

The Curious Case of the July-fruiting Mayapple By Edna Greig

Mayapple (*Podophyllum peltatum*) is an easily recognized native herbaceous plant of rich open woodlands in eastern North America. In early spring, the emerging leaves of mayapple appear like small green umbrellas dotting the forest floor and give rise to another of its common names, umbrella plant. Within a few weeks, these umbrellas grow into a dense groundcover that stands about one to two feet tall.

An individual mayapple plant can form a large clump, with up to 1,000 stems. Look closely at a clump and you will notice that the stems are of two different types. One type of stem is topped by a single, large, umbrella-like leaf and has no flowers. The second type of stem is forked and bears two smaller umbrella-like leaves. Growing from



Mayapples leafing out in spring.

the fork of these branched stems, and hidden by the leaves, is a single, nodding flower which blooms in May. The waxy, white flower, about two inches in diameter, has six to nine petals that look a bit like saucers.

Mayapples' clump-forming habit is its primary reproductive strategy. It also can reproduce sexually, through the production of seed-bearing fruit. But sexual reproduction is challenging, because mayapple is self-incompatible. This means that it must rely upon insects to transport pollen among the flowers of different clumps of plants. Because the flowers of mayapple are hidden by leaves and also produce no nectar, they are only infrequently visited by insects. And, the few insects that do visit may not forage beyond the boundaries of an individual clump. As a result, a large clump of mayapple typically produces a relatively small number of fruits that contain the seeds of the next generation.

Although small in number, the fruits of mayapple are quite large and showy. In fact, mayapple produces the largest fruit of any herbaceous plant in its native woodlands. The characteristic fruit is responsible for the "apple" in mayapple as well as some other common names such as hog apple, Indian apple, and wild lemon. The yellow, fleshy, egg-shaped fruit is about 1 1/2 to 2

inches long and matures in late July or early August. The fruit has a pervasive sweet odor which may reveal its presence while otherwise being hidden beneath the umbrella of leaves.

The fruit is a favorite food of the eastern box turtle (*Terrapene carolina*) which can easily reach it from the forest floor. The turtle excretes the undigested seeds from the



The immature fruit appears in summer.

fruit and by doing so provides the seeds with some protective camouflage as well as some starter fertilizer.

People also have eaten the pulp of the ripe mayapple fruit, but opinions on its taste are varied, and run the gamut from bland to sickly sweet. The unripe fruit and seeds are toxic and should not be eaten. The stems, leaves, and roots of the mayapple also are all highly toxic and are not browsed by deer or other herbivores.

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Flowers hide under the umbrella-like leaves.