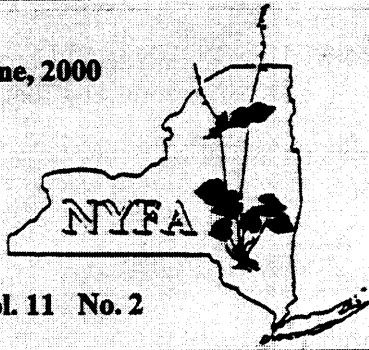


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New York Flora Association
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A Flora of Schodack Island State Park

By Bernard P. Carr & Cathie A.
Baumgartner

Schodack Island State Park (SISP) is an undeveloped state park located on the east side of the Hudson River approximately 10 miles south of Albany. The New York State Thruway (I-90) bridge to Massachusetts crosses the northern portion of the state park. A railroad bridge and a Niagara Mohawk overhead electric transmission corridor also cross state park property.

SISP is a major portion of a 7-mile-long peninsula that contains 1,052 acres owned by New York State and extends into three counties (Rensselaer, Greene, and Columbia). SISP was formerly composed of three major islands and several smaller ones. Dredge spoil from Hudson River navigation projects was deposited on the islands and between them to form a peninsula. The southernmost portion of this peninsula is owned by the U.S. Government and was used by the Corps of Engineers as recently as 1999 for dredge spoil deposition. Elevations on the peninsula range up to 20 feet above pre-dredge deposition elevations.

Terrestrial Environmental Specialists, Inc. (TES) was contracted by C&S Engineers for the Office of Parks, Recreation and Historic Preservation to assist in the collection of data for an environmental impact statement and the delineation of wetland areas. The field work was conducted during the summer and fall of 1997. A small proportion of SISP will be developed with a day use area, campground, and boat launch.

There have been few other studies of dredge spoil sites on the Hudson River. McVaugh investigated successional trends on recently deposited sand flats near Nutten Hook, Columbia County. His studies depict changes from 1935 to 1955 (McVaugh 1947, McVaugh, 1957).

The major forested community that we encountered on the island, was a "dredge spoil forest". This community is not described as such in



***Bidens bidentoides* (Nutt.) Britt. Estuary beggarticks – a rare plant found on the shores of Schodack Island State Park**

Ecological Communities of New York State (Reschke 1990).

The dredge spoil forest was characterized by black locust (*Robinia pseudoacacia*), quaking aspen (*Populus tremuloides*), and eastern cottonwood (*Populus deltoides*). The shrub layer consisted of a dense layer of honeysuckle (*Lonicera tatarica* and *Lonicera* sp.).

SISP is subject to twice-daily freshwater tidal fluctuations, on average 3 to 4 feet in height. The highlight of the field investigation was the discovery of a "freshwater tidal swamp" community. This information was not within the Natural Heritage database. Freshwater tidal swamp is characterized by twice-daily tides with water at the surface of the forest community (Reschke 1990). Tree species found included silver maple (*Acer saccharinum*), willow (*Salix* spp.), green ash (*Fraxinus pennsylvanica*), black ash (*Fraxinus nigra*) and swamp white oak (*Quercus bicolor*).

Shrub vegetation included spicebush (*Lindera benzoin*) and dogwoods (*Cornus sericea* and *C. amomum*). Herbaceous vegetation included skunk cabbage (*Symplocarpus foetidus*), pickerelweed (*Pontederia cordata*), and sensitive fern (*Onoclea sensibilis*).

Other unique communities found on SISP are freshwater intertidal mudflats and freshwater tidal marsh. Several noteworthy species were recorded during the field investigation. Estuary beggar-ticks (*Bidens bidentoides*), an S3 and NY State threatened species; winged monkeyflower (*Mimulus alatus*), a rare species (proposed to be removed from the endangered species list); and long-beaked sedge (*Carex sprengei*). It could be expected that with further investigation of the shoreline other freshwater tidal species could be located.

TES field investigations were restricted to approximately 200 acres of the 1,052-acre park. Approximately 40 acres of the SISP, in addition to the access road, will be developed for park visitors. The park contains several areas where exotic tree species were planted. There are also a few remaining sandy openings.

Special thanks go to numerous people. Among them, Chuck Sheviak, Joseph M. McMullen, and Steve Young for verification of voucher specimens. Stephen Young for discussion of freshwater tidal communities. Warren Broderick for information regarding canoe access and historical information. Hudson River research information was provided by Betsy Blair of the NYSDEC and unpublished field notes from Eric Kiviat.

This study was funded by the New York State Office of Parks, Recreation and Historic Preservation by contract through C&S Engineers, Inc. We would especially like to thank Steve McCorkell, Project Manager for the OPRHP and Bob Palladine of C&S Engineers, Inc. for their support during this study.

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SEE THE APPENDIX BELOW FOR A COMPLETE SPECIES LIST

BOOK REVIEW

The following review by Richard S. Mitchell will appear in the June, 2000, issue of *Rhodora*, the Journal of the New England Botanical Club:

Flora of the Northeast: A Manual of the Vascular Flora of New England and Adjacent New York.

Dennis W. Magee & Harry E. Ahles. 1999. University of Massachusetts Press, Amherst., 1214 pp. ISBN 1-55849-189-9 (cloth, \$69.95)

New England and New York have long relied on works of broader regional scope, such as Fernald (1950), Gleason (1952), Gleason and Cronquist (1963, 1991) as floristic manuals of vascular plants. A notable exception was Seymour (1969), but that book was largely-derivative of previous works.

Over the past decade, northeastern botanists have come to recognize the need for a distribution atlas for plants of New England and adjacent states, similar to the one produced for Pennsylvania (Rhoads & Klein, 1993). The idea of combining such an atlas with diagnostic keys in a floristic manual has delighted me since the first time I heard it from the late Harry Ahles, when he visited the New York State Museum in 1979.

Mr. Ahles was a very careful, well-respected botanist whose contributions to the Carolina flora (Radford, Ahles & Bell, 1964) were monumental. At the time of his visit to us, he was employed by the University of Massachusetts, Amherst, and was beginning work on a flora of New England that would include physiographically similar parts of New York State, including the New York City boroughs, all of Long Island and a tier of New York counties east of the Hudson Estuary. He took me aside and expressed serious concerns about what might happen to the project if he did not survive to finish it. Then, with enthusiasm, he began to research our collections of New York and New England materials.

Sadly, Harry Ahles passed away before he could continue that formidable but necessary task. At that time, our herbarium (NYS) inherited a collection of

about 10 thousand specimens from his estate, many of which are critical to his New England project. These are now being accessioned over time.

Imagine my surprise when I recently learned that a manual of New England flora had been published under Harry Ahles' co-authorship, but without consultation of his collections or those of the New York State Herbarium. When I received a review copy of the book, I immediately checked with our curator and looked up pertinent New York county records to determine whether the new senior author had visited to check the specimens against our records without my knowledge. We concluded that the bulk of this work has not been done. For this and other reasons, I will refer to the senior author as "the author" throughout the remainder of this review, leaving Mr. Ahles largely out of it, although his work on the early maps and keys was very important.

I turned first to plant groups that I know best and showed the orchid treatment to Dr. Charles Sheviak, our North American orchid specialist. Case after case of serious botanical inaccuracy appeared, no matter where we looked in the book. After filling six hand-written pages with fine print - mostly mistakes, omissions and misstatements - I realized I had only begun, so I'll list just a sampling of the problems:

1) On page 372, there is a large illustration of a (tiny) *Malaxis* flower labeled "*Malaxis bayardii*." The flower pictured does not represent that species, but is clearly *M. unifolia* Michx. This might seem a simple oversight until one notices that *M. unifolia*, a widespread and long-accepted species, named by Michaux, has been placed in synonymy under *M. bayardii*, a very rare species named by Fernald. The habitat listed (moist woods and bogs) is that of *M. unifolia*, not of *M. bayardii*, which usually grows in barrens. This is not an isolated case of poor taxonomic judgment or lack of knowledge of the rules of botanical nomenclature.

2) *Spiranthes odorata* (Nutt.) Lindl. and *S. praecox* (Walt.) S. Wats. are treated, when neither occurs in New England or New York; on the other hand, *S. ochroleuca* (Rydb. ex Britt.) Rydb., which was named from New England, is placed in synonymy, although it has been clearly defined, based on both biosystematics and morphology. *Platanthera hyperborea* var. *hyperborea* is also left out. The author refers all northeastern materials to var. *huronensis*, which (incidentally) is now commonly regarded as a distinct species.

3) The fern hybrid, *Asplenium platyneuron* × *rhizophyllum* is listed as *A* × *ebenooides* Scott, currently known only from Alabama.

4) The well-known knotweed of the streets and sidewalks, *Polygonum arenastrum* Jord., forms cespitose mounds from pavement cracks and has leaves of uniformly graded size. It is readily distinguished from the common knotweed of fields, *P. aviculare* L., whose loosely-ascending, stems soon produce axillary shoots with much smaller leaves. Mr. Magee reverses these. I know that Mr. Ahles did not, because we discussed it 20 years ago.

5) The megaspore illustrated for *Isoetes riparia* Engelm. ex A. Br. shows a spinulose surface, and appears to have been drawn from *I. echinospora*. I doubt the distribution map, since *I. riparia* is rare and frequently misidentified. The habitat listed: "fresh or tidal shores," is ambiguous, since the plants may occur in shallows that are both freshwater and tidal.

Positive Things About the Book Some features of the manual are potentially useful, including compilations of data that could formerly be accessed only by referring to several different sources. It is fortunate, with regard to nomenclature at the specific and infraspecific levels, that Mr. Magee followed a seven-year-old review of his New England list, as edited by Dr. John Kartesz. That aspect of the book is at least relatively modern and consistent. The book is handsomely produced, with very few typographical errors. The keys are often useful, especially when they remain true to Mr. Ahles' original work and employ time-proven characters handed down from monographs and floristic manuals of the past. The keys are also well-designed, so that they don't trail off to the lower right side of the page in most cases. Unfortunately, I can find little more to say that is good.

Classification: Because the author follows an outdated version of John Kartesz' North American checklist, he does not fall into the trap of splitting the genus *Aster*, giving generic status to its sections, and this is good in my opinion. However, it means that he recognizes old splits, such as the grass genus *Dichantherium*, a group that Dr. Kartesz has now come to see more clearly as a poorly-defined subgenus of *Panicum*.

At the family level, the author chooses to incorporate the recent "Kew rearrangement" of petaloid monocots, which liberally splits families, particularly Liliaceae, based primarily on

phylogenetic assumptions and embryology. He then lists the remaining families according to the archaic Englerian system, which has been recognized as phylogenetically untenable for over half a century. Even an alphabetical arrangement would have been preferable to this bizarre combination.

Native vs. non-native status: Geographical origins of plant species are mishandled, inconsistent and often incorrect by omission. For example, *Pinus nigra* is listed as "(Introduced from Europe)" in the style promised in the book's introduction, but *P. sylvestris*, *P. mugo* and *P. thunbergiana* have no annotation as to their origin, and might be assumed to be native. Such inconsistencies occur throughout, aggravated by the practice of listing continents and subcontinents (Eurasia, Asia, etc.) after some (but not all) native species that range outside North America. A simple symbol or font difference applied to non-native species would have solved all this.

The Maps: Although the distribution maps, dotted by county, should be an excellent feature of the book, they are seriously weakened by the lack of study of Mr. Ahles' own collections and extensive materials housed at NYS and other northeastern herbaria, such as Philadelphia. Some 2,700 species are mapped, but the rest are not. The author lists as his reason: "in the interest of space," also noting that some species added to the flora subsequent to Mr. Ahles' work are not mapped (no reason given). Mapping data-sources are not directly linked to specific herbaria where voucher specimens might be sought, thus most of the distribution records are based on hearsay.

By citing the New York Flora Association atlas (1990, not 1991), the author was not establishing the lack of taxa in undotted New York counties, as he must have supposed. The NYFA atlas is based only on records for which there are known voucher specimens, so many thousands of personal observations are left out for New York, but not for New England. We have 90 years of such records mapped in our files, should the author choose to consult them.

Maps are missing for a number of common taxa, especially those that have invaded or been found to occur in our region in the past two decades. For example, *Sagina japonica*, to my knowledge the commonest species of that genus in southern New England and New York, was not listed in older floras. Adding and explaining an

omitted species is the sort of contribution that a new flora should make, yet the author lists it as an afterthought, not including it in the key, and giving it no number or map.

The Illustrations: For the most part, the reasons for illustrating any given species remain a mystery, the choices seeming almost random. Comparative illustrations of diagnostic characters of two or more taxa are not provided. Some illustrations were apparently redrawn, using other artist's works as models. For instance, I know where the uniquely eccentric vegetative illustration of *Hottonia* comes from. Although copying is a common practice, it would have been wise to incorporate more than one source of information, seeking one that would show the inflorescence in this particular case.

The sparse illustrations are bold and flat, almost totally drawn from herbarium specimens. Although the artist seems not to be trained professionally, the drawings are not badly done, but occasionally they are as out-of-proportion as a "Barbie-doll" (eg. *Acorus* and *Parnassia*), possibly to squeeze them into a small, predesignated space.

The author notes that the epithet of *Saururus cernuus* L. means "nodding," but the inflorescence in the illustration is notably erect, perhaps because a single specimen served as a model and was mounted that way. The pencil sketch should at least have been reviewed by the author before inking.

Food and Medical Uses: These citations are very spotty and inconsistent, sometimes wasting space by merely stating that a species has a number of medical uses. The notes are only rarely dangerous, but one example is the listing of bracken fiddleheads as food for humans, when they are known to contain carcinogens and have been implicated in livestock poisonings. A typical example among the omissions is that the only use listed for paper birch is as a tea made from the leaves. To mention only an additional two: what happened to canoe-building and baking the inner bark as a survival food? That is how the Adirondack tribe got its name.

Habitat Descriptions: The listings of habitats are often vague beyond usefulness, frequently omitting major communities in which the plants occur on a regular basis. Bloodroot is listed as a strong facultative wetland species (FACW+), and the interrupted fern as a plant of uplands, when the exact opposite is more often true.

"Descriptive Flora:" This title is given to the portion of the book following the family keys.

There are, indeed, descriptions of plant families and most genera, but usually none for species or infraspecific taxa. Morphological characters are listed after species citations only in special cases. They accompany only unnumbered species that are not treated in the keys. A typical example is *Scirpus ancistrochaetus* Schuyler, which really should be in the key, since it is rare and easily confused with *S. atrovirens* Willd. After listing this threatened sedge, the author gives a brief diagnosis, failing to mention tiny barbs, shaped like snake fangs, for which the species got its name.

So, the reader must always keep in mind that some species are omitted from the keys (often rare and ecologically important ones), but that these will later be listed as scattered, unnumbered entries, along with diagnostic characters that might easily have been incorporated into the keys.

Rarity Status:

Again, the treatment is totally inconsistent, listing species as rare in some states, while ignoring other states where the same species actually has legal rarity status and protection. Lists of endangered and threatened species are readily available from the Natural Heritage Programs of all of the states covered by the manual. All the author had to do was ask.

Summary and Editorial Comments:

The acknowledgments tell it all. Mr. Magee thanks his family, friends, neighbors, financial helpers, publishers, typists, etc., but lists a pitifully meager assortment of botanists, mostly for checking preliminary manuscript drafts or providing map data.

He must have known that the northeast is full of botanists, and that the Flora North America project was underway. Editors would have readily given him addresses of specialists in plant groups. A person writing a regional manual may easily obtain expert advice, and often enthusiastic reviews, of manuscripts covering botanical specialties, just for the asking. In this case, specialists clearly weren't asked.

So, we now have a new manual of the New England flora that is untrustworthy at any level, and of little use to students, botanists, conservationists or naturalists. The fears that Mr. Ahles expressed to me some two decades ago – his worst nightmares – have come true, and with his name attached. Nevertheless, production of this flora obviously involved 15 years of hard work and study by the senior author, Mr. Magee. The reader will

recognize in it a strong desire on his part to produce a good reference work, yet it is fatally flawed by lack of expertise and an unwillingness to seek botanical advice.

My unsolicited recommendation to the University of Massachusetts is that they should recall the book, have a bonfire, and require the author to finish the project properly, with the aid of taxonomic experts, northeastern botanists and knowledgeable naturalists.

Government has come to rely heavily on private organizations, consultants and a host of persons poorly trained in morphology and taxonomy, who now produce biological manuals, databases and field surveys. Since such works provide the baseline from which the biological world is interpreted, we find ourselves in grave danger, crippled by taxonomic disinformation, whether we realize it or not. The very references needed for wise land-use decisions are being seriously compromised, as is clearly spotlighted by the appearance of a product like the book reviewed here.

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Appendix

Species List - Schodack Island Park

TREES AND SHRUBS

Alnus incana
Acer negundo
Acer rubrum
Acer saccharinum
Acer saccharum
Ailanthus altissima
Berberis vulgaris
Betula lenta
Betula nigra
Betula papyrifera
Betula populifolia
Carya cordiformis
Catalpa speciosa
Cephalanthus occidentalis
Cornus amomum
Cornus foemina ssp. *racemosa*
Cornus sericea
Crataegus sp.
Elaeagnus umbellata
Fraxinus americana
Fraxinus nigra
Fraxinus pennsylvanica
Juniperus virginiana
Larix decidua
Ligustrum vulgare
Lindera benzoin
Lonicera sp.
Lonicera tatarica
Malus pumila
Morus rubra
Pinus resinosa
Pinus strobus
Pinus sylvestris
Platanus occidentalis
Populus deltoides
Populus tremuloides
Prunus serotina
Prunus virginiana
Pseudotsuga menziesii
Quercus alba
Quercus bicolor
Quercus palustris
Quercus rubra
Quercus velutina
Rhamnus cathartica
Rhus typhina
Ribes nigrum
Robinia pseudoacacia

Rosa multiflora
Rosa palustris
Salix discolor
Salix nigra
Salix spp.
Sambucus canadensis
Staphylea trifolia
Syringa vulgaris
Thuja occidentalis
Tilia americana
Ulmus americana
Viburnum lentago

HERBS

Agrimonia gryposepala
Acalypha virginica
Achillea millefolium
Agrostis gigantea
Agrostis stolonifera
Alisma triviale
Alliaria petiolata
Allium sp.
Amaranthus cannabinus
Amaranthus retroflexus
Ambrosia artemisiifolia
Ambrosia trifida
Amphicarpaea bracteata
Anaphalis margaritacea
Anemone canadensis
Anemone virginiana
Apios americana
Apocynum cannabinum
Arabis glabra
Arabis lyrata
Arctium minus
Arisaema triphyllum
Aristida dichotoma
Asclepias incarnata
Asplenium platyneuron
Aster cordifolius
Aster ericoides
Aster lateriflorus
Aster novae-angliae
Aster puniceus
Aster sp.
Athyrium filix-femina
Bidens bidentoides
Bidens cernua
Bidens sp.
Bidens tripartita
Blephilia hirsuta
Boehmeria cylindrica

Botrychium virginianum
Bromus tectorum
Calamagrostis canadensis
Caltha palustris
Cardamine pratensis
Carex comosa
Carex crinita
Carex lacustris
Carex lupulina
Carex sp.
Carex sprengelii
Carex squarrosa
Carex stipata
Carex stricta
Carex umbellata
Celastrus orbiculata
Cenchrus longispinus
Centaurea maculosa
Cerastium fontanum
Chelidonium majus
Cichorium intybus
Cicuta bulbifera
Cicuta maculata
Cinna arundinacea
Circaea lutetiana
Clematis virginiana
Coleogeton pectinatum
Cryptotaenia canadensis
Cuscuta sp.
Cyperus sp.
Dactylis glomerata
Daucus carota
Decodon verticillatus
Digitaria ischaemum
Dryopteris intermedia.
Echinochloa crusgalli
Echinocystis lobata
Echium vulgare
Eleocharis obtusa
Elodea sp.
Elymus canadensis
Elymus riparius
Elymus virginicus
Epilobium coloratum
Epilobium strictum
Equisetum arvense
Eragrostis pectinacea
Erigeron annuus
Erigeron philadelphicus
Eupatorium maculatum
Eupatorium perfoliatum
Eupatorium rugosum

Eupatorium sp.
Euphorbia cyparissias
Euthamia graminifolia
Festuca sp.
Fragaria virginiana
Galium asprellum
Galium palustre
Galium mollugo
Gaura biennis
Geranium maculatum
Geum canadense
Geum laciniatum
Geum macrophyllum
Geum sp.
Glyceria grandis
Glyceria sp.
Glyceria striata
Gnaphalium uliginosum
Helenium autumnale
Helianthus decapetalus
Heracleum maximum
Hordeum jubatum
Impatiens capensis
Impatiens pallida
Iris pseudacorus
Iris versicolor
Juncus effusus
Laporteia canadensis
Leersia oryzoides
Leonurus cardiaca
Lepidium sp.
Leucanthemum vulgare
Lobelia cardinalis
Ludwigia palustris
Lycopus americanus
Lysimachia nummularia
Lysimachia quadrifolia
Lysimachia terrestris
Lythrum salicaria
Matricaria discoidea
Matteuccia struthiopteris
Melilotus alba
Melilotus altissima
Menispermum canadense
Mentha spicata
Mimulus alatus
Mimulus ringens
Muhlenbergia frondosa
Oenothera biennis
Onoclea sensibilis
Osmunda cinnamomea
Oxalis stricta

Panicum clandestinum
Panicum virgatum
Panicum sp.
Parthenocissus quinquefolia
Peltandra virginica
Phalaris arundinacea
Phleum pratense
Phragmites australis
Phryma leptostachya
Pilea pumila
Plantago major
Plantago minor
Poa annua
Poa compressa
Poa palustris
Polygonum arifolium
Polygonum cuspidatum
Polygonum hydropiper
Polygonum hydropiperoides
Polygonum persicaria
Polymnia canadensis
Polystichum acrostichoides
Pontederia cordata
Potamogeton crispus
Potamogeton perfoliatus
Potamogeton sp.
Potentilla canadensis
Potentilla simplex
Prenanthes trifoliolata
Prunella vulgaris
Pteridium aquilinum
Ranunculus sceleratus
Rorippa nasturtium-aquaticum
Rubus allegheniensis
Rubus idaeus
Rubus occidentalis
Rudbeckia hirta
Rudbeckia laciniata
Rumex acetosella
Rumex crispus
Rumex verticillatus
Sagittaria latifolia
Sagittaria sp.
Scirpus americanus
Scirpus fluviatilis
Scirpus microcarpus
Scirpus tabernaemontani
Scutellaria lateriflora
Setaria glauca
Silene vulgaris
Sium suave

Smilax herbacea
Solanum dulcamara
Solidago caesia
Solidago canadensis
Solidago canadensis var. *scabra*
Solidago flexicaulis
Solidago gigantea
Solidago juncea
Solidago rugosa
Solidago sp.
Sparganium eurycarpum
Symplocarpus foetidus
Taraxacum officinale
Teucrium canadense
Thalictrum pubescens
Thelypteris palustris
Toxicodendron radicans
Tussilago farfara
Typha angustifolia
Typha latifolia
Urtica dioica
Veratrum viride
Verbascum thapsus
Verbena urticifolia
Viola sororia
Vitis riparia
Xanthium strumarium
Zizania aquatica
Zizia aurea
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News and Developments:

Natural History Conference: Those of you who attended know that the conference was a huge success, and it also gave the NYFA Council a chance to meet and discuss the organization. We will report to you in more detail in a later issue.

Field Trips Temporarily on Hold. Many thanks to Bob Zarembo for the fantastic job he has done for a decade. His very hard work and dedication to planning and staging NYFA field trips across the state have left us a legacy of excellent learning experiences and good times. We now need to find one or more persons who would like to continue the tradition of NYFA field trips, and who will plan them and/or coordinate them with other organizations. We need you. Volunteers?

DUES? Check your envelope above your address to see the last time you paid up.