

ANNEX

FLORA AND FAUNA OF THE HIDDEN FOREST



The Hidden Forest is an interactive digital art experience in collaboration with Japanese creative company NAKED, INC. Playing out on the third and fourth levels of Gardens by the Bay's Cloud Forest, it portrays the interconnectedness of plant and animal life in the unique and layered ecosystems of cloud forests.

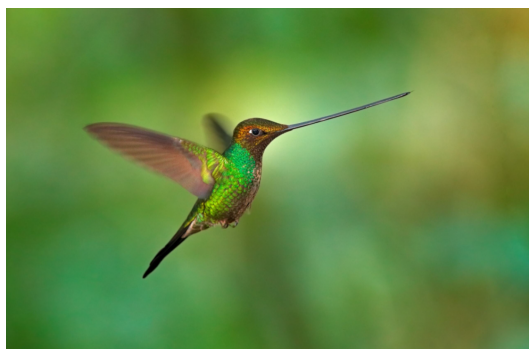
In all, 17 plants and 16 animals are featured, depicting the complex web of life that exists in these mysterious mist-shrouded, low-sunlight places. Below are some examples.



The Affair of the Red Passionflower and the Sword-billed Hummingbird

The Red Passionflower (*Passiflora mixta*) has evolved intricate blooms specifically to attract and accommodate its pollinator, the Sword-billed Hummingbird (*Ensifera ensifera*).

The Sword-billed Hummingbird, whose beak is longer than the rest of its body, developed specialised adaptations that align perfectly to the blooms of Red Passionflowers. As the sword-billed hummingbird feeds on the nectar, it inadvertently transfers pollen between flowers, helping the plant to reproduce.





Lazy by Association

The leaves of the Cecropia tree are eaten by sloths, earning it the nickname, “Tree of Laziness”, and the fruits are popular with fruit bats, birds, and monkeys.

Cecropia trees provide food for many animals, as their fruits, flowers, and leaves are all source of nutrients. For the low-energy sloth, Cecropia leaves are low in nutrients but high in water content, and particularly suited for its diet. When the sloth descends to the forest floor to defecate, it also helps to disperse the seeds of this tree.



A Bromeliad Cup of Water for Bears

Bromeliads belong to the pineapple family (*Bromeliaceae*) with about 3,000 species and many hybrids and cultivars. Their ability to grow without soil, capture and store water in the “cup” formed at the base of the leaves makes them uniquely adapted to the cloud forest environment where moisture is abundant. Bromeliads are a ubiquitous and distinctive feature in cloud forests. Their rosette-shaped leaves create a colourful canopy and striking visual display amidst the forest understorey.

The *Tillandsia fendleri* bromeliad is an important part of the Andean bear's diet. Found exclusively in South America, the Andean bear, also known as the spectacled bear due to its distinctive cream-colored fur circles around the eyes, is the continent's only bear species. These bears are skilled climbers and like to feed and drink from these bromeliads.



A Stopover for Monarch Butterflies on the Move

Monarch Butterflies (*Danaus plexippus*) are one of the most iconic and widely recognised butterfly species in the world. Millions of Monarch Butterflies perform their autumn migration of about 4,000 kilometres from North America to Mexico where they hibernate. Along the way, these majestic insects make crucial stopovers in cloud forests, where they rest and refuel before continuing their arduous journey.



Home Sweet Home for One of the World's Most Beautiful Birds

The Wild Avocado tree (*Persea caerulea*) is a vital part of the cloud forest ecosystem in Central and South America. These trees provide essential nourishment to a wide range of insect and bird species. Beyond its fruits, the tree's sturdy structure and extensive root system offer stability and serve as homes for wildlife like the Resplendent Quetzal, considered one of the world's most beautiful birds and categorised as a threatened species, thus supporting the rich biodiversity of the forest floor.





Pulling a Monkey Face

Many orchid species found in cloud forests are endemic, meaning they are found nowhere else on Earth. This endemism adds to the biodiversity and uniqueness of cloud forest ecosystems.

The Monkey-faced Orchid (*Dracula* spp.) is aptly named for its remarkable resemblance to a primate's face. Found in the cloud mountains of Peru and southeastern Ecuador at altitudes above 900 meters, this orchid also bears the moniker of the vampire because of its elongated fang-like sepals, and has a citrusy orange scent.



The Consequence of Climate Change on Flora

The Red Angel's Trumpet (*Brugmansia sanguinea*), has large, trumpet-shaped flowers that can grow up to 30 cm long. It emits a sweet, intoxicating fragrance attracting nocturnal pollinators. The flowers are adapted to be pollinated by long-tongued hummingbirds, moths and bats, which can reach the nectar deep within the tubular flowers. Due to overharvesting and habitat loss, this flower has become extinct in the wild.