



The Revised Manual and some Western Plants

Author(s): E. J. Hill

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The Revised Manual and Some Western Plants.

BY E. J. HILL.

In giving the geographical range of plants as briefly as a handbook requires, liabilities to err by trying to say much in a word or short phrase must be recognized. That all sources of information are not equally and carefully examined may also be true, and as a consequence omissions may occur and due credit fail to be given. The literature of local botany has become quite extensive; all of it is not very accessible and some likely to be overlooked. The details of geographical distribution even in a part of a large country is a subject requiring great patience in research and special aptitude for its pursuit. Some of these omissions or lapses from the ideal had been noticed in the Revised Manual. One naturally turns first to those things which are familiar to him in his own field, or to which he may have called attention somewhere, and so the error is easily detected. Prof. Porter has mentioned some in the BULLETIN for March. It is evident that the botany of the future can best be made complete by the co-operation of all who are interested, and who may have special knowledge of particular fields which they are willing to communicate, and place within easy reach of those who prepare our manuals. But first I will notice a few errors in Prof. Porter's article, if I understand the purport of his restrictions and inquiries.

One plant he mentions is *Polygala polygama*, Walt., said in the Manual to be "common." To this the remark is added, "A plant of the eastern seaboard and rare in northern New Jersey, not known in Pennsylvania." Perhaps this does not mean that the plant is confined to the seaboard, but that would be the inference. The older Manual said: "Dry, sandy soil; common eastward," not necessarily confining it to the East, but making it

common only there. That the word "common" is too broad a term is plain, since it does not occur throughout, as is evident from its absence from Pennsylvania, and my experience with it in the lake region confirms this, since it is a plant local in character of habitat, though abundant in any locality adapted to its nature of growth. Its peculiar mode of growth causes it to produce abundance of seed and plant them effectually, thus securing a numerous progeny where it happens to grow. But its confinement to light or sandy soil necessarily restricts its area. Such, at least, is its character in the western region. It is found in such localities along the Great Lakes, and extends into the Mississippi basin in Illinois, Wisconsin and Minnesota. Nuttall is probably the earliest authority for its presence at the West. In his *Genera* (ii. 87) he says, "*P. polygama*, Ph. HAB.—In the pine forests of Lake Michigan." The plants Nuttall used in his description were not from the same locality from which Pursh obtained the species described in his *Flora* (ii. 465.) "the pine barrens of Carolina," for Nuttall adds to his characterization, "Mr. Pursh's plant appears to differ considerably from the one here described, but I am persuaded it is the same from a good specimen which I have seen in the possession of Z. Collins, Esq., agreeing with the Michigan plant." Its range along the Great Lakes is about equal to their extent. Macoun gives it from the Lake of the Woods at the west, to the plains of Rice Lake, north of the central part of Lake Ontario. It therefore is represented in four of the river systems or groups of North America as defined by Guyot; the Atlantic slope of the Appalachian Mountains, the St. Lawrence, the Mississippi, and the valley of the Red and Nelson that discharge into Hudson Bay.

The second plant of the list to be noticed is *Phragmites communis*, Trin. "Edges of ponds," says the Manual. "Along the coast and the Great Lakes, but not elsewhere," adds Prof. Porter. A few references will show that it is not restricted to this range either in extent or abundance. In the catalogue of the Plants of Indiana, compiled by the editors of the *Botanical Gazette*, it is accorded a station in the extreme southwestern part of the State on the authority of Dr. J. Schenck. It evidently is found throughout the State, as we learn from the preface of the cata-

logue that this is the meaning when localities are not specified, that of the lower Wabash being for height of stem (19 feet) and not for locality. Dr. A. J. Phinney, in a list of plants of central eastern Indiana, published in the Twelfth Report of the State Geologist, (1882) says it is common in the region embraced in his list, about four counties lying in the valley of the Ohio. Patterson, in his "Catalogue of the Plants of Illinois," states that it is "common" in the State without restriction of range. It is given by Dr. Lapham in his "Native, Naturalized, and Cultivated Grasses of Illinois," (1850). In Minnesota, on the authority of Upham, we find it "common or frequent in the edges of ponds and lakes throughout the prairie portion of the State." It is given by Arthur in the list of Iowa plants, and by Lapham in that of Wisconsin. Hence we find the upper Mississippi region well represented by *Phragmites communis*.

The third plant is *Zizania aquatica*, L. "Common" says the Manual. "Along the seaboard and the Great Lakes, but where else," Prof. Porter asks. The answer is the upper Mississippi and the Red River of the North, as can be easily shown. In fact, if we take account of its use by the Indians as a consequence of its abundance, it is a plant even more characteristic of these regions than of the seaboard and Great Lakes. It is published in all the lists cited for *Phragmites communis*, and with about the same range, though less common at the south. In Indiana, outside of the lake area, it is assigned a place in Gibson County, and in the four counties of Dr. Phinney's list. In Illinois, Patterson has it "common." In Minnesota, Upham says, "common or frequent in favorable situations throughout the State." Besides these may be mentioned Dr. Parry's "Synoptical Catalogue of the Plants of Wisconsin and Minnesota," published in Owen's Report, (Philadelphia, 1852) and Dr. Douglas Houghton, in a list appended to Schoolcraft's "Narrative of an Expedition through the upper Mississippi to Itasca Lake." He closes the list with the entry, "*Zizania aquatica*, Pursh. Illinois to the sources of the Mississippi." I do not find it in the short list prepared by De Schweinitz from plants collected by Say in connection with Long's Expedition to this region, but it is frequently mentioned in the account of the expedition compiled by Prof

Keating,* both by its common and botanical names. Here are five states, besides some of British America, lying outside of the lake region wholly or in great part, where *Zizania* is found, generally in abundance, Indiana, Illinois, Iowa, Wisconsin and Minnesota. And this region is the one mentioned at the beginning of the paragraph.

I will now mention a few plants whose range as indicated in the Manual, is either too restricted or otherwise incorrect, as they have fallen under my notice, indicating also where information may be found concerning them.

Corydalis micrantha, Gray, should be credited to Illinois, "Sandy river banks, &c., throughout the State" (Patterson; Cat. of the Plants of Ill., 1876).

Lechea thymifolia, Michx. Abundant in the sand-barrens at the head of Lake Michigan in Ind. (Bot. Gaz., 1881 as *L. Novæ-Cæsareæ*, Austin, and in 1883 as *L. thymifolia*, Michx).

Arenaria patula, Michx, Tippecanoe Co., Ind. (Cat. of the plants of Ind. by the Editors of the Bot. Gaz., 1881). Near Chicago, Ill., (Babcock; Flora of Chicago and vicinity. The Lens, 1872). I know of no place in Illinois where it is found except here. One of these stations is west of the city at Riverside on the Desplaines River, and two on the south side, within the limits of the city, where it grows in the thin soil covering limestone rocks. As they are likely soon to be extinct by reason of the growth of population, they may be placed on record; one is 75th St., near the lake, and the other "Stony Island," near 93d St. This is an interesting example of a plant, southern in general range, that comes to the head of Lake Michigan, where some plants of a sub-alpine cast are also found. The station in Tippecanoe Co. may indicate the line of connection.

Stellaria crassifolia, Ehrh. Michigan. (Wheeler and Smith's Cat. of the Plants of Mich., 1881), given on the authority of Dr. Lyon, and without locality. For Illinois, besides the station mentioned in the Manual (Ringwood) may be given Crete, Will Co., near the Indiana State line, where I found the apetalous form of the plant in 1882.

* Narrative of an Expedition to the source of St. Peter's River, Lake Winnepeck, Lake of the Woods, &c. Performed in the year 1823. London, 1825.

Ammania coccinea, Rottb. Has a range in Illinois as far north as Kankakee, and thence south through the State (Patterson, l. c.).

Utricularia resupinata, B. D. Greene. Lake Co, Ind. (Bot. Gaz., viii, 187). Very abundant on the east shore of Woodard Lake, Iona Co., Mich. (Wheeler & Smith, l. c.). This brings its range much farther west than Presque Isle, Pa.

Juncus Greenii, Oakes and Tuckerm. As far west as Kankakee, Ill. (Patterson, l. c.). Lake Co., Ind. (Cat. of Ind. Plants, 1881). Said in the Manual to occur on the east shore of Lake Michigan. The older edition mentioned the east side of the State near Detroit. Are these the same?

Fimbristylis spadicea, Vahl., var. *castanea*, Gray. Frequent at the head of Lake Michigan, from Chicago east. Also in three other counties of Illinois—Kankakee, St. Clair and Henderson (Patterson, l. c.). The last two border the Mississippi, St. Clair Co. being opposite St. Louis. Attention was first called to this and the preceding plant, together with *Rynchospora cymosa*, Nutt., in the Entomologist and Botanist of St. Louis, conducted by Drs. Riley and Vasey (Vol. ii. p. 384). This was in 1870, the three plants having been found growing together in Kankakee Co. All grow together in Lake Co., Ind. The *Juncus* and *Rynchospora* have the same range so far as known in Illinois and Indiana, and the *Fimbristylis* has been found with them, but with a wider range. All are representatives of eastern plants that come to the lake region and the Mississippi.

Agropyrum violaceum, Lange. Lake Co., Ind. (Cat. of Plants of Ind., 1881).

Potamogeton Robbinsii, Oakes. In Cedar Lake, Lake Co., Ind. (Bot. Gaz. 1888).

Potamogeton Hillii, Morong. N.E. Ohio, at Ashtabula. This was the locality where the specimens were found that afterwards led to its specific distinction. (Bot. Gaz., v. 53, vi. 290).

Aster ptarmicoides, Torr. & Gray, var. *lutescens*, Gray. The Manual states that this plant ranges from N. Ill to the Saskatchewan. But this is not based on facts. Having first mentioned the presence of this plant at Englewood, I may be at fault for some of this misconception. It was stated in a note in the Bot. Gaz. (xiv. 153) that it was Dr. Gray's opinion that it might have come in by the way of the lakes, or might be a remnant of a flora once continuous, since it was known to be found in British America. It was further stated that Upham thought it probable the plant

grew in Minnesota, since it was found on both sides of that State, in Canada and Illinois. But the only place for it yet found in our limits, so far as I am aware, is the station originally given. When in Minnesota the past season, I had hoped to see it, but the north-eastern part of the State is not suitable for its propagation. It is a plant of the prairie and plains, and would hardly come by the timbered region of the lakes to a southern locality, or be represented in its flora. If anywhere to be sought, it would rather be in the open country of the Mississippi Valley, where the streams would afford a still better means of communication.

Triglochin maritimum, L. "Salt marshes along the coast, Lab. to N. J., and in saline places in the interior across the continent." The Manual gives this range, which is well enough for extent but not accurate as to conditions. The plant is not confined to those which are saline, but is found in many places along the lakes and in the Mississippi Valley, where they do not exist. The older editions of the Manual were correct in not thus limiting it. It bears fresh water, or bog conditions, as well as *T. palustris*.

Some plants and stations may for convenience of record be added to this list, either not published before, or offered too late for insertion in the Manual.

Rosa Engelmanni, Watson. This was found last season in the sand barrens at the head of Lake Michigan, and is not uncommon. It had been to me a puzzling form of *R. blanda*, Ait., placed there for want of something better, till the description and figure in *Garden and Forest* of Aug. 7, 1889, were seen. Being at Tower, Minn., at the time, it was at once seen to be the more common form of Rose there, and on returning home in September, a comparison of fruit and foliage verified its presence here. The fruit of the Minnesota specimens was usually obovate-oblong, that of the Indiana oblong, or tapering about the same above as below, showing no punctures by insects to produce deformity, and moreover characterizing the fruit of a whole bush, it seemed a well-marked species. An occasional round or roundish fruit would appear on some bush, as though showing a tendency to mix with *R. blanda* and *R. humilis*, that grow plentifully in the immediate vicinity.

Utricularia purpurea, Walt. Found in Spring Lake, Mich., where I gathered it in 1872.

Sagina procumbens, L.. Champion Mine, Mich., 1889.

Potamogeton Robbinsii, Oakes. Republic, and Negaunee (in Goose Lake) Mich., and abundant in Chesago Lake, in eastern Minn., 1889.

P. obtusifolius, Mert. and Koch. Tower, Minn., 1889.