Gerber Architekten



Butterfly Dome

A habitat for butterflies

There are between 15,000 and 20,000 different species of butterflies worldwide. Many of the largest, most interesting and colourful species have their origins in the tropical rainforests.
Tropical rain forests are found in the equatorial zone between the tropic of Cancer and the tropic of Capricorn. The largest areas are found in the Amazon Basin, in Central Africa, and South East Asia.
Tropical rainforests are the most diverse ecosystems on earth. A single 10 km² area of rainforest contains as many as 150 different species of butterfly. The high temperatures, rainfall and humidity which provide excellent conditions for life also help contribute to the great number of species.

Urban Design

Situated on the bridge between two areas of the KAFD a butterfly dome is being designed to create an urban landmark and a peaceful oasis amid the hectic activity of the Financial District.

The butterfly house is situated on the land bridge over the Thumamah Road highway. The design of the dome is best suited for the butterflies' comfort and also has the most efficient structure regarding the loads affecting the land bridge.

The sphere is subdivided as a spherical cycloid generating a tessellated surface with quadrilateral shaped units. The torsion of the structure generates the possibility of creating a slight direction within the homogenous dome structure. This direction accentuates the entrance and leads the visitor into the building.

Interior Design

The arrangement of plants within a tropical rainforest is such that there are different layers and different microclimates. A sharp contrast exists between the two extremes. For example, the top of the forest has full light conditions and the temperature and humidity vary from 10-40 °C and 60-90% relative humidity, respectively.

The Tropical Hall Display and the Butterflies are the main attractions of the building. Their bright colours and the fresh athmosphere will be visible to all visitors of KAFD through the highly transparent steel glass construction. However, the first close view to this environment will be in the Entrance Hall. In contrast to the brightness and colourful experience of the tropical display the interior design from the entrance area up to the preparation room will be based on muted colours.

Landscape

The ground is totally covered by plants of different heights and width, to imitate the tropical layer structure. In between a path meanders through and creates narrow passages, wider glades and leads even up to the tree crowns.
Besides plants, the tropical setup is rounded up by artificial rocks, water features, exotic animals and – of course – butterflies all around the hall.

By entering the butterfly dome, the visitor should get the impression of immerging into a tropical rainforest. On the one hand through a visual experience like the high diversity of structures, colours, flowers, light levels, species, a high density, limited space, and on the other hand through the haptic and olfactory experience of high humidity, misting effects, the smell of the soil and fragrance of the flowers and fruits.

https://www.gerberarchitekten.de/en/project/butterfly-dome/





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