

NYFA Newsletter

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of the New York State Museum Institute

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ADDRESS ALL CORRESPONDENCE TO NYFA, 3140 CEC, ALBANY, NY 12230 - DUES \$10 PER YEAR

Special Issue: New Weeds

Mile-a-Minute Weed in New York State -

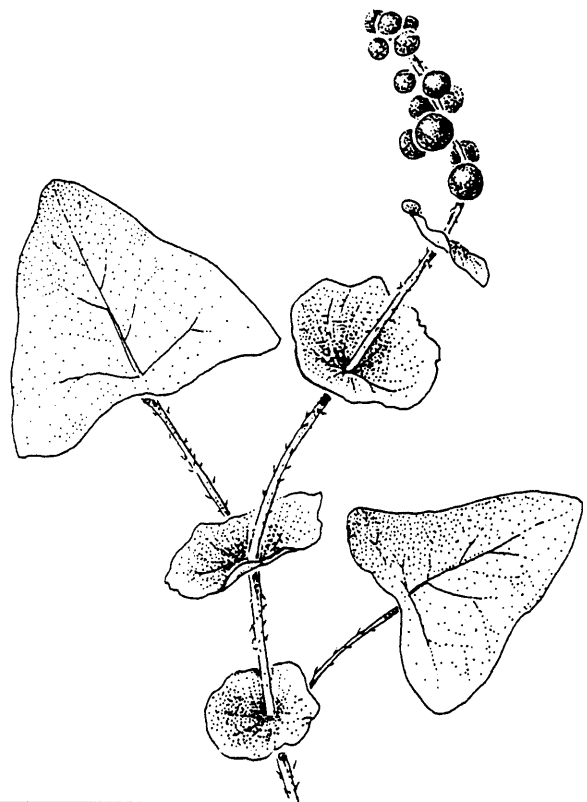
by Richard Mitchell

Just in time for the new speed limits to go into effect, mile-a-minute weed, *Polygonum perfoliatum* L., has been reported from Westchester County in southern New York. Its arrival is an unfortunate event that I've been expecting for almost two decades, since the first specimens of it were sent to me for verification from southern Pennsylvania. At that time, these plants were known only from local areas in West Virginia, Maryland and Pennsylvania as pests, but they have since increased rapidly in numbers and spread to parts of Virginia, Delaware, Ohio, D.C. and now New York.

Polygonum perfoliatum is a prickly vine that sprawls or climbs up to 20 feet in a season. It somewhat resembles its North American relatives, the "tear-thumbs" (*P. sagittatum* L. and *P. arifolium* L.), but is a native of eastern Asia with a distinct peculiarity that makes it threatening as a noxious weed. The fruits are not seed-like achenes, as is typical of other *Polygonum* species. Each is borne within a fleshy, calyx that adheres and becomes metallic blue and juicy. These bizarre berry-like fruits are reported to have a sweet flavor that attracts birds, which can then spread them rapidly. Other distinguishing characteristics of the species are triangular, perfoliate leaves and shallow, saucer-like bracts and stipules that clasp the stem like flared collars.

Even before mile-a-minute weed was known to occur here, an article in the *New York Times* (Aug. 16, 1994) warned of its advance, comparing it to Kudzu [*Pueraria lobata* (Willd.) Ohwi] in terms of its growth rate of up to six inches per day. Although they are both Asiatic vines, these two species bear few other similarities. Kudzu is a large, perennial legume that is largely intolerant of the climate north of New York city, where it flowers little. Mile-a-minute weed, on the other hand, spreads by dispersal of seeds each year, and will more than likely make a successful advance northward into Canada.

Concern about this weed has increased over the past



Mile-a-Minute Weed (*Polygonum perfoliatum* L.)

This aggressive Asiatic plant has now been reported in New York State.

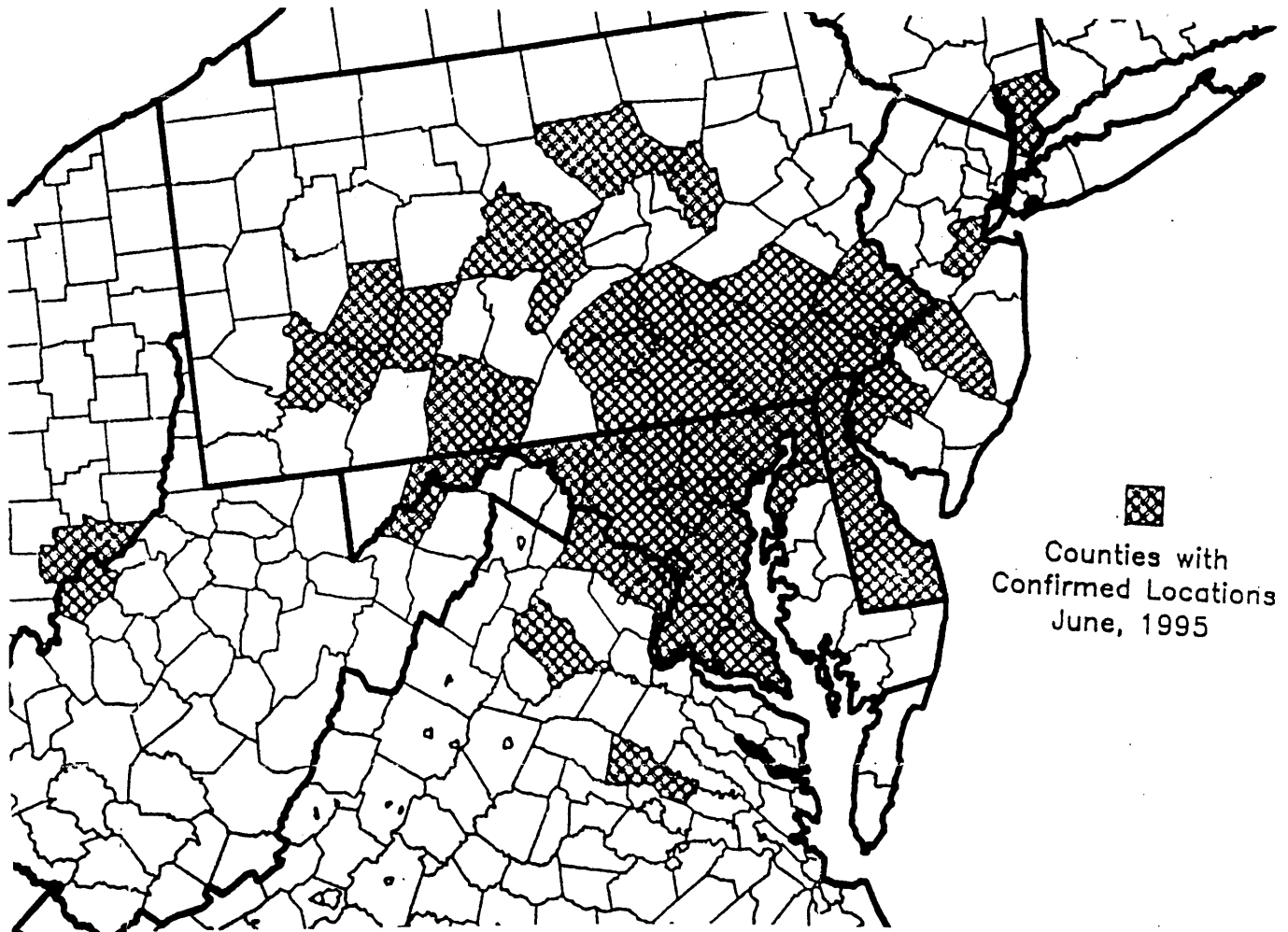
20 years, as the plants invaded open fields, suburban lots and some agricultural grounds, such as Christmas tree plantations, replacing both native plants and other weedy species. Particularly affected are open-ground situations in Maryland and Pennsylvania and the invasion of new territory continues southward, as well as to the north. A conference on the weed, its spread and potential control was held at the University of Pennsylvania in the summer of 1995.

Several studies have been carried out on the plants since their introduction into the U. S., but some of

these remain unpublished. Studies of the effectiveness of different types of herbicides have been conducted in Pennsylvania by Mountain, Hartwig, Kuhns & McCormick, who found that certain applications (eg. 2,4-D and Paraquat) only injured the plants, which then recovered, while other herbicides (Atrazine, Hexazinone, Oxyflourorfen) provided excellent control when applied in either pre-emergence or post-emergence situations. In New York State, responsible state agencies have been informed of the arrival of the weed, and control measures have already been

implemented by the Department of Agriculture and Markets, whose domain includes the control of exotic weed pests. Although quick action by the state is a strong step toward control of this potential pest, I am compelled to believe that those of you who have never seen the plant (or even heard of it before) will become quite familiar with it by the early years of the coming century. If you do encounter it in New York, please let me know.

Richard Mitchell, New York State Museum, 3140 CEC, Albany, NY 12230 (518) 486-2027



Current Distribution of *Polygonum perfoliatum* in the Eastern United States (1995)
Data collected by State Departments of Agriculture, Universities and funded in part by U.S.D.A. Cooperative Agricultural Pest Survey (CAPS).

Comments on Some Rare Non-native Plants Recently Reported from New York -

Received as a letter to the Editor from Ed Cope

One of the potential contributions of the NYFA Newsletter is to foster information exchange about our plants and improve our knowledge of their distribution and rarity. Intrigued by reports in a recent issue of the newsletter, I checked specimens in the Bailey Hortorium (BH, CU) at Cornell, and offer the following notes and additions.

Eric Lamont (1994) located a patch of *Verbesina alternifolia* in a wooded lot near the New York Botanical Garden. A specimen collected by Stewart Burnham at BH has the following fragmentary label data: "LOC. N.Y. Bot. Garden, escaped." Robert Dirig, who is more familiar with the life of Burnham than anyone else (Dirig, 1994) dates this collection from 1901-1903. This perhaps lends credence to Dick Mitchell's editorial comment that the patch is likely adventive, although the possibility exists that these plants are remnants of a once plentiful population. Eric also mentioned his encounter with mile-a-minute weed, *Polygonum perfoliatum*, in Pennsylvania. There are no specimens of it from New York at BH.



Leucothoe recurva (Buckley) Gray, a native of the southeastern U. S. now known from two sites on Long Island.

Greller & Clemants (1994) reported (in their article on West Hills County Park, Suffolk Co., Long Island) *Asarum shuttleworthii* and *Rhododendron maximum*. I found one old specimen of each of these from the New York City area. Both specimens are labeled in the same handwriting but lack a collector's name. The *Asarum* was collected in 1874 from "near NY City;" the *Rhododendron* was collected July, 1887 from Damascus, Long Island. Greller & Clemants

turned up only one report of *Rhododendron* from Long Island, in the first half of the 19th Century by John Torrey. The specimen cited here would make a second report, although we can not be sure it was not a cultivated plant.

Greller & Clemants also reported *Eubotrys recurva* (*Leucothoe recurva*) as new to the New York State Flora. A specimen of this was sent to me for identification by a Nassau county Cooperative Extension agent in 1988. The plant was growing near Lloyd Harbor on a 165-foot bluff overlooking Long Island Sound, but in a spot protected from northwest winds by native mountain laurel. Someone, either the agent of the homeowner, assumed the plant came in with mountain laurel balled in burlap. Lloyd Harbor is about 6 miles from West Hills Park.

References

- Dirig, R.E. 1994. The floristic and lichenological work of Roy Latham on eastern Long Island, New York. *Mycotaxon* 51: 325-340.
- Greller, A., & S.E. Clemants. 1994. New plants from West Hills County Park, Suffolk County, New York. *NYFA Newsletter* 5(3): 3.
- Lamont, E. E. 1994. Sleuthing for rare plants in the Bronx, New York. *NYFA Newsletter* 5(3): 1, 2.
- Edward Cope, L.H. Bailey Hortorium, Cornell University, Ithaca, NY 14853

More New Exotic Species and Hybrids in New York -

by Richard Mitchell

You may add to your atlas the following:

- 1) *Arundinaria gigantea* (Walt.) Muhl. ssp. *tecta* (Walt.) McClure CANE, BAMBOO
[*Arundinaria tecta* (Walt.) Muhl.]
A bamboo found by Gordon Tucker along Rt. 6 in Harriman State Park (Orange County); a probable escape from cultivation, forming several colonies along roadsides and in open woods (seeding?). It is a native of the southeastern United States south of Delaware.
- 2) *Ceratocephala testiculata* (Crantz) Roth SAGE BUTTERCUP
(*Ranunculus testiculatus* Crantz)
A bizarre European species with the structure of a buttercup and habit and look of a desert annual -- adapted to xeric conditions; previously known as a weed in western North America; found at a campground near Harriman (Orange County) by D. deLaubenfels (I.D. by Dick Mitchell)
- 3) *Cruciata pedemontana* (Bellardi) Ehrend. CLEAVERS, BEDSTRAW
[*Galium pedemontanum* (Bellardi) All.]
A small bedstraw found in grassy areas by parking lots at Buttermilk Falls (Onondaga County) by D. deLaubenfels. (I.D. by Gordon Tucker)

- 4) *Erysimum asperum* (Nutt.) DC. WESTERN WALLFLOWER, PRAIRIE ROCKET

A showy mustard, sometimes included in prairie seed mixtures; found by Dick Mitchell on cobble under the Bear Mountain Bridge (Rockland County, within feet of Orange County).

- 5) *Lactuca saligna* L. WILLOW-LEAF LETTUCE

A native of Europe that has been previously known as a weed further south and west; found in an abandoned parking lot on Iona Island (Rockland County) by Dick Mitchell.

- 6) *Myosotis stricta* Link ex R. & S. FORGET-ME-NOT

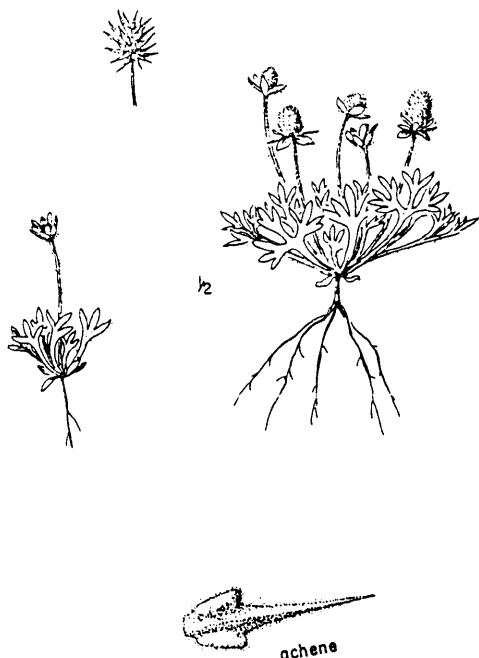
This European species was found by Spider Barbour on Iona Island (Rockland County)

- 7) *Verbena x deamii* Moldenke (*V. bracteata* x *stricta*)

A naturally occurring hybrid between native, weedy species; found by Dick Mitchell, growing with both parent species in an abandoned parking lot on Iona Island (Rockland County).

- 8) *Verbena x perriana* Moldenke (*V. bracteata* x *urticifolia*) VERVAIN

A naturally occurring hybrid between native, weedy species; found by Dick Mitchell, growing with both parent species in an abandoned parking lot on Iona Island (Rockland County).



Ceratocephala testiculata, a weed from Europe closely related to true buttercups, but adapted to dry conditions.

THE NEW YORK NATURAL HISTORY CONFERENCE IV

A Forum for Current Research

NEW YORK STATE MUSEUM

The fourth New York Natural History Conference will be held at the New York State Museum on April 24-27, 1996. Contributed paper sessions of interest to botanists will include Old Growth Forests, The Shawangunk Ridge Ecosystem, Current Floristic Projects in New York State, Natural History of the New York City Area, and Fire Ecology and Management. So far, twelve workshops are planned on a wide range of subjects. Registration materials will be mailed out by early November. Questions can be directed to the conference committee chairman, Gordon Tucker at (518) 474-5812 (e-mail gtucker2@museum.nysed.gov).

Book Review

The Ashokan Catskills: A Natural History, by John Bierhorst. 1995. Purple Mtn. Press. 116 pages (+ 10 color photographs). [Available in paperback for \$18.00 from Purple Mtn. Press, phone 800-325-2665.]

The Olive Natural Heritage Society can take real pride in this fine contribution to our understanding of

New York State's natural history. The Ashokan region, as defined by the Society, is equivalent to the 59 sq. mile Town of Olive in the eastern Catskill Mountains (Ulster County). A well-known feature of the region is the Ashokan Reservoir, a major source of New York City's water supply. Surrounding the reservoir are nineteen peaks, ranging in elevation from 1357 to 3080 feet. Society members, in collaboration the N.Y. Natural Heritage Program and other agencies, visited and inventoried some 65 sites in the township. The ecological communities present include spruce-fir summits, oak heath forests, various wetlands, cliffs, ice talus communities, streams, and waterfalls. Their findings are fully reported, with detailed inventories of such diverse groups as vascular plants, dragonflies and ground beetles. Far from a simple set of lists, the text is highly readable, with lucid discussions of plant communities, archeological sites, and observations on animals and their reproduction. The account of the annual frog-jumping contest, including a breakdown of the number of green frogs and bullfrogs (the latter were three times more numerous) is typical of the many anecdotal treasures to be found among these seemingly flawlessly edited pages. Botanists will enjoy sifting through the list of plants, including separate ones for trees and shrubs, sedges, orchids, lichens and bryophytes.

From a technical perspective, the level of editing is excellent. I could not find a typo in the text or in the checklists (of plants, anyway -- I can't comment on animals). The color photographs are well done. The black and white photographs vary tremendously in quality and reproduction. The prints of several plants, including the grass *Cinna latifolia*, are crisp and attractive. The price (\$18.00) seems reasonable.

The only omission, if I may call it that, is the absence of any real discussion of the Ashokan Reservoir itself. I couldn't help wondering, in this year of drought, about its shoreline vegetation. The reservoir's existence comes up in a few places in the text, and it is prominent on the informative maps, but that's the extent of discussion about it. Several staff members of the New York City Department of Environmental Protection are mentioned in the introduction. Perhaps there were difficulties in gaining access to reservoir and watershed lands, but the omission of discussion of the body of water itself is a puzzling one. There is also apparently no mention of land ownership situations in the Town of Olive, and how the large amount of watershed land has had a beneficial influence on natural diversity. This peculiarity aside, the society has accomplished its evident purpose in this publication -- to provide a current report on their town's natural history and bring it to the public's attention. I highly recommend your attention to this attractive new book.

Gordon C. Tucker, N. Y. State Museum, Albany.

Letters to the Editors -

"In response to your April '95 newsletter plea, from a totally amateur field observer's perspective, I agree that most plant 'communities' we see are more like loose [sic] 'associations.' As I am the ice meadow steward, I have spent much time looking and thinking about the [upper Hudson River] ice meadows. It seems to me that the mixing and matching there of different types of plants in small areas shows that the microhabitats determine what grows -- not the other plants. Acidic and calcareous, wet and dry, hot and cooler, gravelly and organic soils, and bedrock are all linked by a common factor of no trees and few shrubs. It is the lack of these plants [sic] which seems to determine 'ice-meadowness.' There certainly can be critical dependencies between insects, birds, mammals and plants, especially when it comes to pollination. Saprophytes and parasites may be completely dependent on other species too, but as for whole groups of plants being organically connected, I don't see it." Evelyn Greene, North Creek, New York.

Thank you for those observations from your unique perspective -- living (as you do) beside an ice "super highway" with its spring traffic pattern of massive rafts and flows that may, or may not, come on any given year. The most important factor linking ice meadow plant species is their shared capability of surviving unpredictable scouring disasters. This is accomplished through a number of diverse adaptations. Since ice meadow conditions provide a latter-day reflection our area's recent glacial past, there is little wonder that many of the plants persisting in such situations are of northern origin. The sorting of them into a mosaic along the river bed is as dynamic as the river itself -- a continuing process that maintains endless and varied "micro-succession," and the illusion of a coherent community. (Dick Mitchell)

Today (May 14), my wife and I went for a hike at Nellie Hill Preserve in Dover Plains. Since she is six months pregnant, we wanted to keep it short and easy. Of course, we ended up at a dead end, so we decided to bushwhack it, which turned out not to be too pleasant, since the area is overgrown with the wretched Japanese barberry and multiflora rose. We eventually came to a small pond which contained about a hundred flowering water buttercups (*Ranunculus flabellaris*). Although not a rare plant, it's always exciting to see a new plant for the first time. Also, while looking through the Preliminary Atlas of New York State Flora, I noticed many oversights of common species in Dutchess County, such as: *Larix*...[sic]. I did not think it was necessary to send samples, since these species are quite common, and identified easily, but if needed I will.

Robert Reimer, Dover Plains, New York.

Thank you for making some points about the Atlas that we'd like to clarify for our members and all owners of the book. I'm sure many of you wonder why a lot of common plants are not dotted in your county. The word "vouchered" in the atlas title sometimes goes unnoticed or misunderstood, but it is the most important word. Of course we know that dandelion grows in every county, and we maintain maps that record a century of observations that would fill in most counties on common species. **THE PURPOSE OF THE PRELIMINARY ATLAS** is to record specimen-vouchered county occurrences of plant species, and to encourage additional collecting of the state flora (well-annotated specimens deposited at institutional collections, preferably ours). Please **do** send good voucher specimens to us if the atlas does not show a dot in your county, no matter how common the species is. We have a number of people who donate specimens, and we are now working on the possibility of a rewrite of the atlas. **Guidelines for preparing voucher specimens for acceptance by the State Museum Herbarium are included in this issue.** **Note:** Please don't cite the atlas in publications on plant distributions in New York State as if it were a finished work. The lack of a dot in a given county **only means** that we could not cite a specimen from that area on a given day in 1990. The other key word in the title is "preliminary." Think of the atlas as a stamp album and help fill in the dots. (Dick Mitchell)

"As winners of the fern hotspot contest, we greatly appreciate the award of \$100 worth of botany and zoology publications from the State Museum. All the publications were donated to the Council of Park Friends for use by the general public at the Clark Reservation Nature Center. It was an interesting endeavor for all who participated in the fern search."

Joseph McMullen & Bernard Carr, Terrestrial Terrestrial Environmental Specialists, Inc.

Note: Brian and Eileen Keelan are now on the trail of a new "forniest place in the state," having found 27 species (so far) within a mile radius of a site on the Moose River Plains.

"Recently, I read an article about the discovery of alpine plants creeping up the slopes of the Alps, a consequence attributed to world-wide warming. That and your wonderful example of an aquatic *Opuntia humifusa* make me wonder how much we know about the dynamics of plant adaptations. Maybe the *Opuntia* is adapting in a way similar to that in which epiphyllums adapted to jungle conditions. It's too bad Lyman Benson died -- with all the books he wrote on the *Opuntia* tribe. Your finding would have surprised him." Kathleen Thomas, Royal Oak, Michigan.

Another example of a possible effect of the climatic warming trend is the apparent northward migration of

Utricularia inflata. In addition to our find in New York, a second population has now been reported from New England. By the way, our fears about the species being ephemeral in the state were unfounded. On a visit to Spruce Pond this spring, Jack Focht and I estimated over a thousand flowering stalks. (Dick Mitchell)

"Just received my latest newsletter. How about running, at least once a year, a list of volumes available for the New York State Flora, with directions on ordering them from the museum?" Peter Zika, Corvallis, Oregon.

Good suggestion! We'll resume that practice. The last flora volume covered Caryophyllaceae (Mitchell, 1993), and was announced in the newsletter. That, and the other 10 volumes of contributions, as well as three checklists, are available from N. Y. State Museum Publication Sales, 3140 C.E.C., Albany, NY 12230. (a complete museum publication catalog is also available from them free of charge). Editors.

Upcoming: December Issue -

As you know, we have given out several small grants to applicants who are studying some aspect of the New York flora. The next issue will feature two articles written by NYFA grant recipients. There will be a short paper by Morton Adams on insect visitors to *Calla palustris*, and a preliminary flora of the French Creek drainage of Chautauqua County by Douglas Goldman.

Dues-

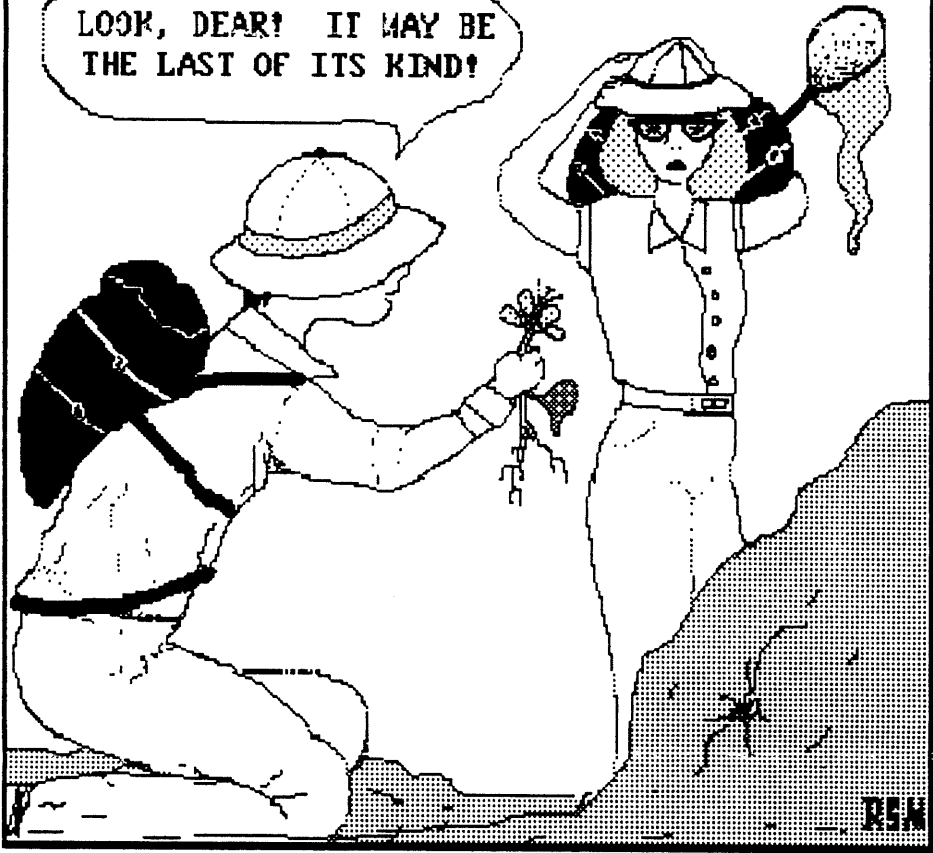
Most of you are very diligent, but some have now allowed dues to slide since 1993, and others have been dropped. As a courtesy, I do not remove people from membership or discontinue the newsletter until they are over two years behind. Remember that, although regular dues are \$10 -- \$20 will reinstate anybody through 1996. This offer will not last forever. Please check your envelope for the year you last paid dues. **WE VALUE YOUR MEMBERSHIP.**

NYBG Book and Print Sale

In early November the library of the New York Botanical Garden will be having a Book & Print Sale, the proceeds of which will be used to augment their library's acquisition fund. The library is asking for donations of books in respectable condition on botany, horticulture, gardening, ecology, landscaping, etc. Also travel, children's literature and cook books are welcome. For info, call (718) 817-8728.

THE INTREPIDS

LOOK, DEAR! IT MAY BE
THE LAST OF ITS KIND!



New York State Herbarium General Guidelines for Preparing Specimens

For All Specimens:

- collect **enough plant materials** to fill at least a 10" square area when pressed
- obtain **only plants bearing flowers, fruits or spores**

Non-woody Plants:

- collect **a number of individuals** if the plants are small
- **roots or underground stems** are essential on one or more of the specimens
- tall specimens may be **bent at very sharp angles**, once or twice, to fit in the press

Woody Plants:

- **cut branches cleanly** with shears or a knife
- roots are not necessary, but bark is desirable in some groups

The process leading to deposition of specimens in a herbarium is straight-forward. Essentially, it can be divided into two parts, collection and preparation:

Collection: Selection of plant material is important. To be useful, a specimen must show all parts necessary for identification, including flowers, fruits (seeds or spores) and stem with leaves representing the range of variation in size and shape. Non-woody plants are best collected with complete stem and root, showing all leaves. If the plant is large or woody, representative sections of the stem, with leaves attached, can be collected and the height of the plant recorded. Stems should be cleanly cut with a knife or shears. The woody branches of a given specimen should represent an individual: don't mix material from two or more plants. If specimens are collected from more than one individual, all materials from each individual should be separately designated (*e.g.*, with a series of letters). For most woody plants, roots are unnecessary and difficult to obtain. When choosing individuals to collect, pick those typical of the population, or, if the purpose is to collect an aberrant individual, note this on the label. Collection of all desirable material is sometimes not possible. Mature fruits, for example, often will not be found on blooming plants. In cases of rare species, collection of a complete stem and root is not advised. Knowledge of the characteristics necessary for identification of the species, however, may allow a diagnostic partial specimen to be made without harm to the population.

Preparation: This involves pressing plants flat and simultaneously drying them; it may be accomplished using a plant press, (available from biological supply houses for about \$25), or any stack of absorbent paper. A plant specimen is first placed within a single folded sheet of newsprint or similar fold of porous paper, then carefully arranged to display important structures such as flowers, fruit and leaves, their sizes, shapes and arrangements. Large specimens may be bent at sharp angles to fit the space available. Note that a specimen must also fit on a standard herbarium sheet, allowing room for the label and packet for fragments; approximately 11 X 17" is a maximum size. Conversely, a number of small plants sufficient to fill a sheet is desirable. The specimen in its newspaper folder is numbered and pressed between alternating sheets of corrugated cardboard and blotters (or absorbent paper), then kept in a warm, dry place. Use of a plant press involves strapping the corrugates and blotters between cover boards assembled into a unit that may be placed over a heating duct or any safe source of dry heat. Especially when corrugates are not used, daily changes of the absorbent layers may be necessary for the specimens to dry properly. The cardboard provides ventilation that aids in drying when placed in such a way that air can circulate upward through the press. Complete data, including precise locality within 1/10 mile, habitat, date, collector's name and collection number should be recorded with the specimen. These data are preferably kept in a notebook with numbers corresponding to specimens, or they may be written on the newsprint containing the specimen, rather than on a separate slip of paper which might be lost. Specimens may be mailed if firmly bound between several sheets of heavy cardboard which will prevent folding of the parcel.