

THE BOTANICAL GARDENS



Ruprecht-Karls-University
Heidelberg



Preface

Only few institutions are as diverse in their scientific scope and public appearance as botanical gardens, serving as:

- ▶ centers of interdisciplinary research and education;
- ▶ conservatories for endangered plants;
- ▶ havens of horticultural art;
- ▶ training centers for gardeners and specialty horticulturists;
- ▶ as well as a source of recreation, contemplation, and tranquility.

The Botanical Gardens of Heidelberg with their prestigious collections enjoy worldwide reputation:

- ▶ Established in 1593 – at the time as the third botanical gardens in Germany – they are only a few years younger than the eldest botanical gardens in Padua, Italy (1545) and their existence is inseparably tied to that of the University of Heidelberg (founded 1386).
- ▶ Major scientific publications have originated from the Botany Department of the University of Heidelberg and its Botanical Gardens.



Great Greenhouse of the Tropics

- The scientific plant collections serving research and the protection of endangered species belong to the most unique and specialized of all botanical gardens in Europe.

As our guest you are cordially welcomed to the Botanical Gardens in Heidelberg and we wish you to enjoy an informative and entertaining stay.



Prof. Dr. Marcus Koch
Director of the botanical gardens

Origins

The Botanical Gardens of the University of Heidelberg were founded in 1593 by *Henricus Smetius* as a 'Hortus Medicus', a garden of medicinal plants, a concept followed by other universities in those times. Throughout the centuries these gardens had quite an unrestful history. From the mid 19th century on, the Botanical Gardens were administered by the Department of Botany of the University. After several relocations, the Gardens were reopened in 1915 at their present site in the 'Neuenheimer Feld'. During World War II the entire collection was lost due to combat activities. In 1960 the Botanical Gardens were placed under custody of the Institute of Systematic Botany and Plant Geography, since 2001 as part of the 'Heidelberg Institute of Plant Sciences' (HIP) and as of 2003 administered by HIP's Department of Biodiversity and Plant Systematics directed by *Professor Dr. Marcus Koch*.

The number of plants in the botanical gardens were highly enlarged by the untiring collecting activities of *Professor Dr. Werner Rauh*, who was the director of the gardens from 1960 to 1982. To date, these extensive collections have been serving as the basis for

numerous scientific investigations and publications. Dr. Karlheinz Senghas, custodian of the Botanical Gardens from 1960 to 1993, devoted extensive scientific work to describing, in particular, the remarkable collection of orchids. Professor Rauh and Dr. Senghas over several decades were coeditors in chief of the nationally renowned 'Schmeil-Fitschen', the leading scientific plant identification manual for Germany and adjacent regions.



The extensive herbarium ('HEID') of the Botanical Gardens – originating from the early 19th century – is one of the most extensive and most significant plant archives in Germany. The collection of higher plants (ferns and seed-bearing plants) alone encompasses at least 50,000 species, represented by 250,000 documents.



The Collections

At present, about 14,000 plant species are cultivated in the Botanical Gardens in Heidelberg – of which 90% are grown inside greenhouses. Among these the following 11 special collections are of prominent importance:

- ▶ Old World succulents (except Madagascar)
- ▶ Succulents of Madagascar
- ▶ New World succulents
- ▶ Tropical orchids
- ▶ Bromeliaceae (bromeliads)
- ▶ Cycadaceae (palmferns)
- ▶ Tropical ferns
- ▶ Aristolochiaceae
- ▶ Cyclanthaceae
- ▶ Mediterranean geophytes
- ▶ Brassicaceae germplasm and living collection

Of special value are the collections of succulents, orchids, and bromeliads obtained from their native habitats on countless and adventurous expeditions by the



late Professor Dr. Werner Rauh during the three decades from 1965 to 1995 into tropical, subtropical and arid regions of the Americas, Asia, and Africa. Because of the progressive destruction of their natural habi-

tats, many of these plant species are now endangered or have become extinct. The 10,000 species of these special collections are the most extensive of their kind in Germany – the special Madagascar succulent collection being the most prominent of entire Europe.

These unique plant collections have been the object of scientific botanical studies for more than three decades. Today they are under the special auspices of the Administrative District Governmental Department at Karlsruhe, Germany, under an endangered species conservation program, also serving research and public educational purposes.

The collections are well maintained, all plants identified by name tags, and each plant systematically registered in a modern database (by origin, propagation, habitat, geographical distribution).

The Greenhouses

The entrance to the greenhouses is accessed via the Garden's Administrative Building from a portal within the reception area.

The main axis of greenhouses is a protected historical monument, creating an impressive background architectural landmark for the lush and precious vegetation within.

About half of the total 4,000 m² of greenhouse area is open to the public.



Cycas thouarsii



Heliconia orthotricha

- ▶ The visitor 'arrives' in the moderately humid-warm **Tropical Montane Rainforest (17)** – mid-altitude mountain ranges in the humid tropics with lush-leafy vegetation of diverse flowering plants, tropical tree ferns, impressive cycads (palmferns) with their spreading fronds, climbing vines, and many epiphytic orchids and ferns. Epiphytes are plants that live on branches of trees or perched on boulders and other structures, with the main aim of reaching the light – for which there is highest competition within tropical forests – the one that is highest in the canopy, being the winner. They merely use their host trees as supports, not in a parasitic manner, while their vast presence may indeed still pose a competitive disadvantage to the host trees. Note the impressive epiphytic staghorn ferns (*Platyserium*). Further along you will find the fast-growing unusual climbing fern *Lygodium*. A special curiosity is the giant, awkwardly fly-pollinated flower of the vining *Aristolochia grandiflora*. Visitors always appreciate the bright red berries of the coffee plant (*Coffea canephora*) from the highlands of Ethiopia, located against the northern lower side of the greenhouse.
- ▶ From here you can catch a glimpse of the interesting **World of Orchids (18)**. Some epiphytic blooming specimens are hung in the 'canopy' close to the main entrance – other specimens of the extensive col-



lection of orchids are displayed behind the adjacent glass doors. The notable orchid *Coryanthes* is known for its remarkable floral pollination with its beautiful, intricately designed, and wonderfully scented flowers (see cover illustration) – most known species of this group of South-American orchids are cultivated in Heidelberg. The blossom takes the form of a liquid-filled 'bathtub' with two 'taps' from which the liquid drips into the tub. Male bees are attracted to this flower; in their attempt of collecting a fragrance from the flower – an apparently important mating stimulant – they slip into the tub; there is only one way out – and precisely via this route the bee comes in contact with stigma and pollinarium – thus accomplishing pollination of the flower.

- ▶ On the left-hand side of the 'Tropical Montane Rainforest' you will find the **Cold-house (19)** where plants of Mediterranean type are grown. During summertime, many of these plants are transferred to the open space on the sunny side just in front of the 'cold-house'. Various popular insectivores – plants from nitrogen-



deficient habitats – are displayed in special showcases in two corners of this greenhouse, including sundews (*Drosera* and *Drosophyllum*) with their sticky tentacular leaves, the venus flytrap (*Dionaea muscipula*), pitcher plants (different species of *Utricularia*, *Sarracenia*, and *Heliamphora* with their beautiful flowers) and the glandular, lightgreen and shiny-leaved butterworts (*Pinguicula*).

- ▶ The largest and most conspicuous of our Garden's greenhouses is that of the **Great Tropics (20)**, characterized by hot and moist tropical climate. At 14-meters height it is home to many tall palms and bananas and bears a 'jungle' of lush and leafy vegetation. Regularly cleared paths lead along a small creek and pond. Highlights are spiral-leaved screwpalms (*Pandanus*) with their imposing stilt-roots and brown parchment-like protective root caps (calyptra) covering the tender root tips. The curious 'Madagascar traveller's tree' (*Ravenala madagascariensis*), member of the banana family, its leaves arranged to the left and right, giving it the appearance of a giant fan. Close by you will find the rapid-growing giant bamboo (*Dendrocalamus giganteus*), whose shoots advance at a rate of up to 45 centimeters a day. The hollow internodes, when tapped with your knuckle, form excellent resonance instruments. Among tropical economic plants you will find papaya (*Carica papaya*), with its tasty oval fruits and the cocoa plant (*Theobroma cacao*) with its tiny flowers and reddish-orange pods growing straight from the bark of the stem or branches (cauliflory).



Theobroma cacao



Tillandsia usneoides

► A passage leading away from the 'Great Tropics' hosts a part of the specialty collection of **Bromeliads (21)** for research and propagation – many of these South-American funnel-leaved

rosette plants display their beautifully colored flowers in branching flower-heads - in their native environments these flowers are mostly pollinated by birds which are often just as colorful as the corresponding flowers. Prominent groups in this section are *Aechmaea*, *Pitcairnia*, and *Tillandsia*. Dense curtains of Spanish moss (*Tillandsia usneoides*) hang from above – their tiny yellow triple-petalled flowers are ample proof that they are *not* mosses, but rather relatives of pineapples, albeit special ones: as rootless epiphytes they absorb humidity and nutrients by a dense layer of microscopic scales on their leaf surfaces. In their native habitats they hang from tree branches or even electric overland wires.

- You now arrive in the so-called **Victoria House (22)** – named after the beautiful South-American Santa Cruz waterlily (*Victoria cruziana*), with its gigantic, round leaves with upturned leaf margins, floating on the water surface of the central pond. This greenhouse hosts tropical water-plants and swamp vegetation, including the proliferous mangroves with their stilt roots extending in all directions, looking for support; such 'amphibious' vegetation forms dense impenetrable forests along many shallow coastlines in the tropics. Climbing *Aristolochia* lianas (Dutchman's pipe vine) with huge foul-smelling flowers are abundantly hanging



Aristolochia arborea

from above; their 'flytrap' flowers are pollinated by flesh flies (Sarcophagidae), which are attracted by carrion odour. When flies enter through the tubular siphon within the complex-structured flower, they are trapped by the tube's downward-pointing hairs. Once the flower is pollinated, the bristle-hairs wither, releasing the baffled insects. At the intersection of the paths to both sides are woody shrub-like representatives of this genus (*Aristolochia arborea* and *A. salvadorensis*) bearing their flowers close to the base just above the ground; these dull brown blossoms resemble mushrooms for which tiny fungus gnats serve as pollinators.

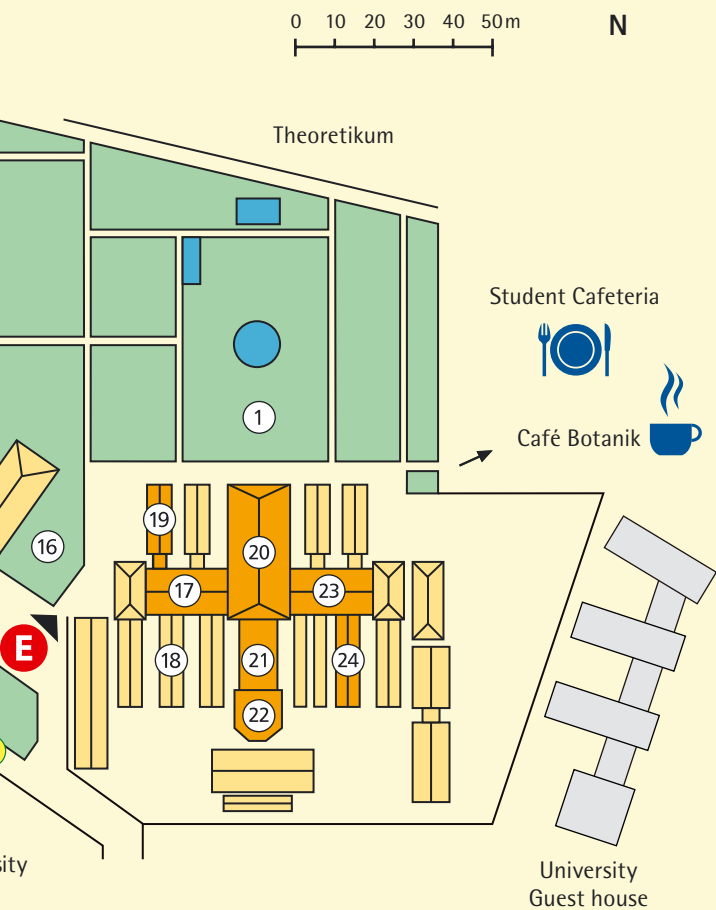
- ▶ The dry and hot world of **Succulents (23)** extends from the east side of the 'Great Tropics', exposing parts of the collection of bizarre-shaped plants from the arid zones of the Old World and New World which store water in their stems, leaves, or underground tissues. First, you encounter Old World succulents like leaf-succulent African *Aloe* and stem-succulent euphorbs. Here you also find some specimens of the special collection of Didiereaceae from Madagascar with their columnar upright or crawling spiny stems with tiny green leaves. A sandstone path (representing the 'Atlantic Ocean') separates the Old from the New World succulents. The American cacti are represented by the different growth habits: upright and crawling, globular and column-shaped pillars, flat-disk opuntias, the branched *Pereskia* with its green leaves, or hanging tubular *Rhipsalis* with their glassy trans-



Aloe excelsa



- | | |
|---|--|
| ① Systematic section (flowering plants) | ⑩ Alpinum |
| ② Arboretum | ⑪ Dry calcareous hillside |
| ③ East Asian perennials and shrubs | ⑫ Pond |
| ④ North-German moor | ⑬ Rhododendrons and azaleas |
| ⑤ Upland peat bog | ⑭ Beech-forest |
| ⑥ North-German shrub-heath | ⑮ Conifer arboretum |
| ⑦ Inland dune | ⑯ Bamboos |
| ⑧ Vineyard | ⑰ Tropical montane rainforest (greenhouse) |
| ⑨ Fern ravine | ⑱ Orchids (greenhouse) |



19 'Coldhouse' (greenhouse)

20 'Great Tropics' (greenhouse)

21 Bromeliads (greenhouse)

22 Victoria House (greenhouse)

23 Succulents (greenhouse)

24 African succulents (greenhouse)

a *Stewartia pseudocamellia* (Japanese stewartia)

b *Magnolia* spec.

c *Chimonanthus praecox* (wintersweet)

d *Calycanthus* spec.

e *Hamamelis* spec. (witch hazels)

f *Ostrya carpinifolia* (European hop hornbeam)

g *Pinus wallichiana* (Himalayan pine)

h *Metasequoia glyptostroboides* (dawn redwood)

parent berries. All cacti are known for their conspicuous colorful flowers, some of which blooming only for one night, being pollinated by nocturnal moths. Some specialty succulents are displayed behind glass showcases. While cacti and euphorbs superficially resemble each other, they do belong to completely unrelated plant families. Not only are their flowers clearly distinct – the spines of cacti, which correspond to leaves, are arranged in clusters on tiny side-shoots, while the stipular spines (derived from stipules) of euphorbs mostly stand in two – opposite to each other – a leaf scar in the middle.

- ▶ The side-wing of this greenhouse holds a scientific collection of curious **African and Madagascan Succulents (24)**. Beware of the spines and thorns that may protrude from the plants close to the path. Succulents from many different plant families display their beauty and uniqueness to the careful observer.

The Gardens

- ▶ The **System (1)**, the systematic section of flowering plants, intends to illustrate the hereditary and evolutionary relationships between the different plant families. Ponds situated within this area are home to a myriad of croaking frogs in early and mid-summer forming a powerful chorus.
- ▶ The eco-geobotanical sections are located in the western part of the Gardens behind the **Arboretum (2)**. The arboretum adjoining the systematic section is dominated by an assemblage of tall and old trees belonging to the angiosperms (flowering



plants) – though many of them bear very inconspicuous flowers, or even if showy, the flowers may be located so high up in the trees that visitors may not be able to become aware of them. In



Stewartia pseudocamellia

autumn, leaf colors may turn the area into a masterpiece of marvelous natural artwork. Prominent shrubs and trees include the precious Japanese stewartia (*Stewartia pseudocamellia*) belonging to the tea family (marked **a** on the site map). This tree took a key position in the system of flowering plants because of its comparatively large white flowers with multiple free (unfused) petals and multiple yellow stamens. Also noteworthy are the giant London plane (*Platanus acerifolia*) and Oriental plane (*Platanus orientalis*) with its deeply cut leaves, the various *Magnolia* species **b**, the majestic tulip tree (*Liriodendron tulipifera*) with its attractive huge tulip-like flowers, shrubs of the genus *Calycanthus* **d**, and one of their close relatives, the 'wintersweet' *Chimonanthus praecox* **c** which blooms in winter – similar to the witch hazels (*Hamamelis*, **e**) located further back in the arboretum. Due to Heidelberg's mild climate, the European hop hornbeam (*Ostrya carpinifolia*, **f**) grows to an imposing height – it is a typical member of submediterranean deciduous forests. During the course of the year the surrounding meadowlands of the arboretum also change their appearance. In springtime – sometimes as early as January – first highlights appear: the yellow-flowering winter aconite (*Eranthis hyemalis*) and various splendid bulbous geophytes which set into flower, like *Tulipa*, *Narcissus*, and *Crocus*. In early summer *Chrysanthemums* and a myriad of other meadow flowers attract insects and people alike. In midsummer one can find the incon-

spicuously blooming parasitic broomrapes (*Orobanche*), whose roots attach underground to those of its host – nearby growing barberry shrubs (*Berberis*). Early autumn is characterized by meadow-saffrons (*Colchicum autumnale*) and autumn-crocus. The plant diversity in these meadows is maintained by three mo-wings per year – without additional fertilizing. We ask our visitors to respect the sensitivity of this area and avoid walking or resting on these meadows.



Orobanche lucorum

- ▶ In the **Far-Eastern Asian and Japanese Garden (3)** you will encounter ornamental and exotic perennials, shrubs and trees, such as the 'Chinese bamboo' (*Nandina domestica*), a relative of barberries, or the edible Japanese medlar (*Eriobotrya japonica*), a member of the rose family.
- ▶ To the north of the path intersection you will find two shady, cool, and moist biotopes: **North-German Moor (4)** with lush bushes of Labrador tea (*Ledum palustre*) and bog-myrtle (*Myrica gale*), and dwarf birches (*Betula nana*) growing close by. In summertime, when the marsh cinquefoil (*Potentilla palustris*) opens its reddish-brown flowers, flies may abundantly swarm the area. Until late summer the ivy-leaved bellflower (*Wahlenbergia hederacea*) is displaying its beautiful light-blue flowers.



Eriophorum angustifolium

- ▶ The **Upland Peat Bog (5)** bears resemblance to the Black Forest's 'Grindemoor'. Such 'raised' bogs form when there is more water flowing in (through rainfall and tributaries) than out (by drainage and evaporation). The dominant species are peat mosses (*Sphagnum*) forming thick layers of decaying organic matter which serves as substrate for various ferns and flowering plants like cross-leaved heath (*Erica tetralix*), bog rosemary (*Andromeda polifolia*), the bog bilberry (*Vaccinium uliginosum*) and cranberry (*Vaccinium oxycoccos*) or on somewhat drier ground the cowberry (*Vaccinium vitis-idaea*). This nutrient-deficient environment is the home of the insectivorous sundews (*Drosera*) with their glandular leaves producing protein-digesting enzymes. The nutritional supplement of insect protein is an essential nitrogen source for these plants.

- ▶ **North-German Shrub-Heath (6)** on drier, sandy-peaty soil is located opposite the bog and heath. Abundant growth of heather (*Calluna vulgaris*) and broom (*Sarothamnus scoparius*), with their yellow 'exploding' flowers, are met by juniper (*Juniperus communis*), the spiny gorse (*Ulex europaeus*) and the medicinal foxglove (*Digitalis purpurea*) along with various grasses and sedges.

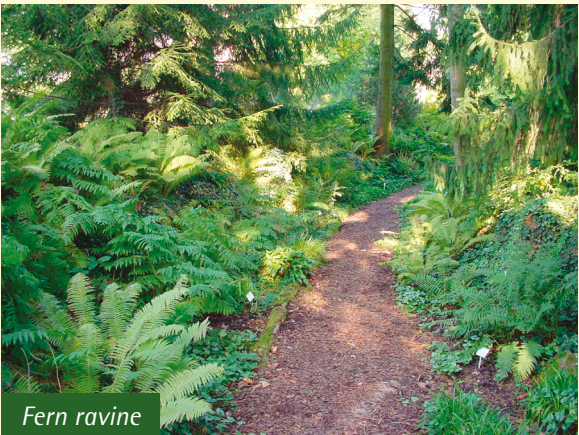


Digitalis purpurea

- ▶ The **Inland Dune (7)** is of special interest. Remnants of these biotopes which were previously more abundant in the Upper Rhine Valley are still found about 10 km from Heidelberg close to the community of Sandhausen. Such inland dunes developed during the late glacial period and were formed by drifting sand blown out from the Rhine's riverbeds. These dunes are the habitat for plants requiring intense sunlight and adapted to arid soils. In late springtime the dominating plants are spurge (*Euphorbia seguierana*) with their yellow-green flowers. This particu-

lar species is mainly found in the steppes to the north and east of the Black Sea. Later in the year abundant carpets of stonecrops (*Sedum reflexum*), the everlastingflower (*Helichrysum arenarium*) and other rare species are conspicuously in bloom.

- ▶ The **Vineyard (8)** is located adjacent to the dune, down the path towards the HIP's experimental greenhouse. Such biotopes in Germany are colonized by plants which originate from warmer regions in Southern Europe and Anterior Asia. The cream-colored flowers of the ephemeral bladder ketmia (*Hibiscus trionum*) bloom in mid-summer – their flowers only lasting for one day. Many of the unique plants of this community, such as the scentless chamomile (*Tripleurospermum perforatum*) are considered as 'weeds' by viticulturists. Modern farming methods have caused many of these plant species to become endangered within Germany.



Fern ravine

- ▶ Straight across from here starts a narrow path descending into the **Fern Ravine (9)**. Various Central European ferns and other plants requiring shady and humid conditions are growing here protected by several tall red spruce trees (*Picea abies*) and other conifers. Along your way you will find goat's-beard (*Aruncus dioicus*), solomon's seals (*Polygonatum multiflorum* and *Polygonatum verticillatum*) and

the deadly nightshade (*Atropa belladonna*) with its attractive but poisonous dark-purple to black berries. This type of plant community is frequently encountered on northern slopes on the hillsides around Heidelberg.



Gentiana acaulis

- One of the eldest geobotanical sections in the Gardens is the mountainous **Alpinum (10)**, hosting plants especially from the calcareous and silicate Alps. At the ledge overlooking the great pond a little creek gushes out from its 'source' winding its course through the rocky landscape. Right across from here you find a fenced-in patch with marsh helleborine (*Epipactis palustris*), a delicate tiny orchid, growing next to deep-blue gentians (*Gentiana*), and the aromatic spignel (*Meum athamanticum*) with its finely divided, scented leaves. Wander along the paths within this rugged stony world of dwarfed slow-growing alpine vegetation to find such unique plants as the Edelweiss (*Leontopodium alpinum*) – not quite as white as expected, due to the low altitude of its artificial habitat – vast patches of matted globularia (*Globularia cordifolia*) with its tiny bulbous flower heads and various thick-leaved saxifrages and stonecrops. On the northern slope of the 'Alpinum' towards the 'Fern Ravine' several great yellow gentians (*Gentiana lutea*) with their promi-

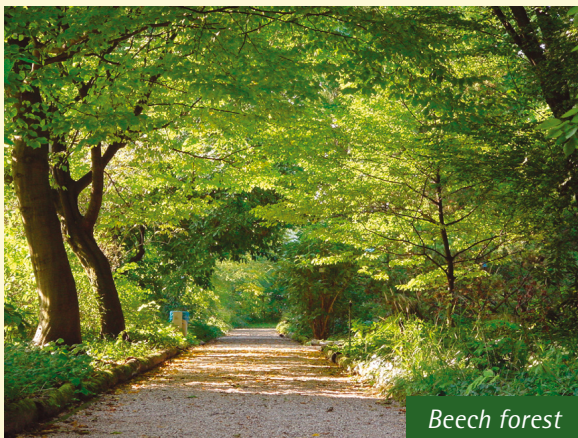
nent parallel-veined leaves and the spiny stemless carline thistle (*Carlina acaulis*) are awaiting to be admired.

- ▶ A community of plants on **calcareous limestone (11)** flourish on the western slope of the 'Alpinum'. Annuals and perennials abound, such as the spring-time pasque flower (*Pulsatilla vulgaris*), overlooked by several shrubs of scorpion senna (*Coronilla emerus*) with its clusters of yellow flowers and purgative divided leaves – a relative to the pea family with tiny slender pods, and the dominating grasses such as *Brachypodium pinnatum* cause the brownish appearance of this endangered vegetation type from June onwards.
- ▶ The large **Reed Pond (12)**, partly overgrown with common reed (*Phragmites australis*) and water lilies (*Nymphaea alba*), is located just below the 'Alpinum', from which a small waterfall precipitates nourishing the pond. Common Central European marsh- and water plants abound, like marsh marigold (*Caltha palustris*), mare's-tail (*Hippuris vulgaris*), and water-plantain (*Alisma plantago-aquatica*). A chorus of croaking frogs invites huge hovering dragonflies to their evening concerts – for dinner!



Caltha palustris

- ▶ A small assemblage of mostly Asian **Rhododendrons and Azaleas (13)** with their colorful springtime flowers form an interlude within the mostly Central European plant communities in this corner of the Garden.
- ▶ A typical **Beech Forest (14)** – common to Central Europe and the hillsides around Heidelberg – is located to the south of the 'Alpinum' just down the



Beech forest

path behind the creek. Such forests establish themselves as climax communities in otherwise undisturbed areas. European beech (*Fagus sylvatica*) and hornbeam (*Carpinus betulus*) are the dominant species. Springtime is welcomed by an abundant undergrowth of splendid white-blooming wood anemones (*Anemone nemorosa*), the popular German woodruff (*Galium odoratum*), used as a flavouring for a popular special cold punch, the spring vetchling (*Lathyrus vernus*), the fetid hellebore (*Helleborus foetidus*), and the beautiful liverleaf (*Hepatica nobilis*) with its blue-pinkish flowers protruding from the leaf-littered ground. The poisonous meze-reon (*Daphne mezereum*) is a typical species of calcareous beech-forest soils.

- ▶ The **Conifer Arboretum (15)** on the southern side of the HIP Building is the counterpart to the deciduous 'broadleaf' arboretum on the other side. The impressive collection of tall trees includes the elegantly long-needled Himalayan cedar or deodar (*Cedrus deodora*) and the Lebanon cedar (*Cedrus libani*), the Himalayan pine (*Pinus wallichiana*, **g**) with very attractive long and slender but unfortunately resinous cones, several giant sequoias (*Sequoiadendron giganteum*), as well as the primeval Chinese dawn redwood (*Metasequoia glyptostroboides*, **h**). The



Bamboo forest

latter was discovered in its native habitat as late as 1941 in South-Western China and brought to Europe in 1948; fossils of this 'primordial' tree had been known since 1828. A small collection of dwarf conifers (creeping woody plants lacking a prominent tree-like trunk), native to arctic zones or high altitudes, include the Alpine totara (*Podocarpus nivalis*) from mountains of New Zealand and the Russian arbovitae (*Microbiota decussata*) from Siberia.

- ▶ In front of the HIP's auditorium, across from the Botanical Gardens' greenhouse entrance, an Asian **Bamboo Forest (16)**, with precious *Phyllostachys* and *Semiarundinaria* species, is gradually expanding into an impressive jungle; several attractive Asian annuals and perennials are growing close by. A lavish 'fireworks' of colorful ornamental flowers along with profusely blooming fragrant lavender, replanted annually by the young graduates of our apprenticeship program, are meant to welcome our visitors or wish them a sincere: *Auf Wiedersehen!*

Conservation

The progressive destruction of natural habitats especially in the tropics and subtropics as well as measures for the protection and conservation of endangered plants will have an important influence on the mission and responsibility of botanical gardens in the future. The decrease of biodiversity can only be met by two strategies: first, by environmental conservation of natural habitats (*in situ*-protection) and second, by the cultivation and propagation of endangered plants and animals in botanical gardens and zoos (*ex situ*-protection). The Botanical Gardens of Heidelberg are devoted to cultivation and documentation of special plant collections. In cooperation with other professional institutions worldwide, the Botanical Gardens of Heidelberg support national and international agendas and research devoted to the conservation of endangered species.

Particular conservation programs in progress at the Botanical Gardens of Heidelberg involve, among others, the following species:

- ▶ *Nesocodon mauritianum* (Campanulaceae), the blue bellflower from Mauritius,
- ▶ *Brighamia insignis* (Lobeliaceae), a stem-succulent from Hawaii,



Nesocodon mauritianum



Brighamia insignis

- ▶ *Cochlearia macrorrhiza* (Brassicaceae), an endemical species from Eastern Austria, with only two plants left at the original habitat.



Prospects

Modern botanical research in the 21st century includes plant systematics with special focus on aspects of molecular biology, plant evolution, and pharmaceutical botany and ecology – this will lead to a new orientation of botanical gardens. Former concepts must be revised, capacities effectively coordinated, and existing resources economically administered. Increasing public demand for education in biology, plant science, and ecology will provide botanical gardens with an expanded mission and perspective for the future.

The University of Heidelberg is in the process of evaluating plans for expanding the Botanical Gardens in Heidelberg.



Guided tour

Guided Tours in the Botanical Gardens

Regular tours are offered on Sunday mornings. Individual guided tours on special themes can be arranged through the secretary's office. Groups of adults or children are welcome. Tours in English are available by arrangement.

Hours

Gardens (excl. greenhouses): open 24 hours daily

Greenhouses

- ▶ Monday to Thursday: 9 a.m. – 4 p.m.
- ▶ Friday: 9 a.m. – 2:30 p.m.
- ▶ Saturday: closed
- ▶ Sundays / Public holidays: 9 a.m. – 12 noon
1 p.m. – 4 p.m.

Please note the announcements in the entrance-hall to the greenhouses and feel free to consult the secretary's office for queries about plants and the Garden and about the calendar of events.

Imprint

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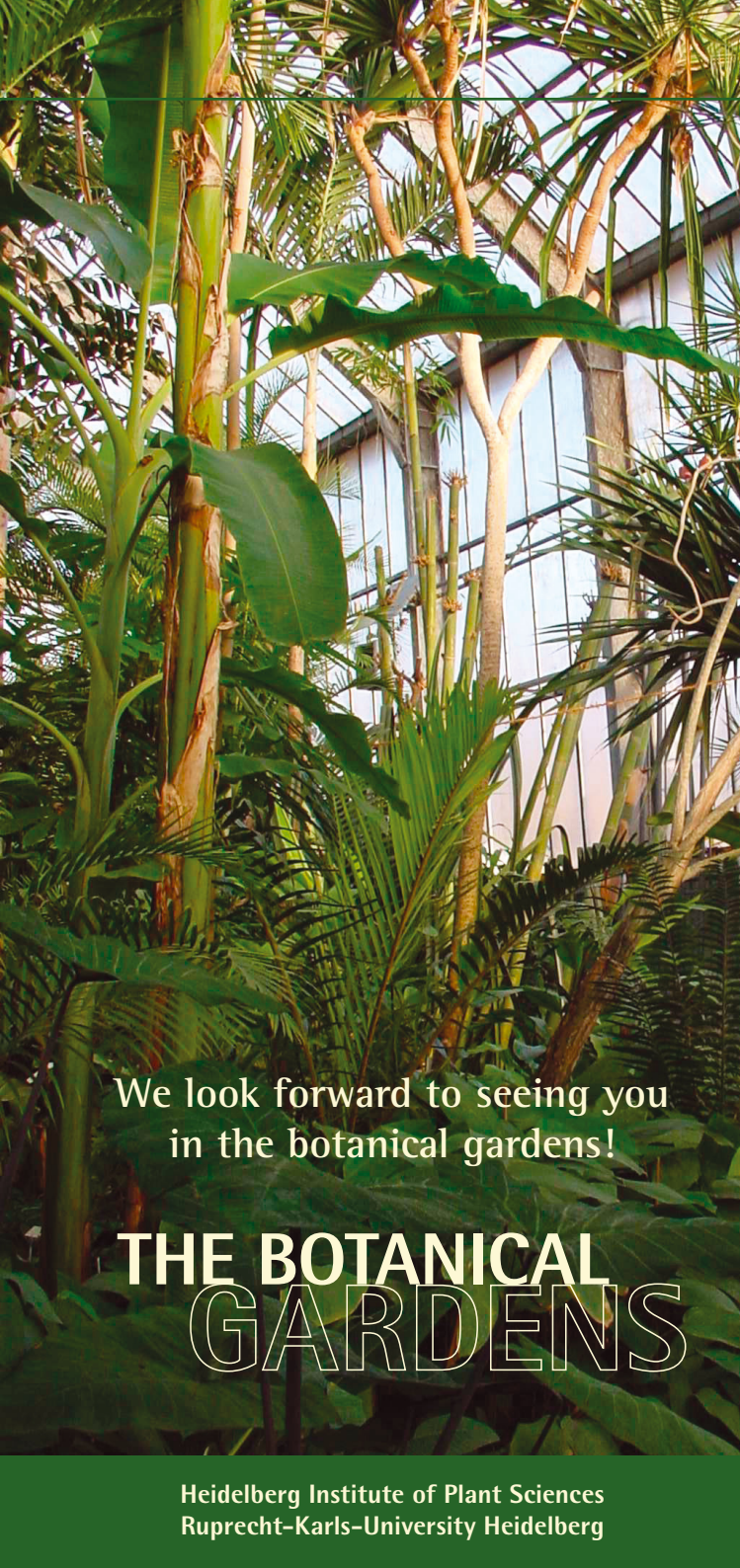
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Coryanthes bruchmuelleri (Orchidaceae)

A vertical photograph of a conservatory filled with diverse tropical plants. In the foreground, a banana tree with large, vibrant green leaves is prominent. Behind it, several tall palm trees with slender trunks and feathery fronds reach towards the glass ceiling. The background shows the structural framework of the conservatory, including wooden beams and glass panels, through which some natural light is visible. The overall atmosphere is bright and verdant.

We look forward to seeing you
in the botanical gardens!

THE BOTANICAL GARDENS

Heidelberg Institute of Plant Sciences
Ruprecht-Karls-University Heidelberg