

## INFORMATION ON THE SCIENCE AREA OF THE MUSEU DE CIÈNCIES NATURALS DE BARCELONA

According to the International Council of Museums (ICOM), a museum is an institution which should be open to the public and should conserve, research and study society's heritage. In addition, it has the obligation (among others), as an institution and pursuant to the Museums Act, to facilitate the study and documentation of the objects that comprise its resources and to allow access to them, especially to researchers.

### MCNB Science Area

This comprises the Collections and Research departments and the Documentation Centre, and all the activities undertaken by them, that is, conservation, description and study of the natural and documentary heritage of their resources. In fact, everything that goes on at the Museum would be pointless were it not for its fundamental, primary purpose which is to safeguard and preserve that heritage.

The collections are kept in store and are preserved and studied by biologists and geologists who document them (taking inventory, cataloguing, computerising, and publishing databases) and make them available for the scientific community. They use the different laboratories –the preparation lab, the restoration and preventive conservation lab, and the technological lab– for these purposes.

The Museum participates in research projects with other public institutions such as the CSIC (Scientific Research Council) and national and foreign universities, while also developing its own projects connected with the collections it holds and with objectives relating to the local territory.

The Documentation Centre places the information resources it administers at the disposal of the Museum experts and the public.

### The natural heritage and its value

This consists of the zoology, geology, botany and documentation collections. The zoology collections comprise non-arthropod invertebrates (corals, sponges, snails, starfish and sea urchins, etc), arthropods, chordates and the collection of sound recordings. The geology collections comprise palaeontology (fossils and thin sections), petrology (rocks and thin sections) and mineralogy (minerals and meteorites). The botany collections comprise the herbarium and Seed Bank folders. The documentary heritage consists of books and specialised journals, maps and historical and photographic archives.

<b>Inventory and cataloguing</b>	
Scientific collection: number of registrations (units of documentation)	1,419,326
Scientific collection: number of specimens in the scientific collection	3,746,716
Bibliographic, cartographic and photographic documents	19,000

The historical value of the Museu de Ciències Naturals de Barcelona can be traced back to the 19th century, when a natural history collection was donated to the city of Barcelona to lay the foundations for the city's first public museum.

The scientific value is founded on the specimens in the collection, and on the associated information:

- ✓ the MCNB collection represents the fauna, flora and geology of the territory of Catalonia, the western Mediterranean and other areas around the world.
- ✓ the Mediterranean region is an area of great biodiversity. There is international consensus on its active preservation. The information associated with the collections is essential for the study and conservation of this biodiversity, that is, the number of species, their abundance and their distribution.
- ✓ it is evidence of today's natural diversity, but also of that of the past
- ✓ it contains thousands of type specimens, which serve to describe new species and validate correct identifications. They are also evidence of the existence of a particular taxon.
- ✓ it contains lengthy series of materials on the species. The presence of these series increases its value because they are necessary in studies on variations in distribution, effects of flooding, desiccations, construction of infrastructures, etc.

### The collections and research

Examples of scientific and social studies in which the Museum collection is used:

**Biodiversity and geodiversity:** description of new species and review of known ones, both fossilised and current (taxonomic studies), naturalist inventories in specific geographical spheres, follow-up of changes over time, variability indicators, etc.

**Evolution and behaviour:** studies on feather colouration, phylogeny (anatomical and genetic comparisons in related species), laryngeal analysis for studying sounds, etc.

**Biochemistry, genetics:** studies on the historical effects of pesticides, effects of contamination, polymorphisms, phylogenies, etc.

**(Palaeo)environment and (palaeo)climate studies:** researchers in ecology, the environment and climate change need to study specimens, including fossils, that are conserved in museums.

**Biostratigraphy studies:** through studying the distribution of fossil species in the geological record we can ascertain the sedimentary environment, the age of the rocks that contain them, and so on, and thus reconstruct the geological and biological history of an area.

**Petrology and mineralogy studies:** description and identification of rocks and mineral species, analysis of the economic significance of the mineral deposits and the characteristics of their exploitation on an industrial scale.

**Archaeology and ethnology:** correct interpretation of the finds in archaeological deposits requires accurate identification of bones, shells, etc. The application of petrological analysis can determine the origin of lithic artefacts.

**Historical and social studies:** the history and documentation of specimens is a very valuable source of information for reconstructing the biography of naturalists or other professionals and, at the same time, is a decisive element in the history of natural sciences in Catalonia.

## Social use

The Science Area (Laboratori de Natura) is open to the scientific community and the collection is used constantly by teams of researchers from all over the world. It is also committed to serving the public, offering information and knowledge about our natural surroundings. With this aim in mind, it takes part in projects for popularising the natural sciences through the Museum's public programmes.

<b>Use of the collection</b>	
Number of queries received (presential and on line)	22,800
Number of specimens consulted (presentially and on line)	382,432
Number of scientific and cultural loans	88
Number of specimens loaned	11,518
Number of specimens published in internationally searchable databases	100,000

Geology, botany and zoology data, 2011

<b>Use of the Documentation Centre</b>	
Users served	12,700
Documents consulted	8,080
Loans	1,856
Copies	16,666

## Open to whom?

In an advanced society it is essential that people have a close relationship with science. The activities of the science area are open to various different groups: the scientific, educational and university community, naturalist associations and everyone who is interested in naturalist studies, and also volunteers who wish to take part in the area activities. It is also open to the participation of the general public and has become an integral part of the city's cultural leisure offerings.

## Where is it?

The Science Area has its headquarters in the two buildings situated in Ciutadella Park –the Castell dels Tres Dragons and the Museu Martorell– and in the Jardí Botànic on Montjuïc.