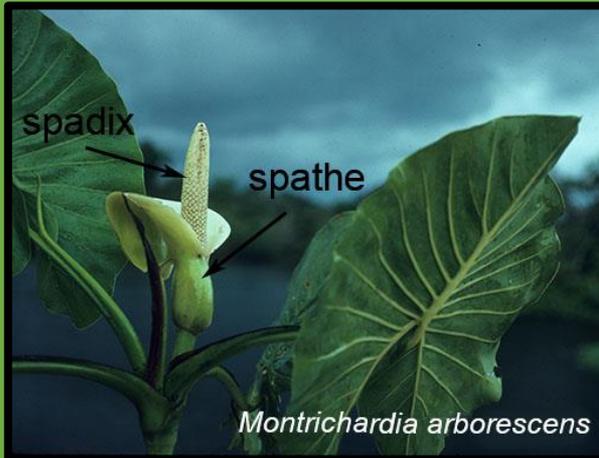


# SKUNK CABBAGE AND JACK-IN-THE PULPIT FLOWER IN THE SPRING

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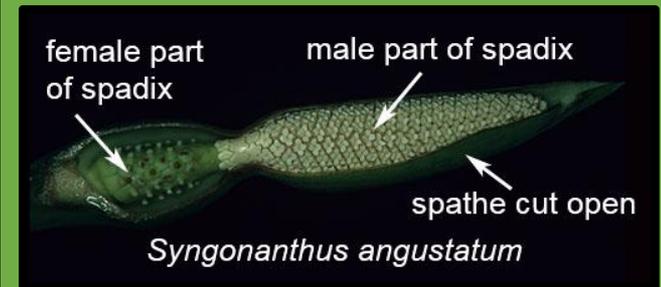
In this presentation we introduce the Araceae, a family with an estimated 105 genera and 3200 species worldwide (Croat, 2004). Most of the species can be recognized by having a spathe (= a modified leaf) that subtends the spadix (= a stalk that bears the flowers and fruits). Most of the species of this family are tropical. In the Preserve there are only two species with conspicuous inflorescences (*Symplocarpus foetidus* and *Arisaema triphyllum*), and one species (*Lemna purpersilla*) with flowers so small that we have never seen them.



The spathe can be closed around the spadix (above) or be completely open (right).



All species on this page are tropical.



The above species has unisexual flowers of both sexes. The male flowers are above the constriction and are white and the female flowers are below the constriction and are green. Having separate male and female flowers on the same plant makes the species monoecious.

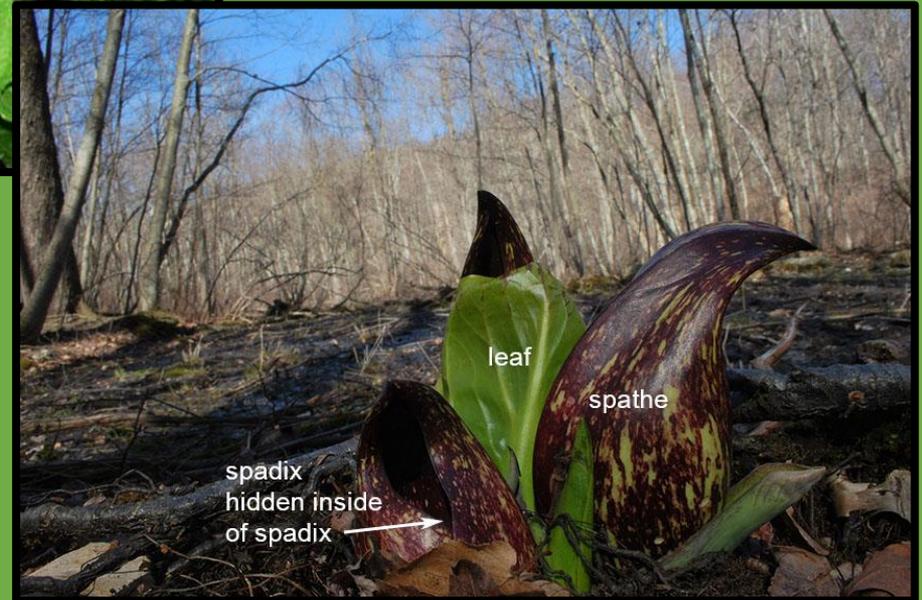
# *SYMPLOCARPUS FOETIDUS*

(Araceae: skunk cabbage)

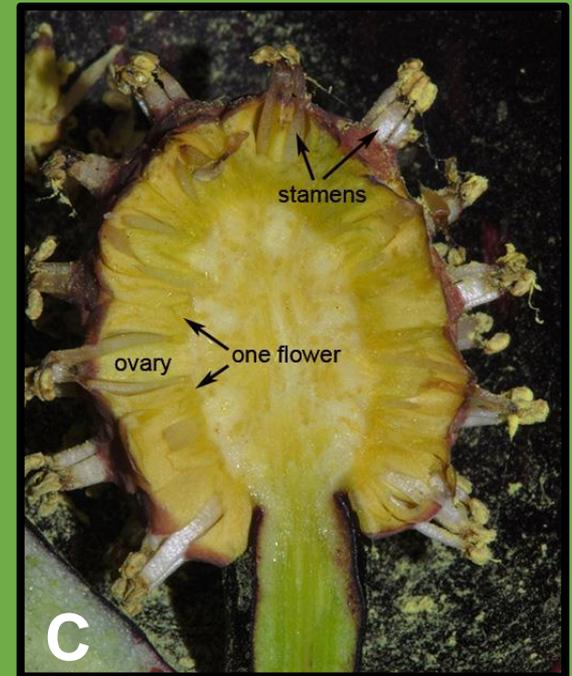
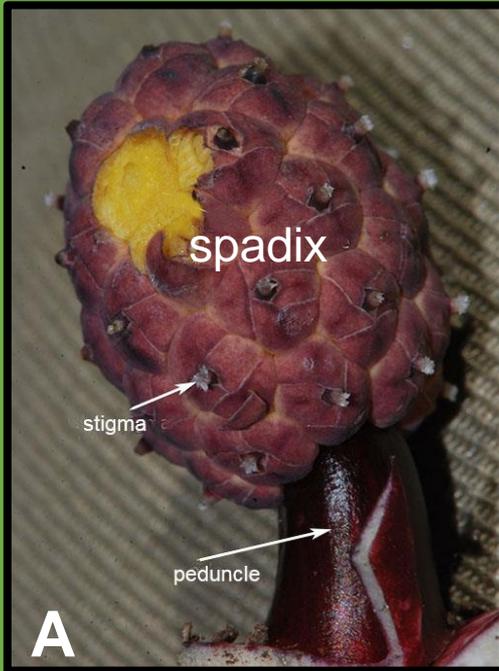


This is the first wildflower to bloom each year. The reproductive structures are enclosed by the spathe. Because the air temperature inside of the spadix is often greater than it is outside, pollinators are attracted to the warmth (Gracie, 2012).

An abundant species in lowland wet areas of the Preserve. Because this species blooms as early as February, any surrounding snow melts around the plants because of heat generated by the spadix and warmth absorbed by the dark colored spathe.

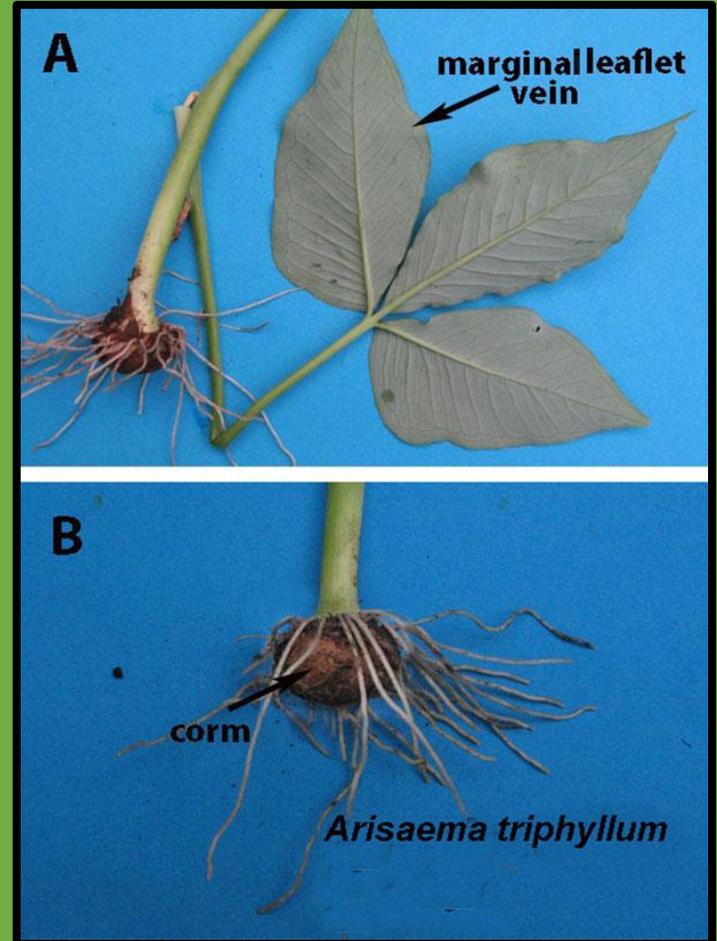


# THE SPADIX OF *SYMPLOCARPUS FOETIDUS*



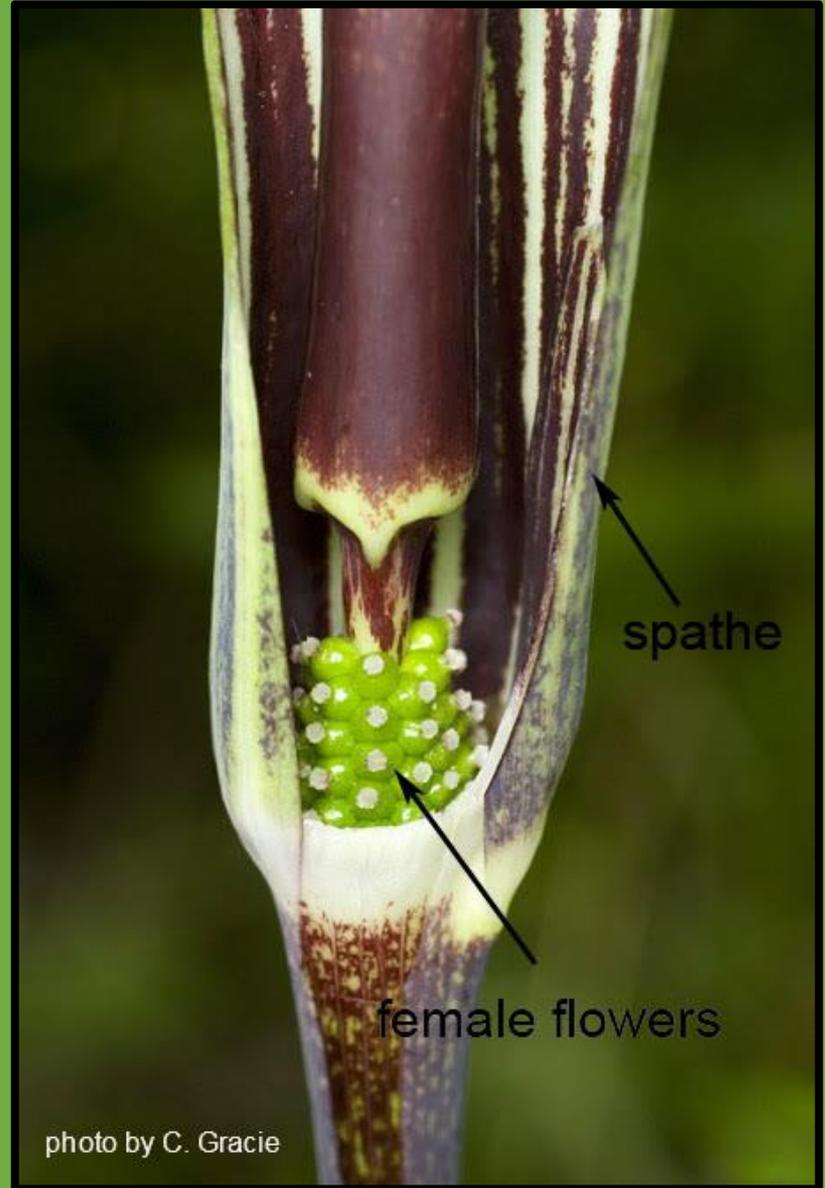
- A. Numerous flowers cluster together to form a structure called the spadix. This spadix is in the female stage.
- B. This spadix is in the male phase which follows the female phase.
- C. This longitudinal section shows that the flowers are bisexual.
- D. Medial section of a multiple fruit. The seeds develop from separate flowers that have fused together to form a multiple fruit similar to the fruit of the unrelated pineapple.

# *ARISAEMA TRIPHYLLUM* (Araceae: Jack-in-the-pulpit)



If a plant has two or more leaves it usually produces female flowers. If it has a single leaf it usually produces male flowers or does not flower at all.

# SEXUAL DIFFERENCES IN THE JACK-IN-THE-PULPIT

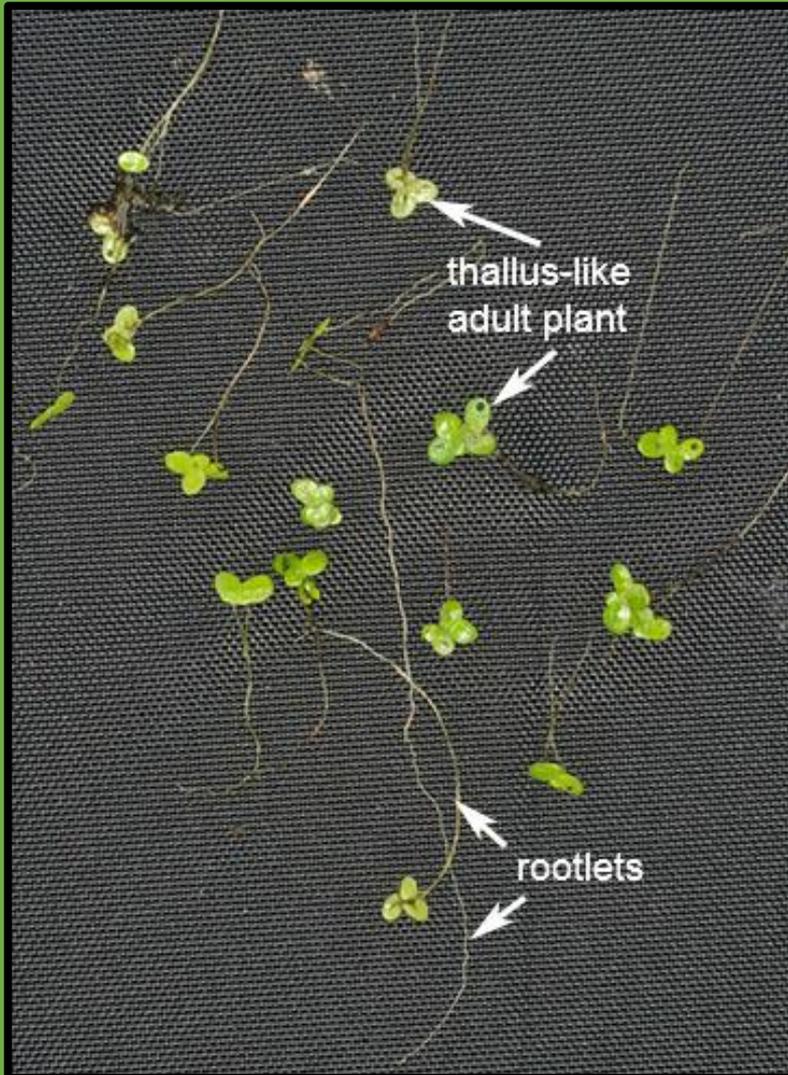


## *ARISAEMA TRIPHYLLUM* (continued)



The fruits are berries that have one to three white seeds surrounded by a reddish pulp. In contrast to the skunk cabbage, the fruits of the infructescence are easily separated from one another.

# LEMNA PERPUSILLA (Araceae: duckweeds)



The duckweeds were previously placed in their own family (Lemnaceae). Although there are no visibly similar morphological features to other members of the Araceae, molecular data now places *Lemna* and its relatives into a subfamily of the Araceae (Stevens, 2001).

Worldwide there are five described genera and 38 known species of this group of Araceae.

Duckweeds are restricted to aquatic habitats. They reproduce asexually and seldom flower (Armstrong, 2004).

Species of *Wolffia*, a relative of duckweed, are the smallest and morphologically simplest of all flowering plants.

See Crow & Hellquist (2000) for keys to *Lemna* and its relatives.