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Vascular plants near the margins of their range in Cedarburg Bog. Part II. Dicots

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VASCULAR PLANTS NEAR THE MARGINS OF THEIR RANGE IN CEDARBURG BOG PART II. DICOTS

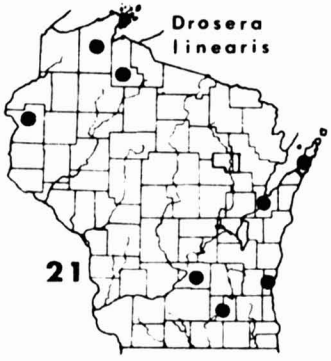
There are two species of gymnosperms and 18 monocots that are near the southern edge of their geographic range in Cedarburg Bog (Reinartz and Reinartz 1981). Six of these may actually reach their range boundary in the bog. Nine species of the Cyperaceae and seven Orchidaceae comprise the bulk of the monocot species that are near their southern limits.

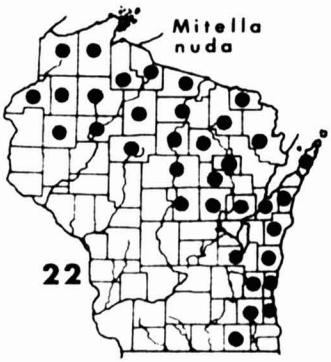
The purpose of this paper is to provide an annotated listing of dicot species which have geographically marginal populations in Cedarburg Bog. Since this paper is a continuation of Reinartz and Reinartz (1981), in which 20 species were listed, the plants have been numbered beginning with twenty-one.

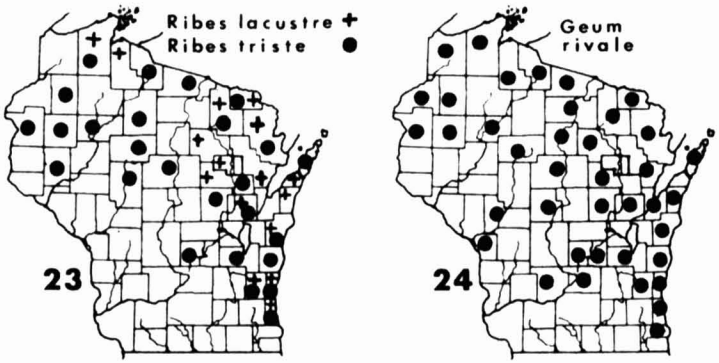
Range maps were constructed using the University of Wisconsin - Madison, - Milwaukee and Field Station herbaria. In addition, published maps for the following taxa were used: Drosera (Livergood 1932 and Stromberg 1981); Saxifragaceae (Fassett 1932); Geum (Mason and Iltis 1958); Ericaceae (Fassett 1929) and Caprifoliaceae (Salamun 1979). Habitat descriptions and general ranges were obtained from Gleason (1952), Fassett (1976), Rosendahl (1955), Billington (1949), Smith (1966) in addition to the works listed above.

Drosera linearis Goldie. Linear-leaved Sundew. (Droceraceae) Map 21.

Ranges in northeastern N. Am., s. to Me., Mich., and Wis. Very rare and infrequent throughout its range, it inhabits calcareous patterned fens and bogs, limy shores and beach pools. D. linearis is apparently extirpated from all its former Wisconsin localities except the Cedarburg Bog and one site in Ashland Co. (Stromberg 1981). Cedarburg Bog has what is probably the southernmost extant population of D. linearis in the world and the largest population in Wisconsin. Although in general the sympatric D. rotundifolia is the more abundant and frequently encountered species, in the string bog portion of Cedarburg Bog D. linearis is the more abundant of the two.







Mitella nuda L. Naked Mitewort, Bog Bishop's-cap. (Saxifragaceae) Map 22.

Lab. to Mackenzie, s. to Pa., Mich., and Minn., and Mont., also e. Asia. It grows in cool mossy wet woods and swamps. In Wisconsin, the species is found southeastward only in tamarack bogs.

There are 9 native species of Ribes in Wisconsin. At least 7 of them are found in Cedarburg Bog, including more than one variety of some species (e.g., R. cynosbati). The range margins of a number of the Ribes species roughly follow Curtis' (1959) "tension zone" (see the map in Idzikowski 1982). R. triste and R. lacustre are among the best examples. R. missouriense, also found in the bog, has a distribution that includes mostly southwestern Wisconsin and is perhaps the only example of a species that is near the northeastern edge of its range in the bog.

Ribes lacustre (Pers.) Poir. Swamp Black Currant. (Saxifragaceae) Map 23.

Ranges from Lab. to Alaska, s. to w. Mass., N. Y., the mountains of Tenn., n. O., Pa., Mich., and Minn., and in the w. to Col. and Cal. Grows in cold, wet woods and swamps in northeastern Wisconsin.

Ribes triste. Pall. Wild Currant, Swamp Red Currant. (Saxifragaceae) Map 23.

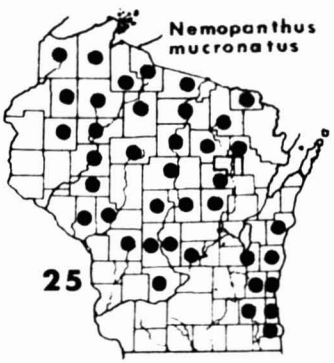
Ranges from Nf. and Lab. to Alaska, s. to N. J., Mich., Wis., Minn., and Alta., also in n. Asia. R. triste grows in essentially the same habitat as R. lacustre.

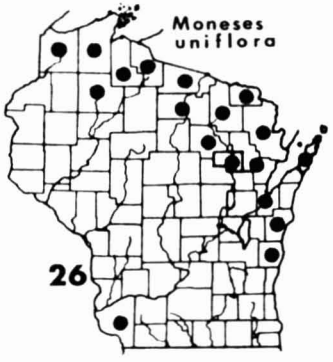
Geum rivale L. Water Avens. (Rosaceae) Map 24.

Ranges from Nf. and Que. to Alta., s. to N. J., Pa., Ind., and Mich., and in the west to Cal. It grows in Alnus or Thuja swampwoods, sphagnum bogs, marshy meadows, moist ground of lake shores and borders of marshes.

Nemopanthus mucronatus (L.) Trel. Mountain Holly. (Aquifoliaceae) Map 25.

Ranges from Nf. and Que. to Minn., s. to W. Va., and n. Ind. It occurs mostly in the coniferous forest area and is rare southeastward to n. Ill. The species grows only in deep cedar and tamarack bogs, where it is often associated with poison sumac.





Moneses uniflora (L.) Gray. One-flowered Pyrola. (Ericaceae) Map 26.

Ranges from Greenland to Alaska, s. to Conn., N. Y., Mich., Minn. and in the western mountains to N. M., also in Eurasia. It grows mostly in damp evergreen woods and bogs. The species has never been collected from the Cedarburg Bog, but Salamun (pers. comm.) has sighted it there.

Pyrola asarifolia Michx. Pink Pyrola. (Ericaceae) Map 27.

Ranges from Nf. to Alaska, s. to N. Y., n. Ind., Minn., and in the west to Col. It grows in moist, rich woods and thickets, and in bogs, chiefly in calcareous soil. Collected in the Cedarburg Bog in 1934; the Milwaukee Co. collection is very old and without locality information.

Pyrola secunda L. One-sided Pyrola. (Ericaceae) Map 27.

Ranges from Greenland to Alaska, s. to N. J., Md., Ind., Minn., and N. M., widely distributed in n. Eurasia. Inhabiting moist woods and mossy bogs, it grows mostly in north and east Wisconsin, very local southwestwards. Collected in Cedarburg Bog in 1930; the Milwaukee Co. collection dates to about 1900.

Kalmia polifolia Wang. Swamp Laurel (Ericaceae) Map 28.

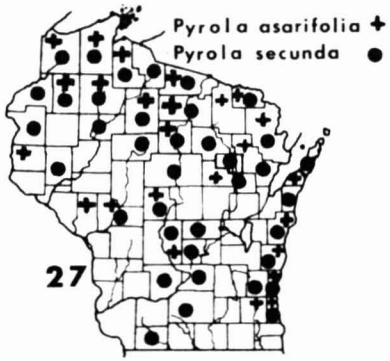
Ranges from Lab. to Hudson Bay, s. to Conn., Pa., Mich., and Minn. Typical of sphagnum bogs in the northern half of the state, it was collected in 1928 from the Cedarburg Bog. Salamun (pers. comm.) has sighted Swamp Laurel in the bog more recently.

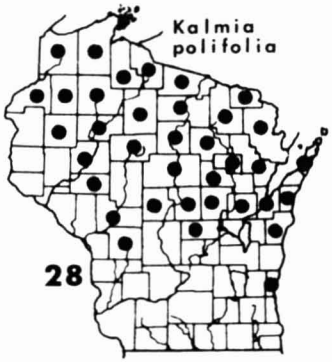
Vaccinium oxycoccos L. Small Cranberry (Ericaceae) Map 29.

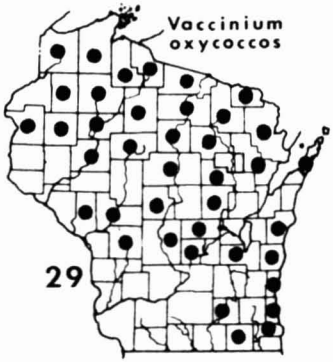
Ranges from Greenland and Lab. to Alaska, s. to N. J., Pa., s. to N. C. in the mountains, n. O., n. Ind., and Minn., and in the w. to Cal., also in n. Eurasia. Growing in bogs, the species is infrequent throughout its range. The Walworth Co. collection is from Beulah Bog and Jefferson Co., Hope Lake Bog.

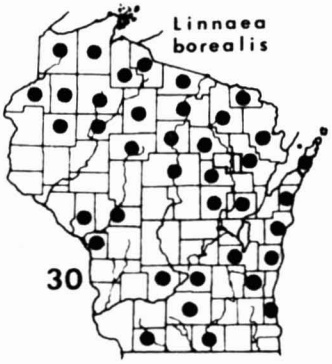
Linnaea borealis L. Twin flower. (Caprifoliaceae) Map 30.

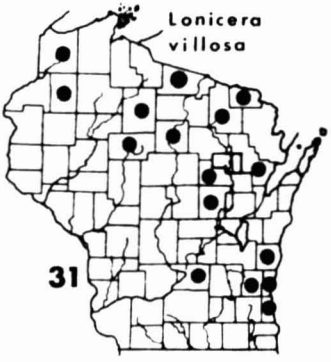
This circumpolar species ranges from Greenland to Alaska, s., in our range to Long Island, N. J., W. Va., n. Ind., and Minn. It grows in cold, moist or dry woods and peaty bogs. Twin flower has never been collected from Cedarburg Bog, but Salamun (pers. comm.) has reported sighting it there.











Lonicera villosa (Michx.) R. & S. Mountain Fly Honeysuckle. (Caprifoliaceae) Map 31.

Lab. to the Mackenzie R., s. to Pa., Mich., Wis., and Minn. It occasionally inhabits acidic soils of open sphagnum bogs, tamarack-spruce bogs and sometimes alkaline to acidic sedge meadows in n. Wis.; it is infrequent to rare in bogs of s.e. Wisconsin. In the Cedarburg Bog this species is found both in string bog and in some of the dense willow thicket habitats.

CONCLUSIONS

There are over 310 species of vascular plants native to the Cedarburg Bog. The rich flora of the bog is due in part to its size and the diversity of wetland habitats represented. At least seven distinct communities (submerged and floating aquatics, emergent aquatics, string bog, bog birch-leatherleaf shrub, dogwood-willow shrub, conifer forest and swamp hardwood forest) and the transitional zones between them can be found in the bog.

Over 10% (at least 33) of the species growing in the bog are near the southern or southwestern edge of their range. The Cedarburg Bog populations of 3 dicot species (Drosera linearis, Moneses uniflora and Kalmia polifolia) are believed to be the absolute southernmost Wisconsin outlyers of more northerly ranges. One Gymnosperm and 5 Monocots also reach the southernmost boundary of their range here (Reinartz and Reinartz 1981).

Almost all of the bog's geographically marginal species are found in either the open string bog habitat or in the northern lowland (Curtis 1959) conifer forest community. Cedarburg Bog represents the largest, least disturbed and highest quality example of these communities in southern Wisconsin.

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