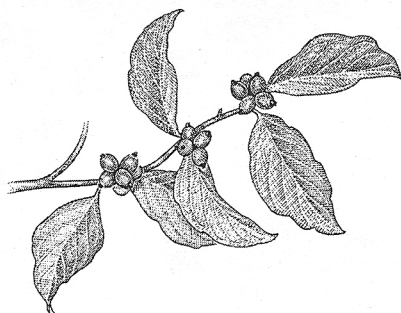


The Wild Fruit Diet

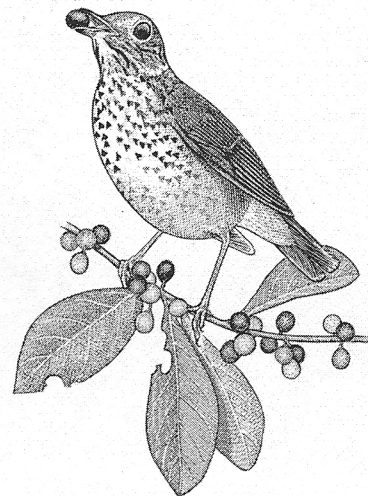
A stroll in the changing fall foliage along the Potomac or even a glance at the Flowering Dogwood in the front yard is more than an aesthetic pleasure; it offers a valuable lesson in nature's advertisement strategies. The colorful shrubbery serve as bold visual cues to the migratory birds that are about to head south for the winter. Before they depart, our beloved thrushes and catbirds linger along the river in the spicebush, attracted by its red fruits set out against neon-green or yellowing leaves. The visual contrast of fruit and leaf color is how spicebush hails the birds. The songbirds also alight in the neighborhood dogwoods to strip its branches of nutritious, bright red berries, but the dogwood takes a different approach in its foliage display. Biologists now view the red- and scarlet-colored leaves as "fruit flags" that accent the dogwood fruits and also make the entire trees stand out among the other woody species, and thus easier to locate. Birds have excellent color vision so they respond to the visual cues, gobble the fruits, and inadvertently disperse the seeds in the shade as they move about the forest.



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Flowering Dogwood with fall fruit and leaves.

The wood thrush have spent the spring and summer with us, filling the morning and evening air with their flute-like melodies. At first, like many other songbirds, they fed their nestlings on protein-rich spiders and caterpillars and other insects, for there is nothing better to grow baby thrushes. But during the fall the adults and fledged birds shift to ingesting the high lipid-content fruits of spicebush, dogwood, sassafras, black gum, and magnolias to fatten up for the long flight south to their winter homes in the lowland tropics of Central America. The wood thrush are joined by the Swainson's thrush (illustrated here), which nests in the northern U.S. and Canada and feeds on the lipid-rich fruits on their way to the rainforests where they spend the winter.



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Swainson's Thrush eating Spice Bush fruit.

Why this dietary switch? The first clues are that spicebush and sassafras belong to the wild avocado family and cultivated avocados were once known as the butter pear, so rich in fat is their fleshy tissue. Spicebush fruits contain 35% fat; various dogwoods have around 24% fat, and some magnolias are even higher, at 30-62% fat. Another clue is that fat serves as the ideal fuel for long distance migrants. Bird flight is energetically costly to sustain and many migrants fly over large water bodies without stopping. Excess baggage on such a flight is not a good idea, so a light, energy-rich fuel is essential. Burning fat as fuel is far more efficient—nine calories yielded per gram—than burning carbohydrate or protein, which produce only four calories per gram. So loading up on lipids during the pre-migration, or feeding on spicebush, dogwood, and magnolia on the way to the tropics, is the way to go. Herein lies another twist in the relationship between some songbirds and lipid-rich plants. By producing the types of fruits the thrushes need, the plants guarantee a reliable pool of seed dispersers. All the more reason to love our flowering dogwoods. Out of the 1800 or so native species in our local flora, more wildlife species binge on dogwood fruits than virtually any other.

Unlike humans, birds and mammals don't have nutritionists on hand to advise them. Instead, they have a more powerful voice—natural selection—to influence their dietary preference. There is no need for fad diets as nature has constrained the menu choices: protein (invertebrates) in the spring and summer; fat in the fall. —