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SPRING WILDFLOWERS: “WARM-BLOODED” AND SHORT-LIVED PLANTS

Selecting the quintessential sign of spring is certainly a subjective exercise. If you were to ask a group of naturalists to choose, however, perhaps a majority would pick the emergence of skunk cabbage in February and March. That skunk cabbage should rate so high is due both to its very early emergence and to the symbolism of the green-and-maroon-streaked hoods as they break through the ice covering the wooded swamps where they grow: the botanical embodiment of spring conquering winter. Skunk cabbage is the first plant to bloom in a procession of flowers that runs through spring and summer on to the end of the blooming season in early November. It has a secret weapon for getting a head start: it is “warm-blooded.” More accurately, it is able to generate its own heat, an ability quite apparent by the melted ice or snow surrounding each hood.

Botanists who have studied this fascinating plant have found that as long as the air temperature remains above freezing, the temperature of the flower cluster, known botanically as a spadix, stays a balmy 72°F. Once the temperature drops below freezing, however, the spadix loses its heat-making ability and dies.

The plant generates heat the same way as animals do—through the consumption of oxygen in a process known as respiration. The fuel which energizes this activity is provided by starch stored in the large rootstock, which can be as much as two inches wide and a foot long in older plants. In addition to its heat-making ability, the skunk cabbage is remarkable in another way: measurements indicate that the temperature of the spadix is constant despite fluctuations in the air temperature. This means the plant is able to generate more or less heat as needed, suggesting that it has a built-in, yet undescribed thermostat. As one naturalist has said, “Skunk cabbage behaves more like a skunk than it does a cabbage!”



1-1. Yellow trout lily (L), so named because its speckled leaves look like a trout.
1-2. Marsh marigold (R): the colorful yellow “petals” are actually sepals, part of the stem.

The hood of the skunk cabbage, technically known as the spathe, assists in keeping the plant warm. Its tissue is a spongy, biological Styrofoam of sorts, made up of many tiny air spaces.

Why the skunk cabbage evolved the ability to generate heat is unclear. Blooming as early as it does, it seems logical to assume that higher temperatures help keep pollinating insects warm enough, and therefore active enough, to perform their vital chores. Also, the warmth seems to encourage the rapid growth of seeds which, dispersed early, have a greater chance to find a suitable location in which to germinate.

The conspicuous leaves of the plant emerge after the flower. Before long, bunches of leaves, similar to tobacco in appearance, are all that are seen. Growing in colonies of hundreds or thousands in the mucky organic mat of the swamp, the knee-high plants lend a lush, primordial aspect to a wetland when fully leafed out.

In the moist woods, adjacent to the swampy wetlands where skunk cabbage dominates, grow a host of other wildflowers that bloom in early spring, about a month after the skunk cabbage. These are the spring ephemerals. The fragile looking flowers are so named because they bloom in early spring, persist awhile, and then die back. By early to midsummer they have disappeared, and a walk through their habitat at that time of year will reveal no sign of their existence.

Spring ephemerals may be employing the same tactic used by skunk cabbage. By blooming early, they have insect pollinators to

themselves, thereby improving their chances for successful reproduction. Moreover, before the trees overhead can leaf out, the plants can capitalize on the unimpeded sunlight for photosynthetic food-making.

Wood anemone, also known as windflower, is a member of the buttercup family and has pretty, white, five-sepaled flowers. Like the flowering dogwood and marsh marigold, it lacks petals, and the sepals, which are usually found inconspicuously underneath, have taken on their role. It usually has three leaves, each of which is divided into three parts giving the plant a fragile, lacy look.

Dwarf ginseng, a close relative of the medicinal herb ginseng, looks like the wood anemone in that it has the same three-part leaves, but its flower cluster is made up of tiny white flowers.

The spring beauty is another fragile looking ephemeral. It has grasslike leaves and five-petaled flowers that are white to pink with streaks of red. They bloom for two to three weeks.

Yellow trout lily stands out as one of the island's more attractive native wildflowers. Also referred to as dogtooth violet or adder's tongue, it produces a showy, yellow, six-petaled flower that, not surprisingly, looks like a miniature lily. The leaves are as inconspicuous as the flowers are flamboyant: they look as though they had been sprayed with camouflage paint, being mottled in shades of green and brown. The speckled leaves apparently reminded some ichthyology-minded botanist of the sides of a trout, hence the common name. The yellow trout lily grows in colonies, often containing hundreds of plants. Sterile, immature one-leaved plants which lack flowers are more numerous than the fertile two-leaved individuals.

Trilliums are ostentatious members of the lily family also known by the wonderfully descriptive name "wake robins." The flowers bloom just as songbirds are "awakening" as evidenced by their arrival to northern forests during spring migration. Long-lived, they can take as much as a half-decade to reach maturity and begin to flower. Three species are native to the island: red, nodding, and painted, each of which has large, three-petaled flowers. Red trillium has, you guessed it, red flowers; nodding displays pale pink flowers; and the painted has white flowers with red veins at the base of each petal. Their seeds are spread by small rodents and various insects.

The grandest splash of spring color, however, belongs to the marsh marigold. Like the wood anemone to which it is related, its bril-



1-3. Skunk cabbage in flower (L).

1-4. The tobacco-like leaves of skunk cabbage growing in marsh (R).

liant inch-and-a-half-wide yellow flowers lack petals; they are made up of showy sepals. Its scientific name, *Caltha palustris*, means “goblet of the swamp,” a reference to the goblet-like shape of the flowers and to the habitat which it adorns with such color.

Where: SKUNK CABBAGE is one of the most common plants growing on Long Island and can be found in almost all wooded swamps. It is found in Valley Stream, Hempstead Lake, Connetquot River, and Caleb Smith State Parks; the Tackapausha and Massapequa County Preserves; and Blydenburgh, Robert C. Murphy, and Theodore Roosevelt County Parks.

MARSH MARIGOLD is almost as common as skunk cabbage and can be seen in Caleb Smith and Connetquot River State Parks and Blydenburgh County Park. It is also common in the swamps of Pelham Bay and Van Cortland Parks just outside our area in the Bronx.

SPRING EPHEMERALS—wood anemone, yellow trout lily, the trilliums, spring beauty, and dwarf ginseng can all be found at the Shu Swamp and Coffin Woods Preserves maintained by the North Shore Sanctuary, Inc., located in Mill Neck. Spring Beauty is common south of the Alexander Graham

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Bell School on the very western edge of Alley Pond Park in Queens. It also occurs at Hoyt Farm Park in Smithtown.

WOOD ANEMONE and TROUT LILY are common at Theodore Roosevelt County Park in the damp woods to the south of Big Reed Pond in the area where the nature trail system is located. Trout lily also occurs at the Hoyt Farm Preserve in Smithtown and on the west side of Alley Pond Park. Wood anemone is common in Bill Richards Town Park in Smithtown, adjacent to Blydenburgh County Park, across from the State Office Building along Route 454.

When: SKUNK CABBAGE—mid-February to early April
MARSH MARIGOLD—mid-March to late April
SPRING EPHEMERALS—mid-April to early May