

WAGNER NATURAL AREA NEWSLETTER

Volume 24 Number 2 November 2010

Newsletter of the Wagner Natural Area Society and Volunteer Stewards
of Wagner Natural Area, Parkland County, Alberta



Wagner Society Art Raffle in progress!

“Misty Spring” by
James Davies, 12”
x 12” acrylic

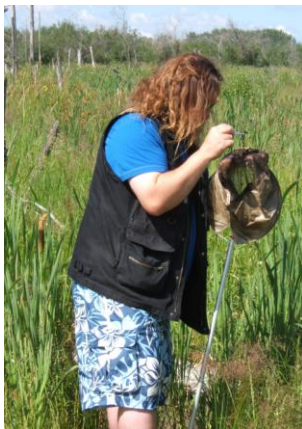


“Wagner Bog Study #
3” by Judy Martin,
16” x 20” acrylic

Wagner Natural Area Society board members are raffling off two acrylic-on-canvas, unframed paintings that have been kindly donated to the Society by their creators. Proceeds from the raffle will pay for a new edition of the Marl Pond Trail guide and other educational projects. The two pieces are a 12” x 12” painting by artist James Davies entitled “Misty Spring” and a 16” x 20” painting by Judy Martin entitled “Wagner Bog Study # 3.” Tickets are now on sale by directors of the Society at \$2.00 each or three for \$5.00. Contact the Raffle Chairperson Beth Jenkins at 780-452-6167 or email bethj@interbaun.com for more information or to find out the easiest way to purchase your tickets. Contact information for other board members is listed on page 7. The draw for the paintings will be made around noon on May 14, 2011 in the picnic shelter at Wagner Natural Area. (For directions to the site see <http://www.wagner.fanweb.ca/>.) The owner of the first drawn ticket will win the “Misty Spring” painting, the second draw will win “Wagner Bog Study # 3.”

Temporary Closure of the Boardwalk and Part of the Marl Pond Trail

Please bear with us while we upgrade our infrastructure! We are having our old boardwalk removed and a new one installed. During this time it will be necessary to close off the wooded portions of the Marl Pond Trail to public access. We expect that the work will be completed in time for Christmas. Access to the open portion of the trail (through the fields), the toilets and picnic shelter will continue. For more information, see the Grapevine on page 7.



Mike Jenkins, Biological Sciences Technician with the City of Edmonton, and Society board member, gave a presentation to Wagner Open House attendees November 10 entitled “Alien Invaders: The Exotic Insect Pests of Our Urban Forests.” For a summary of the talk, go to page 3.

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Wagner Provincial Park? What's in a name change?

by Patsy Cotterill

Wagner Provincial Park? That's a name we might have to get used to if the new Alberta Parks Act passes in its present form. This act was introduced into the legislature by Minister of Tourism, Parks and Recreation (TPR) Cindy Ady, and received first reading on November 4.

Why Wagner Provincial Park? Well, this new act (Bill 29) proposes to recognize only two categories of land within the provincial parks system: Provincial Parks and Heritage Rangelands. It replaces the Provincial Parks Act, RSA 2000 and the Wilderness Areas, Ecological Reserves, Natural Areas and Heritage Rangelands Act, RSA 2000, and will require some amendments to the Public Lands Act RSA 2000. Thus all areas that are not now categorized as provincial parks (apart from Heritage Rangelands, which are of little concern to the general public) will change to become Provincial Parks under the new act. The uses and activities currently dictated by legislation for these various public lands will now be defined by zoning. Four zones will be recognized and these will be governed by regulations.

The thinking put out by politicians and senior bureaucrats in TPR is that these regulations will make it easier for the public to understand what it can and can't do, where, on lands within the parks system. However, zones and regulations are not specified in the act so it is not possible to evaluate them. Few people seem to think intuitively that this system will lead to greater clarity for the public.

The act's preamble states: "The purpose of this Act is to foster an Alberta parks system that conserves unique and representative land within Alberta's natural regions for present and future generations while balancing environmental conservation and recreation and tourism opportunities." A conservation objective is put first and foremost, but then is qualified by the operative word "balancing," which raises red flags for environmentalists.

Environmental lawyers and parks experts are saying that in order to protect land for environmental or conservation purposes, such protection *must* be legislated. Zones and regulations that are intended to promote environmental integrity can be too easily changed, with a requirement for public notification but not necessarily public consultation, and of course without needing a change in legislation. Imagine what might happen when a Minister is under pressure to develop in order to maximize industry, tourism or recreation revenues or even to satisfy a vocal off-highway vehicle organization lobby! The balance could swing heavily against conservation values. Indeed, this is very likely the *raison d'être* for the new Act. Conservation is not entrenched because the real purpose of the act is to give the government the *flexibility* it needs in order to capitalize on any economic opportunities.

In the last few years the provincial government has paid considerable attention to its parks system. Witness the Plan for Parks released after consultation and reiteration in April 2009, the promise to develop more modern infrastructure in parks, and an online camping reservation system introduced this year. Certain high-profile parks have been singled out for special attention with respect to upgrades and interpretive facilities. On the conservation side of the scale, considerable research effort has been put into areas of high ecological value in the northwest, such as Willmore Wilderness Park and Kakwa Wildland Park, and in the northeast.



Clyde Fen Natural Area, in Westlock County. As a protective notation site, Clyde Fen has almost no formal protection. It was ravaged by fire early in this century, and this year has been impacted by a road built for gravel extraction. Once home to huge populations of pitcher plants, and still harbouring two very rare orchid species, it is virtually forgotten by the government. What will its fate be?

Photo: P. Cotterill, July 2010

Nevertheless, the signs are not auspicious. Why is the government weakening the legislation with respect to protection if conservation is a major goal? Is this new act necessary? How will it improve things?

As people who like to loiter in our local natural areas, enjoying the subtler aspects of nature closer to home, we are particularly concerned about the fate of our natural areas. Will they still be there, and will we still be able to steward them with loving care?

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Note this: in a 2006 Amendment to the Wilderness Areas, Ecological Reserves, Natural Areas and Heritage Act (WAERNAHR), 2000, it was stated under the heading “Natural areas: 4.01. The Lieutenant Governor in Council, in order (a) to protect sensitive or scenic public land or natural features in public lands from disturbance, and (b) to maintain that land or those features in a natural state for use by the public for conservation, nature appreciation, low intensity outdoor recreation or education, or any other purposes, may designate any area of public land as a natural area. (2) Subject to this statute, land that was a natural area immediately before the commencement of section 20 of the WAERNAHR Amendment Act 2006 continues to be a natural area after that commencement.” The new act will do away with these safeguards written into law. It has nothing whatsoever to say about natural areas. And these safeguards, for all the categories of park, are what the opposition parties, the ENGOs and the environmental lawyers want put back.

Personally, I don’t doubt that Wagner will carry on, or at least that it will not be swapped, decommissioned or legislated out of existence. It is a flagship natural area,

supported by a large population base, and Alberta Parks has invested a lot into it, such as gifts of extra land and subsidies for renewing infrastructure. It is worth remembering, though, that Wagner was originally preserved at public request and bequest, and it has achieved its current status by unflagging volunteer effort and public support. But what of the lesser natural areas around the province – the ones whose stewards don’t have Wagner Society’s clout or even a steward at all? I know of one, Strawberry Creek Natural Area, that is home to four rare plant species, three of them extremely rare, yet no one has replaced its bleached-out natural area signs in years, and it is near enough to Pigeon Lake to be easily saleable for acreages. Biologists know of it, but do the planners and politicians? With no legislated protection at all, it can slip off the map as easily as any species on the brink of extinction.

Given that the act represents a significant regression in terms of protecting ecological lands and integrity, ENGOs have been calling for the public to contact the Premier and their MLAs to ask that the act be tabled until it can be rewritten. To read the act, go to the Legislative Assembly website at

http://www.assembly.ab.ca/net/index.aspx?p=bills_home and scroll down to Bill 29. Then contact your local politicians and let them know how you feel!

Alien Invaders of the Urban Forest...

It is not only authorities at border posts who guard against undesirable immigrants. **Mike Jenkins, Biological Sciences Technician with the City of Edmonton’s Environmental Services**, provides a fascinating insight into how the City of Edmonton’s Pest Management staff are working to keep on top of (by monitoring and trapping) the alien insect and fungal invaders that represent a threat to our “urban forest.” Speaking at the Wagner Open House event, November 10, at St. Paul’s Church in Belgravia, Edmonton, Jenkins paraded a rogues’ gallery of foreign insects that may invade or have already invaded the Edmonton area.

He cites global trade and the increasing speed of modern transport as a major cause of the increased threat from invading organisms. In the old days of “a slow boat to China” any insect that stowed away in cargo went through its life cycle while still on board and, not finding suitable habitat as an adult, usually died before reaching land. Now, insects can often survive the trip and, if they find the right habitat, become established in a new home. In the absence of the natural predators found in their homeland, they may build up populations big enough to eat, girdle, block vascular systems, and eventually kill local plant life, particularly trees.

Urban forests of cultivated trees are particularly at risk because they are often planted in monocultures. Sixty

percent of Edmonton’s city trees are green ash, 30% American elm. Usually they belong to very few cultivars, meaning they lack the genetic diversity that could slow infestations or allow the development of resistance. Stressful growing conditions and proximity to high traffic areas (railways, containers) that may be harbouring alien insects also make street trees more vulnerable.

Green ash, we learned, is prone to an amazing number of alien invaders, and of course the international ravage of elm by Dutch Elm Disease (DED) is well known. The City of Edmonton maintains constant vigilance against DED, a blocking of the tree’s vascular (feeding) system caused by a fungus carried by the Smaller European Bark Beetle. (While a few beetles are trapped every year, DED has not yet been detected in Edmonton.) Now, it appears, its look-alike cousin the Banded Elm Bark Beetle is also capable of carrying the disease, and City staff are on the lookout for this species too. The favourite food of the Banded Elm Bark Beetle is Siberian elm, but since it also attacks fruit trees it would represent a serious threat to western Canada if it became established here and brought the fungal disease.

To control these pests, Jenkins in no way recommends a trigger-happy approach to use of pesticides. Pesticide spraying may be useless and may even be harmful. Take

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the case of the ash leaf cone roller, actually a native insect, whose caterpillars can become annoying as they bungee jump from tree to tree in large numbers. Spraying is impractical, and also would likely kill off the native *Apanteles* wasp that is showing an increasing appetite for parasitizing these larvae. Instead Jenkins suggests a number of approaches that the City and citizens can take to avoid or control infestations:

- Learn to recognize infestations early, and report them. (Control may involve cutting off infected limbs or removing infected trees, before the infestation gets a chance to spread.)
- Thoroughly clean all tools and equipment being moved from place to place, including boots
- Take care when transporting plant products, and especially DO NOT MOVE FIREWOOD from one place to another
- Be aware of the plant stock you buy from nurseries. (Amazingly, it can be illegal to have certain plant species or products in your possession but not illegal for nurseries to sell them. Of course, a sanitation and certification system for nurseries would be desirable, but it hasn't happened yet.)
- Plant native species, and a variety of them
- Maintain natural ecosystems, which can act as a repository of native insect species that may serve as controls.

Healthy natural ecosystems such as Wagner's thus have a role to play in the defence against foreign invaders!

Editor's Note:

The insects Mike profiled are as follows: Asian long-horned beetle; Poplar borer; *Sirex noctilio* (a wasp); emerald ash borer; bronze birch borer; smaller European elm bark beetle, banded elm bark beetle; gypsy moth, European spruce bark beetle, European elm scale, satin moth; ash leaf cone roller (native); mountain pine beetle.

Fascinating information about most of these insects, as well as pictures of the damage they cause, can be found on the Internet.

Editor's further note:

Fancy becoming an urban tree vigilante? Listening to Mike Jenkins' presentation it occurred to me that this could be a new recreational occupation for our citizens who enjoy neighbourhood watching. I have long lamented the fact that the urban masses, busy talking on their cell phones, seem to show little awareness of the trees around them on the streets or in the parks. I have never heard anyone comment on how lovely an aspen stand looks in mid-April when the flowers turn their canopy to a grey mist, each long grey male catkin swaying in unison like a little wind sock. Nor do people seem to notice that one spring day, again about mid April, the crowns of the elms have all turned brown as the flowers open, to morph soon into a roof of green as the fruits develop; the leaves will only appear later. No-one has ever commented to me how the male flowers of the Manitoba maples with their dangling stamens are such show-offs compared to the demure female ones on separate trees, or lauded any of these harbingers of spring, which they could so readily appreciate as they go about their business in the city.

While phenology (the various changes that a plant goes through, especially seasonally) seems to hold little interest for the public, perhaps the idea of sleuthing for alien arboreal invaders might just catch on. Watching for signs of insect entry and exit, feeding and defecation, or checking the symptoms of tree decline and diagnosing the cause, could prove to be even more exciting than working in a forensic DNA lab! It is certainly an avenue of vigilantism – or ecological detection – that would be worth pursuing by the City's graduating Master Naturalists!

Adult banded elm bark beetle

Photo: Colorado Forest Service (not to scale)



Asian long-horned beetle (adult)

Donald Duerr, USDA Forest Service, www.forestryimages.org (not to scale)

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Recognition of Board Members Pat Clayton, Irl Miller

Wagner Natural Area (WNA) Society board of directors took the opportunity at the Open House November 10 to honour the special contributions to the Society and the Natural Area of current president and director **Pat Clayton**. **Derek Johnson** read the following tribute, written by fellow board member **Alice Hendry**:

“... [We are] pleased to recognize this evening an indispensable member of our organization and a fierce defender of Wagner Natural Area: Pat Clayton. Pat was instrumental in the formation of the first Wagner Management Committee in 1982 when she chaired the first three meetings of the committee. She stayed around for a time to make sure that the committee was focused on maintaining the integrity of Wagner. Then she left us for a few years to work with other groups.

When she rejoined the Management Committee (now the Board of Directors) in 1989, she quickly became a director, and then Acting President in 1996. She was President from 1997 to 2000 and then Past President from 2000 to 2003. She is currently in her second year of another presidency.

The Board of Directors recognized Pat for her commitment to WNA with an award in 1999. In the 11 years since that award, her dedication to protecting WNA has been undiminished. It is time to recognize this dedication once again.

Pat contributes to Wagner Society in many ways. She has been willing to take on any task, however unpleasant. She is a whiz at grant applications. She composes letters to government departments. She is the archivist for the Society's paperwork and awards. She presides over board meetings; she attends meetings with government officials from various government departments. Recently she was one of three Wagner directors to represent Wagner before an Environmental Appeal Board mediator. In addition, she contributes physically to the maintenance of the WNA site. Among other tasks she pulls weeds, cleans outhouses, picks up litter, clips encroaching branches back from the trail, leads walks, helps to remove barbed wire fences (and gets stung in the process!), and puts up signs.

Any award given to Pat also recognizes the contributions of her husband, Dick Clayton. Among other tasks, Dick helps with maintenance, takes care of the bluebird boxes, bands bluebirds, pulls weeds and maintains the donors' recognition board.

Behind that quiet, calm exterior is a woman of steel! If the Natural Area could speak, it would lead a cheer for Pat Clayton, its faithful guardian. Since it cannot, Wagner board members would like to cheer instead and say a very big thank-you on its behalf and on behalf of the board. Pat, your leadership has been exemplary!” As a token of this appreciation Pat was given a lovely framed water-colour painting of a round-leaved orchid by local artist Cindy Barratt. In accepting it Pat, also ever humble, acknowledged the work and support of other board members, and in particular, that of her husband Dick. It is fitting that both will benefit from the painting.



From left, Irl Miller, Pat Clayton and Dick Clayton conferring about the boardwalk in Wagner.

Photo: P. Cotterill

At the same time another board member, **Irl Miller**, was recognized for his volunteer contributions to Wagner and the Society over a number of years. Instrumental in getting the south fence erected, Irl now is honored with having a fence on the property named after him. (We omitted to mention Irl's Palace, a shed that was intended to become an outhouse but is now used for storage of equipment on site!) Irl received an acrylic painting of round-leaved orchids, also done by Cindy Barratt.

The 2010 Summer Spider (and Incidental Insect) Collection at Wagner Natural Area

by Robin Leech, P.Biol., and Lorie Taylor Leech

Editor's note: Robin and his wife Lorie spent the summer trapping and examining spiders and a by-catch of miscellaneous insects (see the front page of the spring 2010 issue). Robin is now continuing the laborious task of identifying his spiders. Invertebrates belonging to other groups have been sent to the appropriate experts for identification and curation. Robin reports:

Spiders of Wagner Natural Area

So far, we have identified 232 species of spiders of which 23 are new. We expect to find close to 300 species of spiders, about 30 of which will be species new to science. We hope to have this done in about two years. The plan is to describe and publish on all the new species in a first paper, then publish a second paper on all of the Wagner NA spiders, including their biology and zoogeographic information. The second author to the spider studies will be Don Buckle of Saskatoon.

Strepsiptera of Wagner Natural Area

Strepsiptera are commonly called the twisted-wing insects. The females are parasitic, legless and wingless, and appear as small, solid dark brown objects sticking out from between the sclerites of the abdomen of the host insect. Most of the hosts are cicadellids (leaf hoppers), cicadas and various wasps.

For many years, it was considered that strepsipterans are related to Coleoptera (beetles), but Dr Henri Goulet of Ottawa tells me that the latest DNA test results show a relationship to Diptera (flies). Three male specimens were found this summer collected in the Malaise trap at the WNA. The males live for only about 5 hours, and in that time must find a female and mate. The males are attracted to the females by pheromones. To date, 13 strepsipteran specimens have been collected in Alberta: Lake Wabamun, Morinville, Wagner Natural Area and the Cypress Hills. Twelve of these are males, and one is female (from the Cypress Hills). There are no species known in the literature from Alberta, and examination of the pictures I have sent specialists suggests that all may be species new to science. The first specimen ever collected in Alberta is a larva by E.H. Strickland in May 1937. All but two of the remaining specimens were collected by students of Dr George Ball from 1976, 1983, 1990 and 2010 (Graham Griffiths, Andy Nimmo, Gary Gibson and Robin Leech). Brian Jackson collected two males at Lake Wabamun in 1982.

The Ants of Wagner Natural Area

In reviewing the activities of ants, I have come to the conclusion that we are like ants, but we have done a poor job of copying them. So what are ants doing all the time? Eating? Yes. Raising infants? Yes, full-time. Communicating? Yes, full-time.

Agriculture? Yes, full-time. But, they and we do lots more. For example:

Murder: rogue queen kills incumbent queen; Mutiny: rogue queen causes incumbent workers to kill their queen. Steal kids in swaddling clothes (pupae) from other colonies of the same species or other species; Steal food from others - same species and other species; Make raids on other colonies to kill, steal, and pillage; Slavery; Obligate social parasites; Eat body wastes from other animals; Mutant symbiosis: lestopiosis and xenobiosis. There are many more. I recommend reading Hölldobler & Wilson, 1990. The Ants.

This summer, we found 20 species of ants in 3 subfamilies. All identifications were by **James Glasier**, an MSc student at the University of Alberta. All these ants belong to the family Formicidae.

Subfamily Dolichoderinae

Dolichoderus taschenbergi (Mayr, 1866)

Subfamily Formicinae

Camponotus herculeanus Linnaeus, 1758

Camponotus nearcticus Emery, 1893

Camponotus noveboracensis (Fitch, 1885)

Formica aserva Forel, 1901

Formica dakotensis Emery, 1893

Formica integra Nylander, 1856

Formica neoclara Emery, 1893

Formica neorufibarbis Emery, 1893

Formica podzolica Francoeur, 1973

Formicoxenus provancheri (Emery, 1895)

Lasius neoniger Emery, 1893

Lasius pallitarsis (Provancher, 1881)

Lasius subumbratus Biereck, 1903

Polyergus breviceps Emery, 1893 (1 queen)

Subfamily Myrmicinae

Leptothorax muscorum Emery, 1895

Myrmica alaskensis Wheeler, 1917

Myrmica fracticornis Emery, 1895

Myrmica incompleta Provancher, 1881

Myrmica latifrons Staercke, 1927

(Editor's note: Reading the above you'll surely conclude that humans are among the most straightforward organisms on earth! Robin also described and sent pictures of an infestation of mites in Wagner this summer. Some of these mites were hitching a ride on other insects in order to reach plants for feeding, a phenomenon known as phoresis, but others were predatory, sucking the juices of the insect carrying them.)



The Wagner Grapevine



2011 will be the usual busy year...

Wagner Society board members have got a number of projects on the go, left over from last and other years. Among them are...

Revising and reprinting the Marl Pond Trail Field Guide.

Not surprisingly, after 25 years, the appearance of our trail, with its numbered posts relating to interpretive paragraphs in the guide, has changed somewhat so that the two no longer correspond well at all posts. In particular, forest trees have encroached on the shrubs in the meadow at the north end of the trail and the meadow itself is filling in with low shrubs such as rose and buckbrush. As well, several of the marl ponds have dried up leading to a loss of aquatic life. **Beth Jenkins** and **Mike Jenkins** are in charge of revising the guide.

Updating our website. Keeping a website up-to-date is a challenge for many volunteer organizations, and our New Year resolution will be to do better than we have been doing. Of course, we could always use some help...

Monitoring our permanent sample plots. This periodic monitoring is another commitment we have made and the year for doing it (2011) has come round again. Since it is a fairly onerous job requiring some field expertise and agility, we are looking for some paid help to get it done.

Completing our "visioning exercise" so we have a plan of action for the next few years. An important part of this plan is developing an orderly succession of volunteers to replace our aging board, and directing greater efforts to the outreach that must precede it...

Continuing our program of restoring the southeast fields to natural vegetation. We have begun a liaison with Dr. Anne Naeth of the University of Alberta which we hope will be of

mutual benefit – her restoration and reclamation students will get some practicum experience in a local setting and we will get a scientific footing and sound guidance for our restoration work. A bouquet to **Cathy Mowat** for facilitating this relationship.

Installing a new boardwalk. Finally. After years of saying we needed it! Much of the Society's work has now been done on this, and it is out of our hands. With the help of a grant from the Gaming Commission and our own funds we amassed a sum of \$10,000 with which we were able to approach Alberta Parks Department. It turns out they are interested in trying out a new screw-type footing for unstable ground. Thus an agreement has been reached such that Parks will provide labour, supervision and materials and we will pay the contractor's bill for installation of the footings. The boardwalk itself will be pre-assembled by Parks. Any cash costs over the \$10,000 will be reimbursed to the Society by Parks. Dismantling of the existing boardwalk by Parks staff as a Winter Works Project should begin as early as the week of November 15th. It should take about a month, weather permitting. During this time the Trail will be closed through the woods but the central meadow, toilets and picnic shelter will remain open. President Pat Clayton notes that this arrangement is "a good example of co-operation for the benefit of both parties": some Parks staff get winter employment and Wagner gets "a 2-ft high boardwalk replacing our worn-out, no longer up-to-code, roller-coaster ride" over the marl ponds. (I shall miss our old boardwalk, though!) Thanks go to **Pat Clayton** and **Pat Webb** for hard work on the grant and more.

...Finally, another bouquet to **Cathy Mowat** who arranged their visit, and several bouquets to the **Knights-of-Columbus team** themselves who joined us to pick up litter along Highway 16 during our fall clean-up day on September 25. Not only did they lighten this back-breaking chore for us, but also they cooked us up an excellent barbeque into the bargain. We look forward to working with them in the future!

Wagner Natural Area Society Board 2009-2011

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Visit our website at <http://www.wagner.fanweb.ca>

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All telephone numbers are preceded by 780-

Plants of Wagner No. 34

by J. Derek Johnson

Physcia aipolia

(Family Physciaceae)

Physcia aipolia is one of 36 North American species of lichen in a group commonly referred to as rosette lichens, in reference to their growth form. These lichens are relatively small to medium-sized foliose (leafy) lichens, generally greenish-grey to almost white in color. The cortex (upper surface) is frequently covered with white spots. Rhizines (peg-like projections on the lower surface of the lichen) are sparse to abundant, usually almost white in color, and normally formed close to the margins of the lobes of the thallus (body of the lichen). The apothecia (fruiting bodies) are bordered and have dark brown to black disks. The spores are dark brown, two-celled, and thick-walled. The brown spores help to distinguish the rosette lichens from similar species.

Hoary Rosette Lichen is pale to dark grey in color and conspicuously covered with white spots. The thallus lobes are 1-3 mm across, without any vegetative reproductive structures (soredia or isidia). The lower surface is white to pale brown with many pale rhizines. Apothecia are very common and conspicuous, 1-3 mm in diameter, dark brown to black and typically heavily white pruinose (covered with a powdery frost-like deposit), giving the lichen its English common name. This lichen is commonly found on bark, wood and branches of many kinds of trees and large shrubs in somewhat open habitats.

It is relatively pollution-tolerant, which is a good trait for lichens at Wagner, where many species of fruticose (tufted) and large foliose lichens have been eliminated by air pollution, primarily from motor vehicle exhaust along Highway 16. It occurs on all six tree species found in the area, as well as river alder and large willow shrubs. It is not common on Alaskan birch, primarily because the tendency for its bark to peel off in strips makes it inhospitable to most macrolichen species. It is most common on the bark of aspen, balsam poplar and willows. It is also sometimes found growing on signposts and old fence posts in the area. It is an extremely widespread



Fig. 1

Hoary Rosette Lichen

species in North America, being found from Alaska south into Mexico and across the continent.

The species most easily confused with Hoary Rosette Lichen is Star Rosette Lichen (*Physcia stellaris*). This species is also found in Wagner Natural Area, but usually higher up in the trees. It is most easily distinguished from Hoary Rosette Lichen by its lack of conspicuous white spots on the upper surface. It also differs in chemistry as the medulla (interior of the thallus) does not turn yellow when a solution of potassium hydroxide (KOH) is applied to it, as does the medulla of Hoary Rosette Lichen. Star Rosette Lichen is less widespread than Hoary Rosette Lichen, rarely occurring north of 60° latitude.

Along with Monk's-hood Lichen (*Hypogymnia physodes*), Hoary Rosette Lichen is one of the species featured on Wagner's travelling display board.

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Fig. 2

Figure 1. Habit of Hoary Rosette Lichen. Note the white spots on the thallus.

Figure 2. Close-up of Hoary Rosette Lichen. Note the powdery, frost-like deposits on the fruiting bodies.

