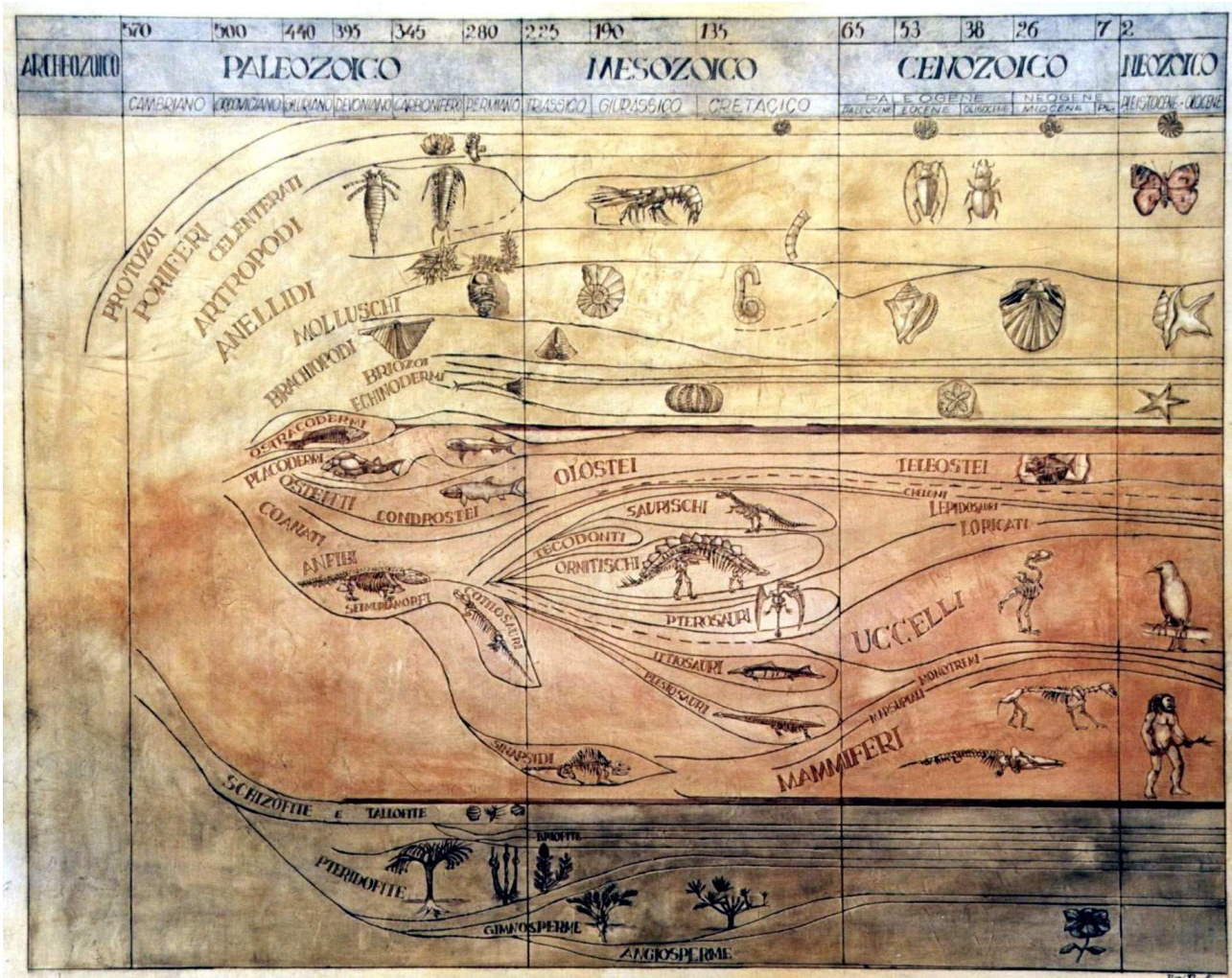


PALEONTOLOGY MUSEUM “MICHELE GORTANI”

Paleontology exhibition
“The evolution of life through fossils”



Luciano Tiraboschi --- Antonio Foscheri (photos)

Paleontology Museum "Michele Gortani"
Portogruaro

Paleontology exhibition
"The evolution of life through fossils"

Dear friends,

in order to make the journey through the exhibition clearer, we advise to follow the progressive order of the display cases as they are numbered, starting from the most ancient to the more recent finds chronologically, up until today. Observing these finds, we have to remember that these fossils are what remains of what once were living organisms, and we must take into consideration their birth, their growth, their reproduction and their death, characteristics that are intrinsic to all living organisms.

Therefore, keeping this in mind, these fossils cease to appear as mere objects, but as remains and testaments of remote ages, of different environments, of wonderful landscapes and especially of an evolution that became more and more complex and that brought to the evolution of man on earth.

If indeed the appearance of life is still a mystery and seed of many hypothesis, in general the history of life on earth can be reconstructed through fossils. We know that throughout the centuries, the earth became populated by plants and animals, sometimes monstrous, other times small and graceful, and that these creatures adapted to different environments and changed as these did. The material in this exhibition broadly presents the history of life and the transformation of it's forms: evolution is the most extraordinary characteristic of life that consists of the continuous change on the forms that express it.

Display case n°1.

The numerous tags that accompany the exposed samples, are there to explain the meaning of the fossil and to illustrate the ways in which mother nature brought to us testimonials of life of decades, centuries million years ago.



Display cases n°2, n°3, n°4

Here we are in the inferior Paleozoic era which starts about 570 million years ago; it's subdivided in the Cambrian period, the Ordovician (500 million years ago) and the Silurian periods (430 million years ago) with it's testimonials of life forms in the sea, and their origins. There are various animal groups here represented: among the Echinoderms we remember the Crinoids, commonly know as the "sea lilies"; the mollusks are represented by the Gastropods, Lamellibranches and the Cephalopods; there are corals and Brachiopods. In the midst of these extinct groups the Trilobites are well represented, marine arthropods considered the ancestors of crustaceans and insects, that dissapeared more than 250 million years ago and the Graptolites, also extinc more than 300 million years ago, and that demonstrate a trace of the passage from invertebrates to vertebrates. Among the vegetation we remember the limestone seaweed.



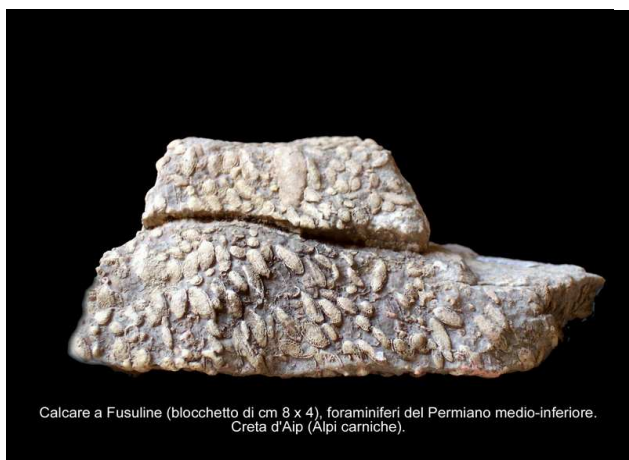
Asaphiscus sp. (cm 3,6) Trilobite del Cambriano medio. U.S.A.

Cambrian: Asaphiscus, trilobite



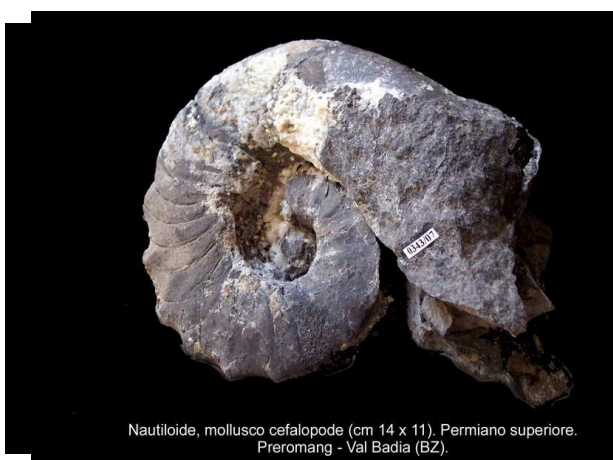
Fauna della F. n° di Uggua: sinistrala un brachiopoda (mm 20), in alto a sinistra un bryozoa del genere Coryocrinus (mm 20), a destra una colonia di bryozoi del genere Heliopora (bocchetto di cm 7,5 x 8) Ordoviciano superiore. Paularo in Val Uguà (Alpi Carniche).

Ordovician: Brachiopod and Bryozoans



Calcare a Fusuline (bocchetto di cm 8 x 4), foraminiferi del Permiano medio-inferiore. Creta d'Aip (Alpi Carniche).

Permian: limestone with foraminifera



Nautiloide, mollusco cefalopode (cm 14 x 11), Permiano superiore. Preromang - Val Badia (BZ).

Permian: Nautiloid



Pigidio del Trilobite 'Encrinurus beaomonti' (mm 22) nel calcare ferruginoso del Monte Cocco, facies del Siluriano carnico.

Silurian: pygidium of the Trilobite



Rastrites longispinus (lastra di cm 5 x 8), graptoliti del Siluriano inferiore. Val Uguà (Alpi Carniche).

Silurian: Graptolites

Display case n°5, n°6, n°7

In the superior Paleozoic, subdivided in the Devonian period (395 million years ago), the Carboniferous period (345 million years ago) and the Permian period (280 million years ago), precisely in the superior Carboniferous period, the European area emerges; there are many ponds and marshes and the flora, conquering the emerging land, develops into luxuriant forests of *Lepidodendron*, *Calamites* and tree ferns, whose fronds (*Neuropteris*, *Pecopteris*), are wonderfully fossilized in carbonaceous schists of Mount Corona and of Cason di Lanza (Carnic Alps). Of the Permian, the last period of the paleozoic, particularly important are the Foraminifera, unicellular organism and great guiding fossils.



Orthoceras sp., nautiloidi in sezione longitudinale, su blocchetto di cm 19 x 13. Devoniano del Marocco.

Devonian: Nautiloids



Clymenia sp. (cm 2 ca.), Devoniano superiore, Monte Primosio (Carnia). Le Clymenie, indicatori ambientali di mare profondo, sono tipiche fossili guida del Devoniano superiore.

Devonian: Clymenie, ammonoids



Brachiopodi: Spirifer sp. (cm 7x4) e a sinistra, Productus sp. (cm 1,5). Carbonifero superiore, Cason di Lanza (Alpi carniche).

Carboniferous: Brachiopods



Pecopteris sp. (lastra di cm 30), Spermatofita felciforime del Carbonifero superiore. Monte Corona (Alpi carniche)

Carboniferous: Pecopteris, tree ferns



Calcare a Fusuline (blocchetto di cm 8 x 4), foraminiferi del Permiano medio-inferiore. Creta d'Aip (Alpi carniche).

Permian: limestone with foraminifera



Nautiloide, mollusco cefalopode (cm 14 x 11). Permiano superiore. Preromang - Val Badia (BZ).

Permian: Nautiloid

Display case n°8, n°9, n°10, n°11, n°12, n°13, n°14.

Here follows an ample exposition of fossils that refer to the Mesozoic Era, which, in evolutionary history, represent an intermediate position between the arcaic forms seen previously and the more modern fossils of the Cenozoic Era.

It's immediately evident the great variety of rocks that remind us of different environments and different faunas: it's the result of various sedimentations that the Tethys sea brought on the areas that would form the Italian peninsula.

The majority of the fossils comes from the Alps and the Prealps of the Veneto region and the Carnic Alps that formed and emerged under the pressure of the drifting African continent in the Cenozoic Era.

The fossils exhibited belong to numerous animal and vegetable groups, amongst which are the Ammonoids with varied forms and great chronological indicators, the Echinoderms, the characteristic Lammellibranchs, Fish, Crustaceans and the limestone Seaweed.

The Mesozoic Era, having begun 225 million years ago, finishes with the extinction of the Ammonites at the end of the Cretaceous period, 65 million years ago.



Giurassic: Pleuroceras, ammonite



Triassic: limestone seaweed



Cretaceous: Hippurites, bivalves



Triassic: Naticopsis, gastropod



Cretaceous: Echinoid, sea urchin



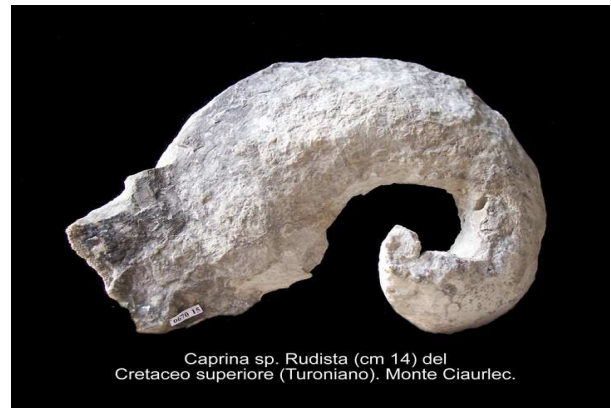
Cretaceous: Teleost fish

Display case n°15

The finds that are displayed are the result of an ongoing study on the cretaceous lands of Mount Ciaurlec, in the Friuli region. About 130 million years ago, in this area there was a shallow sea, clear, oxygenated, subjected to a sub-tropical climate. The environment once was a cliff and from the sediments derived fine limestone with fossils of Coals, Gastropods, and Lamellibranches each of them with aberrant forms.



Cretaceous: Nerinea, gastropod



Cretaceous: Caprina, aberrant bivalve

Display cases n°16, n°17.

These are the displays of the vertebrate fossils belonging to different geological periods. Here, we remember, the skull of the great head of the Ursus Spelaeus, the smaller one is the dwarf of elephant in Sicily and the over sixty European, American, African and Lebanon fishes.



Pleistocene: head of the Ursus spelaeus



Pleistocene: Mammoth molar tooth



Cretaceous: Teleost fish



Pleistocene: Sicilian dwarf elephant

Display cases n°18, n°19, n°20.

In the Cenozoic, which started 65 million years ago, the organisms from which originated current life forms appear, and the Alps formed. The climate in our regions was similar to the climate that is now on the coast of the Indian peninsula; the sea and land were rich with new species.

The display cases n°18 and n°19 (Eocene and Oligocene), n°20 (Miocene, 19 million and Pliocene, 7 million years) contain many finds, while on top of the fireplace near the display case n. 18 there is a Bolca palm tree, a place known in the world for its abundance e beauty of its eocenic fossils; a fish from this famous "fishing pen" is in display case n°17. A part of the display case n°20 is dedicated to the Neozoic Era, which started two million years ago. The fossils have current forms.



Hemiphoenicites wettinoides
(h = cm 107), palma immersa nel tufo.
Eocene medio (Luteziano). Monte
Vegroni – Bolca (VR).

Eocene: Palm in the tuff



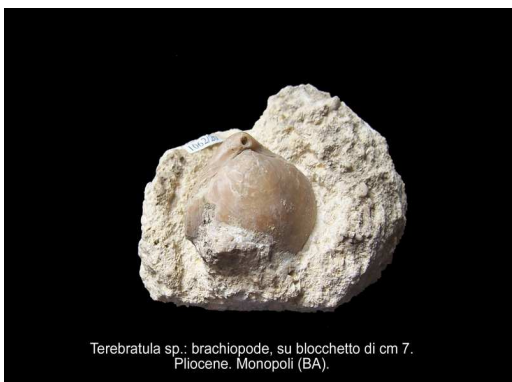
Lastra (cm 33) di arenaria glauconitica a pectinidi del genere Chlamys.
Oligocene superiore, Sedico (BL).

Oligocene: bivalves pectinidae



Clypeaster sp. (cm 17), echinide irregolare frequente
soprattutto nel versante ionico della Calabria; Miocene. Catanzaro.

Miocene: Echinoid, sea urchin



Terebratula sp., brachiopode, su blocchetto di cm 7.
Pliocene. Monopoli (BA).

Pliocene: Terebratula, brachiopod



Fagus sp. (cm 5), Impronta e controimpronta di una foglia di faggio
su travertino. Quaternario. Località fra Colle Santa Lucia e Passo Glau (BL).

Neozoic era: Beech leaf on travertine

Paleontology Museum "Michele Gortani"

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Visiting hours:
from Monday to Friday
from 10.00 to 12.00

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