Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 21. July, 1919. No. 247.

A NEW LOCALITY FOR SENECIO CRAWFORDII.[1]

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Of the comparatively few species of *Senecio* native to the eastern United States, one of the rarest or, at least, most local in its distribution is *S. Crawfordii* Britton, which was described in 1901 from specimens collected near Philadelphia. In Gray's New Manual Dr. J. M. Greenman treated the plant as a variety of *S. Balsamitae* Muhl. (= *S. pauperculus* Michx.), but in his recent monograph of the genus [1] he has accorded it specific rank. Such a treatment it seems to merit, certainly as much as *S. Smallii* Britton, which is recognized as a species in Gray's Manual, although to the writer the differences which separate it from *S. pauperculus* seem very slight.

The specimens of *S. Crawfordii* cited by Greenman in his monograph, most of them in the herbarium of the Philadelphia Academy of Sciences, are all from southeastern Pennsylvania and western New Jersey. Consequently it may be of interest to record an additional locality for the species, considerably removed from its previously known range. On May 25, 1917, Mr. William R. Maxon obtained in a bog near Suitland, Maryland, a few miles east of Washington, specimens of a *Senecio* which was evidently new to our local flora. It was obviously a relative of *S. Smallii* although conspicuously different in its bright green, very succulent, and comparatively short and broad basal leaves. The writer identified it as *S. Crawfordii*, and the identification was later confirmed by Mr. Bayard Long, after

[1] Published by permission of the Secretary of the Smithsonian Institution.

[2] Ann. Mo. Bot. Gard. iii. 139 (1916).

comparison with the ample material at Philadelphia. On May 12, 1918, Mr. Edgar Brown, Prof. A. S. Hitchcock, Mr. Maxon, and the writer visited the Suitland bog and found the plant growing in some abundance. It was not very conspicuous, however, for the plants were scattered and half hidden among tufts of withered grass.

The two other species of *Senecio* common about Washington are found in quite different habitats. *S. aureus* is frequent along streams and in wet soil generally in the hilly Piedmont Region westward, especially along the valley of the Potomac. *S. Smallii*, also, occurs in the same general region, but in dry, elevated situations. *S. Crawfordii*, on the other hand, occurs in one of the characteristic white gravel or magnolia bogs of the low Coastal Plain.

These bogs are the most interesting feature of our local flora.[1] They are small, hardly more than a few yards across, and lie always upon a gentle slope, usually surrounded by a thick growth of trees and shrubs, a circumstance which often makes their discovery difficult. The necessary condition for their occurrence is a thin bed of gravel or coarse sand, commonly about a foot thick, lying between two beds of clay. On a hillside where the gravel is exposed the water which flows through the subterranean gravel stratum trickles over the bed and keeps it constantly wet, even in the driest seasons. Such bogs are very pleasant botanizing grounds, for here one may wander about nearly dry-shod among a host of interesting bog plants which usually grow in much less comfortably accessible places. A number of the bogs are known in the Coastal Plain region north and east of Washington, and there are probably others still undiscovered in the less explored portions of our area. They are our only stations for a number of interesting species, most of which are characteristic pine-barren plants. The bog near Suitland is in some respects the most interesting of all, for it has yielded several species not found in the others within our limits,[2] such as *Carex Collinsii*, *Habenaria cristata*, *Polygala lutea*, and *Arethusa bulbosa*. The last species was reported from our region about 80 years ago, but had not been recollected until we discovered it near Suitland at the same time that we collected the *Senecio*.

[1] See W. L. McAtee. A sketch of the natural history of the District of Columbia. Bull. Biol. Soc. Washington i. 74–90 (1918). McAtee gives a very full and interesting account of the magnolia bogs, and an equally instructive discussion of the other phytogeographic features of the District and vicinity.

[2] The area included in the District flora region, as usually limited, is a circle of 15 miles radius, the Capitol being taken as the center.

The gravel bed, which is the essential feature of these bogs, is bare in spots, but is largely covered by patches of sphagnum and scattered clumps of *Cladonia*, among which grow various herbaceous plants of higher groups. The bog is essentially open, but shrubs are banked about its edge and form occasional clumps over its surface. The shrubs or small trees are chiefly *Alnus rugosa*, *Myrica carolinensis*, *Itea virginica*, *Aronia atropurpurea*, *Amelanchier oblongifolia*, *Rhus vernix*, *Ilex laevigata*, *Acer rubrum*, *Nyssa sylvatica*, *Azalea viscosa*, *Eubotrys racemosa*, *Kalmia angustifolia*, *Gaylussacia dumosa*, *Vaccinium atrococcum* and *V. corymbosum*, *Chionanthus virginica*, and *Viburnum nudum* and *V. cassinoides*. The swamp magnolia is present in all the bogs, and it is because of this fact that McAtee has proposed for them the term "magnolia bogs." The more characteristic or interesting herbaceous plants are *Osmunda cinnamomea*, *Lycopodium adpressum* and *L. carolinianum*, *Panicum lucidum*, *Eriocaulon decangulare*, *Xyris caroliniana*, *Tofieldia racemosa*, *Melanthium angustifolium*, *Limodorum tuberosum*, *Pogonia ophioglossoides*, *Drosera rotundifolia*, *Polygala lutea* and *P. cruciata*, *Triadenum virginicum*, *Rhexia virginica*, *Oxypolis rigidior*, *Utricularia subulata*, and *Helianthus angustifolius*.

It will be seen that most of the plants enumerated are characteristic species of the pine-barrens which, in the northeastern states, attain their best development in New Jersey. Notwithstanding the presence of so many species characteristic of that type of vegetation, no pine-barrens exist in our region. The isolated occurrence of such a large percentage of pine-barren species (it is estimated that 70 per cent of the typical ones occur in Delaware and eastern Maryland) is explained by McAtee as having probably resulted from the depression of the Coastal Plain. It is assumed that formerly a belt of the pine-barren flora extended along much of the Atlantic coast, but that when the Coastal region was depressed most of the vegetation of this type was destroyed. Isolated colonies of plants were able to maintain their existence in favorable spots near or upon the Piedmont Plateau, and although conditions in such situations were generally unsuited to the growth of pine-barren plants, some of them have managed to persist in places where conditions were particularly propitious, as, for instance, in these magnolia bogs.

It may be noted in concluding that although *Senecio Crawfordii* is found with us in association with pine-barren species, it appears

to occur in a different habitat in Pennsylvania and New Jersey. Stone [1] reports it from "Damp meadows or bogs in the Middle district, near the Delaware River, local and not common."

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TWO NEW MYRIOPHYLLUMS AND A SPECIES NEW TO THE UNITED STATES.

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MYRIOPHYLLUM **exalbescens**, n. sp., herba aquatica, caule glaberrimo folioso simplice vel ramoso purpureo in statu exsiccato exalbescente; foliis verticillatis raro 3^{nis} plerumque 4^{nis} 1.2–3 cm. longis, segmentis 7–11-jugis capillaceis flaccidis vix subrigidis 0.5–3 cm. longis; spicis terminalibus subnudis, floribus verticillatis inferioribus foemineis superioribus masculis sessilibus; bracteis fructum rare aequantibus spatulato-obovatis vel oblongo-cochleiformibus inferioribus serratis superioribus integris; bracteolis ovatis integris brunneo-marginatis 0.7–1 mm. longis; petalis oblongo-obovatis concavis 2.5 mm. longis; staminibus 8, antheris oblongis 1.2–1.8 mm. longis; fructibus subglobosis angustissime 4-sulcatis 2.3–3 mm. longis, merocarpiis dorso rotundatis laevibus vel rugulosis.

Aquatic herb; the stem glabrous, leafy, simple or branching, purple, in the dried state becoming white: leaves verticillate, rarely in 3's, commonly in 4's, 1.2–3 cm. long, with 7–11 pairs of capillary flaccid or barely a little rigid segments: spikes terminal, almost naked, the flowers verticillate; the lower pistillate, the upper staminate, sessile: bracts rarely equalling the fruit, spatulate-obovate or oblong-cochleiform; the lower serrate, the upper entire: bracteoles ovate, entire, brown-margined, 0.7–1 mm. long: petals oblong-obovate, concave, 2.5 mm. long: stamens 8; anthers oblong, 1.2–1.8 mm. long: fruits subglobose, very slenderly 4-sulcate, 2.3–3 mm. long; the merocarps rounded on the back, smooth or rugulose.— Ponds, pools and quiet streams, often brackish or calcareous, Greenland and Labrador to Washington, south to western Newfoundland, Cape Breton, southern New Brunswick, southern New England, southeastern, central and western New York, the Great Lake region, Kansas, Arizona and southern California. GREENLAND: Ikerasak, July 19, 1892, *Vandhöffen*. LABRADOR: shallow sandy-bottomed

[1] Plants of southern New Jersey 777 (1911).