

The Gifts of Autumn Leaves

By Laura Veloz, Park Naturalist

The yellow, red, and orange leaves that once dangled their stunning colors atop deciduous trees in autumn now lie along the forest floor, providing protective cover for winter. A complex network of organisms just received a welcome supply of organic materials from above. The layers upon layers of leaves shelter, buffer, and insulate the living things seeking refuge from the colder air above.

Throughout the year, decomposers are at work breaking down the leaves into essential elements that plants eventually utilize. Bacteria and fungi accomplish the bulk of the decomposition, with assistance from snails, millipedes, beetles, and other invertebrates. Numerous species of arthropods camouflage in the leaves to avoid being eaten. All these organisms living among the forest floor create complex predator-prey relationships as winter limits wildlife resources.

Lepidoptera enthusiasts rely on leaf cover to protect the various life stages in diapause, suspended development these insects undergo in colder months. These butterflies and moths rely on the dropped leaves to disguise their presence and keep them safe until spring. After feasting on tree leaves in warmer months, the colorful Luna moth overwinters as a cocoon on the forest floor. The recognizable black and brown-banded Woolly Bear caterpillar wanders before winter in search of the right spot under the leaf layers. Beneath the cover of leaves, these caterpillars will spin a cocoon and emerge as an Isabella Tiger Moth in the spring.

As a shelter for many different invertebrates, the decaying leaves become indispensable foraging sites for migratory ground-feeding birds such as towhees, thrushes, and some sparrows. Hikers may hear the Brown Thrasher—with its long tail and slender, somewhat-decurved bill—sweeping the dried leaves aside with swift side-to-side beak movements as it hunts for arthropods, fruits, or seeds to eat. Watch for the spotted towhee, with its reddish undersides and spots, feeding on the ground. You will observe its two-footed, backward-scratching hop as it searches for food. Whether scratching or brushing away, ground-feeding winter birds benefit from what lies concealed under layers of dropped autumn leaves.

The gift of the once-colorful fall organic matter that blankets the ground provides crucial ecological functions year-round, not only



Red oak leaves accumulate on the forest floor at the Nature Center. FWNC&R Staff Photo.

in winter. It is home to numerous species, supplies a winter nursery, offers plant protection, replenishes soil nutrients, prevents erosion, maintains moisture, and moderates temperature, to name a few. There is no waste in the natural environment. Maintaining leaves on the ground can be an investment in the long-term health of a forest—or yard—ecosystem.