Sessione

Museologia e Comunicazione

poster

The Recovery and Valorization of an Ancient Zoological Collection

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The University Museum of the "G. d'Annunzio" University of Chieti – Pescara has stood out in recent years for its research activities in the fields of anthropology, geo-paleontology, and natural sciences. It has significantly expanded its collections, affirming its role as a "place of memory" and an exhibition space dedicated to the knowledge and dissemination of Natural Sciences as well.

A recent addition to the museum is a new zoological collection, consisting of a large number of animals preserved using various methods (in formalin, dried, or taxidermied), mainly comprising specimens collected and prepared locally in the second half of the 19th century. The collection is the result of a series of donations and bequests from public institutions, such as the "G.B. Vico" High School of Chieti, and private individuals. It also includes specimens prepared in the museum's own laboratories, where disinfestation was carried out on samples—fish, birds, and small mammals—that had been affected by insect larvae.

Following the disinfestation, a cleaning phase was undertaken to remove external pollutants from the birds' plumage, mammals' fur, and keratinized parts (beaks, legs, etc.). The specimens were relabeled in a clear and accessible manner, while still preserving the historical labels, and were newly catalogued.

The portion of the collection currently on public display includes rare specimens and even extinct species, all originating from the Chieti area or, more broadly, the Abruzzo region. Particularly noteworthy are the specimens collected around 1863 by students of the Royal High School of Chieti under the guidance of Professor Florindo Rocchetti (Torrevecchia Teatina, 1820 – Chieti, 1867), a physician who, in 1854, left his profession to dedicate himself to teaching Natural Sciences.

The historical value of this collection—composed largely of passerine birds—is truly exceptional, representing the only and irreplaceable testimony of the local fauna present on the hills of Chieti more than a century and a half ago. Due to all these characteristics, the zoological collection also holds great educational value, but above all, it has significant scientific importance.

The Museum of the Sea and Wetland Areas of Marceddì Comes to Life in Sardinia

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The project "Museum of the Sea and Wetland Areas of Marceddì," promoted by the Municipality of Terralba (OR) with scientific support from the Department of Biology, Ecology and Earth Sciences at the University of Calabria, aims to enhance and showcase the rich environmental, natural, and cultural heritage of the Marceddì wetlands. Funded under Regional Law no. 17/2021, the project involves the setup of an exhibition center in a municipally owned building located at Via Lungomare 49, Marceddì, in the municipality of Terralba (OR).
The exhibition will span two floors and five thematic areas: the lagoon room, the sea stairs, the marine animals room, the bird room, and the Marceddì fishing world. Visitors will be guided through an itinerary that explores marine, lagoon, and coastal environments, with a special focus on the interaction between nature and human activities.
The exhibition spaces will include display cases, life-sized dioramas, informational panels, aquariums, terrariums, and interactive multimedia totems. The tour will be enriched with digital content such as drone-filmed videos, multimedia guides on flora and fauna, educational games for children, and teaching materials for schools, supporting both hands-on and learning activities.
Outside, the museum will feature an institutional sign and a traditional fishing boat, an iconic symbol of the local community. The project also includes public and scientific outreach events to promote civic engagement, environmental awareness, and local identity. This initiative stands out as one of the few museums in Italy, and the only one in Sardinia, specifically dedicated to wetland ecosystems.

Soil Meiofauna Advanced Taxonomy School – SoilMATs: Advancing Taxonomic Knowledge Through Training

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Recent applications of integrative approaches in taxonomy have accelerated species descriptions; however, much remains to be done to understand the diversity and distribution of meiofauna in soil environments, primarily due to the taxonomic impediment. To address this gap, the SoilMATs project aims to train a new generation of taxonomists, also selected through an open European call, by combining online and hands-on activities to equip 25 young researchers with specialized knowledge in Tardigrada, Rotifera, and Nematoda. The large number of applications (84 for 20 open positions) highlights the strong demand for advanced training in taxonomy, even for seemingly "neglected" taxa. Additionally, the program's secondary goal is to enhance soil meiofaunal knowledge in three target protected areas across Europe through teaching.

The first field training and sampling took place in two natural protected areas in the Northern Apennines: Rocca Malatina Park and Panaro River Park (Italy). The demonstrative analyses conducted during the training focused on taxa identification, integrating both morphological (LM, SEM, and CLSM) and molecular (DNA barcode) approaches.

Sampling during the training contributed to a broader understanding of the biodiversity within the sampled protected areas. For instance, a rare tardigrade species lacking claws was discovered in a conspicuous population, in a previously unsampled moist riverbed sediment. The specimens were assigned to the known species Apodibius confusus through morphological analyses and the first DNA barcode sequence for the taxa were produced. Furthermore, advanced microscopy techniques, showed during the training, revealed the complete absence of claws as a structural trait, with no associated vestigial characters.

The training activities accelerated faunistic analysis, facilitated by the number of students, which allowed for more effective and faster sampling, sorting, and taxonomic work. Beyond direct training, the project's multi-local approach is expected to have a wider impact by, for instance, enhancing faunistic studies and identification of new taxa, as demonstrated in the given example.

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The digitisation of the University of Bologna's "Collezioni di Antropologia": a virtual exhibition through innovation, research and conservation

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In the context of the increasingly widespread use and applications of digital tools in museums to enhance accessibility and the conservation of cultural heritage, this ongoing project aims to create a virtual exhibition of the University of Bologna's "Collezioni di Antropologia". The first nucleus of these collections dates back to 1908, when Professor Fabio Frassetto established the first chair of Anthropology at the University of Bologna. Over the subsequent years and up to now, various items have enriched the collections, particularly elements from the Documented Human Osteological Collections (DHOC) of the University of Bologna. This project involves scanning selected anthropological items within the museum halls of the "Collezioni di Antropologia" using an ARTEC Space Spider 3D structured light laser scanner. These digitised selected anthropological items will form the core of the virtual exhibition, which will be divided into three thematic sections, mirroring the physical tour of the museum. The first section will focus on the origin of Anthropology as a discipline in Italy, featuring a selection of anthropometric and osteometric instruments, along with the famous casts from the Cipriani collection. The second section will explore human evolutionary history, focusing on some of the most significant fossil hominins, such as the Taung Child (A. africanus), especially relevant this year as it marks the centenary of its first publication in Nature. The third section will be dedicated to skeletal biology, bioarchaeology and paleopathology. The skeletal biology section will help virtual visitors understand which human skeletal traits are important for identifying sexual dimorphism and patterns of bone growth. The bioarchaeology will connect anthropological knowledge with cultural practices, illustrated by examples of cranial deformation. At the same time, some individuals will be digitised to showcase pathognomonic traits of skeletal pathologies. Finally, a dedicated virtual exhibition space will be developed to present these elements in an engaging and informative way, supporting a deeper understanding of the collections and their digital presentation. The online experience—enhanced with accessible content and interactive tools—aims to boost public engagement, make scientific knowledge more widely available, and support museum operators in communication, outreach, and heritage conservation of these sensitive cultural assets.

The bird collection of the 'Museo di Zoologia' at the University of Cagliari: past and present importance

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The ornithological collection of the Museum of Zoology at the University of Cagliari (Sardinia, Italy) has been recently re-organized and revised. The collection mainly comprises specimens representing Sardinian fauna that were most likely collected on the island. However, it also contains a significant number of exotic, land and sea birds from different parts of the world. It currently hosts more than 1000 mounted specimens, tens of skins and a few skeletons with representatives of 30 orders, 111 families and 465 species.
The original nucleus was established in 1802 by order of Carlo Felice, Viceroy of Sardinia, who later donated it to the then Royal University of Cagliari. This historical collection had its greatest development in the first half of the 19th century, especially during the period 1840-1858, in which Gaetano Cara was director of the Museum. Although to a lesser extent, the acquisition of new finds has continued up to the present day.
The most complete section is represented by the birds of prey, for which there are several specimens of all the species historically present in Sardinia, including those now extinct on the island, such as the Bonelli's Eagle (*Aquila fasciata*), the White-tailed Eagle (*Haliaeetus albicilla*), the Cinereous Vulture (*Aegypius monachus*) and the Bearded Vulture (*Gypaetus barbatus*). Similarly, other taxa, extinct in the Island, are present, such as the White-headed Duck (*Oxyura leucocephala*), and the Black Wheatear (Oenanthe leucura). The collection includes also some rare specimens, exceptionally captured in Sardinia: Little Bunting (*Emberiza pusilla*), Rosy Starling (*Pastor roseus*), and Cream-coloured Courser (*Cursorius cursor*). Among the 'exotic birds' numerous species of hummingbirds and sunbirds certainly stand out, as well as the specimens of highly threatened species, such as the Yellow-crested Cockatoo (*Cacatua sulphurea*) or the Tristan Albatross (*Diomedea dabbenena*) or even globally extinct species such as the Passenger Pigeon (*Ectopistes migratorius*) and the Slender-billed curlew (*Numenius tenuirostris*).
The historical collection has still an undoubtable importance, not only to scientists but also to pupils and amateurs. It can help to understanding the distribution and composition of the ornithofauna in Sardinia and its changes through time, to educate children and sensibilize to public as well as it can provide irreplaceable information to protect our stunning bird biodiversity.

"INCONSAPEVOLI INVASORI": increasing awareness on biodiversity loss

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The Natural History Museum of the University of Pisa designed and installed a temporary exhibition entitled "Inconsapevoli invasori. Le specie aliene nelle acque interne e le minacce alla biodiversità" from October 2024 to January 2025. Theme of the exhibition was the invasion of alien species in Italian freshwater environments, with a focus on their impact on biodiversity loss and on the causes of the invasions.
Live animals were displayed in aquaria and aqua terraria, for a total of 15 species including fish (6 species), invertebrates (2 species) and freshwater turtles (6 exotic species and the native European pond turtle, *Emys orbicularis*). We selected both highly invasive species (e.g. *Trachemys scripta*, *Procambarus clarkii*) and other species representative of the main impacts of aliens: direct competition, predation, hybridization, transmission of pathogens. We included also species arrived more recently on the national territory (e.g. *Pseudemys* sp.), to show how this threat is still ongoing and developing.
The use of live animals was aimed at maximizing public involvement, promoting better transmission of the scientific concepts of the exhibition. All the individuals on display came from Tuscany's natural or semi-natural environments, with the purpose of helping the visitors to better understand how the problem of alien species is rooted in every territory, including their own. The exhibition panels included general information on the topic, as well as updated scientific data on the quantity of invasive species in Italy, economic damage and problems related to the spread of aliens; there were also descriptive sheets of the non-native species on display and a section dedicated to the Life URCA ProEmys project on the European pond turtle, of which the Museum is a partner.
The exhibition was integrated with a multimedia display of photos and videos of alien species specially created by professionals, expert naturalists and photographers of national relevance.
To raise awareness among visitors of the various topics covered in the exhibition, we organized three events held by various experts, in line with the objectives of Agenda 2030. These dissemination activities aimed at increasing public awareness about the impact of alien species on biodiversity loss and provided indications on the correct behaviors to be held in case of purchase or discovery of these species in the wild.

The heterobranch Corner Project at the Unisalento Marine Biology Museum "Pietro Parenzan" in Porto Cesareo (LE)

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In the XXI century, advancements in technology and the growing abundance of information have led to significant changes in communication strategies, aiming to capture people's attention and facilitate their understanding of scientific topics.
In this framework, we are going to combine a traditional exhibition method (the exhibition panel) with the use of soft toys to increase the attractiveness of the scientific and informative proposal, especially towards a younger audience. Multimedia content can be accessed via QR codes placed in the different sections, in order to foster a user-friendly and accessible experience and an in-depth comprehension of scientific concepts.
The main objective of the "Heterobranch corner" project at the UniSalento Marine Biology Museum "Pietro Parenzan" in Porto Cesareo (Lecce), is to provide everyone with the chance to discover the Mediterranean heterobranch diversity, a group of specialized gastropod molluscs to foster knowledge and inspire a heightened sense of appreciation and concern for their protection and conservation.
In order to reach a wide-ranging audience, the "Pietro Parenzan" Marine Biology Museum was chosen as the ideal location to install these panels: recently renovated and re-opened in December 2024, it has high visitor footfall, particularly comprising of students who visit the museum during the school year and families who go there during the summer.
The corner consists of a 2m by 2m panel and a 2m by 1m panel, inside which there are photographs dedicated to nudibranchs, sacoglossans, anaspids and cephalaspids, chosen as representatives of the extreme variability of shapes and colors present within the subclass of heterobranchs. There are also insights into their life cycle, defense strategies and how to find and describe a new species; each section features QR codes that link to videos and multimedia storytelling created specifically for the purpose. A plexiglass cube houses the soft toys of two nudibranchs, each about 40 cm large.
In a time when the protection of the sea has a fundamental role and conservation actions are increasingly urgent, to promote knowledge of the sea fauna becomes an essential task of marine biology museums to widen ocean literacy among the civil society.