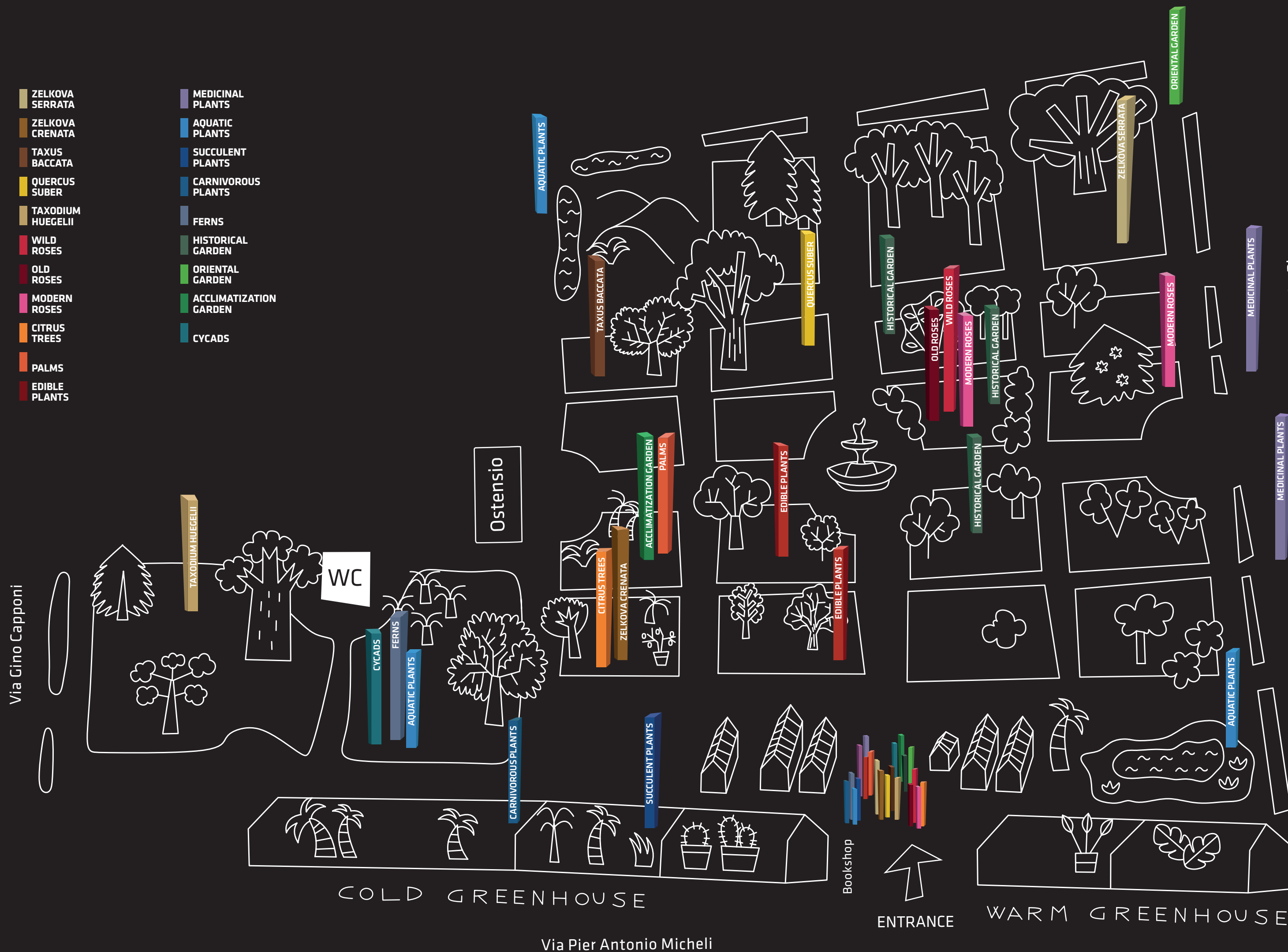




SISTEMA MUSEALE
DI ATENEO
UNIVERSITÀ DEGLI
STUDI DI FIRENZE

SISTEMA MUSEALE DI ATENEO
UNIVERSITÀ DEGLI STUDI DI FIRENZE



Where we are

Via Pier Antonio Micheli, 3
50121 Florence

Opening hours

November, December, January, February, March: 10am - 4pm

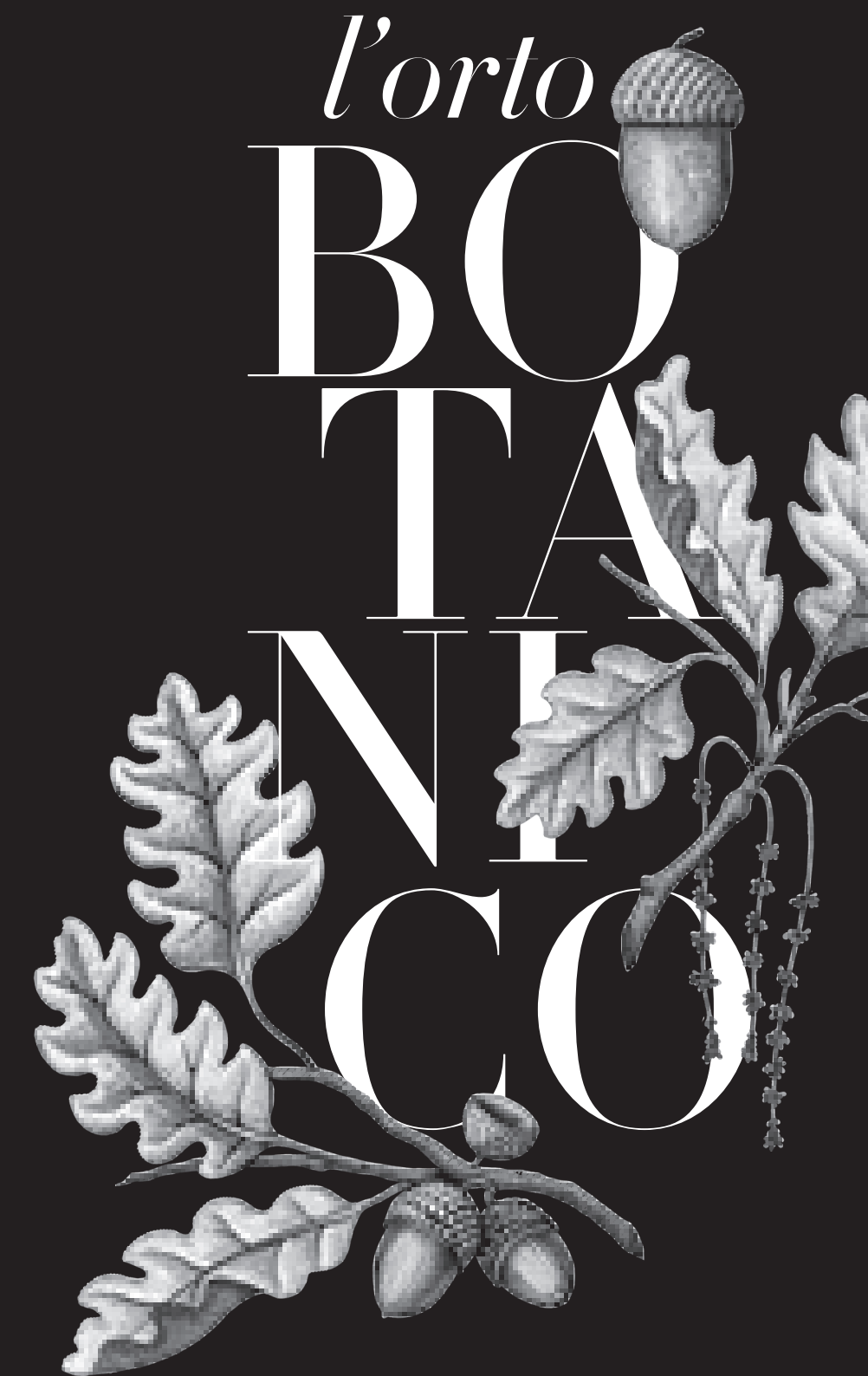
April, May, September, October: 10am - 6pm

June, July, August: 10am - 7pm

Check all updates on the sma.unifi.it

Contacts

Educational Services
University Museum System
edu@sma.unifi.it | www.sma.unifi.it



ANTICO GIARDINO
DEI SEMPLICI

Botanical Garden

“Giardino dei Semplici”

The first university botanical gardens in the world

On 1 December 1545 the ‘Giardino dei Semplici’ of Florence was born, wanted by Cosimo I de’ Medici. The Garden was dedicated to medicinal plants (the Simples) for the use of Florentine students who attended the University of Pisa; so that the students could observe the plant species live when they came back to their hometown. Two years before, in 1543 the Botanical Garden of Pisa was founded and then, in 1545, the Botanical Garden of Padua. Today, those of Padua and Florence are the oldest university botanical gardens in the world still operating in their original locations.

What is a botanical garden?

Botanical gardens are places where **living plants** belonging to documented collections are cultivated and displayed for scientific research, biodiversity conservation and education. In other words, they are living museums! That is why we ask visitors to behave ‘as if in a museum’, avoiding all those actions that can damage this place and other people.

The ‘Giardino dei Semplici’ of Florence

The Botanical Gardens ‘Giardino dei Semplici’ constitute, together with the museums ‘La Specola’, Geology and Palaeontology, Anthropology and Ethnology and the Botany collections, the Museum of Natural History of the University of Florence. It is part of the University Museum System, together with Villa La Quiete and Villa Galileo.

The numbers of the Giardino dei Semplici

2.3 hectares of extension
2 large greenhouses
6 small greenhouses
50 flowerbeds
4,200 plants, most of which are potted
More than 150 trees, including 5 monumental trees
100 m² of pools, tanks and ponds for the cultivation of aquatic plants.

www.ortobotanico.sma.unifi.it

The information labels

All plants have a label indicating their scientific name, their common name if they have one, the family and the order they belong to, their geographical distribution and the serial number that each plant receive when is listed in our database. The historical collections of roses and citrus fruits have a ceramic tag; medicinal plants are distinguished by a yellow label.

The naturalistic management of collections

During the hot season, pots are moved from greenhouses to the outdoors; they could not remain inside non-air-conditioned environments such as our large greenhouses. Overall, the botanical-agronomic management of the collections is carried out by adopting integrated pathogen and pest control methods and water-saving measures. We do not water our lawns in summer, we mulch our beds when possible, we increase the presence of pollinators and entomofauna in general, and we recover rainwater from the roofs of the greenhouses by storing it in a large underground cistern.

Getting one’s bearings and what to see

The colour-coded totems guide the visitor right from the entrance discovering specimens, collections and displays: each colour indicates a different element of interest of our botanical heritage. In addition, more than 70 panels illustrate the main characteristics of the plants or of the collections.

The flowerbeds

In the flowerbed that surrounds the **pond** some ornamental varieties can be found; in the pond grows the Lotus flower, *Nelumbo nucifera*, spontaneous from Ukraine to Australia. In Asia it is considered a sacred plant, celebrated in literature and art. It is also naturalized in temperate zones, such as San Rossore and Massarosa in Tuscany, and can become invasive.

Aquatic plants of tropical origin can be admired, especially in the summertime, both in the rectangular pool in front of the Warm Greenhouse and in the large circular pool in the centre of the Garden. The latter hosts the giant tropical waterlily *Victoria cruziana* in summer. Native to South American river basins, it is one of the species with the largest leaves in the plant kingdom (up to 1.5 m in diameter).

A rocky garden is dedicated to **the flora of the ophiolites**, a group of magmatic and metamorphic rocks of dark greenish colour, rich in iron and magnesium, which contains potentially phytotoxic elements (nickel, chromium, cobalt, boron). Only a few species that have adapted to these substrates can live on them, such as the endemic *Odontarrhena bertolonii*, *Armeria denticulata* and *Centaurea aplolepa* subsp. *carueliana* that live only in restricted geographical areas.

Near the **‘montagnola’** (hill), the tanks house some aquatic plants included in the list of endangered species of Tuscany, such as Water Chestnut (*Trapa natans*). Near the tanks, there are the hygrophilous trees such as the white poplar, the narrow-leaved ash and the European oak, that offer shelter, place for nests and food to many animals, birds in particular.

Medicinal plants remind us not only of the origin of the ‘Giardino dei Semplici’, but also the strong link between medicine and botany. The medicinal plants cultivated here belong to more than 24 families, among which the most represented is that of *Lamiaceae*. One area is dedicated to shrubs used in phytotherapy such as the elder, the chaste tree, the myrtle. A spiral of aromatic and medicinal plants is dedicated to Saint Hildegard, writer, theologian, music composer, naturalist and expert phytotherapist of the 12th century. Extreme caution is required when using plants for medicinal purposes: some may enhance the effect of synthetic drugs, others inhibit it. Moreover, the threshold between therapeutic power and toxicity can be very blurred. Remember that all drugs are, to some extent, toxic.

BO

The **“Roses in a Row”** layout traces the history of horticultural roses and winds through various parts of the garden. It includes wild roses and antique roses belonging to the *Gallica*, *Alba*, *Damascena* and *Centifolia* groups; Chinese roses introduced in Europe in the 18th century and modern roses, conventionally dated from 1867 onwards. In the sector of modern roses, it is possible to observe also some varieties characterized by particular streaks, shades, nuances and photosensitivity.

The bed of **food plants** consists of 4 sectors. In the domestication area, the wild ancestors (*Crop Wild Relatives*) are arranged in order to understand the great changes obtained over the centuries thanks to agricultural genetic improvement. Examples of CWR and modern varieties are vine, medlar, apple, pear, sorb.

The **edible wild plants of Tuscany** sector brings together more than 120 species, all coming from successive collections in the regional territory and arranged in a systematic order. Brief usage information and caution notes are displayed on the labels. One sector is dedicated to **the lesser-known fruits** that includes the *Crataegus azarolus*, the *Amelanchier*, the barberry and the *Elaeagnus*.

Another area is dedicated to **vegetable garden** with examples of raised organic flowerbeds and containers suitable for the balcony and for small spaces.

There are more than 150 trees. Among these are the 5 **monumental trees** that are going to be included in the register of monumental trees of Italy, that protects specimens of high naturalistic, historical, landscape and cultural value. We can find the yew (*Taxus baccata*), planted in 1720 by Pier Antonio Micheli, the oldest tree in the gardens; the cork tree (*Quercus suber*), planted in 1805 by Ottaviano Targioni Tozzetti; the Mexican taxodium (*Taxodium mucronatum*), the *Zelkova carpinifolia* and the *Zelkova serrata*. Some new planted trees such as the Algerian cypress (*Cupressus dupreziana*), the Hungarian oak (*Quercus frainetto*) and the Cornish oak (*Quercus petraea*) are important for their conservation value.

The greenhouses

Warm greenhouse

It is a heated and humid environment, suitable for the survival of plants with tropical and subtropical origin: epiphytes, spices, important species for the economy of many countries, plants with gigantic or multicoloured leaves allow visitors to appreciate the different uses of plant diversity. Notable for its beauty is the *Monstera deliciosa*. It climbs for about 10 meters on the wall of the ‘torrino’ (turret); in general, we are used to know it as an apartment plant, reaching a maximum height of 1.5 meters. Also noteworthy is *Pachira alba*, a specimen collected in Brazil in 1818 by Giuseppe Raddi and cultivated in here since 1878: it is the plant growing for the longest time in the greenhouses.

Cold greenhouse

Carnivorous plants live in inhospitable environments, poor in nutrients and have developed special adaptations, called traps, to catch insects and, in some cases, small rodents and amphibians from which they extract nutrients. We can observe different types of trap: ‘flypaper’ trap with highly adhesive leaves as in *Drosera* and *Pinguicula* species; ascidium traps (funnel) in *Sarracenia* and *Nepenthes*; snap traps in plants that catch prey with a rapid movement of leaves, as in *Dionaea*. We also grow *Aldrovanda vesiculosa* and *Utricularia australis*, two aquatic species of carnivorous plants.

Cycads are gymnosperms, considered ‘living fossils’, since they have very primitive vegetative and reproductive structures, almost unchanged from the Mesozoic era, in which they had their maximum expansion. The cycas live in subtropical and tropical areas and many of them are at risk of extinction. The Botanical Garden collection has 100 specimens belonging to 9 genera; some plants were introduced in the Gardens in the early 20th century.

Citrus have become, over the centuries, the object of study and collecting for their ornamental value, the great variety of fruits, their nutritional and medicinal properties. In the Garden there are more than 50 specimens; in addition to the most widely known citrus fruits, there are ancient or little-known varieties such as the cedar lemon of Florence, the cedar of the Hebrews, the bitter orange, the orange of Otaiti, the ‘peretta’ cedar lemon of San Domenico and the Bizzarria, a cross between a lemon, a bitter orange and a cedar, dating back to the 17th century.

Palms are monocotyledon angiosperms, with wide leaves and large inflorescences that develop at the top of the trunk. Most of them live in tropical and subtropical areas. In many areas they have great economic importance (production of dates, coconuts, palm oil, palm sugar, raffia, vegetable ivory), as well as ornamental. The Botanical Garden’s collection includes more than 100 specimens, some of which are cultivated outdoors for acclimatization studies.

Succulent plants can be found in dry environments and have their name and appearance due to the presence in the leaves, in the stems or in the roots of a watery parenchyma which acts as a water reserve that can be used in periods of prolonged drought. The Garden’s collection has more than 500 specimens belonging to 15 families. The arrangement takes into account the geographical origin, the part of the plant specialised in water storage and the convergent evolution. This one is the reason why species belonging to unrelated botanical families and coming from geographically distant areas look so similar.

ORTO Botanico