

Fall 1988

MUSHROOMS:

A WORLD OF WONDER AT YOUR FEET

by Dr. Roger Goos



In the fall of the year, when the nights began to cool and the first flush of autumn color appears in the leaves, when the rainy days brought on by the autumnal equinox are frequent, mushrooms appear in profusion in forests and woodlands. This fall flush of mushrooms signals the end of the growing season, and is the time when the experienced mushroom hunter heads for the woods, because then, if ever, many of the choice edible wild mushrooms will appear. Fall is not the only season for mushrooms, for they do occur throughout the growing season, some persisting even into November and December, but fall is the season when they are to be found in greatest numbers and variety.

Mushrooms can be found in almost all shapes, colors and sizes, some being very small and seemingly insignificant, while others are as large or larger than a person's head. All are marvel of nature, and all of them, even the smallest, have a role in nature's economy. Small wonder that mushrooms have fascinated the human race for thousands of years and that they have been the subject of myths, superstitions and even religious ceremonies.

There are about 30,000 or so species of mushrooms. They are members of the kingdom Fungi, a group of organisms that obtain their living by growing on dead or living organic matter. Fungi are either saprobes or parasites, dependent on preformed organic matter for their

existence, which is another way of saying that fungi lack the ability to synthesize their own food. The role of the fungi in nature is to breakdown organic matter, thus releasing the carbon and nitrogen contained in such material so that it can be recycled and used by other living organisms. Without this activity, life as we know it would soon cease, because all of the available elemental carbon would soon be bound in organic molecules, and unavailable for the synthesis of new organic matter. The fact that some fungi are able to grow as parasites on living organisms is simply an extension of their vital role as biodegraders. While it is unfortunate that the activities of some fungi result in disease, spoilage and decay, it is important to recognize that fungi as a group perform a very useful and vital function in the biosphere.

The mushroom we see on the forest floor represents only part of the fungus. Within the soil or log where the fungus can be found are numerous slender threads (hyphae) which form the body of the fungus. The mushroom is the reproductive structure of the fungus, and can be compared to an apple on an apple tree. It is a spore bearing structure, and most mushrooms produce spores in copious amounts. A single meadow mushroom (*Agaricus campestris*), with a cap three inches in diameter, will release approximately 1.8 billion spores in its few days of life. A giant puffball will produce about 7 trillion spores. These spores are so small that 10,000 can fit into an area the size of a pea. Only a small percentage of these will give rise to new mushrooms, and this number is further reduced by the fact that most mushrooms have complex genetic systems that ensure outbreeding (crossing of strains).

(continued p. 6)

AQUIDNECK ISLAND



OCTOBER 1+2 1988

NORMAN BIRD SANCTUARY
THIRD BEACH ROAD  MIDDLETOWN

Handmade Crafts

Home and Garden Contests

-handwork

-jams, jellies, pickles,
relishes, breads and pies

-wildflower arrangements

-vegetables and gourds

International Food

Community Booths

Midway Games

Pony Rides

Hay Wagon

Country Store

Face Painting

Entertainment

-Ron Bianco and Bilbo the
Singing Dog

-Carl Nemetz the Magician

-Bill Thomas and Matt Quinn

-Wickford Express

-4th Street String Band

-Ed Rhodes the Magician

-Red Island Pickers

Jacobs Ladder

Greased Pole

Bell Ringer

Animal Kingdom

Balloons

Field Games

Earth Ball

Volunteers are still needed for set-up before the Fair, to station booths during the Fair and clean-up after the Fair

MEMBERSHIP SURVEY

Last winter, in the Flyer we included a survey for members to fill out. We asked a few questions about use of the Sanctuary, the programs attended and suggestions for improvement. Although we had only a 4% return on the survey, we decided to print the results anyway.

surveys distributed: 1100

surveys returned: 49

The reasons becoming a member were diverse. Most agreed that one reason for joining was to support the programs and upkeep of the refuge. Free access to the trails was also important. A few other reasons included summer camp, "to enjoy the peace and quiet", and as a way to support local conservation efforts.

There were a variety of perceptions about the Sanctuary recorded in the survey that are too numerous to mention. Mostly, people (accurately) see the Sanctuary as a land preserve and as an important educational resource.

As far as Sanctuary use, of the 49 surveys returned, 39 indicated they used the refuge sometimes, 11 rarely use it and 8 use it regularly.

Most of the surveys returned indicated that our public and childrens programs were attended regularly (at least once per season). A few suggested some improvements to educational programs such as more movies, crafts, sing-alongs and bird walks.

The survey also indicated that the most convenient times for adults to attend our programs are on weekend afternoons.

We want to thank those who took the time to complete and return the surveys. To us it is a way that we can get feedback from you so we can continue to be an effective part of the community.

Children's Programs

PRESCHOOLERS WITH PARENTS NATURE HOUR

Wednesday afternoons 1 - 2 pm.

Fall is the time for wonderful changes: colored leaves, crisp weather and animal tracks. Spend an hour with your preschooler this fall season, as you both learn through stories, songs, games and hands-on activities.

PLEASE NOTE: Children must be at least 3 years old and be accompanied by an adult. An adult may be responsible for up to two children.

Session A

Oct. 12 Fall is a Season
Oct. 19 Stone Wall Discovery
Oct. 26 Spiders
Nov. 2 Owls

Session B

Nov. 9 Listening with our Ears
Nov. 16 Gray Squirrels
Nov. 23 Nuts and Seeds
Nov. 30 Feathered Friends

Pre-registration is Required

Limit: 10 Children

Fee: \$12.00 per session (\$10.00 NPS members)

NATURAL HOLIDAY CRAFTS FOR CHILDREN

Saturday, December 17, 1 - 3 pm.

Children in grades K through 4 can experience the joy of making gifts and decorations from natural materials. Each child will bring home three finished crafts to be used at home for trimmings or gifts.

Pre-registration is required. limit 30 children.

Fee: \$5.00 (\$4.00 NBS members)

"NO HALLOWEEN PARTY ?"

We will not hold our annual Halloween party this year due to the New England Environmental Education Alliance Conference. Boooo (hoooo) !

NATURE CLUB

Saturday mornings 9:30 - 12:30 pm.

Nature Club offers a fun outdoor learning experience for children in grades K - 4. Children learn about a natural theme each week by participating in games, hiking, crafts and songs.

PLEASE NOTE: This year, nature club session will be divided by ages.

SESSION 1 (children in grades K - 1)

Oct. 15 Hawks
Oct. 22 Fall Exploration
Oct. 29 NO NATURE CLUB
Nov. 5 Bats
Nov. 12 Rock Hounding

SESSION 2 (children in grades 2 - 4)

Nov. 19 Nuts and Seeds
Nov. 26 Spiders
Dec. 3 At the Seashore
Dec. 10 Mammals

Pre-registration is required
Limit: 10 children per session
Fee: \$36 (\$32 NBS members)

Dear Henny Penny,

Why do geese fly in a V shape?

Signed,

Ms. Goose Ganderer

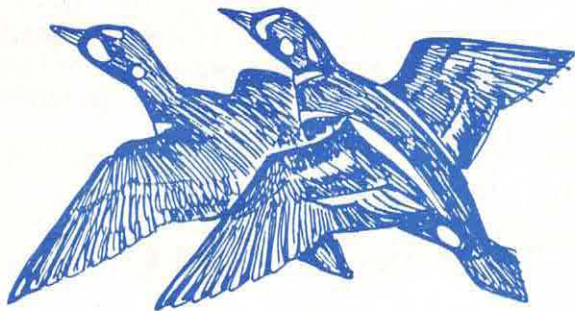
Dear Ms. Goose Ganderer

Birds are mysterious creatures. They confuse common folk and scientists all the time, especially when it comes to migration (in which I myself, take no part). Many scientists believe that migrating geese, as well as other waterfowl, fly in a V to conserve energy. Each bird is helped by the uplift of air created by the bird in front of it. Since it takes an enormous amount of energy to fly on these long migrations birds use this configuration to save themselves from exhaustion. The only bird that doesn't benefit from the uplift is the one that's leading. Therefore the leaders rotate to insure that the whole flock remains healthy. Happy Fall!

Signed,
Henny Penny



Public Programs



BIRD WALKS

Sunday mornings 8:00 am.

The Sanctuary offers a free guided bird walk every Sunday at 8:00 am. (weather permitting). Please join us as we hike along the Sanctuary trails and the rocky shore of the Sakonnet River to observe the fall migration. Walks last about an hour and are open to all levels. Bring binoculars if possible.

MANOMET BIRD-BANDING DEMONSTRATION AND TOUR

Saturday, October 8, 10 am.

Take a close look at our migrating songbirds during a banding demonstration at Manomet Bird Observatory in Manomet, Ma. M.B.O. is new england's biological research center for bird censusing. Tour the grounds overlooking Cape Cod Bay and see shorebirds and Harbor Seals. We will meet at the Sanctuary at 8:30 am. and carpool to M.B.O. Bag lunches are suggested.

Pre-registration required by October 3.
Limit: 10 people.
Fee: \$5.00 (\$3.00 NBS members).

STARGAZING

Autumn and winter are the best seasons for viewing and learning about the night sky. The Great Bear will be dipping low while Andromeda, our distant sister galaxy rises to the sky. Join Bill O'Connell for evening programs and explore the legends of these and other stars as the crisp air moves in. Bring a blanket to sit on and binoculars if you have them.

October 13 (cloud date 14th)
November 10 (cloud date 11th)
December 8 (cloud date 9th)

MUSHROOM WALK

Saturday, October 15, 1:30 pm.

Learn about the fascinating world of fungi on this walk led through the Sanctuary's woodland trails by U.R.I. Mycologist Dr. Roger Goos. He'll point out some of our local types of mushrooms and other fungi that play an important role in the secret world of decomposition. Bring samples from home for identification.

Pre-registration is required.
Limit: 15
Fee: \$4.00 (\$2.00 NBS members)



FALL FOLIAGE WALK

Saturday, October 22, 2:00 pm.

Autumn is the most popular season for hiking on the trails at the Sanctuary. The splash of colors that cover the area during this time make it a visual delight. The Sanctuary staff will guide participants through the refuge explaining some of the mysteries of Autumn.

Pre-registration is required
Fee: \$3.00 (\$1.00 NBS members)
Limit: 20

NATURAL HISTORY WALK

Saturday, November 12, 2:00 - 4:00 pm.

Join us for this casual walk as we hike on the Sanctuary's trails looking for animal signs, the changing leaves and wildflowers gone to seed. Sturdy shoes are a must. Call to confirm if weather is inclement.

Pre-registration is required.
Limit: 15
Fee: \$3.00 (\$2.00 NBS members)

HERBS AND WILDFLOWER WREATH MAKING WORKSHOP

Saturday, November 5, 1:30-3:30 pm.

Create a naturally attractive wreath for your holiday door or wall made from a base of moss decorated with delicate bundles of dried herbs, wildflowers, cones and berries. Sharon and Barbara from Hilltop Gardens will provide materials and instructions for each participant. Please bring clippers or heavy scissors, and if you'd like, your own dried flowers or special ribbon.

Preregistration is required.
Limit: 18
Fee: \$18.00 (\$15.00 NBS members)



HOLIDAY GREENS WREATH MAKING

Sunday, December 4, 1 - 3 pm.

Learn how to create a beautiful wreath made from fresh sprigs of spruce, cedar, pine, and holly. Jocelyn Sherman will demonstrate the technique of how to keep the greens alive through the holiday season. Participants are asked to bring two paper bags full of greens (for added variety and quantity), clippers, and gloves.

Pre-registration is required
Limit: 12
Fee: \$15.00 (\$12.00 NBS members)



Many people first become interested in mushrooms as a source of wild food, and indeed, there are many wild mushrooms that are flavorful and safe to eat. The danger comes in that some are deadly poisonous. There are no simple rules or tests for distinguishing the poisonous forms from those that are safe to eat; one simply must know the mushrooms, and be careful to select for food only those known to be safe. This is not so difficult as it may sound, as many of the best edible mushrooms are quite distinctive, and with a little practice, easy to recognize. If a person will learn to recognize the safe edible species, and strictly avoid all others, it is safe to gather wild mushrooms for food. One must always exercise caution however, and it is better to err on the side of omission than on the side of commission. The adage for mushroom hunters is: "if in doubt, throw it out."

There are eight major groups of toxins found in the poisonous mushrooms, varying from the deadly amanitin toxins produced by members of the genus Amanita, to stomach irritants and hallucinogens, such as psilocybin. The amanitin toxins affect the kidneys and the liver, and the victim is usually not aware that a toxic mushroom has been consumed until 10 - 12 hours after the meal, by which time it is too late for emergency treatments. Death from such toxins usually occur until 7 - 10 days after the mushroom has been eaten, and usually results from kidney failure.

The nutritional value of mushrooms is roughly equivalent to that of vegetables. They provide proteins, iron and other minerals, and are said to be a good source of B vitamins. They are also low in calories.

Many mushrooms form specialized associations with forest trees. These are termed mycorrhizae, which literally means "fungus root". These associations are highly beneficial to the forest trees. The fungus ensheathes the roots of the tree, providing it with minerals from the soil, while the tree provides the fungus with its necessary food. It is a mutually beneficial partnership, and essential for many trees growing in poor soils. This explains, in part, why many mushroom species are always found associated with certain tree species.

Mushrooms are an important part of our natural world, to be enjoyed and appreciated much as wildflowers and birds. Once acquainted with them, most people find them fascinating. Interest is so great that amateur mushroom clubs have sprung up all over the country. In August of this year, about 300 amateurs met at the University of Rhode Island for the Northeastern Mycological Foray. About 321 species of mushrooms were gathered in one weekend by the group. Mushrooms have beauty and mystique, and are excellent subjects for the photographer. Add to this their importance in the biosphere, their often bizarre nature, and they are truly a "world of wonder" at our feet.

Dr. Goos is a professor of mycology at the University of Rhode Island.



Volunteer Corner

VOLUNTEERS AND DONATIONS

The summer has slipped by once again but not without the help of a few very important persons who have donated time and energy to the Sanctuary. A warm thanks to:

-Kevin O'Connor, Charles Donald, Michaelleen Williams, Monique Roeder and Erika King for taking care of our animals.

-June Warren, Amy Dickenson, Monica Bailey and the Phoenix One Club for watering and weeding our gardens.

-Mike Mitchell for beekeeping.

-Bill O'Connell and Millie House for Public Programs.

-Fran Holmes for office sitting.

-Louise Erlich for donating the blackboard, and to everyone else who brought cereals and stale bread for the animals.

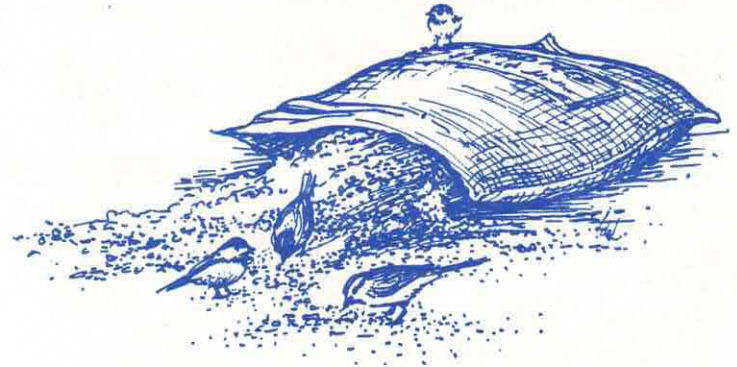
NORMAN BIRD SANCTUARY

Bird Seed Sale

Saturday and Sunday, November 5 and 6
10:00 am to 4:00 pm.

2:30 pm. Demonstration and activities for children

Throughout the weekend, the NBS store will have Droll Yankee and Brown Co. bird feeders and accessories for sale. (See the special discount offer below) The NBS barn will have a variety of homemade feeders on display a feeder demonstration, activity for children, handouts, and refreshments available to help kick off the bird feeding season.



Order seed now and receive a 10% discount on all new feeders in stock when purchased during this weekend only when the seed orders are to be picked up.

Stock up now for the long winter ahead. Feed the birds and help support programs at the Sanctuary at the same time. Get high quality wild bird food at competitive prices. To order:

Fill out the order form below and mail it with payment to the Norman Bird Sanctuary, 583 Third Beach Rd. Middletown, RI 02840. Orders must be recieved by Thursday, October 27. Make checks payable to the Norman Bird Sanctuary.

Pick up your seed on November 5 or 6 from 10 am. to 4 pm. in the Sanctuary barn.

Name _____ Telephone _____

Address _____

QUANTITY	TYPE OF SEED	PRICE PER BAG	AMOUNT
_____	Black Oil Sunflower Seed - 20 lbs.	9.50	_____
_____	Black Oil Sunflower Seed - 50 lbs.	18.50	_____
_____	Black Oil/Striped Sunflower Mix - 20 lbs.	10.50	_____
_____	Black Oil/Striped Sunflower Mix - 50 lbs.	19.50	_____
_____	"Bird Snack" quality mixed seed - 20 lbs.	9.00	_____
_____	"Bird Snack" - 50 lbs.	17.00	_____
_____	Thistle 5 lbs.	10.00	_____
_____	Peanut Butter/ Suet/ Seed bells - 1 3/4 lb.	5.00	_____

TOTAL _____

**** 10 % OFF ALL FEEDERS IN STOCK ON "SEED SALE" DAYS NOV. 5 and 6 ****

NORMAN BIRD SANCTUARY
Third Beach Road
Middletown, Rhode Island

NON-PROFIT ORG.
U. S. POSTAGE
PAID
PERMIT NO. 43
NEWPORT, R.I. 02840

OR CURRENT RESIDENT

COMMUNITY CALENDAR

Every Third Thursday at 5:30 pm. "Bay Briefings" at Save the Bay 434 Smith St. in Providence. Call 272-3540 for a list of topics.

October 28 - 30: New England Environmental Education Alliance Conference at the URI W.Alton Jones Campus, West Greenwich, R.I. Call 397-3304 for more information.

November 1 at 7:30 panel discussion on the proposed Big River Reservoir, sponsored by the Aquidneck Island Coalition. Call N.B.S. for more details.

POSITION OPENING
Secretary/Receptionist at NBS 25-30 hrs. per week. Call Director 846-2577

FOLKLORE FORECASTING

"The larger the crop of acorns, the longer the winter....."

Trees generally respond to environmental stress by producing an abundance of seeds. A bumper crop of acorns is more probably a response to a cold spring or a dry summer.

"A wide band on the woolly bear caterpillar means a harsh winter."

You'll have to ask a woolly bear if this is true!

The Norman Bird Flyer is published quarterly by the Norman Bird Sanctuary, a non-profit nature preserve established under the will of Mabel Norman Cerio.
Trustee: R.I. Hospital Trust National Bank
Advisory Committee: Barry Murphy - Chairman, Lawrence Allen, Joyce Botelho, Patricia Corgan, Ann Damon, Thomas Gunzelman, Frances Holmes, Virginia Laughlin, Gary MacDonald, C.K. Moore, Julie Morris, Moratio Rogers, Gay Sheffield, Barbara Sturtevant, Mark Vissman.
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Education Coordinator: Lisa Pritchard
Naturalist/Caretaker: Nap Morgan
Secretary: Jean Ballantine
Norman Bird Sanctuary, 583 Third Beach Road, Middletown, R.I. 02840
Telephone: (401) 846-2577

ARE YOU DUE TO RENEW?

Your N.B.S. Membership renewal date is printed below your address on the mailing label. If you're due to renew, please use the form below and send it along with your renewal check. If you have recently renewed, please accept our thanks. We appreciate your continued support.

NAME _____
ADDRESS _____ ZIP _____

☐ NEW MEMBER ☐ RENEWAL

<input type="checkbox"/> Individual	\$15.00	<input type="checkbox"/> Institutional/Business	\$50.00	<input type="checkbox"/> Patron	\$100.00
<input type="checkbox"/> Family	\$20.00	<input type="checkbox"/> Sustaining	\$50.00	<input type="checkbox"/> Life	\$1000.00

☐ In addition to my yearly membership, I would like to contribute \$ _____

☐ I would like to be called for volunteer work. Phone _____

All contributions are tax deductible when made out to:

Norman Bird Sanctuary
Third Beach Road
Middletown, Rhode Island 02840

