

GROWING ARUM

(AKA Jack in the Pulpit, Wake Robin & Cuckoo Pint)

FORT WORTH.

In  Texas
AN EXPERIMENT



While not widely known or grown, I am of the opinion that most Arum will do well in North Texas. I am attempting to grow as many species as I can get in Fort Worth. David Leedy – djleedy@sbcglobal.net

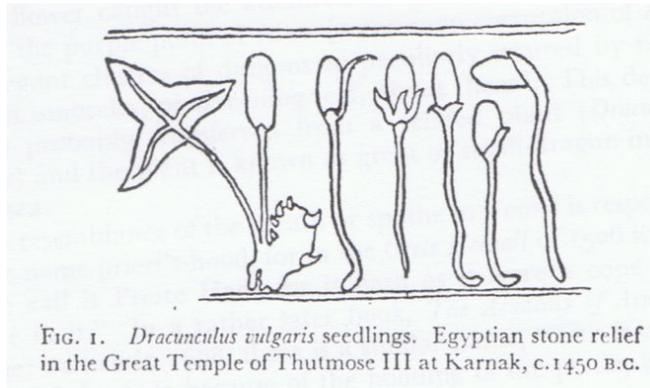
November 2013

Arum Linnaeus (See Addenda for technical terms)

INTRODUCTION

Carl Linnaeus used the generic name *Arum* in his *Species Plantarum* (1753). The first record of its use as a generic name was that of Fuchs (1542). However, the name *Arum* and its history goes back much further. The first record of the name *Arum* is in classical Greek literature, both Pliny and Dioscoridis giving details of more than one species of *Arum* known to them. According to Cecil Prime in his book "Lords and Ladies":

On the walls of a small temple of Thutmose III at Karnak, there is a series of limestone bas-reliefs covered with plant drawings, dating from the fifteenth Century, B.C. Some of the plants can easily be recognized as two kinds of Arum.



Arum are perennial tuberous herbs whose leaf emerges in early autumn to late winter. The most widely known and grown species in North Texas is *A. italicum*, *ssp italicum*. The many cultivars of that species as well as the sub species are not well known (or known at all) in North Texas.



PRIOR YEARS' EXPERIENCE WITH ARUM

During the first year, growing of Arum was attempted in containers and, after the growing period, the containers were emptied and all but one of the tubers stored inside of the home in air conditioning. It was noticed that the single tuber (*Arum orientale*) left outside, in the shade between a large tree and next to the wall of the house, suffered little from the summer heat. The second year, many additional tubers were acquired and growing was again attempted in containers. However, there was almost 75% mortality of tubers in smaller (one gallon and less) containers after a long, hard December rain followed by a week when the temperature did not exceed freezing (32 degrees F., 0 degrees C.). However those tubers in 2-3 gallon containers survived the inhospitable weather. The surviving tubers remained in the containers in the shade between the large tree and the house for the hot summer. This experiment is the third growing season at this locality and about 80% of the tubers are newly acquired.

PREPARING THE ARUM GARDEN

As the garden top-soil was so shallow, many colleagues suggested that a cold frame be considered for growing Arums in Fort Worth. On the East side of the home, under a roof overhang of approximately two feet, existed a garden of 32 feet in length and two feet in width. This garden was built over a French drain (buried in the clay and shale at roughly 2 feet deep) and outlined with a 4 inch thick, concrete wall to four inches above the soil line. All of the existing plant material was removed and a planting mix of 50% sand and 50% compost was added. Then to this was added 12 cubic feet of course perlite (in order to increase the drainage of the soil). The garden now has a depth of approximately 28 inches. Without testing the Ph of the soil, some agricultural lime was added to offset the acidity from the decomposed compost.

Depending on the size of the tuber (more shallow for smaller tubers) a 5" hole was dug, the bottom 1± inches was filled with grit, and the tuber placed on top of it. Then the hole was refilled. Although the garden soil should drain fairly well with the sand and perlite, the grit was an added precaution against the accumulation of water around the tuber, which might cause rotting. Each species/cultivar was separated by a thin wall (rubber edging cut into 20" lengths).

SPECIES/CULTIVARS INCLUDED IN THIS EXPERIMENT

Arum albispathum



Arum apulum



Arum byzantinum



Arum concinnatum (Possibly 3 forms. Received in 2013 from 3 different sources, each with differing descriptions.)



Arum creticum



Arum cyrenaicum



Arum cylindraceum



Arum dioscoridis



Arum elongatum



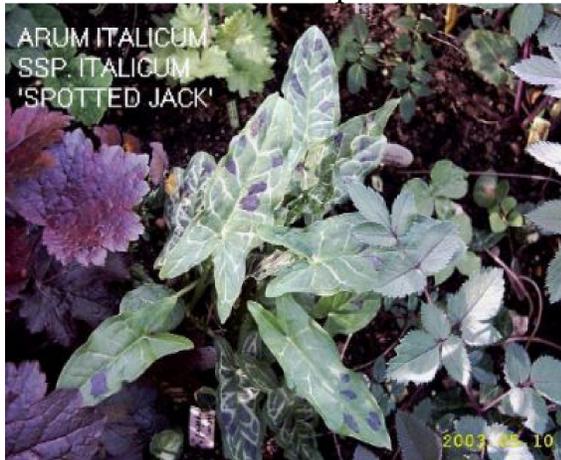
Arum hygrophilum



Arum italicum



Arum italicum ssp. *italicum* *Arum* 'Chameleon' *Arum* 'White Winter'



Black spotted form

Warburg Strain



Gold Rush

McClements Form

Arum korolkowii



Arum maculatum



All green form.



Spots on leaf.

Arum nigrum



Arum orientale



Arum orientale, var. *longispathum*



Arum palaestinum



Arum purpureospathum



Arum rupicola



Arum (Gymnomesium) pictum



A winter-growing herb with a whitish tuber 2½” across. *Arum pictum* is unique in the genus *Arum* with its autumn-flowering, and in this respect, as well as in its horse dung-like scent, resembles members of the related genus *Biarum*. The arrow-head shaped leaves are about 12” long and 6” wide. At first they are shiny and purplish, later becoming silvery or whitish. The flowering stem (spadix) appears with or before the leaves, and smells strongly of horse dung. Native to Majorca (Mallorca), Minorca, Corsica, Sardinia and the west coast of central Italy.

Dracunculus vulgaris (Black Arum)



Dracunculus vulgaris is a species of aroid in the genus *Dracunculus* and is known variously as the Dragon Arum, the Black Arum, the Voodoo Lily, the Snake Lily, the Stink Lily, the Black Dragon, the Black Lily, Dragonwort, and Ragons. In Greece, part of its native range, the plant is called Drakondia, the long spadix being viewed as a small dragon hiding in the spathe.

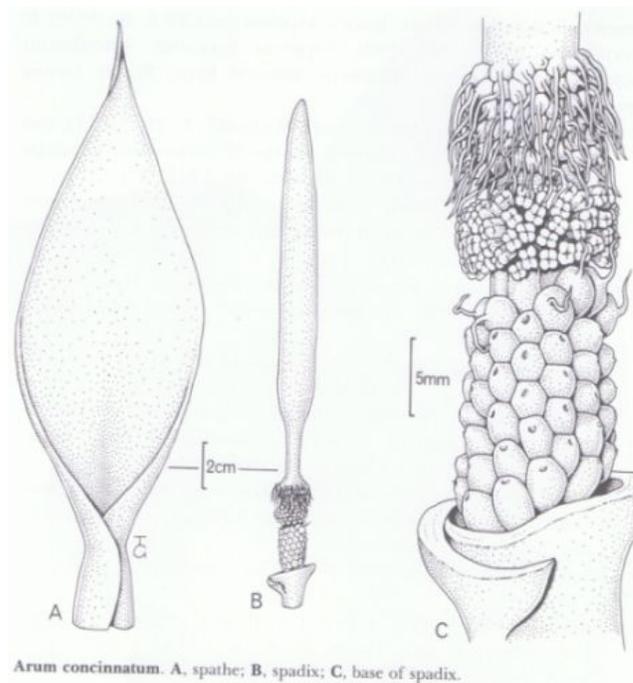
This plant can tolerate some shade but prefers full sun; it can also withstand drought but benefits from a little watering. The plant prefers a humus-rich, well-drained soil.

It is endemic to the Balkans, extending as far as Greece, Crete, and the Aegean Islands, and also to the south-western parts of Anatolia.

MORPHOLOGY and BOTANY

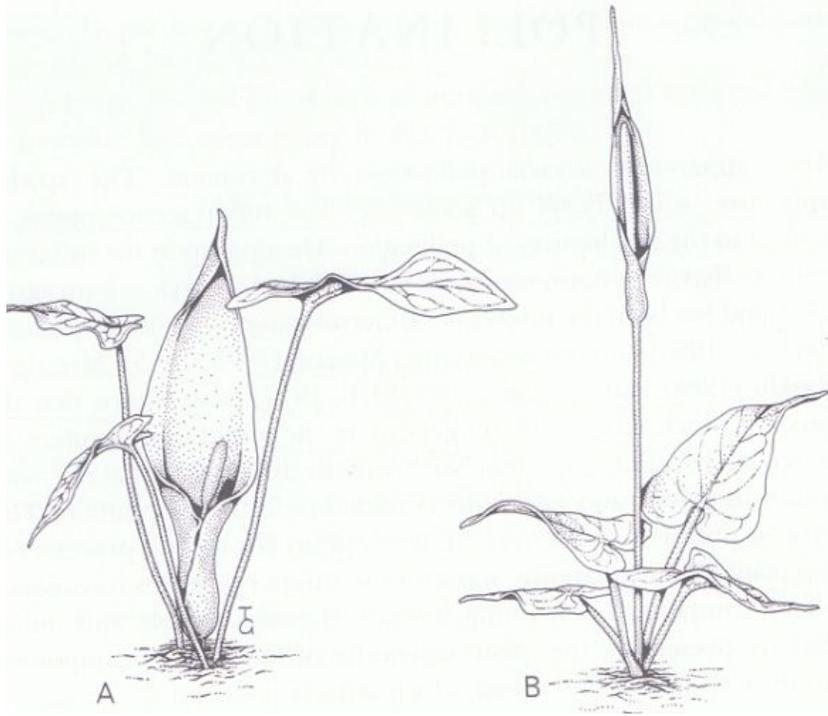
ADDENDAFurther Morphological and Botanical Information:

The tubers are either discoid (vertical) or rhizomatous (horizontal). The floral structure (spathe and spadix) generally emerges in late winter (January – February in Fort Worth) and the female ovules convert to seed containing berries, when fertilized. The leaf withers in late Spring and the berries turn to a bright reddish orange and remain on an erect stem (peduncle) until late June – July. An exception to this is the plant previously known as *Arum pictum*, which flowers in the autumn. Dr. Peter Boyce (Author of “The Genus *Arum*”) believes that *Arum pictum* may belong to a separate classification: *Gymnomesium*, which may be a separate section of the genus *Arum* or completely separate genus from *Arum*.



A.Spathe, B.Spadix, C.female ovules convert to seed containing berries

According to Boyce (The Genus *Arum*, page 35): There are two main types of inflorescence found in *Arum*. Those species with spathes held near ground level, below or just level with the leaves (‘cryptic species’) and produce a scent. Those species bearing the inflorescence above leaf level, (‘flag species’) are scentless, apart from *A. creticum*. Ecologically the difference seems to be that the cryptic species invariably grow in wooded or scrubby areas. The flag species usually inhabit open or rocky areas with little or no overhead obstruction.



A. Cryptic. B. Flag.

LOCALITY AND FEATURES OF THIS EXPERIMENT





As shown on the above map, Fort Worth is located in North Central Texas, about 50 – 80 miles west of Dallas. Fort Worth is the sixteenth most populous city in the United States of America and the fifth most populous city in the state of Texas. Fort Worth has a transitional semi arid climate.

The location of this experiment is in West Fort Worth, where the USDA hardiness zone is 7b (average minimum temperatures of 5 – 10 degrees Fahrenheit). The coldest month of the year is January, when the average high temperature is 55 °F (13 °C), and low temperatures average 31 °F (–1 °C). [The coldest temperature ever recorded in is –7 °F (–22 °C), on December 24, 1989.

The hottest month of the year is July, when the average high temperature is 95 °F (36 °C), and overnight low temperatures average 72 °F (23 °C), giving an average temperature of 84 °F (29 °C). The highest temperature ever recorded in Fort Worth is 113 °F (45 °C), on June 26, 1980 and June 27, 1980. Fort Worth is in the American Horticultural Zone 8, where the summer average high temperatures are in excess of 86 degrees Fahrenheit for 91 to 120 days per year.

The average annual precipitation for Fort Worth is 34.01 inches (863.8 mm). The wettest month of the year is May, with an average of 4.58 inches (116.3 mm) of precipitation. The driest month of the year is January, with 1.70 inches (43.2 mm) of precipitation falls. The average annual snowfall in is 2.6 inches (66.0 mm). Because of its position in North Texas, Fort Worth is very susceptible to super-cell thunderstorms, which produce large hail and can produce tornadoes.