DECEMBER 15-31, 2016 NATURAL HISTORY NOTES FOR EASTVIEW
By Dick Harlow

INVASIVES

Wikipedia defines an **invasive** as "a species of plant, fungus, or animal that is not native to a specific location (an introduced species), and which has a tendency to spread to a degree believed to cause damage to the environment, human economy or human health."

Damage to the environment can be simply the overpopulation of an organism. Over population can be due to not having natural enemies or predators and therefore their growth prevents, or detracts from native flora or fauna to live out their lives normally. In the case of insects it can readily be seen that various European/Asian beetles can produce deleterious effects upon native trees and whole forests in general.

Why can't we just get rid of these invasive organisms, insects, plants, etc., to prevent them from getting a toehold in our environment?

They may have been brought in by horticulturists not knowing that the plant would be invasive, or in the case of insects and spiders could simply be part of an incoming shipment of food or goods.

Purple Loosestrife, *Lythrum salicaria*,
© Dick Harlow

Purple Loosestrife is a good example of an invasive. Accounts have it entering North America probably through both Canada and the United States in the 1800s.

Purple Loosestrife fancies a wet environment, although it will grow in moist or regular soil. Also, it has a good-looking flower spear that is pretty along roadsides or ditches or in freshwater marshes. It is tough for humans not to like what they are looking at and therefore hard for them to try and mitigate the loosestrife invasion of marshes and lakeshores.

Purple Loosestrife, *Lythrum salicaria*, © Dick Harlow

The problem is that this plant, if left alone to flourish, forms impenetrable swaths, which remove space for other native plants, both rare and endangered, that would be food, nesting sites and cover for many native marsh birds, mammals, amphibians and other animals. Once loosestrife takes over an area it causes the wetland to cease being habitat for native species.

There are many other types of invasive organisms that have been brought to the US by well meaning people or that have inadvertently become a hitchhiker on a shipment of food, produce or machinery shipped from foreign ports. Europe and Asia have the same problem with some of the native US organisms that have done the same thing in their countries.

LICHENS

What is a lichen? Lichens are those weird looking leafy or crusty or gray or brown mossy looking stuff that you can see on rocks, trees or on the ground.

(1) Foliose Lichen, *Flavoparmelia caperata*,

OK, so is it a plant, or like a moss, or something else?

An individual lichen is simple and yet complex. Simply, it is an association between a single celled plant and a fungus. Or, to be more specific, which is a way of saying more complex, lichens are a cooperative association between a fungus, an alga cell and cyanobacteria. The relationship within this association is a form of symbiosis.

Even though some say that in actuality the lichen is really an association or an ecosystem in of itself, we will stay with the simple explanation for now, a symbiotic relationship between fungi and an algae with cyanobacteria in the mix; and, that is regardless whether the fungus benefits more from the relationship. The simple fact is that every lichen we see can be considered a relationship between organisms for the benefit of all in the group.

(2) Foliose Lichen, *Flavoparmelia caperata*,

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Lichens are divided up into three primary groups; lichens can be found either on the ground, on rocks or on wood. The wood can be on the ground, either dead or living i.e. trees. These groups are named **Crustose**, **Foliose** and **Fruticose**.

Foliose lichens have a texture that lifts slightly above the substrate, much like a leafy material with lobes. This leafy material is definitely anchored to the substrate.

Notice in the two pictures above, (1) & (2) that although these lichens are of different colors they are basically the same species. Also, notice that the lobes look leaf-like. The one below (3) is harder to see, but it also has projections that are leaf-like.

(3) Foliose Lichen, Candelabra concolor,
© Dick Harlow

Crustose lichens (4) look like you painted the substrate yellow-orange, *Caloplaca* on a rock. Maybe a better analogy would be to say that the rock looks like it was spray- painted. In other Crustose lichens the lichen looks like it blends into the substrate.

(4) Crustose Lichen, *Caloplaca marina*,
public domain image.

Fruticose lichens on the other hand are different in that they look like miniature shrubs or bushes amongst the substrate. The picture below (5) is also known as British Soldiers Lichen.

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(5) Fruticose Lichen, *Cladonia leporine*,
© Hugh Nourse

In northern New England Reindeer Lichen (6) is quite common. As its name suggests, Caribou and Reindeer use it for food. Even though it would seem logical, I have not found whether White-tailed Deer and/or Moose use Reindeer Lichen for food.

(6) Fruticose Lichen, *Cladonia rangiferina*,
© Jason Hollinger, Common Gray Reindeer Lichen

Lichens are a good example of how organisms have evolved to survive under various different climatic situations.

MIDDLEBURY AUDUBON CHRISTMAS COUNT

December 18, 2016 at 0600 at Rosie's Restaurant in Middlebury, a large room was taken over by a mass of people interested in working at collecting sightings for the Middlebury Christmas Bird Count. Most of these individuals were field participants, some of whom had been up much earlier checking on Owls. Under the direction of Jim Andrews, after breakfast these individuals became a part of various designated teams who set out to their prescribed birding areas to count species of birds and their numbers.

The Audubon Christmas Count is the longest running citizen science program, 116 years, compiling avian population trends throughout North America. Central and South America have also contributed as they became part of this count in later years.

Middlebury did well, 72 species, and over 24K individuals considering the below zero wind chill and most of the streams, creeks and ponds were frozen.

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OBSERVATIONS

MAMMALS

Coyote, sound and scat
Red Fox
Gray Squirrel
Eastern Cottontail
Meadow Voles

Cooper's Hawk, *Accipiter cooperii*,
© Dick Harlow, Immature Male,

This was a Christmas day (2016) event! As I have said before Cooper's Hawks are arrogant and feel they own the space they live in. This is probably why this young male didn't fly away when I came out of my cottage and used the hood of my truck as a tripod to rest my elbows while I shot about 32 images of this hawk perched on our neighbor's roof.

RED FOX ON EASTVIEW PROPERTY

Red Fox, *Vulpes vulpes*, © Roger Dorwart

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This fox can be seen eating a vole in the second picture. Both pictures taken in his backyard with a tablet.

Red Fox, *Vulpes vulpes*, © Roger Dorwart,
Fox eating a vole

Hope all my readers had a great Christmas and are looking forward to a happy and fruitful New Year!

Weather Tidbits

Month of DECEMBER 2016

All Measurements taken at solar noon (1230 EST).

PRECIPITATION

Total Precipitation: 40.6 mm or 1.6 inches

Overcast Days: 22

TEMPERATURE

Mean Temp: -1.2 C^0/29.8^{0}F
High Temp: 16.1 C^0/61.0^{0}F
Low Temp: -22.2 C^0/-8.0^{0}F

DAYS

MAX <**0.0C^0** 9 days

MIN >**0.0C^0** 22 days

MIN **<-18C^0** 2