

NYFA Newsletter

New York Flora Association
of the New York State Museum Institute

Vol. 4, No. 2

Co-Editors:

Richard S. Mitchell

Robert E. Zaremba

August - 1993

New York State Museum The Nature Conservancy

ADDRESS ALL CORRESPONDENCE TO NYFA, 3132 CEC, ALBANY, NY 12230 - DUES \$10 PER YEAR

Bear Mountain - Harriman Update --

by Richard S. Mitchell

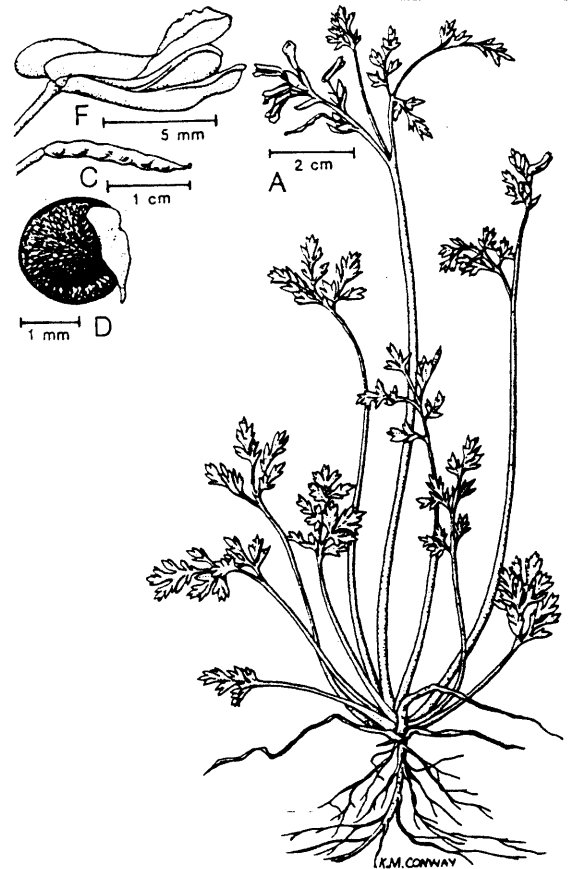
If you are getting tired of hearing about the Hudson Highlands flora, please send us an article on something else. The newsletter needs more statewide coverage. Meanwhile, we botanists of the State Museum are more enthusiastic than ever about the Highlands this year, now that we're privileged to be exploring 70 thousand acres, including Bear Mountain and Harriman Parks, while finishing studies at the West Point Military Academy Reservation. Jack Focht, director of the Trailside Museum, and his assistant, Betsy Franz, have been enormously helpful, arranging for us to have plant driers at Trailside, and scheduling workshops in which we coached volunteers on plant collection techniques.

Gordon Tucker, Spider Barbour and I have been in the field every week (in some combination) since late April, exploring widely and collecting sets of voucher specimens. The Bear Mtn./Harriman species list is near 800 in our first season of collecting, and we still have two months of collecting left, especially this year, with such a late blooming-season.

The weather has been drier, by far, in Orange and Rockland counties than in Albany, with temperatures often soaring over a hundred -- up to 107° one day in July when we were there. Even the black swallowwort (*Vincetoxicum nigrum*) was lying on its side that day. We hope for a wetter season in '94, so we can re-collect some upland species that just didn't get enough growth to flower well and produce good specimens. Meanwhile, we were fortunate to be able to walk around the drying wetlands, where we would ordinarily need a canoe, and we found a lot.

Spring on the dry ridges yielded *Ranunculus micranthus* and *Corydalis flavula*, both of which we sought, since we found them at West Point last year. Otherwise the barren oak-maple-hickory-black-birch, witch-hazel forests yielded little but aches in the knees and ankles.

Iona Island and Iona Marsh, on the Hudson River, are treasure troves of species that are rare in the region (and the state), since they provide estuarine



Corydalis flavula is a rare yellow harlequin that grows in stony forests in the spring. In the southeastern counties, it is found on acidic, dry, ledges, but a few populations are known from limy areas in central New York State as well.

shores with some lime influence in the cliffs and soils.

A Three-S1-Day: Spider Barbour and I were exploring Iona Marsh and the Hudson shores between the island and Jones Point on June 25. He was collecting *Ranunculus sceleratus*, the last member of the genus that we were expecting to find in the parks, since I had turned up the rare *R. allegheniensis* on wooded banks nearby two weeks before. I was treading as lightly as possible on the mucky, black shore under overhanging tree branches, when I found

two very rare plants underfoot. *Cardamine longii*, a sprawling and diminutive crucifer, was scattered in some profusion over the sticky mud, side by side with its relative, *C. pennsylvanica*. This was a revelation for me, because I had always harbored a nagging suspicion that *C. longii* might only be a tidally-tortured manifestation of *C. pennsylvanica*, with dwarf leaves and petals. But now, here they were, perfectly distinct, growing intermixed in the same habitat. The *C. longii* plants lie on the mud, gray-green in color with sparsely-lobed or unlobed leaves and virtually petalless flowers, while the bright green *C. pennsylvanica* stands erect with multi-lobed leaves and many white-petaled flowers. It made a believer of me.

My second find was a scattering of green thread-like strands with minute leaves and fruits. At a time like that, it's always tempting to think you might have the extremely rare (possibly extinct) *Micranthemum micranthemoides* that was found once 60 years ago in a very similar habitat on the Hudson. A quick examination with my hand lens revealed the minute, unstalked fruits, that made it *Callitriche terrestris* (also called *C. deflexa* var. *austini*), a mere New York State S1 rarity, rather than a botanical headline-maker nationwide.

A low-tide visit to the inlets and waterways of Iona Marsh revealed *Tillaea aquatica*, a tiny crassula with needle-like leaves and white flowers the size of pinheads. Bob Zaremba had found this species in the area before, but not in such profusion. The little plants number in the thousands, forming what looks, from a distance, like greenish-gray fuzz on the exposed mud bars.

In addition, we found the much larger, succulent rosettes of a southern riverine and intertidal species, *Sagittaria subulata* var. *subulata*, while managing to sink into black muck up to our belts. After that, we decided to eat at an NYC style hot dog stand on the road rather than to attempt to dine at the "Ruffled Duck." I don't think they let you in if you look like you've been chasing the duck.

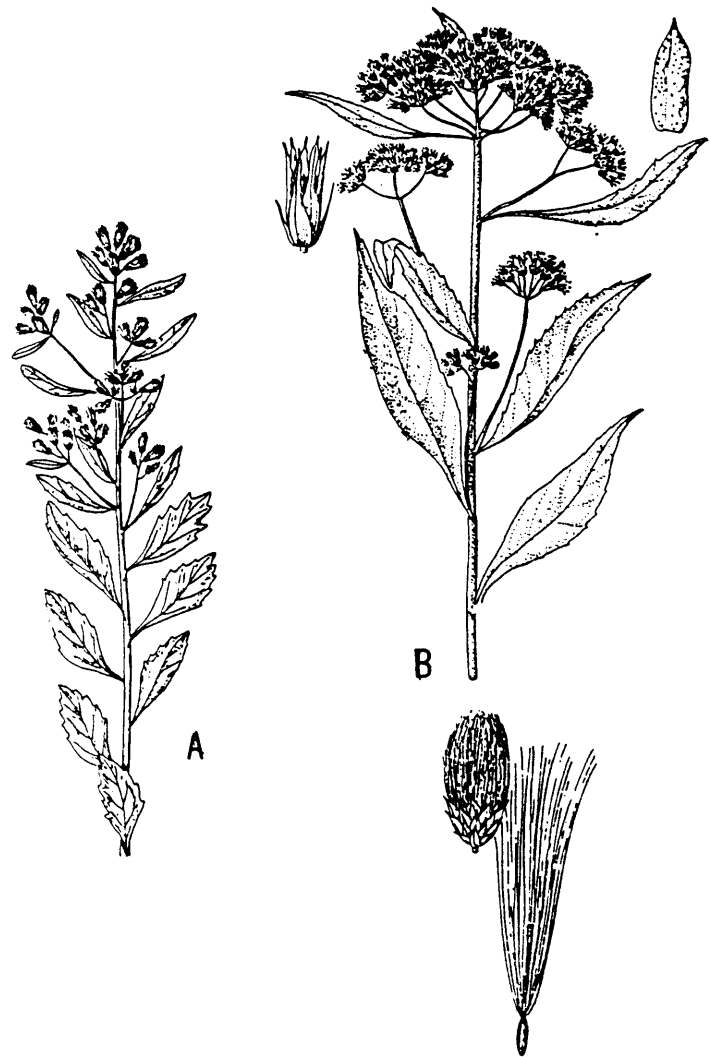
A couple of weeks later, Jack Focht showed me where he was the first to find the groundsel tree (*Baccharis halimifolia*) at its northernmost station up-river in New York. Gordon Tucker and Spider Barbour turned up *Cardamine longii* again, north of the Bear Mtn. Bridge in Orange Co., and they've found a number of rarities in the sedge and grass families, including the rare flatsedge, *Cyperus erythrorhizos*, and a cottongrass, *Eriophorum gracile*, uncommon in southeastern NYS. Jack Focht found river birch (*Betula nigra*) along the Ramapo River, but we have not found sweet gum (*Liquidambar*) growing native, though it occurs within five miles of Harriman Park to the south.

We've also collected some unusual weeds: *Reseda lutea*, the yellow mignonette, appeared at West Point

as well as in the parks this year. *Verbena stricta*, a definite native in the Midwest, may be adventive here, but is usually considered a rare native in New York. Interesting exotics found by Gordon Tucker this year are: *Cardamine impatiens* and *Chenopodium pumilio*.

The Bear Mtn./Harriman project is still young, with two more years to go, and these are just some highlights. I've purposely left out a new state record, reserving it for the journal, *Torreya*, and a later newsletter article. If some of you botanical explorers out there would like to join us in the field, please let me know, and we'll try to arrange it. We welcome the state's botanists and naturalists to come join us in our exploration of this very exciting region.

Dick Mitchell (518) 486-2027.



Baccharis halimifolia (A) and *Pluchea odorata* (B): saltmarsh plants near their northern range limits on Iona Island in the tidal Hudson River Estuary.

NYFA Field Trip to Valcour Island

June 5, 1993 --

by Robert E. Zaremba

On June 5, 1993, twenty hardy NYFA botanists spent a long day on Valcour Island in northern Lake Champlain. We covered most of the trails around the island and slogged through the two small white cedar swamps looking for *Calypso bulbosa*, without luck. We did see several hundred *Cypripedium arietinum*, many in flower. "I can't believe they're so small!" We also saw eight other state-rare plants: *Cynoglossum boreale*, *Arabis divaricarpa*, *Draba glabella*, *Corydalis aurea*, *Carex backii*, *Lathyrus ochroleuca*, *Prunus pumila*, *Thalictrum venulosum*, and *Carex formosa*. *Carex formosa* had not previously been collected from the island. Tired and wet, we left the island after recording 237 taxa.

Attending: Jane and Skip Blanchard, Jane Bowles, Barbara Conolly, Dale Hoy, David Hunt, Bob Ingalls, Danielle Jeanloz, Frank Knight, Eric Lamont, Laura Lehtonen, Betty Lotowycz, Melody Plant, Norbert Quenzer, Sandy and Glenn Richard, Doug Schmid, Kathleen Strakosch, Steve Young and Bob Zaremba.
Species List: This is a base list, compiled principally from natural community field forms from Carol Reschke of the New York Natural Heritage Program. Nomenclature follows Mitchell's NY checklist.

Abies balsamea
Acer negundo
Acer rubrum
Acer saccharinum
Acer saccharum
Achillea millefolium
Actaea spicata ssp. *rubra*
Adiantum pedatum
Agrimonia gryposepala
Agrostis stolonifera
Alnus rugosa
Amelanchier sanguinea
Amelanchier stolonifera
Anemone canadensis
Anemone virginiana
Antennaria neglecta
Antennaria plantaginifolia
Apocynum androsaemifolium
Aquilegia canadensis
Arabis divaricarpa
Aralia nudicaulis
Aralia racemosa
Arctium minus
Arctostaphylos uva-ursi
Arisaema triphyllum
Asclepias syriaca
Asplenium platyneuron
Aster acuminatus
Aster cordifolius



Cypripedium arietinum, Ram's-head Ladyslipper, grows in greatest abundance in New York State on Valcour Island under arborvitae.

Aster divaricatus
Aster macrophyllus
Aster novae-angliae
Athyrium asplenoides
Berberis thunbergii
Betula papyrifera
Botrychium dissectum
Botrychium virginianum
Calystegia sepium
Campanula rotundifolia
Cardamine pensylvanica
Carex arctata
Carex backii
Carex blanda
Carex debilis var. *rudgei*
Carex deweyana
Carex disperma
Carex eburnea
Carex folliculata
Carex formosa
Carex gracillima

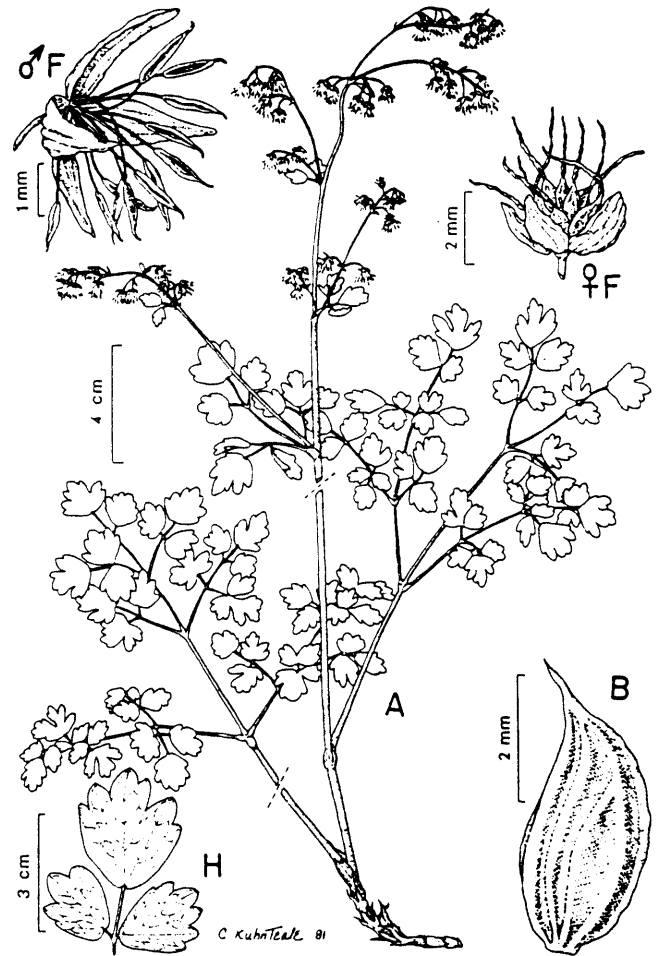
(Valcour Island, Contd.)

Carex grayi
Carex peckii
Carex pedunculata
Carex pennsylvanica
Carex platyphylla
Carex rosea
Carex tuckermanii
Carex vesicaria
Carpinus caroliniana
Celastrus scandens
Cerastium fontana
Chamaesyce maculata
Cicuta maculata
Cirsium discolor
Convallaria majalis
Coptis trifolia
Cornus amomum
Cornus rugosa
Cornus sericea
Corydalis aurea
Crataegus cf. macrantha
Crataegus mollis
Crataegus submollis
Cynoglossum virginianum var. *boreale*
Cypripedium arietinum
Cypripedium calceolus
Cystopteris bulbifera
Cystopteris fragilis
Danthonia spicata
Diervilla lonicera
Draba glabella
Drosera intermedia
Dryopteris marginalis
Elymus virginicus
Epilobium sp.
Epipactis helleborine
Equisetum arvense
Equisetum hyemale
Equisetum scirpoides
Equisetum sylvaticum
Equisetum variegatum
Erigeron sp.
Eupatorium maculatum
Euthamia graminifolia
Fagus grandifolia
Fragaria virginiana
Fraxinus americana
Fraxinus pennsylvanica
Galeopsis tetrahit
Galium mollugo
Galium palustre
Gaultheria procumbens
Geranium bicknellii
Geranium maculatum
Geranium robertianum
Goodyera repens

Gymnocarpium dryopteris
Hepatica nobilis var. *acuta*
Hieracium pratense
Hierchloë odorata
Hypericum perforatum
Hypericum punctatum
Impatiens capensis
Iris versicolor
Juniperus communis
Juniperus virginiana
Lathyrus ochroleucus
Leucanthemum vulgare
Lilium philadelphicum
Linaria vulgaris
Lithospermum officinale
Lonicera hirsuta
Lonicera morrowii
Lonicera tatarica
Luzula sp.
Lycopodium lucidulum
Lycopus americanus
Lysimachia ciliata
Lysimachia nummularia
Lythrum salicaria
Maianthemum canadense
Pyrus communis
Matteucia struthiopteris
Medicago sp.
Mentha arvensis
Mimulus ringens
Minuartia michauxii
Mitchella repens
Mitella diphylla
Mitella nuda
Onoclea sensibilis
Oryzopsis asperifolia
Osmorhiza claytonii
Osmunda claytoniana
Ostrya virginiana
Oxalis stricta
Panicum spp.
Parthenocissus quinquefolius
Pastinaca sativa
Phleum pratense
Picea glauca
Pinus resinosa
Pinus strobus
Poa compressa
Poa pratensis
Polygala paucifolia
Polygala senega
Polygonatum pubescens
Polygonum spp.
Polypodium virginianum
Polystichum acrostichoides
Populus balsamifera
Populus deltoides

(Valcour Island, Contd.)

Populus grandidentata
Populus tremuloides
Potentilla anserina
Potentilla recta
Prenanthes sp.
Prunella vulgaris
Prunus americana
Prunus pumila var. *depressa*
Prunus virginiana
Pteridium aquilinum
Pyrola elliptica
Pyrus communis
Quercus bicolor
Quercus macrocarpa
Quercus rubra
Ranunculus abortivus
Ranunculus acris
Ranunculus reptans
Rhamnus cathartica
Rhamnus frangula
Rhus typhina
Ribes cyno-bati
Ribes sativum
Rubus odoratus
Rubus pubescens
Salix alba × *fragilis*
Sambucus pubescens
Sanicula marilandica
Schizachne purpurascens
Shepherdia canadensis
Sisyrinchium sp.
Smilacina racemosa
Solanum dulcamara
Solidago caesia
Solidago canadensis
Solidago juncea
Solidago nemoralis
Stellaria media
Streptopus roseus
Symphoricarpos albus
Tanacetum vulgare
Taraxacum officinale
Thalictrum dioicum
Thalictrum venulosum
Thelypteris hexagonoptera
Thuja occidentalis
Tiarella cordifolia
Tilia americana
Toxicodendron radicans
Trientalis borealis
Trifolium dubium
Trifolium pratense
Trifolium repens
Trillium erectum
Trillium grandiflorum
Trillium undulatum



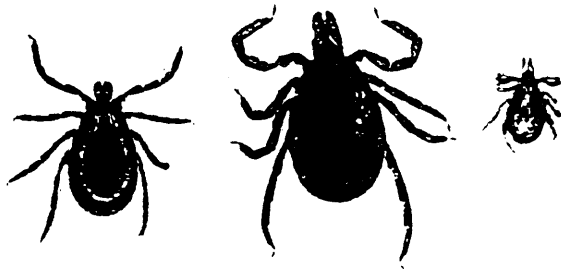
Thalictrum venulosum, the veiny or late meadow rue, is largely a native of Canada and western North America, but extends southeastward to the Champlain Valley of New York and Vermont, where it is very rare. It has the multilobed leaves like *T. dioicum*, but blooms much later on open, limy shores such as those of Valcour Island.

Tsuga canadensis
Tussilago farfara
Ulmus americana
Ulmus rubra
Uvularia grandiflora
Uvularia perfoliata
Vaccinium angustifolium
Verbascum thapsus
Veronica officinalis
Veronica serpyllifolia
Viburnum lentago
Vicia cracca
Viola conspersa
Viola pubescens
Viola septentrionalis
Vitis riparia
Waldsteinia fragarioides

Field Biologists Guide to Lyme Disease --

by Clifford Lamere

As a result of a mysterious outbreak of arthritis near Lyme, Connecticut, the first cases of Lyme disease in the US were recognized in 1975. The disease exists in many other parts of the world as well.



In the eastern US, Lyme disease seems to be spread to humans almost entirely by the Deer Tick (*Ixodes scapularis*, formerly *I. dammini*).

There is no evidence of the disease being contracted through blood transfusions, contact with infected blood or urine, sexual contact, or contact with pets or other domestic animals. There are no known cases of transmission by air, food, water or insects (mosquitos, fleas, biting flies). However, according to The Centers for Disease Control and Prevention (CDC) in Georgia, "In rare cases, Lyme disease acquired during pregnancy may lead to infection of the fetus and possibly to stillbirth, but adverse effects to the fetus have not been conclusively documented."

Deer Tick Life-History and Habits:

The Deer Tick has three stages; a larva (very tiny), a nymph (poppy seed size, but as large as a pin head when fully engorged with blood) and an adult (sesame seed size, but as large as an apple seed when fully engorged). The larva and nymph prefer to feed on White-footed Mice and other small rodents, while the preferred host of the adult is the White-tailed Deer. Both nymph and adult feed on humans as well, but it is the nymph that is more likely to infect us since it is harder to detect.

The adults mate in autumn while the female is feeding on a deer (or other large host). In the spring, the female drops off, lays her eggs and dies. The larvae hatch and are free of Lyme disease. They find a blood meal and, if the host is infected, pick up the disease organism (a spirochete bacterium). The larvae develop into nymphs in autumn; the nymphs then usually have their meal of blood the following May through June, feeding for 3-5 days. After dropping off the host, the nymphs molt into adults that most actively seek a host in September and October (can be later if it is a warm autumn). The adults feed for 5-7 days, then the cycle begins again.

Adults and nymphs attach to blades of grass or leaves of bushes. They transfer to an animal or human that brushes by. After finding a host, they crawl around for several hours before attachment, bury their head in the skin and feed on blood. Studies indicate that in laboratory animals the infective spirochete is transferred into the blood stream about 36-48 hours after feeding begins. In reference to humans, CDC says, "ticks are most likely to transmit infection after approximately 2 or more days of feeding".

Places where Deer Ticks are most likely to imbed themselves are hairy areas (groin, armpits and scalp), bunched skin near a restriction such as a waistband, under a breast, in and around navels, behind knees, between toes, or on the back of the neck. Other areas of attachment are also known.

Tick Removal:

Once a tick is imbedded, it must be handled carefully. Don't touch the tick with a hot match stick. Do *not* cover it with vaseline or fingernail polish or try to suffocate it. That will just give the tick more time to transfer the bacterium into the bloodstream as it continues feeding. A better strategy is to remove the tick as soon as it is detected. Don't squeeze the tick's abdomen during removal, because that may cause it to regurgitate into the blood stream (the bacteria are located in the tick's midgut and saliva). Using fine-tipped tweezers, or a tick-plucking device recently on the market, to get as close to the skin as possible, then pull upward slowly and steadily. It may be a while before the tick releases, because it is actually cemented in place. Wash the area and apply an antiseptic. If some of the mouthparts (which might resemble a splinter) are left behind, it is recommended that you consult a doctor. The mouthparts apparently are not dangerous, but may cause a local irritation, as a splinter would do.

Diagnosis:

Diagnosing Lyme disease is not always easy, because many of its symptoms are similar to other diseases, such as flu, infectious mononucleosis and arthritis. Also, it may take six months before enough antibodies show up in the blood to give a positive test, and, if there has been any use of antibiotics during that six months period, there may never be enough antibodies. Scientists are working on more effective ways of diagnosing the disease.

Treatment:

Lyme disease can be quite serious, but it is rarely fatal to humans. According to CDC, "patients treated in the early stages with antibiotics usually recover rapidly and completely. Most patients who are treated in later stages of the disease also respond well to antibiotics, and full recovery is the rule." However, "in a few patients symptoms of persisting infection may continue or recur". Several antibiotics are usually

effective in treatment.

Reducing Risk of Contraction:

Ticks show up best against a light background, so light-colored clothing is best when out-of-doors. Long trousers made of tightly knit fabrics are recommended, since ticks aren't able to attach to them as well. Tuck your pants into the tops of your boots or into your socks. Putting rubber bands around the area where pants and socks meet or taping it will help. Wear long-sleeved shirts. Tucking hair under a hat may keep ticks away from your scalp. Walk in the center of paths and trails when possible, if that will allow you to avoid unwanted contact with grass and bushes.

Tick repellents containing permethrin are now available, although they are difficult to find in New York counties which don't have a high incidence of Lyme disease. The repellent can be applied to clothing and then allowed to dry. It is *not* to be sprayed on skin, nor should the clothes be worn before the repellent has dried. A 6 oz. can will treat an outfit which consists of a shirt, trousers, hat, and a pair of socks. At least one brand claims that their repellent is quite effective for up to two weeks with just one spraying (and will survive at least one washing).

Repellents containing DEET are also available for use on skin as well as clothes. The State of New York Department of Health recommends concentrations not exceeding 30% in order to avoid allergic or toxic reactions. Wash off the DEET as soon as possible after a trip.

Clothes should be removed immediately upon returning home or to your motel, and they should be laundered promptly (washed and dried at a high temperature) or sealed in a plastic bag. If the clothes are to be used a second time before washing, they should be hung outside to give ticks a chance to fall off. Check your body for ticks as soon as possible. Before going to bed, you should bathe and thoroughly wash areas of dense hair.

Lyme Disease in New York State:

About 40% of all U. S. Lyme disease cases occur in New York State, mostly concentrated on Long Island and in the southern Hudson Valley. Infected ticks (2) were discovered in Albany County in 1992. Confirmed cases of Lyme disease from selected counties around New York State (1992) are as follows: Albany = 13, Broome = 5, Chautauqua = 2, Clinton = 3, Columbia = 16, Dutchess = 590, Erie = 30, Hamilton = 1, Monroe = 6, Onondaga = 3, Suffolk = 654, Tompkins = 8, and Westchester = 357. Contraction of the disease, of course, may often occur outside a person's home county.

Should We Still Go Outdoors?

Of course, but we should exercise more care than in the past. If we take the preventive measures mentioned above, and use tick repellents, the deer tick

should not often reach our skin. If it does, the fact that we have such a long time before the bacterium is passed into the human bloodstream means that a thorough check should find the tick before any damage is done. Should Lyme disease be contracted, despite all of these precautions, it is reassuring to know that it is usually curable. It is realistic to be concerned about Lyme disease, but we shouldn't let fear of it keep us from enjoying a favorite pastime.

A Note on Other Tick-borne Diseases:

In New York State, babesiosis and Rocky Mountain Spotted Fever are also spread by ticks. Each disease infects about 20-30 persons yearly, resulting in 70% of the reported cases requiring hospitalization (occasionally ending fatally).

Rocky Mountain Spotted Fever is caused by a rickettsia type bacterium, and is spread by the American Dog Tick. By 1988, infected ticks had only been found in three counties (Bronx, Nassau, and Suffolk); however, 9% of the persons catching the disease (1977-88) had not reported travelling to known areas of infection (in or out of the state).

Babesiosis, a malaria-like disease, is caused by a protozoan, which, like Lyme disease, is passed to humans by Deer Ticks. Presently, it seems that the protozoan is confined to eastern Long Island (Shelter Island, Montauk Point, and adjacent areas in the townships of Southampton and East Hampton).

Questions?

If you have questions about ticks or the diseases that they spread (Lyme disease, babesiosis, and Rocky Mountain spotted fever), you may call the Arthropod-Borne Disease Program of the NYS Health Department at (518) 474-4568.

Bibliography:

American Lyme Disease Foundation, Inc. 1993. A Quick Guide to Lyme Disease.

Centers for Disease Control and Prevention. Lyme Disease. 1992 (pamphlet)

Lyme Disease. 11/19/92 (document # 351701)
New York State Department of Health. *Ixodes dammini*...The tick that carries Lyme Disease. Would a tick by any other name be as dangerous? 4/20/93.

Lyme-infected deer ticks identified in Albany County. 5/25/93.

Tick and Insect Repellents. 9/92.

Pfizer Central Research. Lyme Disease. 1988.

White, Dennis J. Lyme disease surveillance and personal protection against ticks. pp. 99-125. In: Ginsberg, Howard S., ed. 1993. Ecology and Environmental Management of Lyme Disease. Rutgers University Press, New Brunswick, NJ.

Arthropod-Borne Disease Program of the NYS Health Dept. (personal communication).

EDIBLE PLANTS CROSSWORD

by Gordon Tucker & Clifford Lamere

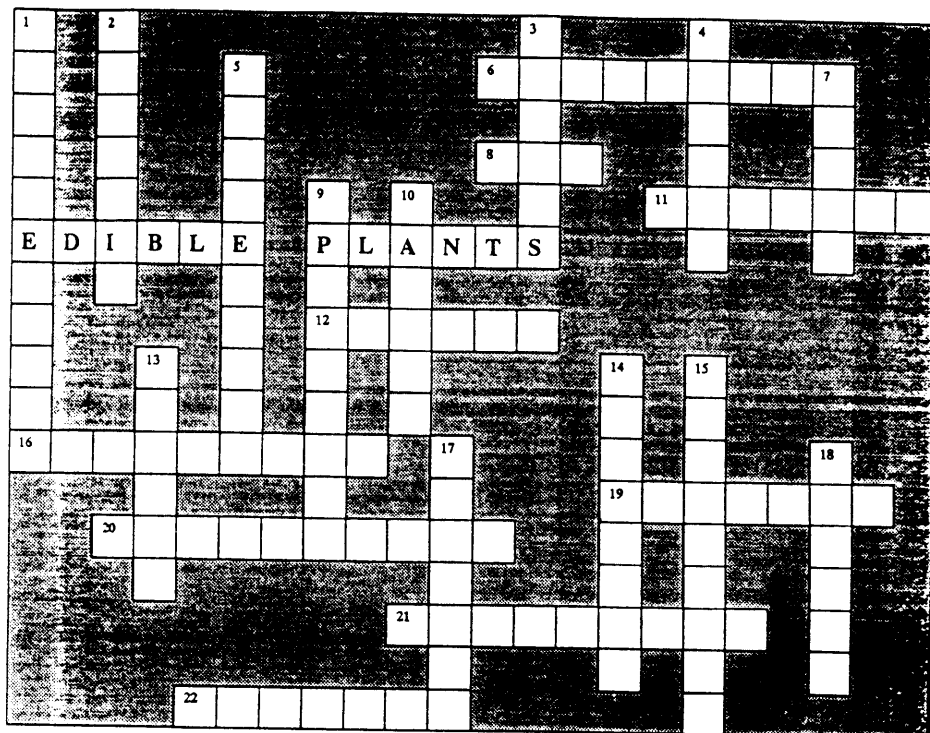
If a clue is followed by an asterisk (*), the solution is the genus name of the edible plant described.

DOWN

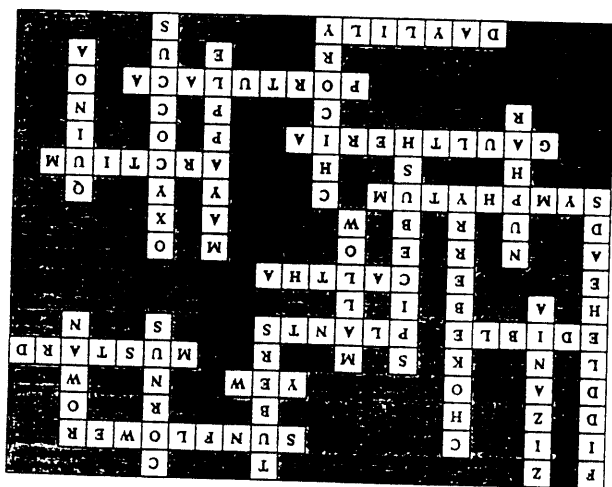
1. Ostrich is better than Cinnamon
2. Grain best gathered by canoe *
3. Edible part of *Sagittaria*
4. Bunchberry is one species *
5. Sounds like Choke-cherry
7. Another name for Mountain Ash
9. Aromatic, early spring flowering shrub
10. In Egypt, the leaves are used for melokhia, a vegetable dish
13. Aquatic seeds will pop like popcorn *
14. *Podophyllum*; the large fruits are used for jam
15. Cranberries, to a taxonomic splitter *
17. The roasted roots are added to coffee
18. Latin American name for a cultivated species of *Amaranthus*

ACROSS

6. Composite that provides both tubers and seeds
8. Like watermelon, you should spit out the seeds, but in this case they are very poisonous.
11. A family with many edible species
12. Marsh marigold has edible leaves *
16. Comfrey or "Abraham, Isaac, and Joseph" in some parts of Britain *
19. This composite is called gobo in Japan *
20. Makes tea flavored like Black Birch *
21. Prostrate, succulent garden weed *
22. You can eat the tubers and large orange flowers of this roadside plant



EDIBLE PLANTS CROSSWORD SOLUTION



Dues? Check Your Envelope --

YES, GO TO THE TRASH CAN RIGHT NOW AND FIND THE NUMBER PRINTED ABOVE YOUR NAME AND ADDRESS... It indicates the year through which you are paid up. A number of 93.5, for instance, means you sent us five dollars too much last year. Dues are \$10. Some of us are wonderful about paying our dues. In fact, our most senior member is paid up through 1997. But, almost a third of us forgot this time. I know, the mid-season newsletter is late this year, but you will still get three, as promised, plus three spectacular field trips to exotic botanical locations in New York State, and a wealth of information you can find nowhere else. Please don't drop your subscription. We value you as a member. RSM