

Floras and Herbaria Encounters is a temporary exhibition organized by the Agripolis Central Library. It presents texts from the Library's collection alongside herbarium specimens created by students in the Bachelor's program in Forest and Environmental Technologies. This initiative is part of the Plant systematics with applications in vegetation analysis course, taught by Professor Scotton from the DAFNAE Department.

The purpose is to enhance the bibliographic heritage of the Library, which over the years has been enriched by numerous Floras, particularly those pertaining to the Triveneto region. Additionally, it seeks to acknowledge the efforts of students who, prior to taking their examination, dedicate themselves to the collection and preservation of plant specimens, thereby creating an herbarium.

Students are required to register on the website <http://erbariagraria.cab.unipd.it/> and insert the species contained in their herbarium into a database. This process facilitates the preservation of a digital inventory of the collected plants. Additionally, labels are created to be affixed to the various sheets of the herbarium, providing information regarding each exhibited plant, including species, family, location, altitude, date of collection, and the collector's name. The Agripolis Central Library subsequently retains a selection of the most successful works.

Alongside the herbarium collections, several Floras have been displayed, which are comprehensive texts cataloging all plant species within a specific region. These works often include analytical keys that facilitate species identification through a logical framework based on a series of contrasting morphological characteristics, known as dichotomies. Consequently, Floras serve as valuable resources for the study of botany.

Furthermore, a selection of digitized prints from historical herbaria curated by the Botanical Garden Library has been made available to provide visitors with insight into the evolving role of herbaria and the methods of their compilation over time.

The accompanying texts provide explanations related to the displayed materials; however, further exploration is facilitated through QR codes that link to more comprehensive texts.

The authors of the exhibited herbaria are the following students: Dafne Cal, Lucia Cornolò, and Edoardo Capoti.

The realization of *Floras and Herbaria Encounters* has been made possible through the collaboration of the University Association of Forestry Students (AUSF), Padua section, the scientific consultancy of Professor Michele Scotton, and the support of the Polo Multifunzionale di Agripolis.

What is a Herbarium?

A herbarium is a collection of dried, pressed plants that are affixed to sheets of uniform white paper, which are subsequently compiled into folders. The specimens designated for preservation are classified for systematic and floristic studies. Each sheet must include a label that records essential information: the scientific name of the species and its corresponding family, the location and date of collection, the altitude, and the names of both the collector and the classifier.

This method is the most effective for preserving plants in a dry state, as it ensures the maintenance of the morphological structures of the collected botanical specimens. The preserved samples are referred to as "types" and serve as important reference material for the identification of other specimens for which species identification is desired.

Nowadays, herbaria is a significant resource for documenting and safeguarding biodiversity, for observing flora and recognizing new species, for classifying and managing habitats, and for monitoring environmental changes over time.

How to construct a Herbarium

Collection: Specimens to be included in a herbarium can be gathered from any location or environment. In the field, it is advisable to use a small trowel, which allows for the extraction of the plant along with its entire root system, and a container (such as a vessel or press) to preserve the specimens without causing damage.

Drying: Collected plants should be prepared immediately and with great care, using tweezers to avoid damage. Drying is accomplished by placing the specimens between sheets of newspaper, which absorb moisture, and then applying appropriate pressure with additional plants interspersed between more sheets of newspaper. All parts must be properly spread out and oriented correctly to facilitate study. The paper should be replaced daily until complete drying is achieved.

Identification: This process involves observing morphological characteristics, utilizing tools such as dichotomous keys.

Assembly of the Herbarium: Once dried and classified, the plants are affixed to designated white sheets using strips, pins, or thread. Each specimen displays flowers, leaves, stems, roots, and, if applicable, fruits. At the bottom, the scientific name, family designation, and collection data are provided.

Floras and dichotomous keys

Floras are scientific works that describe all known plant species within a specific geographic area. They provide comprehensive details about individual species, including scientific names, morphological descriptions, habitats, and distributions, and are often accompanied by illustrations. Floras may cover varying geographic extents, ranging from individual regions to entire states or even continents.

An essential tool for the accurate identification of plant species, often found within analytical floras, is the dichotomous key. This tool consists of a hierarchically organized list of pairs of contrasting statements (the dichotomies) pertaining to the morphological characteristics of the organisms, which may or may not be present in the specimen being examined. Each choice leads to further pairs of statements, following a logical pathway that progressively narrows down the options until a definitive species identification is reached.

The illustration adjacent to this text accompanies a key designed for identifying plants of the *Brassicaceae* family based on the morphological characteristics of their fruits. The highlighted images pertain to the fruits of the plants represented in the herbaria mentioned above.

Historical Herbaria

From Antiquity until the 15th century, herbaria were books that described plants and their pharmacological virtues. The illustrations, initially inaccurate or even fantastical, became increasingly realistic during the 14th century.

The 16th century saw the need of the first herbaria created using the technique of plant drying, aimed at preserving the characteristics essential for identification. These collections coincided with the establishment of "*horti sanitatis*," botanical gardens located in monasteries and medical universities.

In the 17th century, the study of plants expanded to encompass all aspects, rather than being limited solely to their therapeutic properties. From this point onward, botany emerged as an independent science, leading to the production of genuine scientific texts.

Simultaneously, during the 18th and even more so in the 19th century, illustrated botanical books were published, focusing primarily on aesthetic appeal and often regarded as true works of art.

Dried and illustrated historical herbaria are preserved at the Pinali Marsili Library, including digital versions.