; fig. 3, apical cells of one leaf with a hyaline tip; fig. 4, median cells; fig. 5, basal cells; fig. 6, alar cells; figs. 7 and 8, cross-sections of leaves, showing irregular bistromatic cells. Figs. 3 to 8 are enlarged 330 diameters.

NEW FORMS OF GREEN ALGAE.[1]

N. WILLE.

MICROSPORA AMOENA (Kuetz.) Rab., forma **crassior,** N. FORM. Cells 30–32 μ diam. — Pequonnock River, Bridgeport, Conn., April 22, 1894, in company with the type; collected by Isaac Holden.

RHIZOCLONIUM LACUSTRE Kuetz. forma **Americana,** N. FORM. Cells not swollen, with thin walls and very scanty rhizoids. Cells 15–16 μ wide, 15–60 μ long. — Attached to stones, and growing to a length of one half meter to one meter, Bridgeport, Conn., July 25, 1892; collected by Isaac Holden.

[1] The forms here described, with a number of others, all of which were intended for distribution in Collins, Holden, and Setchell, Phycotheca Boreali-Americana, were submitted to Professor Wille for revision, and these two forms and one species from New England were determined by him to be new. They will be distributed in Fascicle XIII, which will appear some time in 1899. — F. S. COLLINS.