

Our angiosperm, the cannibal arum, lives in a tropical rainforest swamp. It resides atop muddy water and has two fat primary stems that stick straight upward. The leaves of the plant fan out along the ground from the base of the stem. In the early growth stages the cannibal arum is very susceptible to being eaten by other organisms, there are many insect predators in the swamp region that can prevent the arum's growth. Some animals native to the marshes could eat the arum or crush it, thus preventing its growth to an adult. In response to this threat the cannibal arum has adapted spines on its stem during the juvenile stages before the two stems turn into a leathery beak shaped apparatus that serves to protect the inside of the plant. The bright yellow and purple coloring signals to animals the cannibal arum's nature. This plant competes mainly with other plants indigenous to swamps. They need a lot of water and space for their leaves to fan out and space is an issue in a swamp that hosts mainly different species of swamp grasses, plants and occasionally trees. In a generally resource impoverished environment, the intense competition can starve an undeveloped cannibal arum. To obtain resources the roots of a juvenile arum begin to grow laterally, snaking parallel to the surface of the ground until they hit another plant's roots. Here the roots tap into its rival's roots and supply the cannibal arum with its necessary nutrients. It is in this practice of cut-throat competition where the cannibal arum gets its name. When the arum has stored enough resources the arum undergoes a transformation where the two stems open and a thin shoot with a number of apical buds grows rapidly, quickly growing into a giant array of fleshy leaves. As this shoot grows vertically, pale buds on the stem open up into pale white and purple flowers. These flowers at first smell very sweet, attracting numerous insects, birds and bats, which pollinate the flower. Later the flowers give off the smell of rotting, similar to its relative, the

titan arum, which attracts flies to pollinate the cannibal arum. After pollination, the flowers close into pale cysts and the arum swells up with gas produced from the decomposition of the huge leaves. Eventually, the pressure busts out and rockets the spiny fruits far away from the parent plant. After this the parent arum starts growing normally again, some arums reaching heights of almost 20 feet. The seeds begin life anew wherever they land, continuing the cannibal arum life cycle.

### The Jupiter Moth Plant

The Jupiter Moth Plant is a very original and interesting plant indeed. It is small and lives in the canopy area of trees in the rainforest. Branch rot in the trees, feces from birds and other animals, rainwater, and sunlight (from being towards the canopy) give the plant the proper nutrients and conditions to survive. The plant has very little competition because it is high up enough to get sunlight and no other small plants inhabit the canopy, thus eliminating competition. It also has super efficient phloem that allow the plant to get all the nutrients it needs even with shallow soil (it lives in tree rot and dung) and has a small root structure.

What is special about the Jupiter Moth Plant is that its leaves are dark, wide, and flimsy like the wings of a moth. Moths mistaken the leaves to be the wings of a moth and the flower in the middle of the leaves to be the body of the moth. Moths try to mate with the flower, fail, and get some of the plants pollen on it. When moths try to mate with other Jupiter Moth Plants, they will pollinate the new plants.

The adaptation of looking like a moth also helps the plant when it comes to dispersing its seeds. The fruit of the Jupiter Moth Plant is short and cylindrical to look more like the body of a moth. The moth's predator, birds, see the moth-like fruit and eat it. When the bird excretes the fruit (hopefully onto a tree branch), only the seeds are left and the seeds have bird dung for fertilization. The entire plant often dies to disperse its seeds because birds tend to rip out the whole plant easily because it has shallow roots.