



Fescue and Fir in Them Thar Hills Botany Alberta 2006

by Patsy Cotterill

The only thing that Jim Posey forgot to order when he organized this year's ANPC annual Botany AB field trip to the southwest was the weather! The weekend of June 9–11 fell squarely within Alberta's spring monsoon, and the Chain Lakes area along Highway 22 west of Claresholm was not exempted from the rains sweeping the province for days on end. However, Jim did the next best thing; he booked the group campground in Chain Lakes Provincial Park, which must boast the most comfortable shelter and best cooking facility of all the province's parks. There, the picnic shelter comes equipped with all mod cons: water, sink, light, gas stoves and, of course, seating and table accommodation. A botanist can stand a fair amount of soggy hiking during the day if he or she can cook, socialize, scrutinize specimens and compile species lists in dryness and warmth back in camp. (And for lazy camp cooks, the park even supplied the boon of an operating concession with a small café, no doubt catering to the fishing crowd. It was in this café that the weekend kicked off on the Thursday evening with a meet-the-locals supper.)

Our first day was spent deep in the heart of foothills parkland, a country of wide vistas of green grassy hills, punctuated by willow clumps on the lower slopes, and capped by forests of poplar and conifer. Friday morning

found us heading back north up Highway 22 in a convoy and pouring rain

sequence, we spent a little time examining and discussing weeds (true weeds, that is, aliens) and some of the wild plants that are toxic to cattle. For instance, Francis noted that although death camas (*Zigadenus venenosus*) and low larkspur (*Delphinium bi-*



Botany AB 2006 trip to Mt. Sentinel Ranch. photo: Jim Posey

to our first stop, Mt. Sentinel Ranch. It is owned by Francis and Bonnie Gardner and the former came out to greet us, a tall, distinguished figure looking every bit the part in boots, long black waterproof trench coat and cowboy hat. The Gardners ranch on land that has been in the family for three generations. A testimony to this was not only their charming farmhouse, of 1898 vintage, but some 84-year old aspens in the garden, of similar character. The Gardners' ranching operation (with some 600 cattle, 250 calves) is an organic one, so pesticides are not allowed. In con-

color) were fairly abundant on his land, they did not seem to present a problem for cattle, and cases of poisoning in the area were rare. We began hiking upslope, noting that the Kentucky bluegrass (*Poa pratensis*) gave way to increasing amounts of the native plants characteristic of moist grassland as we gained altitude. Mountain rough fescue (*Festuca campestris* or *F. altaica* ssp. *scabrella*) appeared, along with large and imposing specimens of sticky red geranium (*Geranium viscosissimum*) just coming into flower, woolly gromwell (*Lithospermum ruderales*),

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sprawling heart-leaved buttercup (*Ranunculus cardiophyllus*), Richardson's alum-root (*Heuchera richardsonii*), and bracted bog orchid (*Coeloglossum viride*), the common orchid of the mountains and foothills. Prairie crocus (*Pulsatilla patens*) and



“Old Man Jim”, our host for the weekend. photo: Patsy Cotterill

three-flowered avens (*Geum triflorum*) were already forming fruit, their feathery heads bedewed with raindrops and testifying to the fact that spring starts early at this latitude despite the altitude. Our turnaround point, where we met up with Francis' daughter and the hired hand (both on horseback and out to round up a sick calf), was a clump of willows ancient enough for their huge limbs were to be covered with lichens. These willows were in something of a hollow, but many of the willow groves cover hillside that otherwise supports fescue, and do not seem to coincide with streams. Interestingly, they virtually all consist of a single species, beaked willow (*Salix bebbiana*), which is well able to thrive in more upland habitats. At one point we had a discussion as to what conditions might have led to their establishment, as well as the changes in tree cover on the landscape that Francis had noted in his lifetime. Not for the first time did I wish I could travel backwards in time and follow these community changes from their beginning to the present day!

After a dry and convivial lunch back at the ranch, we assembled in front of a television to watch Francis' tape about the

Pekisko Rangelands. It has been developed by the Pekisko Group, which is associated with the Southern Alberta Land Trust. This group represents about 40 families who ranch in an area stretching from Longview to the Oldman River in the south. Their aim is to garner government and public support for a plan that will preserve the integrity of the foothills landscape, its watersheds, diversity and beauty, along with ranching. All this is threatened by land loss to less sustainable economies, oil and gas and residential development, and the accompanying accumulating impacts of ever more numerous public roads, access roads, pipelines, seismic lines, and so on. The tape sends a powerful message of a self-sustaining economy, powered virtually only by sunlight, that evolved with the bison, but is threatened and unappreciated by a modern world that prefers to get-rich-quick from non-renewable resources.

Mid-afternoon found us several kilometres further north, on property owned by Gordon Cartwright, another Pekisko rancher. We ran into Mr. Cartwright on a gravel road, travelling not by horse but by a motorized vehicle somewhat reminiscent of a golf cart. Gordon is not an organic farmer like Francis, but is nevertheless fully committed to the Pekisko philosophy and believes that the only way to preserve the foothills parkland is by “willfully” planning for its future. With the rain now retreating into nothing more than gloomy clouds, we spent a pleasant hour or two botanising his land on a drier, somewhat undulating plateau. We also examined an enclosure, whose vegetation did not appear to be markedly different from its surroundings, suggesting that cattle at the given stocking rates are not damaging the native ecosystem. By the end of the day (including some Flora-checking back at the picnic shelter), Tony Blake, our keen scribe, had come up with a list of nearly 120 species for the Pekisko area — not bad for a quick late-spring snapshot on a rainy day!

Saturday found us heading south and

then east in the direction of Claresholm, heading for the forests of the Porcupine Hills. The rain was so insistent that we botanized by rubber-necking from our cars, until some particularly colourful stretch of roadside or rocky outcrop (for example, with large patches of showy Jacob's-ladder (*Polemonium pulcherrimum*)) enticed us to stop for more in-depth examination. Douglas fir (*Pseudotsuga menziesii*), probably here at its easternmost extension in western Canada, was a major component of the forest, although lodgepole pine (*Pinus contorta* var. *latifolia*) and white spruce (*Picea glauca*) were also present. We wondered aloud why Douglas fir was so predominant in these hills, Jim being of the opinion that tolerance to fire was the major reason. Limber pine (*Pinus flexilis*) flourished on rocky, exposed hillsides and promontories (which no doubt commanded superb views in better weather), much to Eileen Ford's surprise. (She and fellow members of the Red Deer River Naturalists have chosen to monitor limber pine under ANPC's Adopt-a-Plant Program — obviously they have many happy days of field exploration ahead!)

Stopping for lunch near the fire tower and the junction with West Sharples Creek Road gave us an opportunity to take a closer look at the species of montane forest. Many are common to the eastern slopes



Western false gromwell at Williams Coulee. photo: P. Cotterill

further north, but here the plants seem to grow taller and more robust. For example, we examined two large (well separated) female and male colonies of meadow-rue in full flower, thinking they might be *Thalictrum occidentale*, but found them only to

be exceptionally lush *T. venulosum*, a far cry from the spindly plants found in prairies. Two yellow crucifers were particularly abundant: golden Draba (*Draba aurea*) and small-flowered rocket (*Erysimum incon-*

with the Oldman River we were alarmed to see great patches of leafy spurge (*Euphorbia esula*) in bloom along its gravel reaches. Eileen later contacted Kelly Cooley, the M.D. of Pincher Creek's Agri-



View from Bob Creek Heritage Rangeland. photo: P. Cotterill

spicuum). With similar habitat preferences (disturbed forest edges) and identical flowers, I found the two a bit confusing until I noticed that the Draba invariably had a rosette of leaves at its base whereas the *Erysimum* lacked basal leaves.

As we headed down the West Sharples Creek Road towards the open plains, a steep, wooded slope covered in balsamroot (*Balsamorhiza sagittata*) quickly brought our straggling convoy to a stop. Even when past its pristine flowering best, balsamroot is a photogenic plant, and with the afternoon rain easing off, as seemed to be the weather pattern in these parts, out came the cameras. Plant, bird and bug life combined to keep us busy for an hour or more on this slope. After this, the road descended all too quickly into open grassland and cattle country, where the (lucky) cows had the land, including the roads, to themselves. One cow, suckling her calf on the road, declined to move until the last minute. When she pulled away her calf came up for air, its muzzle absolutely covered in white froth, a perfect advertisement for the wholesomeness of milk!

Crossing Callum Creek near its junction

cultural Fieldman, who said that particular infestation extends as far down as the Oldman Reservoir and has likely been there for 40 years or more. He e-mailed a lengthy account of the challenges of dealing with weeds in the southwest, prone to alien invasions from across the B.C. and U.S. borders! The good news is that the fight continues, and some weedy populations are declining!

Speaking of weeds, the popular Maycroft rest stop and picnic site alongside the Oldman where it flows under Highway 22 is worth a botany break for a couple of reasons. Here aliens and natives rub shoulders on the dry escarpments and slightly moister terraces alongside the river: smooth brome (*Bromus inermis*) with bluebunch wheatgrass (*Pseudoroegneria spicata*, syn. *Agropyron spicatum*), *Poa canbyi* with *Poa compressa*, plains muhly (*Muhlenbergia cuspidata*) with downy chess (*Bromus tectorum*). Lorna Allen and I spent some time counting individuals of yellow evening primrose (*Oenothera flava*) on the province's rare plant list, growing along with narrow-leaved dock (*Rumex triangulivalvis*) and weedy species of *Polygonum*. Other

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plants of interest included two species of *Penstemon*, smooth blue beardtongue (*P. nitidus*) and crested beardtongue (*P. eriantherus*), dotted blazingstar (*Liatris punctata*) (still in vegetative state), and carpet vervain (*Verbena bracteata*). Among weeds of interest were wood sage (*Salvia nemorosa*) and spotted knapweed (*Centaurea maculosa*), which has been the target of intensive control in

Alberta. On a disturbed gravelly terrace being colonized by rose chamaerhodos (*Chamaerhodos erecta*) I found patches of a species of *Draba* that Joyce Gould later identified as few-seeded whitlow-grass (*D. oligosperma*) with fruit and fresh seed. Already forming little oval pods, it looked as if it should be up in the alpine tundra, not down in the grasslands! The Maycroft picnic site is also a favourite spot for fishermen and here

Tony, quickly transformed from botanist to fisherman with a change of gear and equipment, pulled a rainbow trout out of the Oldman in impressively short order! (He soon threw it back.)

From here in late afternoon we headed west up a gravel road towards the final stop of the day, Bob Creek Heritage Rangeland. The 20-minute drive took us through delightful scenery, with dry grassland sloping gently towards riparian woods alongside the Oldman River on the left and, on the right, a ridge of hills dotted with large clumps of Drummond's milk vetch (*Astragalus drummondii*) on its lower slopes and higher up and along the ridge crest open copses of limber pine and other conifers. We ventured into the Rangeland just far enough to recognize it as a grassland paradise that even lowering, cloudy, cool weather could not diminish. Indeed, the myriad raindrops caught in the narrow leaflets of Drummond's milk vetch twinkled like jewels! On an east-facing slope just above the creek we were able to distinguish three habitat types. The moister slopes were clothed with bunch grasses such as rough fescue, Idaho fescue (*Festuca idahoensis*), beautiful, silvery-panicked Hooker's oat grass (*Helictotrichon hookeri*, syn. *Avenula*

hookeri), Parry's oat grass (*Danthonia parryi*), various *Stipa* species, and June Grass (*Koeleria macrantha*). The sedges *Carex praticola* and *C. hoodii* were also present. The drier, rounded knolls and rocky outcrops had a greater preponderance of low-growing or sprawling plants such as low whitlow-wort (*Paronychia sessiliflora*) and prairie Selaginella (*Selaginella densa*).



Balsamorhiza near West Sharples Creek Road. photo: Lorna Allen

Shallow coulees were filled with taller vegetation: great swathes of attractive Sprenge's sedge (*C. sprengei*), a species I associate with moist aspen woods further north, and patches of giant wild rye (*Leymus cinereus*, syn. *Elymus piperi*). Much admired and photographed, particularly on the south



Ground plum fruits. photo: Lorna Allen

facing slopes, were patches of ground plum (*Astragalus crassicaarpus*) with different individuals having flowers and the unmistakable inflated fruits. Other prominent milk vetch species were loose-flowered

milk vetch (*A. tenellus*) just finishing flowering, and slender milk vetch (*A. flexuosus*).

Our final (Sunday) morning of the weekend was spent on Jim Posey's own property, a half-section of land at Williams Coulee. Jim's land is part of a southwest-facing ridge occupying the last chain of hills before one descends abruptly onto the broad plains stretching east towards Claresholm and beyond. Jim rents out his land for cattle grazing and he was a little shamefaced about the weeds on his property. These, no doubt dispersed by livestock, were mostly tall hedge mustard (*Sisymbrium loeselii*) and hound's tongue (*Cynoglossum officinale*), both conspicuous by being in full flower. We pulled as many as we could that were on our route, joking that this was the price of admission to Jim's land. As before, the Kentucky bluegrass, and more gradually the weedy forbs, petered out as the gradient steepened, the soil became thinner, and the grassland natives gained the upper hand. When we reached the first outcrop of sandstone, part of the Paskapoo Formation according to Jim, we were pleased to find a good population of western false gromwell (*Onosmodium molle*), which has a very restricted range in the southwest part of the province.

Many of the grassland species we had been seeing for the last two days were present on this hillside, but we spotted others, better suited to the drier conditions, for the first time. We compiled a list of about 120 species from that one half-day visit. We found 17 species of legume, including a few individuals of Indian breadroot (*Psoalea esculenta*) whose leaves are palmately divided in a similar fashion to the ubiquitous silky lupine (*Lupinus sericeus*), six species of *Astragalus*, and both prairie-clovers (*Petalostemon*). Of the umbellifers, long-fruited wild parsley (*Lomatium macrocarpum*) and leafy musineon (*Musineon divaricarpum*) required a bit of detective work to

sort out: both are low-growing, early flowering and feathery-leaved. Across the coulee, Lorna pointed out an extensive population of little bluestem grass (*Schizachyrium scoparium*), a grass I have rarely

ANPC Objectives

The **Alberta Native Plant Council** strives to:

- Promote knowledge of Alberta's native plants.
- Conserve Alberta's native plant species and their habitats.
- Preserve plant species and habitat for the enjoyment of present and future generations.

The Council's specific objectives are:

- To educate individuals, industry, and government about native plants.
- To promote awareness of native plant issues through a newsletter, an annual workshop, and in the media.
- To co-ordinate information and activities concerning Alberta's native plants.
 - To develop briefs or position papers for special projects; for example, biodiversity, forest vegetation management, wetlands, rare species or phenology.
 - To organize field trips, plant studies and May Species Counts.
 - To update lists of current research and conservation projects.
- To preserve natural habitats and plant communities.
 - To support legislation that protects native plants.
 - To take action to establish, preserve and manage protected areas.
 - To undertake Alberta projects jointly with like-minded groups.
- To encourage appropriate use of Alberta's native plants.
 - To produce information on the use of native plants in land reclamation.
 - To develop and distribute collection, salvage and management guidelines.
 - To update a list of native seed sources and suppliers for horticulture and reclamation.



Sticky geranium on Mt. Sentinel Ranch. photo: Lorna Allen

seen in Alberta but which she says is reasonably common in these parts.

We lunched sitting on a ledge formed by another sandstone outcrop near the top of the ridge, scaring off a colony of about a dozen cliff swallows from their peculiar gourd-like mud nests stuck onto the dome of rock above us. Looking at a defunct eagle's nest that was resting under a large boulder, some of us couldn't help hoping that the current rains were not precipitating any major erosion events. The ledge was bordered by skunk-bush (*Rhus trilobata*), its congener poison-ivy (*R. radicans*) was just a bit further downslope) which made a surprisingly decorative edging, surely suitable for cultivation in southern gardens. Large quantities of hound's tongue were also mysteriously here, and Laurie Hamilton and Howard Anderson, two of our keener weed-pickers, went literally out on a limb to harvest and bag them (Howard thereafter was conscientiously trailing garbage bags all the way back to the cars!). Lunch ended when the swallows' tolerances wore out and their flying squadron drove us away with wild swoops and cries. We descended the ridge at a leisurely pace, taking the time for some photography now that the sun was putting in a peep-show appearance.

While discussing the challenges of land ownership and management, Jim mentioned that at one time people had come out annually from Calgary to do a May Plant Count on his land, but in recent years interest had

fallen off. This seems to me a great pity; clearly many plants would be in flower on this dry, rocky ridge by the end of May, so there would be plenty to record. Also, visiting the same site year after year would allow interesting insights into changes in the vegetation or the fortunes of a particular population or plant. Add to this the fact that Jim could use some help with his weeding — I think he should resume his practice of rounding up volunteers! On the plateau of the ridge top (whence we observed elk in the far distance) we had seen the only population of smooth brome on the property. Another interesting volunteer project might be to see if it could be eradicated and whether natural succession would take place or some further intervention would be necessary.

Driving back up Highway 22, I reflected on a weekend that had been varied and satisfying, thanks largely to Jim's planning and his local knowledge of places and landowners. I had a better understanding of the conservation problems of the foothills fescue lands. I had re-acquainted myself with some grassland species and found new sites to explore. I already had a reprise in mind for late July, visualized as taking place under a blazing sun. In the meantime, back to work... and then I realized — wouldn't you know it — it had finally stopped raining! ☁



Low larkspur on Mt. Sentinel Ranch. photo: Lorna Allen



Iris

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If you have an announcement, article or other item, you are invited to submit it to the editor for publication. Items concerning native plants will be given highest priority.

The editors reserve the right to edit submissions, but will review changes with the authors whenever possible. Disputes will be resolved in favour of the Audience.

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ANPC Workshop AGM 2007

This year's ANPC workshop and Annual General Meeting will be held in **Calgary** on **April 21, 2007**.

Please check our website www.anpc.ab.ca for updates on the workshop program and for registration information.

International Commission asked to review Canada's failure to enforce endangered species law

Media Release by Nature Canada, Sierra Club of Canada and Sierra Legal Defence Fund. Reprinted with permission by Sarah Wren, Nature Canada.

VANCOUVER, October 11, 2006. A coalition of Canadian and American environmental groups has filed a formal complaint to the Commission for Environmental Cooperation of North America (CEC), alleging that Canada is failing to enforce its Species at Risk Act.

The CEC is an international organization created by Canada, Mexico and the United States under a side agreement to the North American Free Trade Agreement (NAFTA). Canada's failure to protect species at risk has international significance, as many species migrate to the U.S., Mexico and other countries.

"Canada is failing its duty of care toward the nation's wildlife," said Julie Gelfand, Nature Canada's President. "We want Canada to take the Species at Risk Act seriously. Canadians don't want species to become extinct."

The groups allege that failure by the federal government to enforce the Species at Risk Act has led to delays in listing critically endangered species, denial of listing for some species scientifically proven to be at risk, failure to identify and protect habitat needed for survival and recovery and a complete lack of protection for species at risk in some provinces. These failures significantly jeopardize the potential of the Act to bring about species recovery, instead leading to an increased risk of extinction for Canadian species at risk.

"When is a law not a law?" asked Sierra Legal lawyer, Devon Page. "When it's a national law to protect the environment." Page referred to the fact that Canada has had legislation for over 35 years allowing the federal government to protect the environment where provincial actions are insufficient, but has never used this power.

Environmental groups in the U.S. also participated in the complaint: "From where we're standing, it looks like trade agreements are failing the environment," said Joe Scott of Washington-based Conservation Northwest. "Most Americans see Canada as a vast wilderness teeming with wildlife, but unless Canada protects its wilderness areas,

this perspective is going to change," he added.

"Both the past and current governments have failed to use SARA to protect our country's species at risk," said Rachel Plotkin of the Sierra Club of Canada. One grave example is the failure to protect the spotted owl--the most endangered bird in Canada. At last survey, only seventeen were counted. Conservationists petitioned the federal government to intervene to protect it in the spring of 2004. The federal Liberal government stalled for two years, and the Conservative Minister of Environment recently stated that the owls don't face a threat to their survival in Canada.

"The current government talks about replacing talk with action, but the only action that we're seeing is them walk away from the owl and other wildlife species," added Plotkin.

The petition comes on the eve of a Ministers' meeting in Yellowknife where species at risk will be addressed. The groups are concerned that the federal and provincial governments of Canada are moving towards weakening, not strengthening, implementation of the Act.

Sierra Legal submitted the complaint on behalf of the Sierra Club (U.S. and Canada), Nature Canada, the David Suzuki Foundation, Conservation Northwest, Environmental Defence Canada, BC Nature (formerly Federation of BC Naturalists), Federation of Alberta Naturalists, the Natural History Society of Newfoundland and Labrador, Nature Nova Scotia, Forest-Ethics, Ontario Nature, Nature Quebec, and Western Canada Wilderness Committee. The groups are seeking a response from Canada to their allegations and, ultimately, a report from the Secretariat that spotlights Canada's failure to effectively protect endangered wildlife.

For further information, please contact: Devon Page, Sierra Legal Defence Fund: Staff Lawyer, 604-328-1633;

Rachel Plotkin, Sierra Club, Director, Forests and Biodiversity Program, 613-241-4611;

Sarah Wren, Conservation Biologist, Nature Canada, 1-800-267-4088 ext. 300;

In the U.S.: Joe Scott, Conservation Northwest, cell: 360-319-7056 ☘

Tansy Ragwort (*Senecio jacobaea* L.) — a new invasive species for Alberta

by Lorna Allen

While walking along a river valley trail in August 2005, I came across a suspicious looking yellow-flowered plant of the Aster family (*Asteraceae*). I say suspicious because, although there are many yellow-flowered members of this family that are not weeds, there are also many that are. This one turned out to be *Senecio jacobaea*. In some jurisdictions it is called tansy ragwort, and others give it the lovely name “stinking willie”. And sure enough, a review of the USDA-NRCS PLANTS database (www.plants.usda.gov) revealed that it is listed as a noxious weed in several states, and is known to be invasive in some habitats. So I walked back, pulled the plant up, and pressed it for the herbarium.



Tansy Ragwort (*Senecio jacobaea*).
photo: Lorna Allen

This spring (2006), I went back and pulled up several more plants that I must have missed in the fall of 2005. But by mid-July, as I walked along the same trail, I could see hundreds of the yellow-flowered plants scattered throughout the hillside vegetation. This hillside already has patches of many other invasive species, so it looks like one more has become established.

This seems to be the first report for Al-

berta, although The NatureServe database (www.natureserve.org/explorer/) confirms that the species is known from adjacent areas, including B.C., Montana and Saskatchewan. So it's not a big surprise that tansy ragwort should show up here. Should we be concerned?



Common Tansy (*Tanacetum vulgare*). photo: Lorna Allen

The following information is summarized from the Forage Information System (FIS) database. It is a species of Eurasian origin that can reportedly survive under most soil moisture conditions and can successfully survive freezing temperatures if there is good snow cover. It is a biennial that germinates, lives through the first year as a rosette, then flowers the next summer, sets seed and dies. “An undisturbed plant has a stout, erect or slightly spreading stem that may be branched, but often a group of stems arises from the crown of a plant that has been damaged. A fibrous system of coarse, light-colour roots spreads from the crown.” (FIS database). One or more stems elongate to bear flowers and flowering plants are up to one metre tall. Flower clusters are flat-topped and are made up of what appear to be numerous yellow-petaled daisy-like “flowers” (but of course each

“flower” is really a composite head of many small ray and disc flowers). There is a single set of bracts beneath each “flower” as is characteristic of the genus *Senecio*. A single plant can produce thousands of seeds, and seeds may live up to 15 years in the soil. The plants are superficially similar in size and look like common tansy (*Tanacetum vulgare*), but the common tansy “flower” does not have the ring of “petals” (i.e., ray flowers are lacking).

Tansy ragwort seems to like disturbed ground but will move into grasslands and “has been a serious weed problem in western Oregon, Washington, and northern California.” (FIS database). It is of concern agriculturally as it is poisonous and has reportedly caused livestock losses. In the US, the greatest infestations of tansy ragwort occur west of the Cascades, but seem to be moving east.

The available information suggests that this is a species we should be concerned about. It could become a problem if allowed to move into Alberta, especially for areas with exposed soils such as badlands or the dry grasslands in the southeast corner of the province.

References:

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Tansy Ragwort Britton and Brown

ANPC Small Grants Program

The Fungi Files: An Educator's Guide to the Fungi K-6

by Terra Stewart Koval

The primary objectives of this project are delivering effective ecological education and increasing youth awareness about the importance of preserving biodiversity.

Fungi is the perfect kingdom to use to introduce our youngest students to ecology by highlighting concepts such as mycorrhizal relationships (*i.e.*, fungi that work symbiotically with plant species), symbiosis (*e.g.*, the marriage of fungi and algae in lichens), as well as our relationship with fungi, be it beneficial (*e.g.*, antibiotics, food sources, biological control of insects) or adversary (*e.g.*, agricultural diseases and human pathogens). Friend or foe, fungi are a charismatic and fascinating element of our environment.

To date, there are no other teacher's

guides on fungi available for Canadian environmental educators-yet the fungi represent an entire biological kingdom! Too often these "Masters of Recycling" have been pushed aside by the more "high-profiled" species. Fungi, however, are subjects of great curiosity. Would you be surprised to learn that fungi are more like insects than they are like plants? Or that many plant and tree species cannot live without their fungal helpers? What about the role of penicillin in our lives? Have you ever wondered why faerie rings grow in circles? Have you ever seen mushrooms that glow in the dark? These are magical organisms that can jump start a child's imagination and send it into overdrive. What is truly unique about fungi is that they encourage ecological thinking by illustrating the delicate interconnectedness of all living and non-living things.

The Fungi Files is divided into five chapters: Introduction; Biology and Classification; Reproduction and Development; Adaptation and Environment; and Fungus Among Us. Each chapter opens with text introducing the educator to the concepts addressed in the activities. Students will explore the fungal kingdom through worksheet activities, hands-on activities, and classroom demonstrations. A co-operative, rather than competitive, learning approach is recommended where appropriate.

Once complete, the guide will be available free-of-charge as a downloadable file on The Federation of Alberta Naturalists' (FAN) website www.fanweb.ca. We anticipate the guide will be ready for download by Spring 2007.

Questions regarding *The Fungi Files* can be directed to:

Terra Stewart Koval, Edmonton, AB (780) 433-4521, stewartkoval@gmail.com

This project received funding in 2006 from the ANPC Small Grants Program. As a condition of grant approval, annual project summaries are submitted for publication in IRIS. ❀

Endangered Species Conservation Committee Update

by C. Dana Bush

Summary of Federally and Provincially Assessed Plant Species (Recommended and Legislated) as of July 7, 2006.

Scientific Name	Common Name	COWEWIC Species Designations	SARA Listed	ESCC Species Designations** (approved for listing)
Vascular Species				
<i>Isoetes bolanderi</i>	Bolander's quillwort	Threatened (April 2006)		
<i>Chenopodium subglabrum</i>	Smooth goosefoot	Threatened (April 2006)		
<i>Psilocarphus brevissimus</i> syn. <i>Psilocarphus elatior</i>	Dwarf woolly-heads (prairie population)	Special Concern (April 2006)		
<i>Psilocarphus elatior</i> *	Tall woolly-heads (B.C. only)	Non-active (April 2006)	Special Concern	
<i>Cryptantha minima</i>	Tiny cryptanthe		Endangered (May 2000)	Endangered
<i>Tripterocalyx micranthus</i> syn. <i>Abronia micrantha</i>	Small-flowered sand-verbena		Endangered (Nov 2002)	Threatened
<i>Iris missouriensis</i>	Western blue-flag		Threatened (May 2000)	Special Concern
<i>Yucca glauca</i>	Soapweed		Threatened (May 2000)	Endangered
<i>Halimolobos virgata</i>	Slender mouse-ear-cress		Threatened (May 2000)	Data Deficient
<i>Tradescantia occidentalis</i>	Western spiderwort		Threatened (Nov. 2002)	Endangered
<i>Oxytropis lagopus</i> var. <i>conjugens</i>	Hare-footed locoweed	Special Concern (April 1995)		
Bryophytes				
<i>Bryum porsildii</i> syn. <i>Mielichhoferia macrocarpa</i>	Porsild's bryum	Threatened (November 2003)		in progress
<i>Bartramia halleriana</i>	Haller's apple moss		Threatened (Nov. 2001)	

**Psilocarphus elatior* populations in the prairies have been revised to *Psilocarphus brevissimus*. *Psilocarphus elatior* occurs only in B.C.

** Not yet legislated under Alberta's Wildlife Act ❀