

New York Times article: To Feed the Birds, First Feed the Bugs

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DOUG TALLAMY and his wife, Cindy, built their house seven years ago in the middle of 10 acres of former hayfields.

But they don't sit inside much. Most of their spare time is spent cutting Oriental bittersweet and Japanese honeysuckle out of cherry and oak trees. They saw down thickets of autumn olive and multiflora rose and paint the cut stems with an herbicide that goes down into the roots and kills them.

The land was so thick with multiflora rose that they couldn't walk, so Mr. Tallamy cut paths with hand loppers. They work with handsaws, not a chain saw. And they paint on the herbicide, rather than spraying it, because they don't want to damage the treasures below: under those thorny rose bushes might be seedlings of black oak, Florida dogwood, black gum or arrowwood viburnum, which, if protected from deer, could flourish in the cleared space.

A meadow cleared of autumn olive can resprout with goldenrod, joe-pye weed, milkweed, black-eyed Susans and many other natives crucial to wildlife.

It's hard work, but the Tallamys love being outside. And they share a vision, an imperative, really, that Mr. Tallamy lays out in a book, "Bringing Nature Home" (Timber Press, \$27.95), published in November.

They are struggling to plant the native species that are needed for insects and animals to flourish. As exotic ornamentals leap the garden fence and out-compete the native plants, many creatures are starving to death because they did not evolve with the exotics and simply can't eat them.

"I'm not trying to recreate the ancient ecosystem," said Mr. Tallamy, who is chairman of the department of entomology and wildlife ecology at the University of Delaware, in Newark, Del., 15 miles southeast of here. "That is gone. I'm trying to create biodiversity."

He pointed to a row of white pines he and his wife planted five years ago to screen out a half-mile racetrack and a 120-stall horse barn as big as a box store. "You wouldn't have found white pines here back in the old days," he said of the tree. "But a lot of things eat white pine, like sawflies."

The white pine is an Appalachian native, and its natural range stops about 30 miles west of here, he said. But its wide use since Colonial times gradually expanded its range, allowing its associated insects to hitch a ride.

Last spring was too cold and wet for moth and butterfly larvae, he said, but the bluebirds nesting in a box in the meadow were desperate to feed their young. "They found the sawflies in those pines and raised the entire brood on them, flying back and forth, back and forth," Mr. Tallamy said.

Many natives provide food for insects and birds, and so when young trees sprout in an inconvenient place - too close to the back door, or in front of a window - Mr. Tallamy delays pulling them out.

"I went to take this black cherry out and there were 13 tiger swallowtail larvae on it," he said, standing by a sapling by the back steps.

He bent over yet another, even smaller black cherry that had sprouted between the stones of the front walkway. "Anybody else would pull this out, but see this?" he asked, pointing to a drab little remnant of a leaf that some young larva had fashioned into a winter home. "That's a little hibernaculum for the red-spotted purple, which is a butterfly that people want in their gardens."

Although gardeners might believe that when they plant a butterfly bush, native to China, they are helping butterflies, they are merely attracting the adults who sip the nectar. The plant cannot be eaten by the butterfly larvae.

Even a lowly fly maggot, which lives inside the hard round galls often seen on the stems of goldenrod, has an important place in the ecosystem. "Fly maggots are really high in proteins and fats, and chickadees love them," Mr. Tallamy said. "We give chickadees seeds, but when they get one of those maggots, they can really make it through the cold winter night."

So if you cut down the goldenrod, the wild black cherry, the milkweed and other natives, you eliminate the larvae, and starve the birds. This simple

revelation about the food web - and it is an intricate web, not a chain - is the driving force in "Bringing Nature Home."

The book evolved out of a set of principles that Mr. Tallamy jotted down at the request of students at the University of Delaware, and of gardeners attending his public lectures.

They all wanted lists of plants: what attracted what, which was then eaten by what, and so on. So he began to map a food web for the suburban or urban backyard.

The typical garden might hold weeping cherries and rhododendrons, lilacs and crape myrtles. That is beautiful, perhaps, but it's a barren wasteland to native insects and thus birds.

Almost all North American birds other than seabirds - 96 percent - feed their young with insects, which contain more protein than beef, he writes.

He cites the work of Michael Rosenzweig, an evolutionary biologist based at the University of Arizona, who has analyzed data from all over the world and found a one-to-one correspondence between habitat destruction and species loss. In Delaware, for instance, state ecologists say that 40 percent of all native plant species identified in 1966 are threatened or extinct; 41 percent of native birds that depend on forest cover are rare or absent.

So the message is loud and clear: gardeners could slow the rate of extinction by planting natives in their yards. In the northeast, a patch of violets will feed fritillary caterpillars. A patch of phlox could support eight species of butterflies. The buttonbush shrub, which has little white flowers, feeds 18 species of butterflies and moths; and blueberry bushes, which support 288 species of moths and butterflies, thrive in big pots on a terrace. (Appropriate species for other regions are listed by local native plant societies.)

You don't have to cut down the lilacs, but they are doing nothing for the insects and birds. "It's as if they were plastic," Mr. Tallamy said. "They're not hurting anything, except that they're taking space away from something that could be productive."