ment, I do not believe it to be entirely so, and suspect that in cultivation they would remain distinct, age for age, *B. papyrifera* growing more rapidly."

Further studies another season may show other characters that will absolutely separate this newly found birch from *B. papyrifera*. Should such be the case, the writer will then propose the name **Betula Andrewsii** for this new find, in honor of Mr. ANDREWS, whose diligent studies and discriminating observations in the field are again recognized—studies the more valuable because the opinions formed in the field are usually verified in his experimental and nursery grounds at Boulder.—AVEN NELSON, *University of Wyoming, Laramie.*

RHODODENDRON ALBIFLORUM WITH DOUBLE FLOWERS

While on a botanizing tour with Mr. J. G. JACK in British Columbia in the summer of 1904, we were staying several days at Glacier, the station of the Canadian Pacific R. R. close to the foot of the Great Glacier of the Selkirks, to explore the surrounding country. Just above the hotel in the Asulkan valley there is a grove of *Tsuga Mertensiana* and *T. heterophylla*, through which a path leads to the foot of the glacier. As I left this path to cross a thicket of small hemlocks to the bank of the Asulkan River, I noticed close to the brink of the river a large shrub of *Rhododendron albiflorum* in full bloom which at once attracted my attention, as all other shrubs of this species were past flowering; and I was very much astonished to find on coming nearer that it bore large white double flowers very much like those of the double cherries sometimes cultivated in gardens. It was a strange sight in these wild and rough mountain woods to see such blossoms which one associates involuntarily with the finished surroundings of a well-kept garden. What agency caused the origin of such a form? Close by grew the typical form, and there was nothing unusual in the place or position where the shrub grew, nor in the shrub itself aside from its double flowers. This is probably the first time that a double-flowered Rhododendron has been found in this country. Though reports of the occurrence of double-flowered plants in a wild state are not wholly lacking, they are nevertheless rare. In the European Alps *Rhododendron ferrugineum* has been found at least twice with double flowers, as reported by A. KERNER (Oesterr. Bot. Zeits. **15**:285. 1865), who himself found in one locality a large number of shrubs with double flowers.

As in most double flowers, the cause of this teratological aberration is in this case petalody of stamens combined with a considerable increase

in the number of the staminal whorls. Calyx and corolla present the normal condition, while the stamens have taken the shape of petals. Though the ten stamens belong to two whorls, the petalodes are more or less connate at the base into 10-merous whorls; but the petalodes of all the whorls are in superposition, showing thus that they must be considered as consisting of alternate 5-merous whorls, and this is also apparent by the aestivation of the broader petalodes of the outer whorls; the first five petalodes, of course, are opposite to the corolla lobes, as the ericaceous flower is obdiplostemonous. The number of 10-merous whorls in each flower is about ten; the shape of the petalodes changes from the broadly oval of the outer ones to the oblong shape of the innermost petalodes. Even the carpels are changed into narrow oblong petalodes. Only in one case I found an incompletely developed anther adhering to one of the petalodes.

As it would be interesting to have this shrub in cultivation, though the horticultural value of this form is lessened by the rather difficult cultivation of the species, we sent rooted suckers to the Arnold Arboretum, but the plants did not survive, and concerning the fate of a few sent to a German nursery I know nothing. The old plant, however, is in all probability still there, and we may yet hope to see this handsome form introduced into cultivation. Dried specimens of it are preserved in the herbarium of the Arnold Arboretum.—ALFRED REHDER, *Arnold Arboretum.*

PUCCINIA UPON MELOTHRIA

(WITH ONE FIGURE)

This rust was found in the neighborhood of West Raleigh, N. C., in the autumn of 1907 upon *Melothria pendula.* The host is not a common plant in this locality, only two plants being seen during an entire collecting season; one of these was thoroughly infected, the other not at all.

The species is of special interest on account of the comparative paucity of rusts affecting the cucurbits, as well as owing to the economic importance of this family. On the whole family as represented by the North American genera, either native or exotic, listed in SMALL'S *Flora of the South Eastern United States,* GRAY'S *Manual,* GRAY'S *Field, Forest,* and *Garden Botany,* and BRITTON and BROWN'S *Illustrated Flora,* there are mentioned in FARLOW'S *Host Index* no rusts at all. In SACCARDO there are six species, as follows: (1) *Uromyces Melothriae* on *M. tomentosa* in Abyssinia; (2) *U. Cayaponiae* on *C. racemosa* in Africa; (3) *U. Hellarianus* on *Cayaponia* in Porto Rico; (4) *Puccinia Cucumeris* on *C. ficifolia* in Abyssinia; (5) *P.*