In Nature's Garden:

Dutchmans Pipe

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Illustrated by Lucile Walton

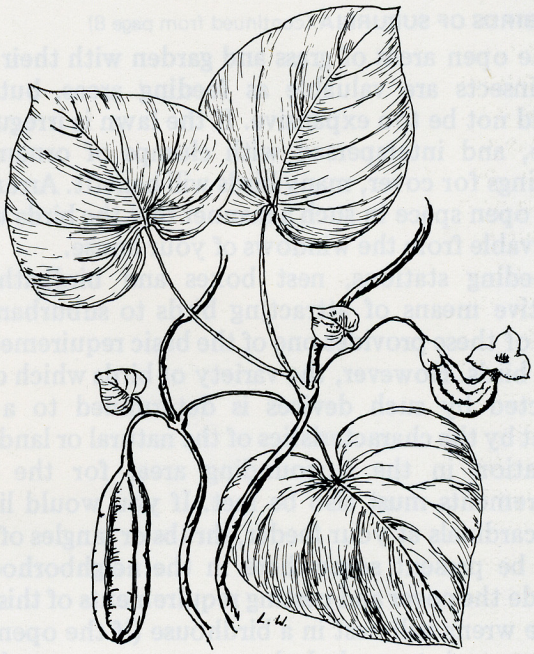
SOME OF OUR local plants look as if they ought to belong in the tropics, particularly some of the massive vines with their twining stems winding upwards through great trees, huge leaves and often rather bizarre flowers and fruits. The family Aristolochiaceae is largely a tropical family with some 300 species. However, we do have about a dozen species in our eastern U.S. flora, divided between two genera, *Asarum* (wild ginger), and *Aristolochia*, and of these, *Aristolochia durior*, the Dutchman's pipe or Pipe-vine is the most grandiose.

During pollination, the flower plays a dirty trick on the pollinating insects, in this case usually midges or other small flies. The calyx tube is lined with long hairs which can be bent towards the morphological base of the flower, but not in the opposite direction due to a little saddle at the base of each hair. Soon after opening, the flower may be visited by an insect already carrying pollen from an older flower. The insect crawls down into the tube, pressing through the hairs which bend freely before him. Once inside, he is a prisoner, and while crawling around the basal parts of the flower, he deposits pollen on the stigma. After a day or two, the stamens ripen and the insect picks up some of this pollen. At this time, the hairs in the calyx tube wither and so the insect gains his freedom and is ready to visit other flowers.

The fruit of *Aristolochia durior* is a capsule, cylindrically-shaped and pointed, rather like an okra pod, about 3 to 4 inches long. It stays firm for several months, the valves separating only with age. The flowers bloom in the summer, and the fruits can be seen on the vine through the fall.

Our *Aristolochia* is probably not poisonous although the genus was mentioned in a list of French poisonous and suspicious plants published by Pierre Bulliard at the end of the eighteenth century. At any rate, it is not poisonous to butterflies. *Aristolochia durior* is the food plant of the pipe-vince swallowtail, *Battus philenor*, a distasteful but handsome blue and black butterfly of the eastern United States.

The word *Aristolochia* comes from the Greek *aristo* meaning 'best', and *lochia* meaning 'delivery', and the plants were given to expectant mothers to aid them in



childbirth. This practice related to the early idea of the "Doctrine of Signatures" which proposed that a plant, or part of a plant, which looked like a particular organ of the human body would be of medical benefit to that organ. The flower of *Aristolochia*, curving round so that the summit and base lie together, was considered to resemble the human foetus in the womb. Today the common name for the genus is still 'birthwort'. *Durior* merely means 'tougher' and replaces an older specific name *macrophylla* which means 'large leaf'.

The flowers of some of the tropical members of the genus achieve great dimensions. The largest known is *Aristolochia grandiflora* whose blooms are 20 inches across with elogated "tails" or "limbs" of up to 3 feet. Alexander Humboldt, the famous German explorer and geographer, who was in South America at the turn of the nineteeth century, recorded that Indian children there were wearing these flowers as hats. The common name for this species is Pelican flower because the unopened bud resembles a sleeping pelican in shape--and by my calculations ought to be nearly as large!