



ST. ANDREW'S SCHOOL

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Art in Biology: A Naturalist's Approach

ART IN BIOLOGY is designed to improve the students' power of observation; we hope to further awareness and appreciation of nature and ability as artists. Much of class time is spent outdoors—walking trails around Noxontown Pond, exploring its recesses from the biology barge, and visiting Bombay Hook National Wildlife Refuge and the School's walnut grove and nearby fields—as we attempt to capture on paper some elements of the natural scene around St. Andrew's. We use Claire Walker Leslie's *Nature Drawing: A Tool for Learning* and lots of field guides as principal references.

In viewing these cards, you may get a sense of what makes Art in Biology one of the best parts of the school week for both the students and us.

PETER W. BROOKE, *Art Teacher*

PETER K. MCLEAN, *Biology Teacher*

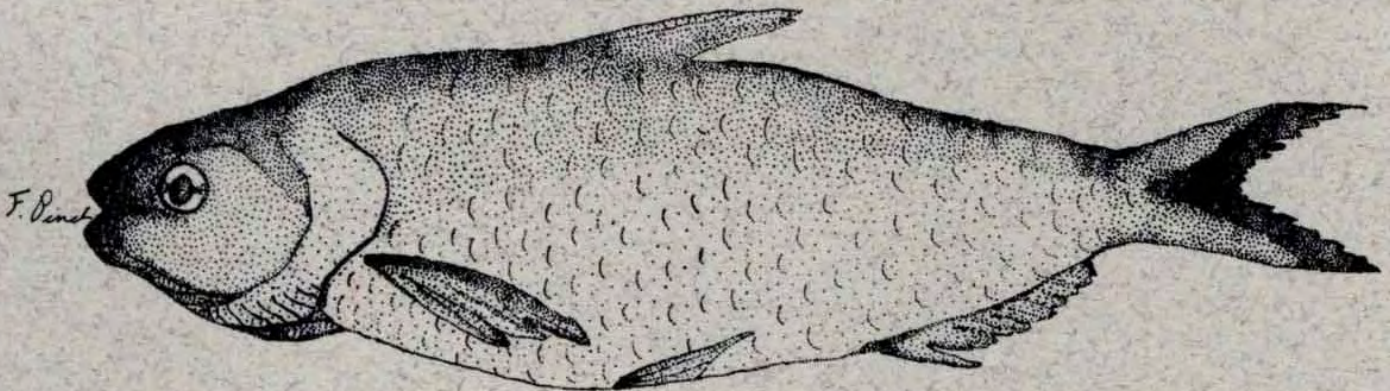
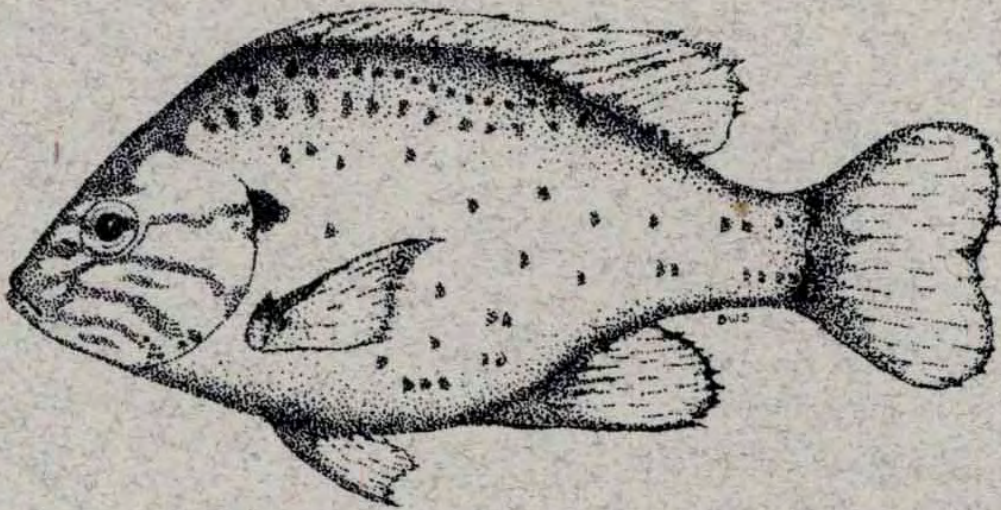
1994-1995 CLASS:

Frederick C. Pinch, '95

Christopher A. Reiger, '95

Jonathan B. Rickert, '96

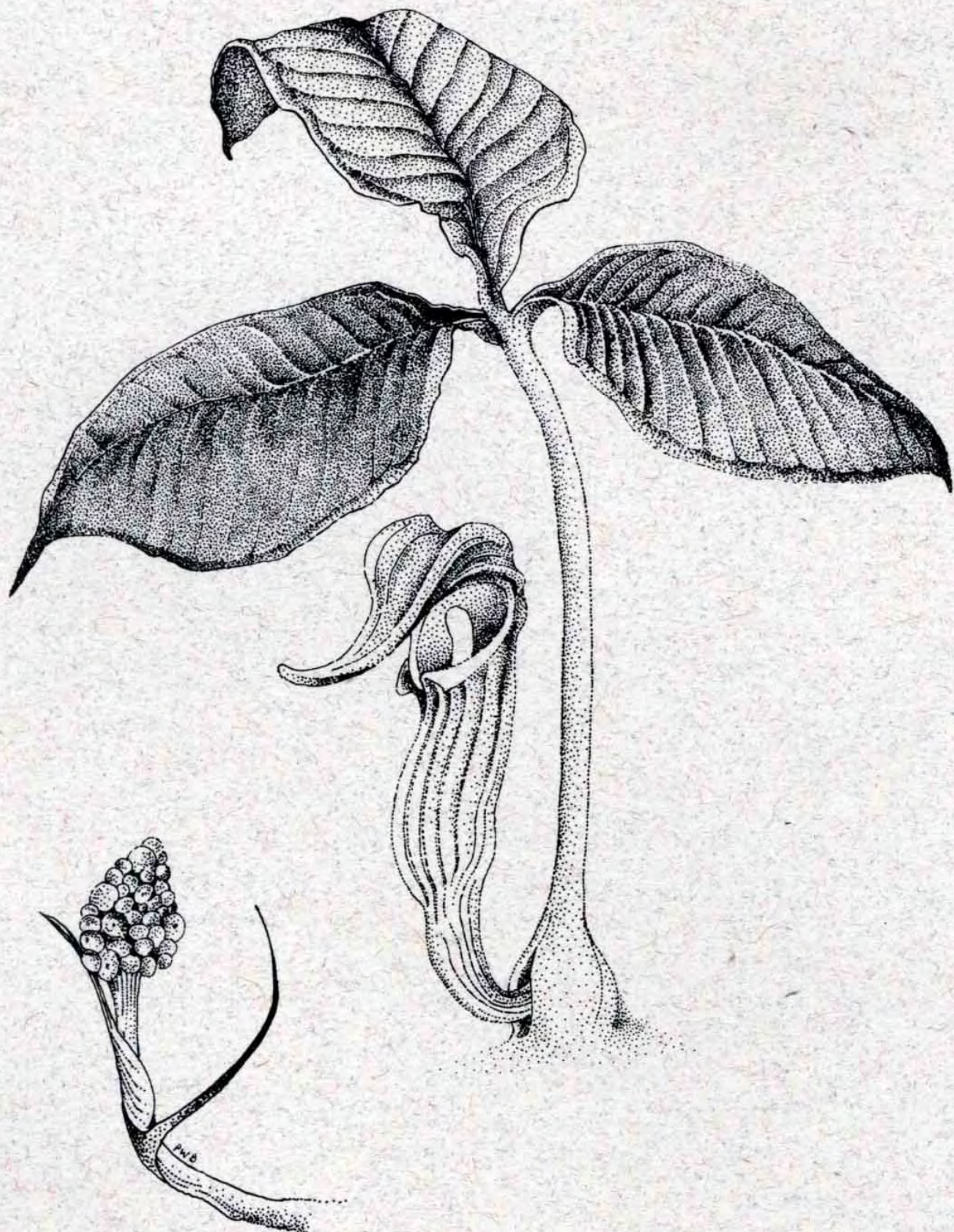
Daniel W. Sheats, '95



The **White Crappie** (*Pomoxis annularis*), top, a common game fish, is most easily identified by the six spines of the dorsal fin. The **Pumpkinseed** (*Lepomis gibbosus*), another common resident of Noxontown Pond, is named for the orange spot on its black opercula and emerald and orange stripes radiating from the snout. A muscular stomach gives the **Gizzard Shad** (*Dorosoma cepedianum*) its name, and the large size, forked tail, and narrow keel distinguish this anadromous fish from others. (Washburn Cove, November)

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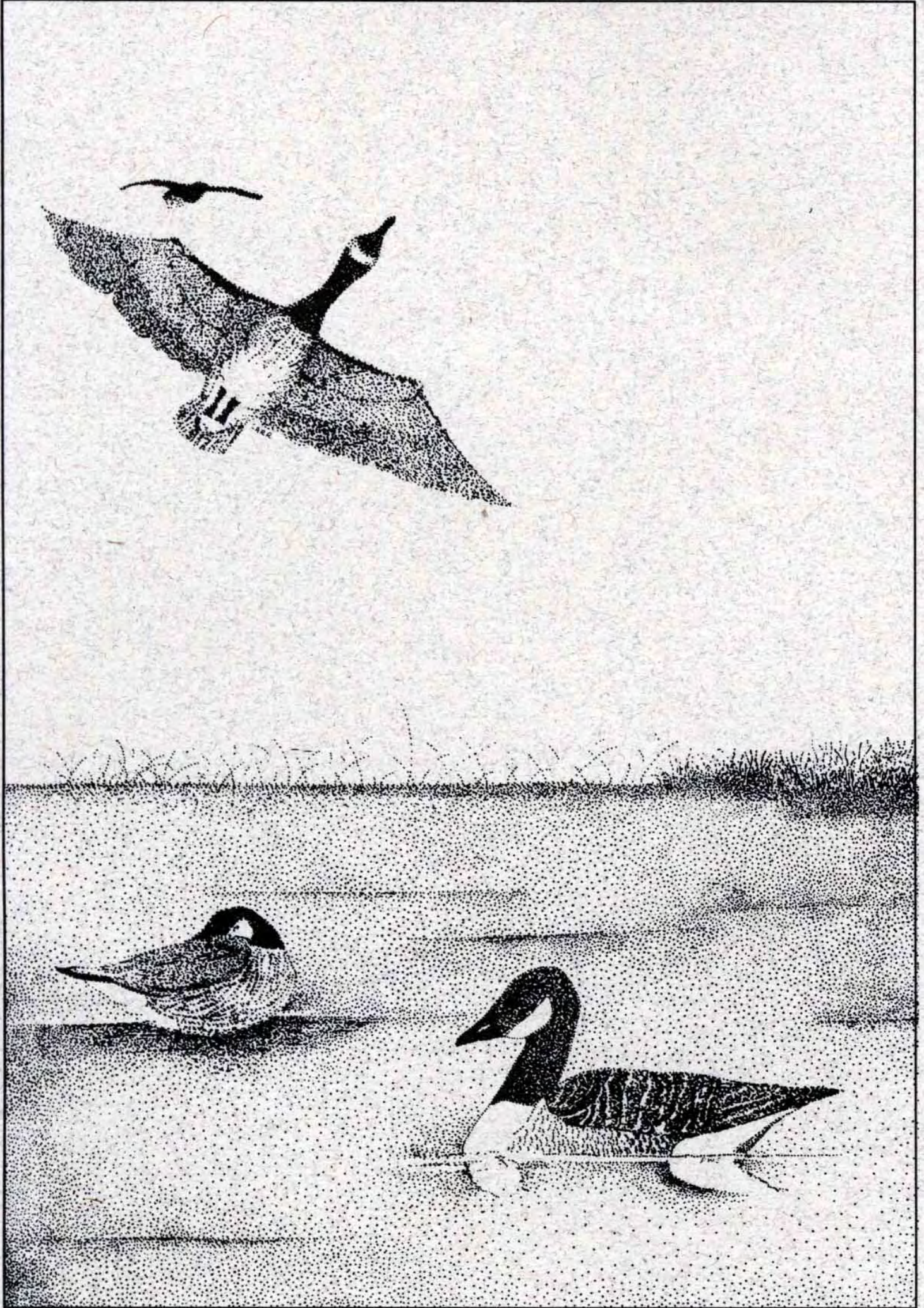




Jack-in-the-Pulpit (*Arisaema triphyllum*) — This uncommon wildflower found on the wet forest floor near Possum Creek is characterized by three large leaves overshadowing a streaked hood covering a spadix (jack). In the fall, stalks of bright berries replace its spring form. Native Americans frequently cooked and ate the tap root.

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The Canada Goose (*Branta canadensis*), perhaps our best known goose but whose numbers are declining, is identified by a black head and neck and broad white cheek. In winter, these geese are found locally in large flocks on fields and open expanses of water. We hear their long, deep honk and whoosh of wings as they fly low overhead. (Locustville, VA, January)

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The Black Walnut (*Juglans nigra*) is a sacred native, which, once mature, stands 70-90 feet. Walnut is one of the world's most valued trees, prized especially for its dark, deeply grained wood. This youngster shares an acre with several hundred others planted by students on the School's rich farmland. (Walnut Grove, September)

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The Great Blue Heron (*Ardea herodias*) is North America's largest heron. It hunts for fish, typically minnows, by stalking and walking slowly through shallows. We spotted this heron with its head hunched, resting along a tidal gut on a cold December day. (Bornday Hook NWR)

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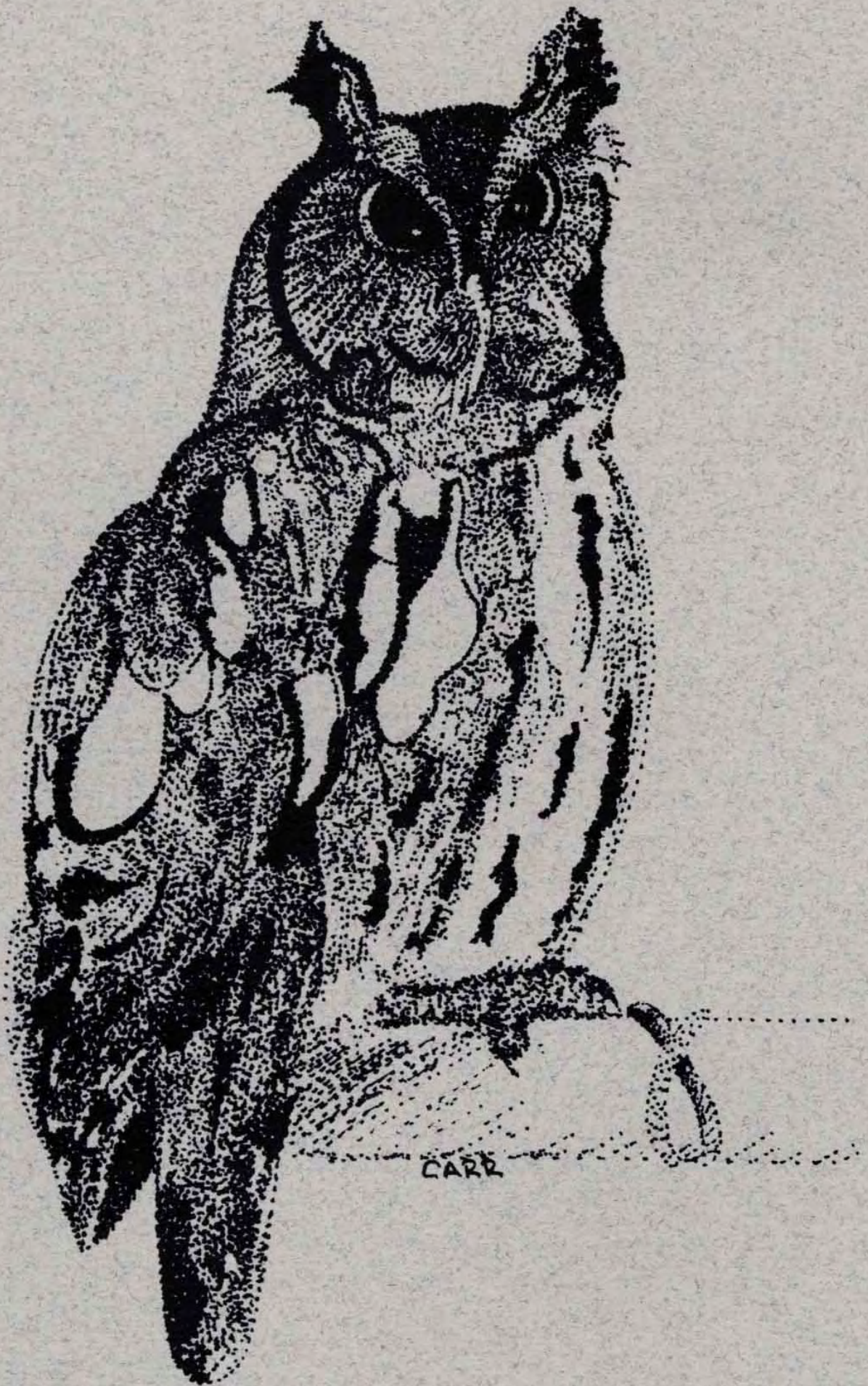




Pokeweed (*Phytolacca americana*) is a common native. It has large clusters of purple berries and is often tree-like. Pokeweed is poisonous but has a variety of uses. Native Americans ate the early shoots, used the roots medicinally and the berries to color clothing, baskets and skin. (Walnut Grove, September)

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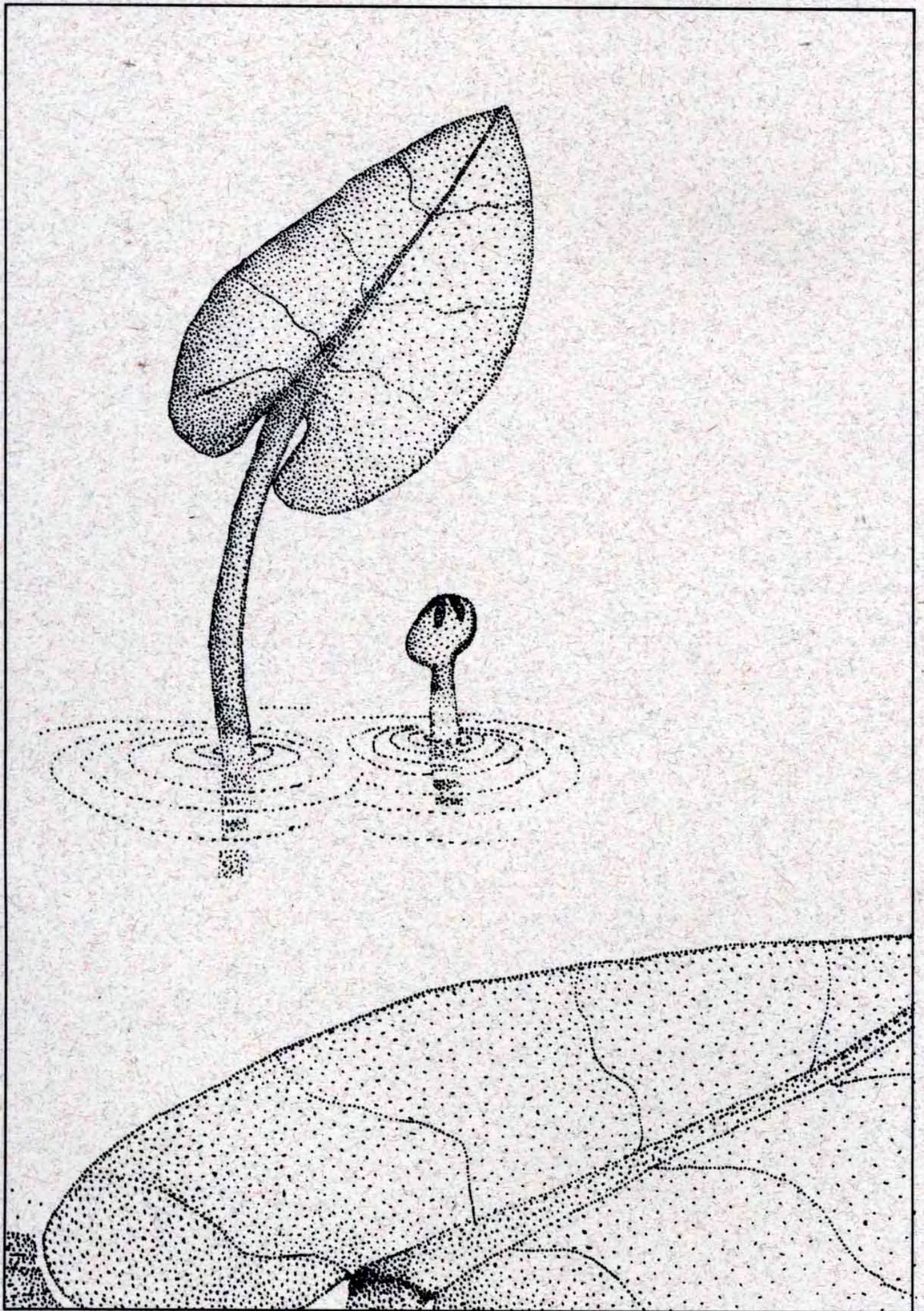




The **Screech Owl** (*Otus asio*) is a small owl common throughout North America. Its quivering, high-pitched whistle is sometimes heard in the evenings. This nocturnal raptor often nests in suburban areas, and its three to six young are either grey or red. This particular, grey-phased female is a non-releasable bird, partially blinded after encountering a car. (The Gully, May)

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Spatterdock (*Nuphar variegatum*) is perhaps the most conspicuous aquatic plant of Noxontown Pond. A large, starchy rhizome supports a bulbous, yellow flower and broad, floating leaves; they provide habitat for many invertebrates (e.g. snails, beetles) and other aquatic life. (Possum Creek Cove, May)

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The **Black Willow** (*Salix nigra*) grows commonly along the edge of Noxontown Pond and is important in stabilizing its shores. Long, slender leaves and a branching growth form distinguish the willow from other trees and shrubs. Native Americans used the bark which is laden with salicylic acid (similar to that found in aspirin) to make a powerful tonic to treat indigestion and fevers. (Pocahontas Creek, November)

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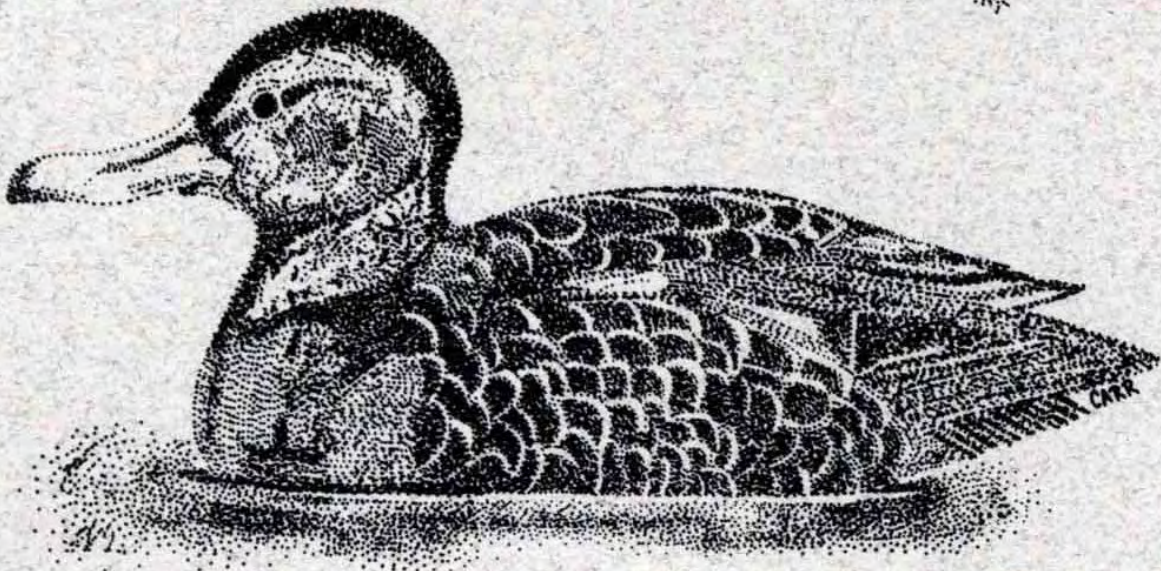
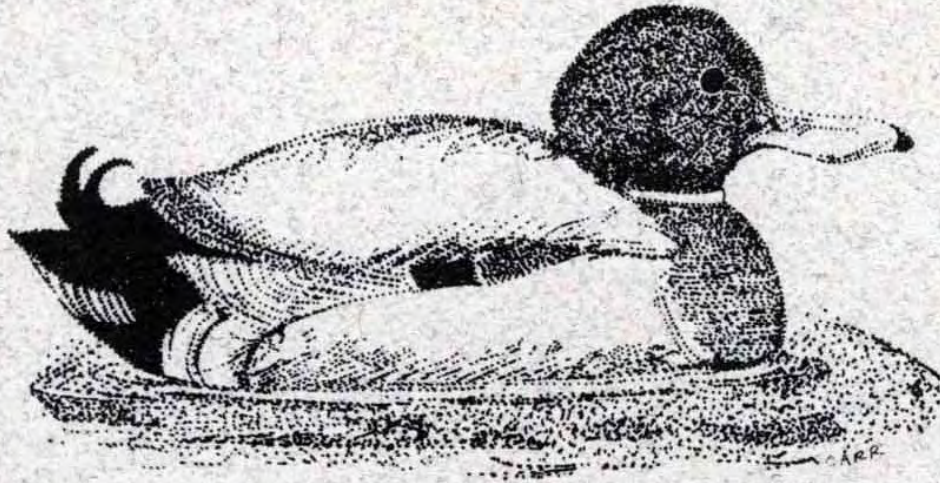




The Mayapple (*Podophyllum peltatum*) is a common, colonial forest-floor dweller. It has a single, droopy, white flower in a crotch underneath the umbrella-like leaves. The fruit appears a few weeks after the flower and makes a tasty jam. (Washburn Cove, May)

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Mallard (*Anas platyrhynchos*) and American Black Duck (*Anas rubripes*). These common marsh dabblers were feeding on one of the many freshwater ponds at Bombay Hook NWF. They look flight directly from the water, emitting lively quacks. White wing linings, evident in flight, on an otherwise uniformly dark bird distinguish the Black Duck. (December)

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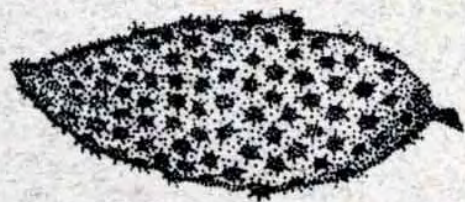
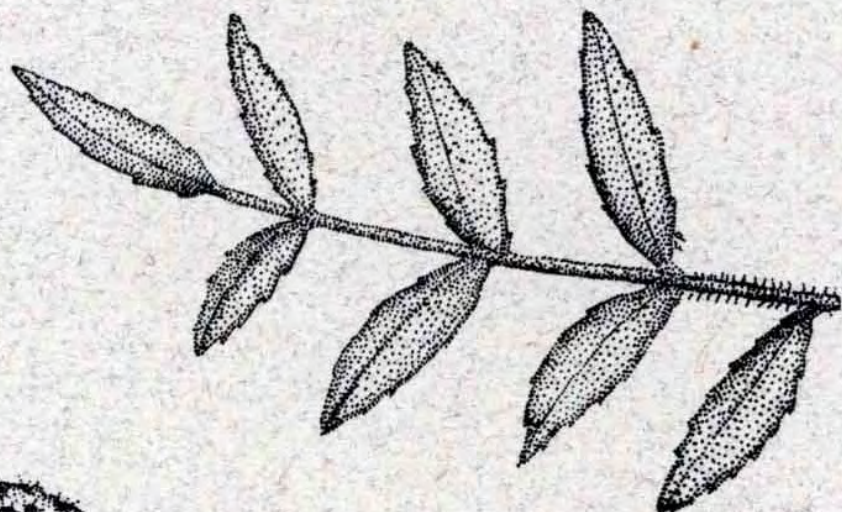
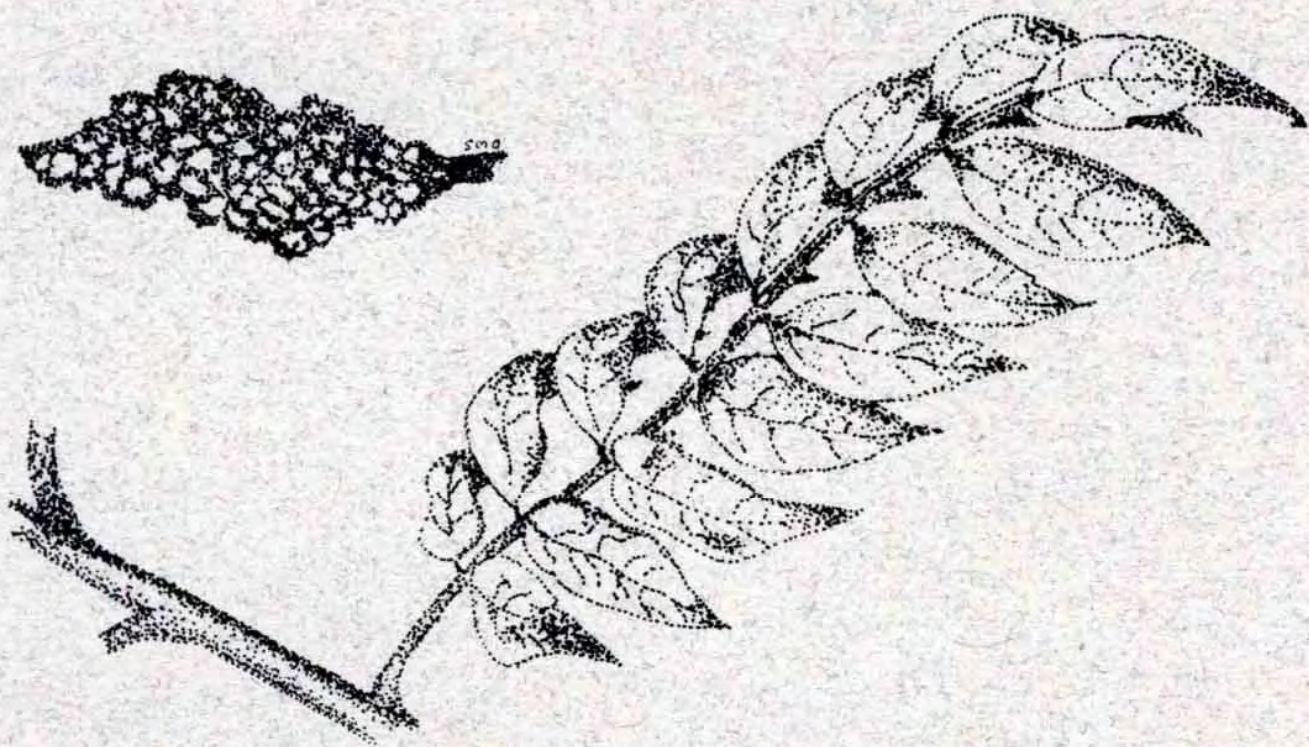


Clockwise from upper left: **Rough-leaved Goldenrod** (*Solidago patula*), **Slender-leaved Goldenrod** (*Solidago tenuifolia*), **Elliot's Goldenrod** (*Solidago elliotii*), **Early Goldenrod** (*Solidago juncea*). *Solidago* means "to heal," and over the centuries, Goldenrod oil has been used as a tonic for "ailments of the stomach to headaches." These four species create expanses of yellow along the woods' edge above Noxontown Pond. (September)

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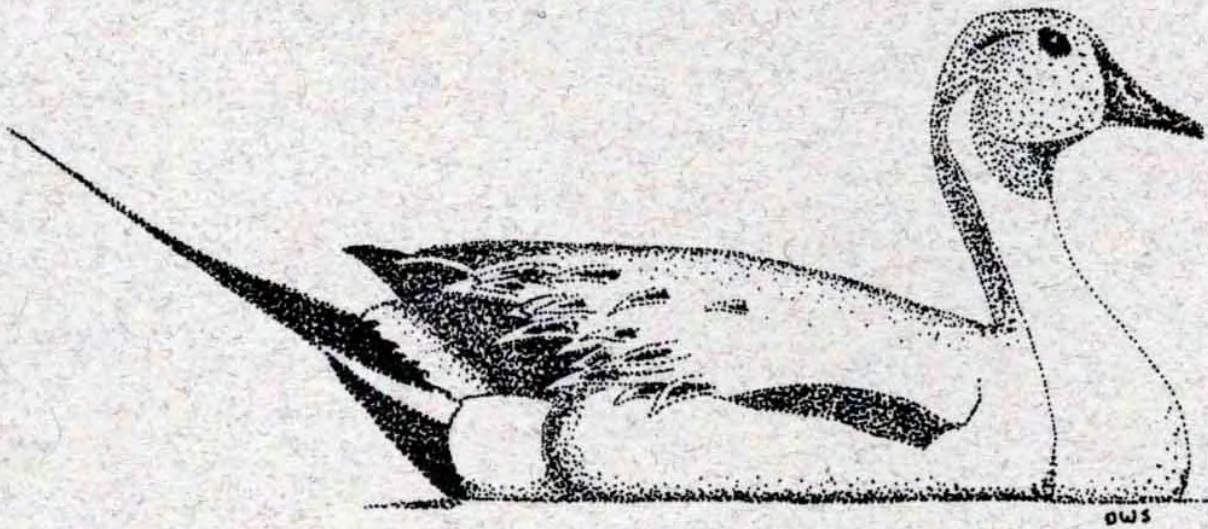
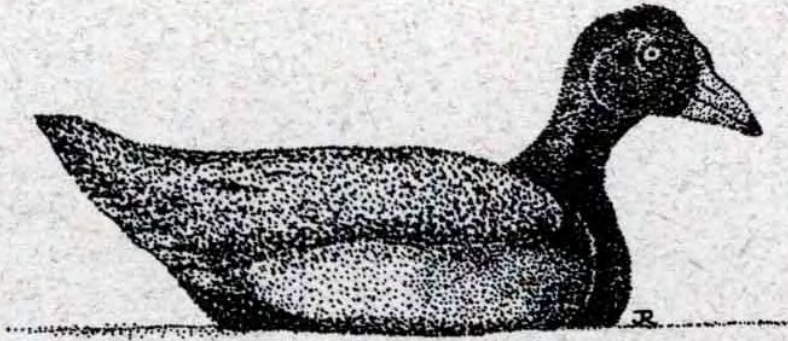
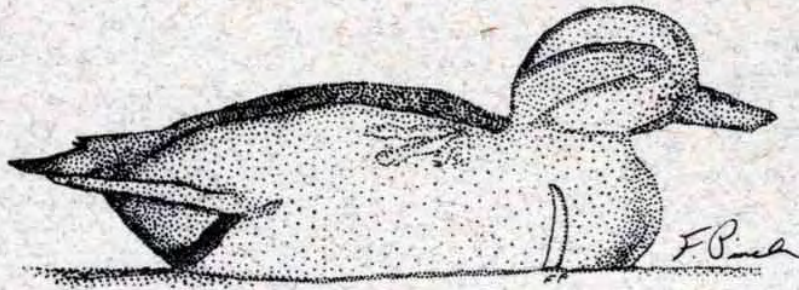




Smooth Sumac (*Rhus glabra*), left, and Staghorn Sumac (*Rhus typhina*). Not to be confused with poison sumac (*Rhus verrucosa*), both of these members of the cashew family are highly valued in England as ornamentals due to their expressive forms and deep crimson color in fall. Native Americans used the leaves as tobacco, and the fruit, when soaked in water, makes a flavorful tea. (Walnut Grove, October)

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Green-winged Teal (*Anas crecca*), American Coot (*Fulica americana*), Northern Pintail (*Anas acuta*). We drove beside a freshwater pool, and these small species of duck predominated; they fed energetically at the water's surface on this cold, wintry morning. (Bombay Hook NWF, December)

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The Common Evening Primrose (*Oenothera biennis*) stands about two feet and is a common field and roadside resident. The flowers, fragrant in evening, are yellow with a distinctive star stigma. Many tiny hairs cover the stem. This particular primrose has a couple of leaves which have seen far better days. (Walnut Grove, September)

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A member of the poppy family, **Bloodroot** (*Sanguinaria canadensis*) is an early spring wildflower partial to rich soils. The small, white flower is surrounded by scalloped shaped leaves and is quite beautiful. Native Americans used the juicy stems and roots as an orange dye for baskets and skin. (Poosum Creek, April)

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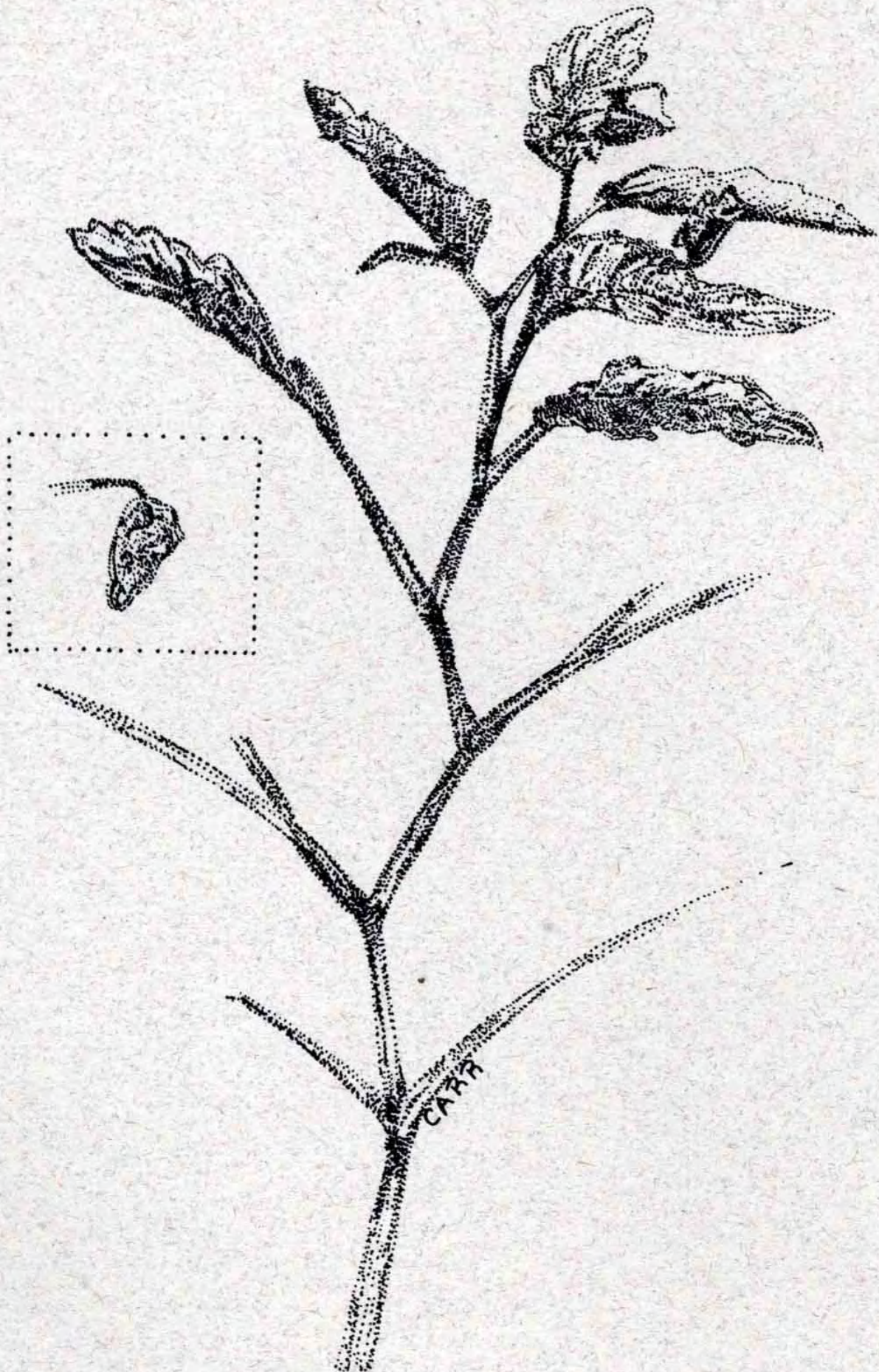




The Raccoon (*Procyon lotor*), a common North American omnivore, is a medium-sized mammal identified by its black mask and alternating black rings encircling the tail. Raccoons typically walk with a steady lumber, bringing the left rear paw beside the front right one. (Locustville, VA, January)

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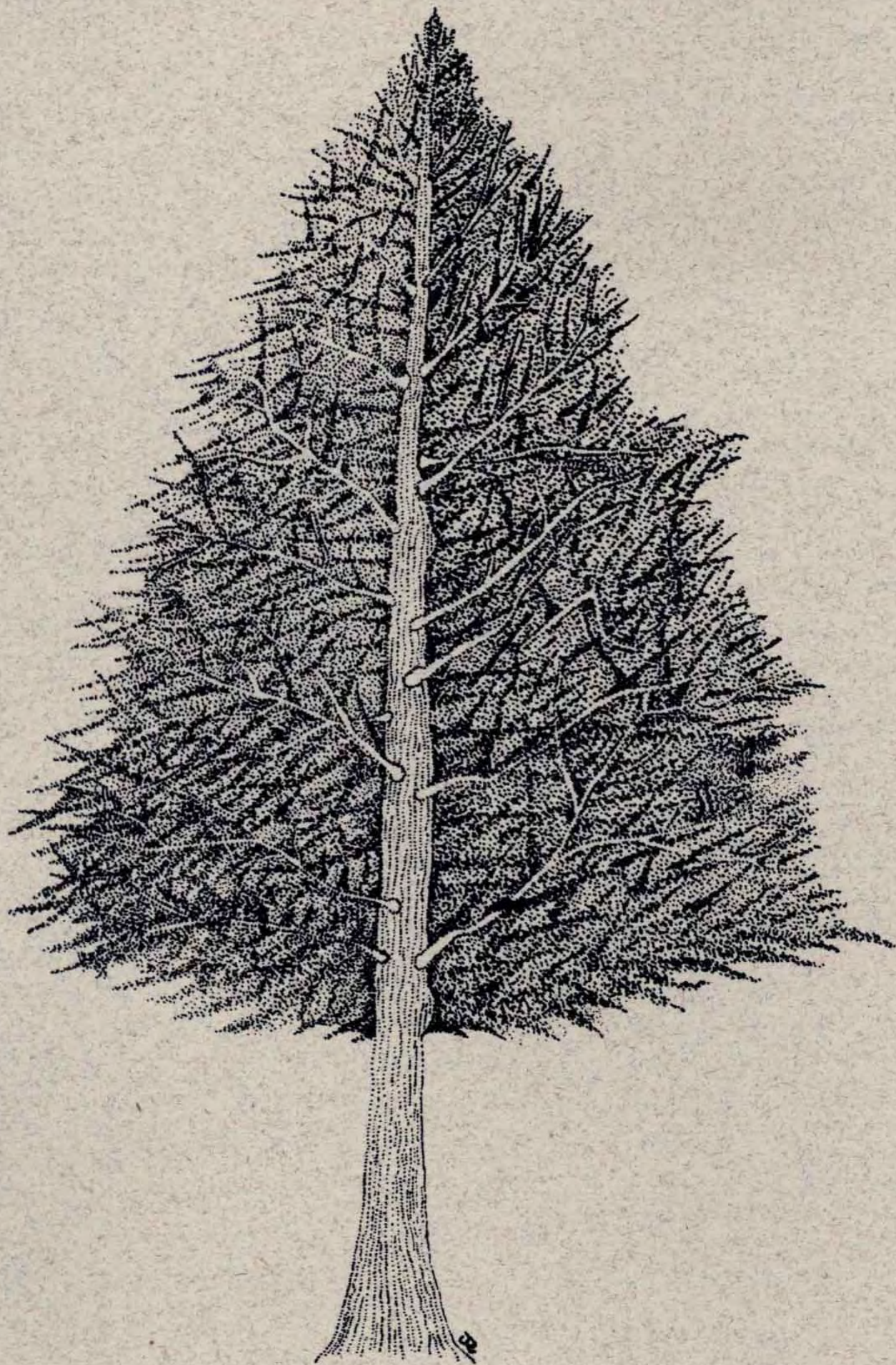




The **Spotted Touch-Me-Not** (*Impatiens capensis*) has slightly scalloped leaves which are thought to cure the symptoms of poison ivy; the two are often found together. The orange flowers eventually produce seeds which are expelled when touched. Oils and hairs underneath the leaves cause them to turn silver when placed in water. This plant was found by the water's edge near the biology barge. (Washburn Cove, September)

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On a cold, rainy day we were drawn to this magnificent **Bald Cypress** (*Taxodium distichum*), the centerpiece of the wetlands where Possum Creek empties into Noxontown Pond. Delaware is the northernmost range of this deciduous gymnosperm which can live a 1000 years; we're lucky to have this youngster in our backyard. (Possum Creek, November)

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Smartweed (*Polygonum persicaria*), at left, is a common field resident and can be identified by a spike of tiny, pink flowers and reddish stems which, when numerous, can create a field of rusty red. **Chickory** (*Cichorium intybus*), an alien composite, is frequently found alongside fields and roads and is identified by blue, flower rays. This wildflower's tender greens make for a good salad, and the roots, a delicious coffee. (Walnut Grove, September)

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