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THIS ISSUE

Sunday, January 8: IDing Evergreens Coffee Break, January 19 Owling Night, January 20 LCC Saturday Youth Classes Mountain Bluebird Thank You Climate-change Subversion Now Policy

Evergreen Identification 101

In the November 2016 newsletter I wrote about the standard view concerning *seagulls*. The term is a disservice to the remarkable diversity of gull



Clockwise from top: Norway Spruce, Colorado Blue Spruce, White Spruce, White Pine, Red Pine, Scotch Pine, Japanese Yew. Northern White Cedar. Eastern Redcedar.

species found in Michigan and around the world, and one of a slew of examples whereby natural diversity is reduced to banality: *Duck. Squirrel. Butterfly. Tree.*

Why the disconnect? Recognition of natural diversity within the ecosystems we occupy has been rendered insignificant largely through educational omission. After all, why wouldn't any person who progresses - K through twelve - into adulthood surmise that if a subject were truly important it would have been covered somewhere within the basic public school curriculum. Ergo, the study of natural diversity must not be very important. It's no wonder so many have an indifferent attitude toward the environment, and no wonder, then, at its ongoing degradation.

Kids at Montessori Children's House in Lansing, Stepping Stones Montessori in East Lansing, and Okemos Nursery School are taught Michigan natural diversity every week of the school year - and they love it! See what reaction you get by mentioning *seagull* around one of these knowledgeable students.

Last month I taught them about recognizing needle-leaf evergreen diversity. Amanda Kruger, parent of five-year-old, Katie, at Montessori Children's House, communicated this: *I love when Katie comes home after a day of science class with Jim and shares what she has learned. Lately she's been fascinated with Jim's teachings about evergreens. Most recently she explained to me that not all evergreen trees are pines, proving once again that children are sometimes our best teachers!*

Here is a newsletter version of the lesson. The trees are quite easy to master with a little repetition...

Through decades of outdoor time, no matter the location – backyard, city street, country roadside, interstate highway embankment, park, golf course, natural area, hedgerow, etc., - I ultimately became

aware of the remarkable prevalence of ten species of needle-leaf evergreens not just in Lower Michigan, but around this general latitude throughout the Midwest. There are certainly other needle-leaf evergreens to be found here, but it takes perseverance to find them.

Indeed, it seems that in any of these locations some ninety-five percent or so of evergreens encountered are those comprising what I've come to call "The Big Ten." Four are pines, three are spruces, two are cedars and, the last one, a shrub. Before reading further can you name or guess any of them?

In keeping with the opening statements, too many people really do reduce the whole bunch to *pines* in conversation, such as, "*\$#%! I just sliced my drive into those pines," when, actually the errant ball disappeared into a grove of *spruces*. Norway Spruces, to be exact (Pointing this out immediately after the exclamation is not recommended).

The following paragraphs are based not so much on what you will find in a field guide, like *Michigan Trees*, by Barnes and Wagner, but on simple observation. The details and botanical vocabulary in a good field guide can often overwhelm a novice user. I find that merely beginning with simple, readily observable characteristics of common species makes for an easily-to-apply springboard toward familiarity. With these basics downpat additional details obtained in a field guide down the road actually become easier to assimilate.

The needles of all PINES grow from a branch in *clusters* of needles. Five soft, thin needles grow from a single point on a White Pine branch. The Red Pine sports



Left to right: White Pine, Red Pine, and Scotch Pine sprigs. Note how clusters of needles are "clumped" on each branch.

clusters of two needles - longer, thicker and more rigid than those of the White Pine. Scotch Pine needles are also in clusters of two, shorter than the Red Pine, but still fairly stiff and slightly twisted down their length.

From a distance, the contour of pines drifts away from the relatively precise, conical shape of the spruces. Pines are stouter and taper much less near the apex. The ends of the branches are comprised of clumps or bunches of long-needled clusters compared to the uniformity of short needles along the length of a spruce branch. The thin, wispy needles of a white pine give the whole tree a softened look. The overall appearance of a Red Pine is dense and rigid, even when the wind blows. The Scotch Pine looks rigid, too, but often more gnarly in overall branch structure. With repetition it becomes easier to



Left to right: Norway Spruce, Colorado Blue Spruce, White Spruce. Needles evenly coat the branches.

distinguish Scotch from Red Pine even from a distance.

The fourth pine, Austrian (a.k.a. Black Pine), is a commonly-planted, non-native tree with needles remarkably similar to those of the Red Pine. These two can be tough to differentiate. For instance, according to field guides, the pairs of long needles on an Austrian Pine will not snap if bent in half. Red Pine needles will snap quite readily. Young Austrian Pines are also very dense.

Needles of SPRUCES are short compared to those of most pines. Also, each needle grows from its own individual base on the branch. The effect is a uniform coating of needles along the entire length of the branch in contrast to lots of branch surface devoid of any needles on the "clumpy" pines. The deep green needles of the popular, commonly-planted Norway Spruce average a bit over an inch in length. Those of the equally popular Colorado Blue Spruce are of similar length. However, the latest year's growth found on the end of each branch has a distinct bluish, waxy covering. Needles of the native, but less-commonly planted White Spruce may average only half the length of the other spruces. Overall, their hue is not as deep-green as those of the Norway. If in doubt, check out the length of their cones. Mature White Spruce cones rarely exceed three inches. Those of the Norway are rarely under five.

Spruces exhibit a much more defined, conical, "Christmas tree" contour than pines. This makes them easy to identify at long distances. Old, dark Norway Spruces tower over roof tops and even over most other trees in a typical neighborhood. Blue Spruces can grow tall but don't typically come close to the Norway's maximum height. It is difficult to find a White Spruce that rivals these first two in height.

Close inspection reveals CEDAR leaves not to be needlelike, but scaly and branching in nature. Those of the Northern White Cedar are markedly flattened and relatively soft and pliable. Those of the Eastern Redcedar are more rounded in cross-section. New growth at the ends of branches is soft, but a second leaf form scattered throughout many branches is ringed with short, but very sharp tips capable of puncturing the skin if the "bristly" branch is gripped too tightly. Of all the evergreens covered in the lesson this is the one most likely to hurt you. To complicate things further each tree is known widely by an alternate name: Arborvitae for White Cedar, Juniper for Redcedar. Tree nurseries and garden centers sell an array



Northern White Cedar and Eastern Redcedar.

of ornamental cultivars of both species that drift from the standard size and shape of the wild originals.

Cedars are column-like in appearance, and therefore, easy to differentiate from pines and spruces from a distance. The White Cedar appears more columnar than the Redcedar. Its branches are so densely-packed you usually can't see through it. Not so, the Redcedar. Light can almost always be seen passing through its interior foliage.

YEWS are shrubs. The native Canada Yew is an understory evergreen naturally-occurring in northern forests of the state. However, the yew found prevalently around houses, front yards and parks is a nonnative hybrid between Japanese and Common Yew. Yews have needles, about an inch in length, that are flat or blade-like. The top surface is dark green and glossy. The underside is a bright yellowish-green. With so many of these bushes severely trimmed into cubes, orbs and ovals above lawns, it can be difficult to find one that has been allowed to grow unfettered into its own natural contour. Those that do (look for houses that have been abandoned for years), often exceed ten feet in height and sport the contour of a wide-mouthed, narrow-based vase.

Of course, the most effective means to learn evergreen identification is through actual experience - whether "sprig-in-hand" or from the trail or roadside. With no leaves on deciduous trees to obstruct views over the winter there is no better time of year to learn to identify evergreens.

This Sunday we're going all-out to create these opportunities for interested parties. At 2pm, sit in on a presentation featuring Powerpoint images and branch samples of the ten discussed here. Then, after the presentation, weather-permitting, join us for a winter walk around the country block identifying evergreens and observing a host of other roadside life of the season. More details on the next page...

-Jim McGrath





There is no better time than winter to get to know the many evergreen trees and shrubs that punctuate the landscape. While many people simply refer to any and all of them as "pines," with a little bit of effort it is easy to learn to identify up to ten species that are, by far, the most commonly seen in yards, parks and on roadsides. At 2pm, sit in on the presentation, *Evergreens 101*. Powerpoint images and branch samples are used to help participants become familiar with the various species of pines, spruces and cedars prevalent in this area.

After the presentation get some fresh air and exercise (weatherpermitting) on a guided "walkabout" around the 3-mile country block identifying evergreens and other winter roadside life along the way. If that's too long for you, we can arrange to drive you to participate in only a portion of the loop.

As always, visit our huge on-site interactive zoo of Michigannative reptiles & amphibians any time during our open hours. Hold a snake. Identify all ten turtles native to the state. Watch and help feed snakes, turtles and frogs. Even watch a large rat snake constrict and eat a mouse! Photo ops galore!





Catch Nature Discovery on WLNZ's Coffee Break January 19

Jim is scheduled to appear this month on Thursday, January 19 at 9:30am discussing wildlife topics. The show airs weekdays from 9 to 10am on 89.7 FM. Listen live online at lcc.edu/radio/onair/ or watch it live (or later in the day at 6pm) online at lcc.edu/tv/watch.

We'll post a Facebook reminder prior to the 6pm airing.



Michigan Owls & Owling Friday, January 20; 7-9pm

The evening begins with a Powerpoint presentation over hot beverages and a snack. We'll present *Michigan Owls Up Close*, featuring all 10 species found in the state, covering identification, vocalizations, behavior and ecology of various species. Weather-permitting, we will then go out and attempt to "call one in" with audio recordings. Dress warmly, and don't forget your binoculars and camera! Advance registration required. Maximum 10 participants, so sign up early. Not

recommended for small children. Fee: \$12/person. Do you have a small group of family/friends that would like to get together for an owling night? Contact us to make your own special appointment!

LCC Saturday GATE Youth Classes...

will be taught by Carol starting next month. The classes run for five weeks, Saturday, February 18 through Saturday, March 18.

Toy Stories: The Science of Toys (for grades 2 & 3; 9am to 12pm)

Students will investigate the science behind how various toys work, then plan and build their own unique toys to take home.

Science with Experiments – Advanced (for grades 4-6; 1 to 4pm)

Students will engage in hands-on science experiments including mixing chemicals, bubbling liquids, and lighting metal on fire! Cool science led by a professional chemist!

To enroll or for more information go to www.lcc.edu/seriousfun and select Fall/Spring GATE.

Rare Mountain Bluebird Appears Near Detroit

With a range normally in the Rocky Mountain states, a Mountain Bluebird appeared and hung around the DNR's Harley Ensign Memorial Boat Launch through most of December. I contacted frequent ND birding trip participants, Jan Heminger and Gregg Landick, and we drove over to try to locate it. We did! Gregg managed to snap this photo when the bird briefly landed a mere twenty feet in front of us! Interested



in joining one of our day or weekend trips? Watch future newsletters. We still have one opening remaining for our MLK Weekend U.P. Birding Trip. Snowy Owls and much more. See the December newsletter for details or contact us!

Thank you... to the following supporters for their recent generous donations: Jon Kaszuk, Jim & Naomi Miller, and Judy Marr.

Climate-Change Subversion Becoming National Policy

https://www.theatlantic.com/politics/archive/2016/12/donald-trump-climate-change-skeptic-denial/510359/

http://www.independent.co.uk/news/world/americas/climate-change-denial-us-officials-wisconsindonald-trump-presidential-election-victory-global-a7506831.html

http://www.pbs.org/newshour/rundown/qa-yes-extreme-weather-can-blamed-climate-change/

-JM





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