

neighborhood naturalist

Nature you can find in town and the nearby countryside

Corvallis, Oregon

Winter 2008-09

Oregon-grape

by Don Boucher

Here's a native plant that's green in winter, and it's not a conifer. Most of us know it as Oregon-grape—the official flower of Oregon. It is one of many species of evergreen shrubs which are also known by the names Holly Grape, California Barberry and Mahonia. They're neither holly nor grape, but members of the barberry family. While they're currently in the genus *Mahonia*, you may find references describing Oregon-grape as belonging to the genus *Berberis*, with other barberries. There is no definitive consensus among botanists whether the Oregon-grape genus is *Mahonia* or *Berberis*, so either name is valid. If you're a native-born Oregonian, or simply Oregon-savvy, you may know that the governor's mansion goes by the name of Mahonia Hall, respectfully named after the Oregon-grape. The name *Mahonia* comes from the 19th-century horticulturist Bernard McMahon, who identified Oregon-grape from plants collected by the Lewis & Clark Expedition.

The berries resemble grapes in color but have a vibrant, concentrated tangy flavor. Pictured here are *Mahonia nervosa* berries.

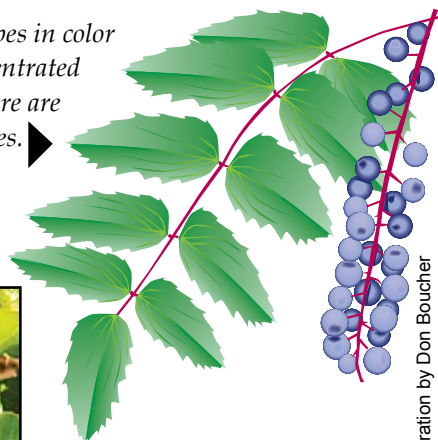


illustration by Don Boucher

photo by Lisa Millbank



◀ Mahonia aquifolium berries

Mahonia species are native to North America and Asia. Many in North America are called Oregon-grape, including the two species in the Willamette Valley, *Mahonia nervosa* and *Mahonia aquifolium*.

Oregon-grapes have compound leaves with up to 19 leaflets. Although the leaflets are opposite from one another, the compound leaves are alternate from stout branches. This is important since field guides and identification keys distinguish between opposite- and alternate-leaved plants, of which Oregon-grape falls into the latter category. The leaflets are holly-like with a smooth, waxy surface, and a margin with sharp, pointed teeth. The flowers are small and yellow and appear in erect or hanging clusters. The edible berries are the color of Concord grapes.

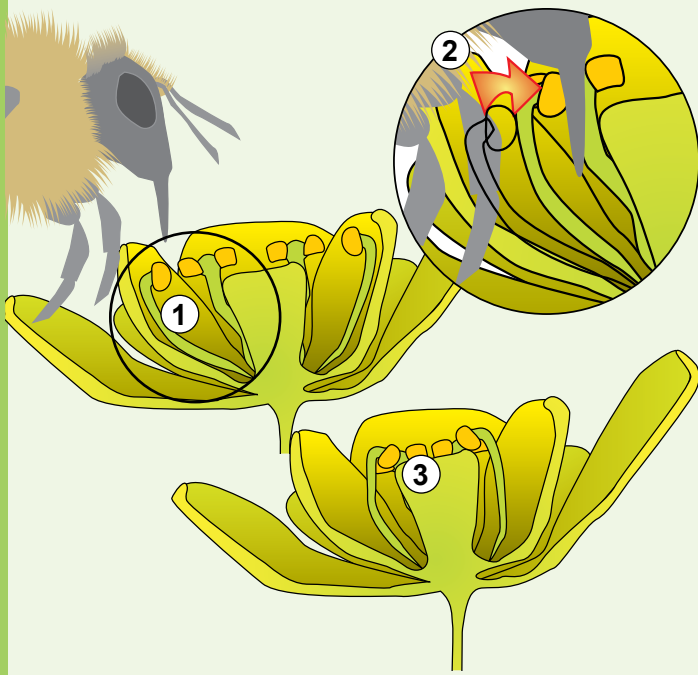
Mahonia nervosa goes by names like Cascade Oregon-grape, Mountain Oregon-grape, Long-leaved Oregon-grape, Dwarf Oregon-grape or Dull Oregon-grape. This species grows in the understory of shady, moist forests and is common in the mountains. It trails close to the ground, commonly less than 3 feet high. The smaller of our Oregon-grapes, it has from 9 to 19 leaflets in its compound leaf. Each leaflet has several primary veins that converge at the base.



photo by Lisa Millbank

The Oregon state flower is represented as gorgeous yellow clusters which appear in early to mid-spring. Pictured are the flowers of *Mahonia aquifolium*.

Spring-loaded Stamens



- 1) The undisturbed stamens remain flat against the petals.
- 2) When touched, they spring inward to transfer pollen onto the insect.
- 3) You can tell if the flower has been visited if the stamens are positioned towards the center.

This spring, you can play pollinator yourself. Take a small twig or fir needle, poke it into the center of a flower and watch the stamens spring inward.

Illustration by Don Boucher

Mahonia aquifolium may be called Tall Oregon-grape or Shining Oregon-grape. It is this species that is the Oregon state flower. It lives at lower altitudes, drier climates and more open areas than *M. nervosa*. This shrub may grow to thirty feet tall. Its compound leaves have 5 to 7 leaflets (sometimes 9). It has the name *aquifolium* because of the glossy, wet-looking leaflet surfaces. Each leaflet has one central vein.

There are places where both species grow together. For instance, you may find *M. nervosa* abundant on the north side of a hill in the conifer woods. On the south side of the same hill, in an open oak forest, *M. aquifolium* is more abundant. Where the two habitats meet, you may find both species growing side by side.

The berries of both species ripen mid- to late summer and have very similar qualities. I've tried the berries right off the bush and found them to be rather intense and sour. They are so saturated with flavor and purple pigment that when used in recipes, it is necessary to blend them with sweeter fruits, honey or sugar. They are popularly used to make jam or wine. You can add them to berry pies in place of lemon juice, and they are rich in vitamin C.

These are useful plants in other ways. Under the bark, there is a bright yellow layer with medicinal properties. The twigs and roots are used in tea or soaked in alcohol to make a tincture. The resulting product is severely bitter, containing berberine and a myriad of other compounds. Berberine is also found in the medicinal plants goldenseal and barberry. It's a mild antibiotic, and has been shown to kill bacteria. Oregon-grape has other compounds which may enhance the antibiotic qualities of berberine by interfering with the bacteria's ability to resist antibiotics. It can treat intestinal infections caused by bacteria, yeasts and viruses. Some use it externally, as an antiseptic wash or ointment. Traditionally, it's been used for various other ailments, not all of which have been thoroughly tested. If the twigs and roots are used in quantity, they can have toxic effects on humans. Like many herbs, it's best used in moderation, or under the guidance of a qualified expert. The berries are harmless; eat as many as you like. Native Americans have used the yellow pigment in the roots and twigs as a dye in basket weaving.

One of the most popular uses of Oregon-grape is for landscaping. It is attractive, tidy and easy to care for. The flowers attract beneficial insects and the berries are food for wild birds. Most nurseries sell Oregon-grape, and it's an easy way to add a native plant to your yard. *M. nervosa* can be planted in shady spots, while *M. aquifolium* needs more space and sunshine. Both species are hardy and



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drought-resistant. When Lisa was a girl, her father tried to remove an Oregon-grape shrub that was growing too close to the house. First he tied a rope around the base and tried to pull it up with the pickup, but its deep roots held fast. Then he cut it down to the base and it grew back. He poisoned it with herbicides and it grew back, healthy as ever. All this time Lisa was rooting (pun intended) for the Oregon-grape. The Oregon-grape won—it's still there today. Carefully consider the location when planting this shrub; it may be difficult to remove years later. Even if you don't have a green thumb, Oregon-grape may be the shrub of choice. I suppose it will need tender attention soon after transplanting, but after it is well established, it will respond well to occasional light pruning. 🐦



Dull Oregon-grape, Mahonia nervosa.



Hollies are in the genus *Ilex* and none are native to our area. They are unrelated to Oregon-grapes. You may find them as naturalized shrubs or small trees. This one was growing near both of our species of Oregon-grape. Oregon-grape leaflets differ from holly leaves in that their profile is flat. Notice how the pointed teeth of holly alternate directions. Hollies do not have compound leaves.

photos by Lisa Millbank



Tall Oregon-grape, Mahonia aquifolium.
Inset: leaflets can be glossy

Post your observations on “Mid-Valley Nature”



<http://groups.google.com/group/mid-valley-nature>

Share your field observations of plants, birds, mammals, insects, mushrooms, aquatic life and other natural features in the Mid-Willamette Valley. Joining is free, and anybody can visit the “Mid-Valley Nature” Google Group to look at the postings and discussions.

If you join, you can choose whether to get other members' messages delivered directly to your E-mail, or just read them on the website. Post your photos, ask questions, or simply share your thoughts on nature close to home.

Song Sparrow



article and photos by Lisa Millbank

When I was about 12 and just starting to appreciate birds, I went on a Audubon Society field trip. While listening to the experienced birders discussing the finer points of sparrow identification, I looked at the streaky brown birds with disinterest. Here was a Fox Sparrow, someone said, and a couple of Song Sparrows. A Lincoln's Sparrow generated a bit of excitement. They talked about these birds with affection, as if they were old friends. Of course, the little sparrows were charming enough with their feathers fluffed out, each of them a perky, hopping ball of brown feathers. They busily picked at the ground at the edge of some shrubs. But they weren't very colorful, and I really couldn't tell any of them apart. It was a relief when someone pointed out a Red-tailed Hawk soaring overhead. Now, a hawk was a bird I could be excited about.

I would never have guessed that many years later, the ubiquitous, plain little Song Sparrow would be one of my favorite birds. Once I learned how to identify the Song Sparrow, I noticed them *everywhere*. Growing familiar with their habits, I began to find them completely delightful. All over North America, there are over thirty subspecies of Song Sparrows, from tidy, light-colored eastern birds to large, dark birds in Alaska. Although far northern and eastern populations migrate south to escape the bitter

northern winters, we in the Willamette Valley are fortunate to have the "Rusty Song Sparrow" subspecies here all year. Country folks who have come to treasure their sweet-voiced little neighbors have given them the colloquial names "Everybody's Darling" and "Silvertongue."

Having no bright colors like other well-known birds, the Song Sparrow is mostly known for the singing skills of the male. Thoreau's famous mnemonic, *Maids! Maids! Maids! Hang up your teakettle-ettle-ettle!* describes the song in a fanciful way, but approximates the general structure of three clear notes, followed by a complicated series of buzzy notes and whistles. Females occasionally sing at the start of the breeding season, but their songs are short and simple. In the springtime, Song Sparrows begin singing early in the morning, around the time the American Robin does, and before many other birds begin their dawn song. By March, they are singing under stars, perched on branches that glitter with frost, while a glow in the east hints at sunrise. But even in fall and winter, a sunbeam may shine through a break in the clouds and inspire a bit of singing from a Song Sparrow.



Watch a video and listen
to sounds of Song Sparrows at
www.neighborhood-naturalist.com

A Who's Who of Brown Winter Sparrows



A **Song Sparrow's** heavy streaks converge to a central breast spot, and extend to the belly. Face is patterned with stripes.



The tidy-looking **Lincoln's Sparrow** is a winter visitor with fine streaks on a buff background, and may have a breast spot.



The **Fox Sparrow** arrives for winter and has small chevron-shaped spots forming a breast spot. Face is subtly marked.



Savanna Sparrows prefer open grassland, unlike Song Sparrows. They have light underparts and yellow eyebrows.

Besides singing, Song Sparrows make a soft *tsip* to contact one another, and a sharp *timp!* when they feel a little nervous about something. They are expressive and alert birds, who make many soft sounds to one another as they go about their daily business. A person walking by a shrubby thicket will provoke a few *timp!* calls as the resident Song Sparrows watch and evaluate the visitor. The intensity of the alarm calls reflects the perceived threat. A predator will elicit a much stronger alarm response than a human calmly walking by. Other birds listen for the alarm calls of the vigilant Song Sparrow.

While they are alert to danger, Song Sparrows are generally rather tame and placid birds. They spend most of

their day eating seeds, fruit, and insects. Using a two-footed scratching method, they rake the ground to expose food. They visit platform bird feeders or eat seed scattered on the ground. They're easy to approach if one moves slowly and sits quietly.

Their everyday lives might seem rather simple, but each Song Sparrow has to fit into a complex social order. In his excellent book, *The Singing Life of Birds*, ornithologist Donald Kroodsma explains that a young male Song Sparrow must settle into a "neighborhood" of other males and learn to precisely imitate his neighbors' songs. Kroodsma describes how the young sparrow begins to pick up some songs soon after fledging. He leaves his



Always curious and watchful, this Song Sparrow is evaluating whether he should take cover or ignore this human visitor.

parents and seeks a territory of his own, but this is difficult, because territory owners nearby will chase him away. As they attack the young sparrow, they sing aggressively. The youngster replaces the first songs he learned with those of the sparrows who attack him. He mimics their own songs right back to them, asserting himself and fighting back. Although he gets kicked around a bit by territory-holding sparrows, these adversaries are vitally important as his “song tutors.” He will learn songs from several neighboring birds, and he’ll prefer the songs that are shared by more than one adult male. Once he makes some space for himself in the neighborhood, he will be an established territory-owner himself. By spring, the songs he’s learned will not change for the rest of his life. He’s ready to attract a mate and begin nesting. When the young of the year begin to disperse, he will serve as a song tutor for them, and they will carefully learn his songs, as they have been handed down for thousands of generations.

Not only does the song establish a territory for a male, he’s also using it to attract a female. She carefully evaluates different males’ songs as she chooses her mate. What



Song Sparrow babies are notable for what they don’t have – a tail! These endearingly scraggly little fledglings are exploring their new world outside the nest. They’ll soon finish growing their tails.

distinguishes male songs in a female’s mind? Research shows that male Song Sparrows with large repertoires of songs were longer-lived and successfully raised more chicks. The trait continued into the next generation: they also had more grandchildren than males with repertoires of few songs. So females appear to use the male’s song repertoire to judge his fitness, and they also look for a male who shares many songs with other males in his neighborhood. Creativity isn’t as important as conformity to female Song Sparrows. A male’s songs might tell a female that he is an established member of the local Song Sparrow community, having quickly settled into a good territory and successfully defended it ever since he arrived there. This is not to imply that a female is consciously analyzing all of this when she chooses her mate; she probably just likes the way he sounds, and feels attracted to him.



This Song Sparrow makes his home in open woods with shrubby ground cover. He and the other males nearby form a neighborhood, where most of the neighbors sing some identical songs.

By April, most females have found mates and are building nests, usually well-concealed in shrubs. It takes her a few days to complete the little structure, constructed of grass. When she is finished, she lays 3-6 light green eggs speckled with brown. Incubation lasts a couple of weeks. The babies grow quickly and are ready to leave the nest in about two weeks. While the male looks after the fledglings and continues to feed them as they learn how to take care of themselves, the female may immediately lay and incubate a new clutch. They may have three broods in a season.

The Song Sparrow takes a little patience to understand and appreciate. While its plumage is subtle, its beautiful song and charming ways earn it a place in the hearts of many birders. At the end of winter, it’s encouraging to listen to the Song Sparrow. As the Solstice marks the return of sunlight, so the Song Sparrow will lead the chorus of bird voices that welcome back the spring. 🐦

The Promise of Spring

Our climate has no dramatic boundary between winter and spring. In January and February, long before the end of cold, wet weather, the first signs of the coming spring are apparent.



Stinging Nettle is at its best for eating in late winter. Use gloves and snap off the young nettle tops. Carefully wash at home, wearing gloves. Steam until tender, like spinach, and enjoy!



Indian-plum or *Osoberry* is an easily-overlooked small tree most of the year, but not in late winter. While the taller trees stand bare and leafless, its deep green leaves and dangling flowers herald the return of spring. Its early flowering time means its fruits are the first to ripen. Birds eagerly gobble Indian-plum fruits, and are responsible for the dispersal of the seeds.



Mild winter temperatures signal the onset of the *Pacific Chorus Frog* breeding season. Males croak together at ponds, as early as late January.



A warm week in January has coaxed this *Common Garter Snake* out of hibernation, at least until the return of cold weather. The snake is muddy from her underground winter den.



Fragrant Spring Beauty blooms well before the equinox. This little member of the mustard family is also called "Oaks Toothwort" or "Nuttall's Bittercress."



February brings the first *Turkey Vultures*, who are returning from their southern wintering areas. Foggy winter mornings make soaring difficult for vultures.



Tree Swallows arrive very early in the season. Somehow they find enough insects to sustain themselves until the weather warms. This pair will soon begin to investigate tree cavities and birdhouses for nesting.



The first *Yellow Wood Violets* bloom in February. By April, the plants will become huge mounds of yellow flowers. It's also known as "Stream Violet."



This young shrike has a muted color pattern.



Adult shrikes have light gray, fluffy plumage over most of the body. The wings and tail are black and white. The crisp, black mask accents the face. The bill's strong hook is unique among our songbirds.



The "Butcherbird"

Among the songbirds who visit us for winter is this unusual masked hunter from the tundra. The Northern Shrike has a sharply hooked bill that it uses to kill prey. Although it's related to the insect-eating vireos, the shrike takes small mammals and birds, as well as insects. A shrike impales its prey on thorny bushes or trees, or uses barbed wire. With the prey secured on a thorn, the shrike can tear apart its dinner with its strong bill, or store it for a future snack. The Northern Shrike sings a sweet, warbling song. It's uncommon here, but is found in open country with the necessary thorns or barbed wire, and perches from which to hunt.




A vole's remains, impaled on a hawthorn.

Shrikes are watchful birds, who sit in treetops or tall shrubs to look for prey. They attack by flying down on their prey and biting the spine. When the light is



poor, their silhouette can look surprisingly like the Western Scrub-Jay's silhouette (right).



 **Listen to the sounds of the Northern Shrike at www.neighborhood-naturalist.com**



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The Promise of Spring

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