

## VERNON BLACK GUM SWAMP

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In the hills in the town of Vernon, Vermont, just north of the Massachusetts boundary and just west of the Connecticut River is a small but interesting swamp, featuring a disjunct stand of *Nyssa sylvatica* Marsh., considerably north and inland from the usual distribution of this species. This swamp was very briefly described by H. W. Vogelmann in Vermont Natural Areas — Report 2, March 1969. We visited it on October 5, 1969, and studied it enough to prepare a somewhat fuller description. We also visited the owner, the distinguished architect, Mr. Jacques Delamarre, and suggested to him the desirability of preserving this area so that longer term, more adequate investigations could be carried out, and because it is a unique natural feature in this region.

The swamp lies at an elevation of about 320 m on a small bench on the southwest side of a prominent knob, apparently unnamed. This shelf has a depression of about 2-3 hectares, rimmed by a curved ridge of hard schist up to 10 m high. At the east end is a notch, cut by a small stream that forms the outlet of the swamp. The surrounding area is a mixed *Tsuga canadensis* forest that has been recently severely cut. The ridge is covered by an open mixed forest from which a few hemlocks have been cut, but which has so little soil that trees of large size are scarcely to be expected. *Acer rubrum* L., *Betula papyrifera* Marsh., *Betula alleghaniensis* Britt., *Betula lenta* L., *Tsua canadensis* (L.) Carr. and *Pinus strobus* L. were observed on the ridge with one large old *Fagus grandifolia* Ehrh. just above the level of the swamp. Ericaceous shrubs and dwarf shrubs such as *Kalmia latifolia* L., *Vaccinium angustifolium* Ait., and *Gaultheria procumbens* L. form a sparse shrub layer. A few saplings of *Castanea dentata* (Marsh.) Borkh. and *Fagus grandifolia* Ehrh. are scattered here and there.

The depression, itself, is filled, to the level of the outlet notch, with fallen trees, humus, and *Sphagnum*. A very



irregular closed mixed forest about 5-8 m tall covers the swampy area with the following trees in the main closed layer: *Betula alleghaniensis* Britt., *Nyssa sylvatica* Marsh., *Tsuga canadensis* (L.) Carr., *Picea rubens* Sarg., *Acer rubrum* L.

Scattered emergent trees, up to 25 or 30 m tall, are: *Acer rubrum* L., *Nyssa sylvatica* Marsh., *Tsuga canadensis* (L.) Carr., *Picea rubens* Sarg., In the lower end are some *Pinus strobus* L.

A shrub layer, open, to in places quite dense, includes: *Ilex verticillata* (L.) Gray, *Viburnum cassinoides* L., *Nemopanthes mucronata* (L.) Trel., *Vaccinium corymbosum* L., *Kalmia angustifolia* L. (near the lower end) and near the edges also: *Viburnum alnifolium* Marsh., *Kalmia latifolia* L., *Hammamelis virginiana* L. and *Acer pensylvanicum* L.

The herb layer is closed to open, with a ground surface of litter and *Sphagnum*. It is composed of the following (including dwarf shrubs): *Osmunda cinnamomea* L., *Osmunda regalis* L., *Coptis groenlandica* (Oeder) Fern., *Aralia nudicaulis* L., *Gaultheria hispidula* (L.) Bigel., *Mitchella repens* L., *Vaccinium angustifolium* Ait., *Carex* cf. *rosea* Schkuhr., *Viburnum alnifolium* Marsh., *Lycopodium obscurum*, *Thelypteris dryopteris*, *Uvularia sessilifolia* L., *Aster* cf. *puniceus* L., *Kalmia angustifolia* L., *Gaultheria procumbens* L., *Pteridium aquilinum* (L.) Kuhn, *Quercus rubra* L. (seedling).

The last six listed are principally near the edges and in the lower end with *Pinus strobus* L. *Epigaea repens* L. covered a rootman of a blow-down and was seen rarely in other high spots in the swamp.

The *Nyssa*, with their red autumn coloring, were very conspicuous. They reached 4-6 dm diameter at breast height and 20 m tall, and the large ones were all "stag-headed". The bark on leaning ones was thin and flaky on the upper sides, thick, deeply cleft and ridged on lower sides. There were the large *Nyssa* trees mentioned above, rather widely spaced, others 4-5 m tall, and a few seedlings, but few or no intermediates between these classes.

In addition to the plants seen by us, Vogelmann mentions star flower (*Trientalis borealis* Raf.), wild lily-of-the-valley (*Maianthemum canadense* Desf.), painted trillium (*Trillium undulatum* Willd.), and interrupted fern (*Osmunda claytoniana* L.). He interprets the occurrences of *Nyssa* as a relict from a period of warmer climate. We do not disagree with this, since the species is now abundant only considerably south of this station. He says that a few scattered trees do occur elsewhere in Vermont, as near Burlington, but not such a concentration as here.

It is to be hoped that this interesting pocket may be protected as a nature preserve for the enjoyment and education of future generations of naturalists.

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