A glass merchant's dream

Edvard Anderson (1865–1936) was a wholesaler in the glass trade in Stockholm. He had a keen interest in plants and spent time on the Italian Riviera, enjoying both the flora and the mild climate. In 1936, his estate was left to the Bergius Foundation at the Royal Academy of Sciences for the construction of a greenhouse "*where trees, shrubs and herbs from the Mediterranean and comparable climates are exclusively represented*".

The glass merchant's dream of a winter garden in the Bergius Botanic Garden was realized on the 7th of June 1995 when Edvard Anderson Mediterranean Conservatory opened. *

The Conservatory in figures

Area: 1,600 m² (17,222 ft²) open to visitors

Maximum ceiling height: 14 meters (46 feet) in the Mediterranean Hall

Glazing: 38 mm insulating glass

Highest temperature: 35°C (95°F) in the California Room in summer

Lowest temperature: 10°C (50°F) in the California Room during winter

Species in cultivation: 2,500–3,000

* The Palm Hall and the Tropical Room are run by Stockholm University.

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In the heat of the greenhouse

The Bergius Botanic Garden greenhouses displays plants from climates warmer than the Swedish. Tropical crops thrive side by side with fascinating life forms from the Mediterranean climate as well as rainforests and deserts. Advanced technology makes it possible to control the temperature, light and humidity in the different greenhouse sections to provide the best growing conditions.

Mediterranean climate

Mediterranean climate is a warm-temperate climate with very little precipitation during the hot summers. Winters are rainy and mild, with temperatures rarely going below 0°C (32°F), except in the mountains. The climate type is found e.g. in the Mediterranean area and parts of South Africa and Australia.

Sclerophyllous shrubs with small, hard leaves are characteristic of the Mediterranean climate and most trees and shrubs are evergreen. Bulbous plants are also well adapted to the climate, the bulbs being dormant during summer. In spring, bulbs such as squill *Scilla*, daffodils *Narcissus*, grape hyacinths *Muscari*, and tulips *Tulipa* flourish under our grapevines.

Arid climate

Hot desert areas are located on the west coast of continents, near the tropics, e.g. in California and South Africa. Rainfall is low, less than 250 mm per year, and in summer the temperature often exceeds 40°C (104°F).

American and African desert plants are adapted to survive long periods of drought and similar life forms have evolved separately in the two areas. For example, compare species of *Aloë*, *Dioscorea* and *Euphorbia* in the South Africa Room with *Agave*, *Nolina* and cacti in the California Room.

Tropical climate

Around the equator tropical climate prevails, rainfall is abundant and the average temperature in the lowlands exceeds 18°C (64.4°F) every month. In the Palm Hall we keep a warm humid lowland rainforest climate and in the Fernery a cool mountain rainforest climate.

Rainforest plants are characterized by large chlorophyll-rich leaves, capable of absorbing sunlight in the darkness of the forest. Climbers scramble towards the sunlight and aerial roots seek the ground. Ferns, bromeliads, aroids and orchids thrive in the moist environment, often growing as epiphytes.

Tropical plants are also found in the Victoria House, open 1 May to 30 September.

Crop plants

Many important tropical and subtropical crops are grown in the greenhouse. In the Mediterranean Hall olive, fig, lemon, pomegranate, capers, loquat and many more can be found. Banana, cocoa and vanilla grow in the Palm Hall and tea, coffee, cinnamon and fibre plants are found in the Tropical Room.

What blooms when?

Many tropical species bloom for a long time, e.g. *Thunbergia mysorensis*, *Passiflora* and *Bougainvillea*. Plants from Mediterranean climate and desert areas have shorter flowering periods:

Feb–Mar	*Genista canariensis, Crassula ovata* and Mediterranean bulbs
Apr–May	*Cistus, Protea, Banksia, Pelargonium, Dracunculus vulgaris* and cacti
Jun–Jul	*Strelitzia, Agapanthus*
Aug–Sep	*Lagerstroemia indica, Drimia maritima, Amaryllis belladonna*
Oct–Nov	*Cyclamen, Haemanthus albiflos, Veltheimia*
Dec–Jan	*Canarina canariensis, Camellia*

Biological pest control

In all our greenhouses, biological pest control is used instead of chemical pesticides. Packages of biological control agents, such as ladybird larvae, parasitic wasps and predatory mites, are placed among infested plants. The warmer it gets, the faster pests multiply. Especially in spring, when the sun starts to heat the conservatory, much biological pest control is needed.

Visitor Map Edvard Anderson Conservatory

www.bergianska.se

Bergius Botanic Garden is managed by The Royal Swedish Academy of Sciences and Stockholm University

BERGIANSKA TRÄDGÅRDEN
Bergius Botanic Garden

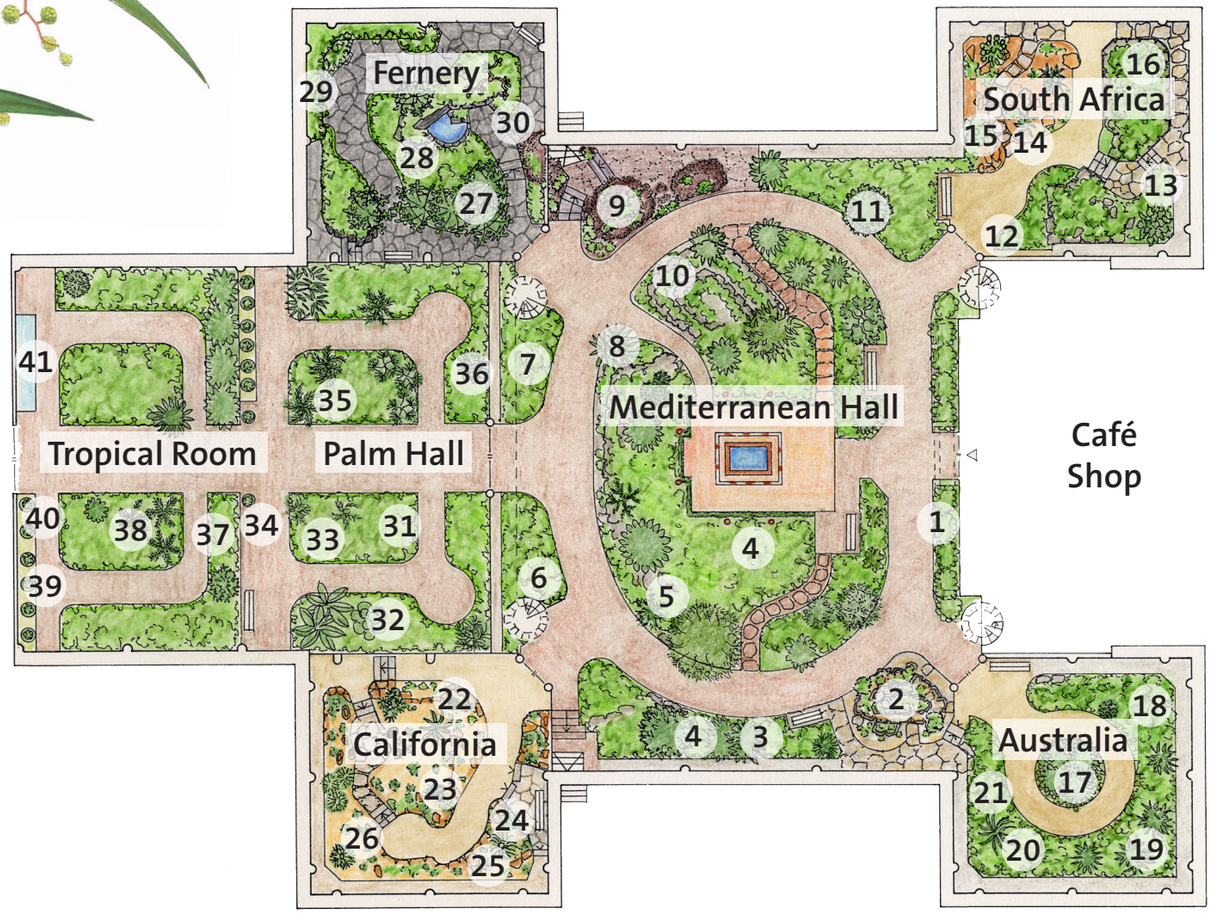
Remarkable plants

Mediterranean Hall

1. Passion flowers *Passiflora* are characterized by a corona, a ring of colourful, radial filaments.
2. *Origanum dictamnus* and other tomentose plants are protected from excessive sun by their indumentum.
3. When Dragon Arum *Dracunculus vulgaris* bloom in spring, it stinks of rotten meat to attract pollinating flies.
4. *Cistus*-flowers only last one day, in the afternoon all the white or pink petals fall off.
5. Gorse *Ulex europaeus* is one of the world's most invasive plant species, introduced in many countries.
6. Butcher´s Brooms *Ruscus* have leaf-like branches, cladodes, with the flower in the middle.
7. The twining Canary Bellflower *Canarina canariensis* flowers in winter with large, orange flowers.
8. The rare Dragon Trees *Dracaena draco* produce a purple sap known as dragon's blood.
9. Our lava blocks weigh seven and three tons. Plants from the Canary Islands grow in the cavities.
10. Pellitory-of-the-wall *Parietaria officinalis*, is a chasmophyte, a plant that live in rock crevices.
11. The bark of Crape Myrtle *Lagerstroemia indica* peels off in large chunks.

South Africa

12. During the dry season, Elephant´s Foot *Dioscorea elephantipes* looks like a turtle.
13. The King Protea *Protea cynaroides* is South Africa's national flower.
14. *Kumara plicatilis* is pollinated by sunbirds. They are attracted by the nectar-rich scarlet flowers.
15. Living Stones *Lithops* avoid grazing animals by being sunken in the ground, resembling stones.
16. Square-stemmed Pelargonium *Pelargonium tetragonum* gets shade and support inside the shrubbery.



Map: Ulla von Krusenstierna

Australia

17. *Eucalyptus*-trees promote bushfires as their leaves contain flammable eucalyptus oils.
18. Heath-leaved Banksia *Banksia ericifolia* is pollinated by honeyeaters and small mammals.
19. Swamp Wattle *Acacia retinodes* is one of 990 *Acacia*-species native to Australia.
20. Groundcover Banksia *Banksia blechnifolia* is a prostrate bush with fern-like leaves.
21. A thick layer of leaf remains protect the trunk of the grass tree *Xanthorrhoea preissii* from bush fires.

California

22. *Peniocereus viperinus* has viper-thin stems. Hummingbirds pollinate the red flowers.
23. Cardon *Pachycereus pringlei* can become 15 meters high. The white flowers are bat-pollinated.
24. The trunk of Ponytail Palm *Nolina recurvata* stores water, reaching 14 meters in circumference.
25. The fur-like thorns of Old Man Cactus *Cephalocereus senilis* protect against strong sunlight and wind.
26. The Golden Barrel Cacti *Echinocactus grusonii* were sown in the Bergius Botanic Garden in 1965.

Fernery

27. Tree ferns existed on earth 250 million years ago.
28. The minute flowers of *Anthurium giganteum* are arranged in spirals on the spike-like spadix.
29. Fernleaf Cactus *Selenicereus chrysocardium* is an epiphytic rainforest cactus.
30. The Australian conifer *Wollemia nobilis* was discovered in 1994. Before that, Wollemi Pines were known only as fossils.

Palm Hall

31. Traveller´s Tree *Ravenala madagascariensis* has petioles that collect water for thirsty travellers.
32. There are only c. 1 000 individuals left in the wild of the Madagascan Triangle Palm *Dypsis decaryi*.
33. Cocoa tree *Theobroma cacao* is cauliflorous, i.e. the flowers appear on the trunk and thick branches.
34. Mysore Trumpetvine *Thunbergia mysorensis* is pollinated by sunbirds drinking nectar.
35. Sacred Fig *Ficus religiosa* has leaves with long drip tips, making rainwater run off them.
36. Bamboos *Bambusa* are the world's fastest growing plants. They can grow 10 to 90 cm per day.

Tropical Room

37. A *Welwitschia mirabilis* can become at least 1,600 years. The two leaves grow continuously from the base.
38. Cycads are dioecious, an individual has either male cones with pollen or female cones with seeds.
39. Thorns protect the juicy stem of *Adenia globosa,* growing on the East African savannah.
40. Some of the world´s 20,000 orchid-species are put on display in the orchid cabinet when in bloom.
41. The leaves of carnivorous plants trap, kill and digest small animals like insects and spiders.