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NATIVE PLANT STUDY GROUP

CULTURAL USE OF LICHENS WITH STU CRAWFORD

From wave washed rocks to desert heat and extraterrestrial cold, growing on the backs of beetles and leaves, lichens inhabit some of our most inhospitable environments. Small, inconspicuous and confusing to identify, even people keen on native plants and our natural landscape, give lichens short shift. Although often ignored altogether, lichens can slowly occupy almost any immobile object.

Lichens are the outward manifestation of a symbiotic relationship between fungi and algae or in some less common cases with a cyanobacteria (blue-green algae). Also known as “fungi who have discovered agriculture”, lichens and algae live together in a mutually beneficial association. The fungi provide protective structure and nutrients to the algae while the algae contribute carbohydrates to the fungi.

Lichens are very slow growing and resilient, growing at a from a top speed of 1 cm/yr to the glacially paced .2 mm/yr. They will never overrun your garden! Some lichens survive in deserts that have no rainfall for periods of 400 years while others have been sent to the deep chill of outer space and returned healthy and undamaged. Humans have used lichens for millennia, 107 Peoples used lichens in North America alone. They are a common source of dye that is soluble

either in water or with urine, the Chilkat Tlingit of BC used wolf lichen (*Letharia vulpina*) to colour their world renowned blankets. Lichens are nature’s pharmaceutical companies as they produce approximately 500-1000 different chemicals that discourage predators and competition, 50 % of lichens manufacture usnic acid, which has antibiotic properties, and others have been smoked as a narcotic, to treat tuberculosis, as a dewormer and for sore throat ailments. Lichens that are conjoined with cyanobacteria (which take nitrogen from the air) are capable of increasing soil fertility, some lichens are used in the perfume industry as a fixative, to tan hides and some have are used to ferment beer. They have been used as food and as an absorbent material for the earliest diapers. *Aspicilia esculenta* is “vagrant desert lichen” that is only loosely or not at all attached to the ground. It is considered to be the biblical “mana from heaven”, although it is more of a famine food than an everyday foodstuff. Most lichen carbohydrates are indigestible raw and need to be specially prepared before they are eaten. *Bryoria fremontii* or black tree lichen was used extensively by Interior First Nations. It appears that some populations contain more and less vulpinic acid and are more

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and less palatable depending on various factors including locality, elevation and species of substrate tree. Cooking appears to be necessary to make the lichens palatable.

Lichens are also used in the animal kingdom: water bear tardigrades eat them, as do our woodland caribou. Northern flying squirrels, red-backed voles and many bird species use lichens in their nests. Visit Stu Crawford's UVic website for detailed information on ethnobotanical uses of lichens.

Ethnolichenology of the World:

<http://web.uvic.ca/~stucraw/part2AM.html>

BONSAI ADDICTION!

NPSG Member Wayne Roberston shared his enthusiasm for the fine craft of bonsai with us during the April members presentation. First employed in China over 2000 years ago, bonsai plants can be handed down through generations. Bonsai is the art and commitment of creating the look of ancient, weathered trees and landscapes in a shallow pot. The trees should appear open, as if a bird could fly through the branches. Wayne brought examples of his collection, a gorgeous 10 yr old flowering currant, a seven yr old honeysuckle and a young arctic willow that he generously donated to the raffle. The Bonsai Club meets the first Wed. of the month at the Garth Homer Centre, contact Wayne for more information at pwrobertson@shaw.ca

EVENTS AND OUTINGS

Monday May 22: San Juan Ridge, above Jordan River, to enjoy the *Erythronium montanum* and other early sub-alpine flowers if we can make it to Hans Roemer Meadow in the ecological reserve. Be prepared for cold and/or wet weather due to the elevation and wear good footwear. Also throw in your gum boots in case we have time to stop at the bog. Bring lunch, snacks and lots to drink for the day long outing. Starts from Victoria around 9:00 am. You must pre-register for this trip due to transportation limitations and potential change of plans due to snow cover. Guaranteed spot if you are willing to bring your 4 wheel drive for carpooling! No pets please. Contact Agnes at 721-0634 or thelynns@shaw.ca to register or for more information.

May 27 and 28: Alberni Valley Walking Festival



Easy strolls along former rail beds beneath high forest canopies, short but challenging climbs to magnificent mountain vistas, historical interpretive walks that bring alive the early history of Vancouver Island, stunning wildflower displays - combine this with a fabulous salmon feast and an affordable accommodation package and you've got the third annual Alberni Valley Walking Festival, which is taking place May 27 and 28, 2006.

The FOLLT has put together an affordable package including guided walks, accommodation Saturday night, salmon feast with entertainment, and breakfast Sunday morning for \$85.00 based on double occupancy, or \$125. for single occupancy.

Those who want to drive over for a day walk pay only \$5.00 for each walk, \$30.00 for walks and salmon feast, or \$25.00 for the salmon feast only. Friends of the Log Train Trail is a non-profit organization dedicated to maintaining and promoting the Log Train Trail, a 25-km trail which runs on a former railway bed along the foot of the Beaufort Range. For information and registration phone (250)724-2050 or email Rhonda@batstar.com.

Sunday May 28: Lake Cowichan Hill 60 Rhodonite Mine with Rick Hudson. For more information about where we will be going, check out <http://www.scratchpatch.com/rhodo.htm>. We thank Rick for waiving his fees to lead this trip. This will be a joint trip with the Cowichan Naturalists. It is rumored that there are *Erythronium grandiflorum* that we may see. Be prepared for cold and/or wet weather due to the elevation and wear good footwear. Meet at Helmcken Park and Ride at 7:45 am to car-pool. We need 4- wheel

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drive or high clearance vehicles or we will have a long walk. Bring a lunch and drinks for the day-long outing. No pets please. Contact Agnes at 721-0634 or thelynns@shaw.ca for more information.

Wednesday June 7: 9th Annual Sunset Barbecue at Swan Lake, at the Swan Lake Nature House, 3873 Swan Lake Road.

This fun-filled fund raising event features marinated Pacific wild salmon slow-cooked on cedar boards, accompanied by local wines and micro-brewed beer, and an auction of local arts, goods and services, all in a fabulous outdoor setting. Tickets for the Sunset Barbecue must be purchased in advance. Tickets for this year's event are available at the Nature House office now for \$50/person. A tax receipt will be issued for the maximum allowable portion (approximately \$35 per person). All proceeds from this event support the Nature Sanctuary's education programs. This event can sell out, so call the Nature Sanctuary soon (479-0211) to avoid disappointment.

Sunday Jun 17, 18,19: Colockum Pass in central Washington – a joint trip with Vancouver Island Rock and Alpine Garden Society (VIRAGS) whose members have gone many times. Described as one of the most beautiful wildflower sites in the Pacific Northwest, flora is amazingly diverse from dryland to woodland to sub-alpine. The area differs from the Canadian equivalent area due to lava from the nearby volcanoes resulting in very rich soil to support this diversity. You have to be care-



ful not to step on the *Lewisia rediviva* across the entire plateau. The plan is to travel there on the Saturday from Victoria. After settling in to a reasonably priced motel in Ellensburg, we hope to go up to an area part way up the hill where we can enjoy the long June evening. *Calochortus* and *Fritillaria* and many more treasures along with amazing views of the Columbia Valley that evening. An early start on Sunday will be worthwhile as we'll botanize (and bird) till dark. Monday is again a long day as we hope to stop along the way at a high elevation pass where there are lovely sub-alpine meadows and the exquisite *Lewisia tweedii* growing in between big rock boulders on the mountain. Hans Roemer's plant list contains about 140 species we may see. The timing of the trip is planned so it is quick to get back across the border on Monday evening and get an uncrowded late ferry home. The plans for this trip are still tentative. If you are interested in joining us, contact Agnes at 721-0634 or thelynns@shaw.ca for more information.

BOOK REVIEW

GATHERING MOSSES- A NATURAL and CULTURAL HISTORY of MOSSES

By Robin Wall Kimmerer, 2003, Oregon State University Press

Lent to me by a new friend who is rapidly teaching himself moss identification. A wonderful read, lyrical and informative. Read it, appreciate them!



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NATURESCAPE YOUR YARD WITH A WILD-LIFE POND

“If you build it, frogs will find it”

Reprinted with Permission from the Metchosin Muse, June 2006

Do you enjoy the loud and raucous “konkoreeah” of the red-winged blackbird as it announces its suitability as a mate, the no less subdued mating calls of our diminutive tree frogs or the brilliant acrobatic flights of the territorial dragonflies? Then a wildlife pond could give you endless enjoyment and help sustain our local wildlife. Water is one of our most basic needs and it is just as critical to most of our native wild creatures. Water not only sustains our bodies but it is a major component of the web of life. From the smallest algae-eating organisms which provide food to carnivorous insects that in turn feed fish and birds or even fat and sleek river otters, our creeks, ponds and lakes provide crucial habitat that nourish our senses as well as the biodiversity of our natural communities.

Naturescaping your property is a concept wherein we enhance our yards to accommodate the needs of other creatures. We can supply habitat by filling a bird feeder or erecting a bat house, by planting native plants to attract birds and butterflies or by constructing a pond. Large, small, elaborate or minimal, a pond can supply you with endless hours of interest as you watch the arrival and “settling in” of many kinds of flora and fauna. With natural water sources in short supply and competition high, it doesn't take long for a traveling tree frog or a patrolling dragonfly to take up residence. We once created a very small pond, only about 2 x 3 ft and 18” to 24” deep. We added a few “feeder” goldfish and before we knew it we were visited by a great blue heron, who amused us immensely with its mime-like immobility and lightning strikes. Well worth a few fish. However, the years have passed and we have learned that there are more “correct” ways to build ponds and supply habitat.

When considering adding a pond to your yard, you need to first consider why it is you want a pond. You can have either a fish pond or a wildlife pond but not both in the same space. Fish will eat amphibian eggs and juveniles as well as dragonfly larvae, so if you hope to attract these creatures you should not introduce fish. Of course, you can build a fish pond to attract herons, raccoons and



river otters that feed on your fish! Not a bad idea either! **One loud note of caution.** If you have small children, you might want to consider if you can keep them away from the pond, either by fencing them in or out, until they are old enough to appreciate the dangers of water. Otherwise perhaps you could save this article and this dream until they are over the age of five. If you have decided a wildlife pond is in your plans, then, for maximum enjoyment, place your pond close to the house so that even during a busy day you can take a moment to enjoy its subtleties. A small but manageable wildlife pond functions well if it is 8 ft x 5 ft and 18-24 inches deep. It is recommended to build a pond with varying depths and sloping sides so that wildlife can enter and exit (a salamander cannot climb out of a steep-sided edge). A shallow, pebbly “beach” area allows birds to safely drink and bathe. Ponds should receive at least 5 hours of sunlight a day to promote the growth of healthy pond plants and tadpoles. Heavy leaf fall can deprive the pond of oxygen, however some shade will moderate the water temperature and prevent the pond from over-heating. A shelf that is 9-12 inches deep and 12 inches wide around the edge of the pond will allow you to place plants in containers around the edge, which will probably be used by frogs as a suitable site to lay their eggs. A few stacked flat rocks on the bottom of the pond will provide cover for tadpoles in case a heron or raccoon comes visiting. Extend some logs or rocks above the surface to provide a resting place for birds, amphibians and dragonflies. If

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you are using city water instead of well water or fall rains to fill your pond, let the water stand a week before adding any organisms or the chlorine might prove deadly. It will naturally dissipate over one week. Some native water-loving plants include: common cattails, yellow or white marsh marigold, wild calla, the beautiful, bright pink-flowered water smartweed and our native yellow pond lily. Large paving stones around the edge of the pond can be dangerous to frogs as they will sometimes stick to hot stones and dehydrate. Native shrubs, sedges, rotting logs and rocks around the back edge will quickly naturalize the look of the pond. To add more diversity and an added dimension, add a bog garden while you are constructing the pond. Line a shallow area next to the pond with a liner in which you have slashed a few holes. This will help supply any bog plants which sufficient moisture yet not drown them.

If your pond starts to appear cloudy, it might be suffering from too much algal growth, a result of excessive heat and sunshine and too rich conditions. Juvenile amphibians have a huge appetite for algae but you can also add a few water snails and some oxygenating plants to restore the natural balance. If you are worried about mosquitoes, dragonfly larvae (which are quite fearsome looking), have a voracious taste for mosquito larvae. Many books recommend adding a bucket of water from an established natural pond to kick start your pond with the correct bacteria and micro-organisms it needs to thrive. If you do this, please remember to NEVER transport any amphibians with the water, it is illegal and you could be introducing invasive bullfrogs or green frogs. Soon enough tree frogs and perhaps a salamander or two will find your pond, and dragonflies, during their aerial surveys, will scout out your new habitat almost before the plants are in the water.

For excellent, detailed plans and references:

http://www.beautifulbritain.co.uk/htm/pond/finishing_touchees.htm

http://www.veggieglobal.com/wildlifecare/uk_ireland-ponds.htm



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DIRECTIONS FOR CLEANING SOFT-BERRIED SEEDS

Heather Pass gave an excellent presentation on this topic a few months, here, finally, are the instructions!

Equipment: Waterproof apron, water source at work table, several buckets, food processor, duct tape, large sieve, clean stir stick, several clean-up rags, fine-meshed screens, clean newspaper, fan, small plastic flower pots.

Put one or two layers of duct tape on blades of food processor; one for small seeds (Rubus-raspberries) and two for larger seeds (Oemlaria-Indian plum).

Put a small amount of berries in the food processor, fill with cool water. Holding hand over spout, pulse several times until a slurry forms. Fill a bucket ½ full of cool water. Pour slurry into bucket of water and swirl around. Unviable seeds and berry mush will float to the surface. Viable seeds will sink to the bottom of the bucket. Set sieve over another bucket.

Slowly pour swirly water through sieve, stopping before the clean seeds are poured out of the first bucket. If cleaning fine seeds, line a screen with clean newspaper. Omit newspaper for large seeds. Retrieve clean seeds from first bucket and spear on screen. Examine stuff in sieve. If you feel there are enough seeds remaining in slurry dregs, repeat processing. Repeat this process until all fruits are seeded.

When you have completed the screening process put the screens of cleaned seeds in a well-ventilated space to dry. Stand a flower pot under each corner to ensure good ventilation. Cover with a second screen so they don't become mouse treats! Stir gently several times a day while drying. Running a fan in this area will help the drying process. If seeds stick together while drying, simply rub through your hands occasionally to separate. Plant out or store in fridge/freezer.



NATIVE PLANT STUDY GROUP

(Sub-group of the Victoria Horticultural Society)

The **NATIVE PLANT STUDY GROUP** is a non-political group dedicated to learning about B.C. native plants, as wild populations and in garden settings, and to supporting conservation of native plants and their habitats. The group is guided by a volunteer steering committee. Members are encouraged to volunteer for this committee. Participation in outside events, by the group, or by individual members using the NPSG name, is dependent on approval of the steering committee or, where indicated, by the at-large membership. Activities requiring funding must receive approval by the general membership.

Native Plant Study group members are expected to become members of the Victoria Horticultural Society. Fees are \$25.00/yr and help pay for insurance to cover field trips. Send \$ to Box 5081 Stn. B, Victoria, V8R 6N3