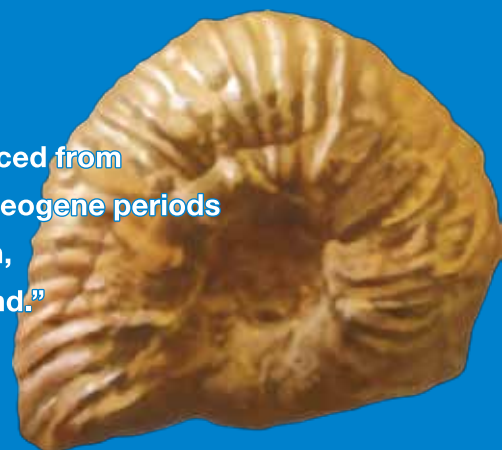


# 2 An abundant variety of fossils

Abundant and various fossils have been produced from the strata deposited in the Cretaceous and Paleogene periods on the Amakusa area including Goshoura town, also known as “dinosaur island” or “fossil island.”



## ! Fossils explained

Dead bodies of once living things such as shellfish, sink to the bottom of the body of water they inhabit and through the process of sedimentation, sand and mud accumulate on them. In the same way, more deceased animal bodies are layered on top in time compressing the previously deposited bodies under the weight causing them to harden and fossilize. Eventually, through a process called diastrophism, once submerged land becomes dry and fossils are exposed to the waiting eye.



5

### 1 Marine sediment and basalt in Yushima



The marine deposits and basalt laid down 820,000 years ago distributed over Yushima contrast with the upper part of the Kuchinotsu Group distributed in the southern area of the Shimabara peninsula. Many fossils of shellfish which inhabited an inner bay have been observed in the silt layer of the lower part of the marine deposit.

### 2 Shellfish fossil bed of Senganzan



The upper part of the Akasaki Formation lies at the mid part of Senganzan. The formation outcrop which was deposited under a shallow marine condition from brackish water of low salinity where marine water and freshwater from rivers mixed left many brackish bivalve and marine univalve shellfish fossils.

### 3 Cretaceous fossils in the Takado area



Many shells and ammonites have been found from the Hinoshima Formation of the Himenoura Group which was distributed at Wadanohana next to the Takado swimming coast.

### 4 Occurrence of Ammonite in Kugushima



Kugushima is the most abundant spot of occurrence of ammonite from the Himenoura Group. The Lower Subgroup of the Himenoura Group consists of black shale and is known to include mollusca such as Ammonite, Inoceramus and fish fossil such as shark teeth.

### 5 Ammonite House



A 60cm diameter ammonite was included in a stratum of about 85million years ago and is now observable at the Ammonite House. A rare plant and insect species can also be seen in that area.

### 6 Nigaki Fossil Park



About 20 solid rocks which include fossils and some skeletal models of dinosaurs are displayed in the open air and one can learn about fossils and other things reading the helpful explanation boards.

### 7 Bentenjima



A dinosaur footprint fossil was found in Kyushu for the first time in May, 1997 on Bentenjima where the Karakizaki Formation of the Goshoura Group is distributed. The 38cm sized footprint is thought to be of a 5m tall carnivorous dinosaur. The fossil was removed to the Goshoura Cretaceous Museum and a replica was put in its place.

### 8 Kyodomari



The location where the fossil of a dinosaur was found for the first time in Amakusa is the Kyodomari seashore where the Karakizaki Formation of the Goshoura Group is distributed. In March 1997, a team from Kochi University invited by Goshoura town, discovered a fossil of a part of a dinosaur leg thought to be a herbivorous dinosaur.

### 9 Dinosaur footprint on the Ikusagaura Coast



At the coast of Ikusagaura between Kawaura and Oe towns at the north side of Yokaku Bay, a footprint and tooth fossil of a herbivorous dinosaur of about 70 million years ago were discovered.

### 10 Around the Akagi dam



A sandstone bed including nummulites is found around the Akagi dam in Kawaura town. *Nummulites* from the Paleogene formations is like a coin in shape. The fossils are found in the sediments deposited in a subtropical marine environment.

### 11 Tohmiyama fossil bed



The upper part of the Kyoragi Formation includes fossiliferous sandstone layers with glauconite. The fossiliferous layer named “Tohmiyama fossil bed” originated in the place of its first discovery. On the middle level of Tohmiyama in Ushibuka town, the Tohmiyama fossil bed was found and is distributed to Gesujima and other places.

### 12 Abandoned quarry

If you go around the southern extremity, Nosabasaki, and continue to the north along the coast, you'll see a quarry where it is possible to clearly observe a collapsed stratum made by a fault.

### 13 Wall of Sphenoceras

Looking carefully at the surface of a slope in Makishima, bivalve Sphenoceras fossils, as well as many trace fossils of animals that crawled on the seabed here and there can be seen. The resting impressions of brittle stars from about 85 million years ago are also visible along with the occasional impression of an ammonite.

### 14 Oe Coast in Amakusa town

The Himenoura Group of the Cretaceous period which includes many shell fossils is distributed at the place where Christian legend remains.

### 15 The Miyanakawachi area

One of the index fossils for time determination of the Eocene epoch is *Nummulites* of a large benthic foraminifera. The first discovery place of *Nummulites* in Japan is the Miyanakawachi area in Amakusa which is specified as a natural treasure of Kumamoto Prefecture.

### 16 Oshima in Ushibuka town

Oshima is a small island in the sea to the west of Ushibuka housing a Cretaceous formation and condensed layers of fossils. Along the coast, animal fossils are easily observed and the hope of discovering dinosaur fossils from the island remains high.

### 17 Gongenyama basalt and the Sakasagawa Formation

Basalt is distributed on the top of Mt. Gongen. The basalt intruded into the Paleogene Sakasagawa Formation and flowed over the topographic surface at about 7 million years ago. The Sakasagawa Formation includes shellfish fossils at the middle level of Mt. Gongen.

## Goshoura Cretaceous Museum

About 1000 specimens of fossils mainly from Amakusa including the largest fossilized tooth of a carnivorous dinosaur in Japan and the fossil of the oldest large scale mammals in Japan are displayed here which makes it an indispensable facility for furthering knowledge about fossils from the Amakusa area. From here, samples are lent and lectures or workshops are given.



### Main specimens displayed in the museum:

The tooth of Carnosauria, the largest carnivorous dinosaur in Japan



Estimating its original size by restoring the tooth remains found, its host dinosaur can be considered to be the same size as one found in Fukuoka making it one of the largest in Japan. The probability of there having existed a 10m tall dinosaur in Japan is thus rated as high.

Fossil of mammal 'Coryphodontid'



Some very well preserved fossils of Coryphodontid, known as the oldest large-sized mammals in Japan were found.

6