Start

1. PITCHER PLANT
Nepenthes sp.

Origin South East Asia, Australia, Madagascar

Pitcher Plants are also known as Monkey Cups ... because monkeys have been known to drink the fluid inside them!

This fluid is more than just water – it is a digestive fluid (mildly acidic and of a similar strength to our stomachs) that enables the plants to digest small insects and animals. Pitcher plants have evolved on nutrient deficient soils so being carnivorous is a very successful adaptation. Insects are the main food source for pitcher plants, however small birds, mice and even rats have also been found in pitchers.

Pitcher plants are known for their unique shapes. The pitchers are in fact highly modified leaf-tips that form at the ends of tendrils, when conditions are suitable. The tendrils are often used as a grappling hook for the climbing stem.

Pitchers can vary immensely between species. Some are as tiny as 5cm, others have a carrying capacity of up to two litres!

2. SPANISH MOSS, OLD MANS' BEARD
Tillandsia usneoides

Origin Southern USA, Central America

Can you see the roots on this plant? Spanish Moss is unusual because it doesn't have roots. Instead, its leaves are covered with cup-like, permeable scales that 'catch' moisture or nutrients from the air. They can absorb many times their own weight in water.

Spanish Moss is an epiphyte - it uses other trees and shrubs for support. It's not hard to imagine these plants providing shelter for wildlife including bats, snakes, birds and spiders. Sometimes, however, the weight of the mosses can cause branches on the support plant to break. They can also slow the support plant's growth by preventing light reaching the leaves

Spanish Moss reproduces from fragments of leaves or via seeds blown on the wind. It can grow up to 6 meters long

Surprisingly, Spanish Moss is related to pineapples, being a member of the Pineapple or Bromeliad family, Bromeliaceae.

3. GIANT OR KING FERN
Angiopteris evecta

Origin Australia, South East Asia

This is reputedly the largest fern on earth. It can grow to a towering 2.5 metres. No wonder it's called the Giant Fern!

These ferns are a relic of prehistoric times. Fossils of closely related species dating from some 200 million years ago have been found at Lune River in Tasmania.

The stem is edible, as are the thick part of the frond bases (stipes), although they are not very tasty. Oil from these ferns is used to perfume coconut-oil in Pacific areas.

4. ANT PLANTS

These plants are known as 'ant plants' because they have a mutually beneficial (symbiotic) relationship with ants. As the plant grows, tissue within the stem (hypocotyl) dies back, forming hollow chambers. These chambers provide homes for ants and in turn, the ants provide the plant with nutrients by dumping their refuse near specialised absorptive warts. In some cases aggressive ants protect the plant from herbivores.

The plants on display here are in the same family as coffee and gardenias.

Myrmecodia beccarii

Origin South East Asia

Myrmecodia is distinguished from other ant plants by its small, succulent leaves, spiny stems and a tendency to develop multiple stems.

This plant has an important relationship with another insect - the Apollo Jewel Butterfly *(Miletus apollo).* During its caterpillar stage, the Apollo Jewel Butterfly feeds exclusively on the foliage of this plant and lives within the tuber. The ant inhabitants tolerate the caterpillar because they receive nutritious excretions from its glands.

Hydnophytum formicarum

Origin South East Asia, Australia

This plant has small white flowers and red or orange berries when ripe. Like most 'ant plants' in this group, *Hydnophytum* uses other trees and shrubs for support (epiphyte). Plants like these often form large 'colonies', where many individuals grow together on the same tree.

5. FIG TREE
Ficus sp.

Origin Pantropical

The fruit of this species of fig grow directly on the stem. This is known as cauliflory.

These fig trees can only produce seed with the help of a tiny wasp. The female wasp carrying pollen from another fig, lays her eggs inside the fruit which contains many small flowers. When the young wasps hatch they feed on the pollinated flowers, now matured into seeds. They then mate and the female wasp escapes in search of another fig to lay her eggs in, carrying pollen at the same time. The males die without ever seeing the outside world. So, the fig cannot produce seed without the wasp and the wasp in turn is reliant on the fig for its own reproduction.

There are 800 species of fig including huge trees, shrubs, epiphytes and root-clinging climbers. They all have milky sap or latex and some have very extensive, often invasive root systems. Roots to 120m have been recorded, clogging drains and engulfing buildings.

6. TITAN ARUM, CORPSE FLOWER
Amorphophallus titanum

Origin Indonesia, Malaysia

With a leaf that can reach more than 3 metres high, a tuber that can weigh over 70kgs and a flower that can also grow over 3 metres tall, the Titan Arum certainly is a botanical giant!

The Titan Arum has the largest flower (technically an inflorescence) in the world, and looks so much like a phallus that young girls in the Victorian era were barred from seeing it! When open the flower emits a smell likened to a rotting corpse that attracts beetles, which are thought to be the primary pollinators.

Titan Arums can take up to ten years to flower when grown from seed, and have a life span of up to 40 years. Each plant may flower only a few times in this period.

continued overleaf

BOTANICAL MARVELS

7. BROMELIADS

Origin New World Tropics

There are approximately 1800 bromeliads and the most widely known is the pineapple.

Most bromeliads are epiphytes and live perched on the branches of trees, although some grow in the ground (terrestrial) and can reach over 4m in height.

The reservoir, or vase of water that gathers in the base of the leaves can be an ecosystem in itself: many different creatures can make a living there, including mosquitoes, spiders, ants and frogs. Some have even evolved to become completely dependant on these miniature ponds.

Each rosette blooms only once in its lifetime and the flowers are surrounded by brightly coloured bracts. Flowering lasts several months and then the plant sends up little offshoots or suckers.

8. ORCHIDS

Origin Global

This is the largest and most diverse plant family on earth. Orchids live in every part of the world, except Arctic regions where conditions are too severe.

Estimates suggest the number of naturally occurring species is over 25,000, with new species being discovered even today.

Stanhopea sp.

Known as Upside-down Orchids, the flower structure of Stanhopea and its close relatives is actually inverted compared to the rest of the Orchid family. They are epiphytes and bear large, scented flowers from the base of their psuedobulbs, often with amazing colour combinations.

Gongora sp.

These colourful and fragrant orchids are characterised by intricate flowers and strongly ridged pseudobulbs. They are pollinated by bees.

Finish

REMARKABLE PLANTS OF THE JUNGLE

Tropical Rainforests are home to some of the world's most spectacular plants. On this walk through the Tropical Hothouse we will explore some of those fascinating plants, delve into their complicated and sometimes weird lifestyles to discover just how amazing plant life can be!

please: consider the environment and return this guide for other visitors to enjoy.

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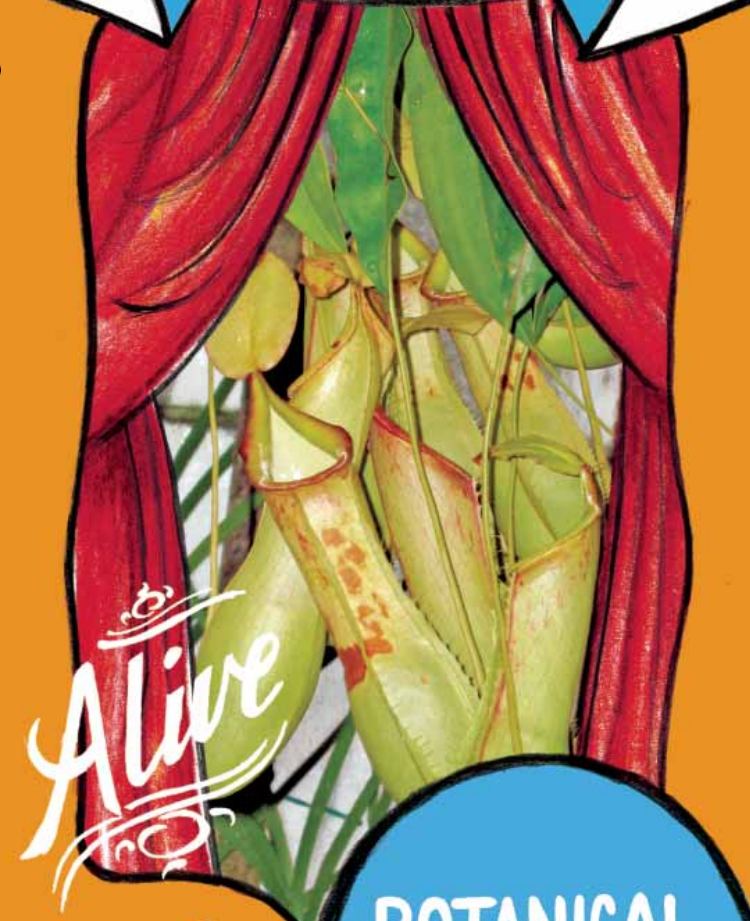
The TROPICAL HOTHOUSE



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BOTANICAL MARVELS