



Fossils of Prehistoric Dagger-Toothed Sea Monster Discovered in Morocco

Description

A newly found fossil of a marine lizard with sharp teeth is providing scientists with valuable insights into life at the end of the dinosaur era. Named *Khinjaria acuta*, this fierce predator lived in the waters off modern-day Morocco around 66 million years ago. Its remains reveal a diverse ocean filled with large hunters, vastly different from today's seas.

The study describes *Khinjaria acuta* as belonging to the Mosasauridae family, which includes large marine lizards related to Komodo dragons and snakes. These reptiles thrived in the Late Cretaceous period while dinosaurs like *Tyrannosaurus* and *Triceratops* roamed the land.

The recovered fossil, including a skull and parts of the skeleton, was found in a phosphate mine southeast of Casablanca. Researchers from various institutions collaborated on this study, including the University of Bath and the Marrakech Museum of Natural History.

The skull of *Khinjaria acuta* is notable for its powerful snout and long, dagger-like teeth, ideal for grabbing prey. Unlike other mosasaurs known in the area, which had teeth for crushing or slicing, *Khinjaria* had teeth specialised for piercing, revealing new details about these ancient predators.

This discovery highlights the rich ecosystem of the Late Cretaceous era, which included multiple species of giant predators, as stated by Dr. Nick Longrich from the University of Bath. Interestingly, modern oceans host far fewer apex predators than those observed in the past. The fossil evidence also sheds light on the unique marine environment that supported such biodiversity in Morocco.

Vocabulary List:

1. **Fossil** /'fɑː.səl/ (noun): The preserved remains or traces of a once-living organism often found in sedimentary rock.
2. **Ecosystem** /'iː.kəʊ.sɪs.təm/ (noun): A biological community of interacting organisms and their physical environment.
3. **Thrive** /θraɪv/ (verb): To grow or develop successfully; to flourish.
4. **Specialised** /'speʃ.əl.aɪzd/ (adjective): Designed or trained for a particular purpose or area of activity.
5. **Predator** /'preɪ.tər/ (noun): An animal that hunts and kills other animals for food.
6. **Biodiversity** /,baɪ.əʊ.dɪ'vɜː.sɪ.ti/ (noun): The variety of plant and animal life in a particular habitat often considered a measure of the health of an ecosystem.



Comprehension Questions

Multiple Choice

1. What is the name of the newly found marine lizard fossil?
Option: Khinjaria acuta
Option: Mosasaurus
Option: Tyrannosaurus
Option: Triceratops
2. How many million years ago did Khinjaria acuta live?
Option: 150
Option: 66
Option: 75
Option: 100
3. Which family does Khinjaria acuta belong to?
Option: Dinosauria
Option: Mosasauridae
Option: Reptilia
Option: Cretaceous
4. Where was the fossil of Khinjaria acuta found?
Option: Casablanca
Option: Marrakech
Option: Fes
Option: Tangier
5. What kind of teeth did Khinjaria acuta possess?
Option: Flat teeth
Option: Dagger-like teeth
Option: Crushing teeth
Option: Cylindrical teeth
6. Which institution is NOT mentioned as part of the research team?
Option: University of Bath



- Option: Marrakech Museum of Natural History
Option: Harvard University
Option: Yale University

True-False

7. *Xinjiangia acuta* was discovered in Morocco.
8. The fossil includes only a skull.
9. *Xinjiangia acuta* had teeth designed for slicing.
10. Dr. Nick Longrich is associated with the University of Bath.
11. Modern oceans have more apex predators than those in the past.
12. The marine environment 66 million years ago was less diverse than today.

Gap-Fill

13. The fossil of *Xinjiangia acuta* was found in a phosphate mine _____.
14. *Xinjiangia acuta* lived in the waters off _____ modern-day Morocco.
15. *Xinjiangia acuta* is related to _____ dragons and snakes.
16. The skull of *Xinjiangia acuta* has a powerful snout and long, _____ teeth.
17. The Late Cretaceous era included multiple species of _____ predators.
18. The fossil evidence indicates a _____ marine environment in Morocco.

Answer

Multiple Choice: 1. *Xinjiangia acuta* 2. 66 3. Mosasauridae 4. Casablanca 5. Dagger-like teeth 6. Harvard University

True-False: 7. True 8. False 9. False 10. True 11. False 12. False

Gap-Fill: 13. southeast of Casablanca 14. around 66 million years ago 15. Komodo 16. dagger-like 17. giant 18. unique



Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. What is a fossil?

- Option: A preserved remains of ancient organisms
- Option: A type of rock formation
- Option: A meteorological phenomenon
- Option: An extinct species

2. Which of the following best describes an ecosystem?

- Option: A community of living organisms and their environment
- Option: A group of identical species
- Option: A geographical area without life
- Option: A collection of fossils

3. What is the role of a predator in an ecosystem?

- Option: To create food
- Option: To control the population of prey species
- Option: To decompose organic matter
- Option: To provide shelter

4. Biodiversity refers to what?

- Option: The variety of life in the world
- Option: The number of species in one ecosystem
- Option: The extinction of species
- Option: The climate diversity

5. What is a key element of scientific progress?

- Option: Discovery
- Option: Repetition
- Option: Confirmation
- Option: Following traditions

6. Palaeontology is the study of what?



- Option: Ancient life through fossils
- Option: Astrological phenomena
- Option: Current ecosystems
- Option: Living species

7. What is a specimen in a scientific context?

- Option: A single example of a species
- Option: A type of fossil
- Option: An observational result
- Option: A theoretical concept

8. What does celestial relate to?

- Option: Heavenly bodies like stars and planets
- Option: Earthly creatures
- Option: Biological studies
- Option: Oceanic depths

9. In astronomy what does syzygy refer to?

- Option: The alignment of celestial bodies
- Option: A type of star
- Option: The study of galaxies
- Option: The calculation of light years

10. What is the primary purpose of an observatory?

- Option: To observe celestial phenomena
- Option: To house fossils
- Option: To maintain biodiversity
- Option: To conduct ecological surveys

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

- 11. A _____ is formed when organic material is preserved over millions of years.
- 12. An _____ consists of living organisms interacting with their environment.
- 13. Certain species can _____ in extreme conditions.
- 14. In the food chain a _____ hunts and eats other animals.
- 15. High _____ is essential for a healthy environment.



16. The exciting _____ of a new species can change our understanding of biology.
17. _____ helps us understand the history of life on Earth through fossils.
18. A well-preserved _____ can provide valuable information about past climates.
19. Astronomers study various _____ phenomena including stars and planets.
20. An _____ event occurs when one celestial body moves into the shadow of another.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. A fossil is an ancient remnant of a living organism that has been preserved over time.
22. An ecosystem includes all the living organisms in a particular area and their interactions with the environment.
23. Plant species often thrive in conditions that are ideal for their growth.
24. A predator is an animal that hunts and eats other animals for survival.
25. Biodiversity is crucial for maintaining ecological balance in the environment.
26. The discovery of a new species can provide insights into evolutionary history.
27. Palaeontology is the scientific study of the history of life on Earth through fossils.
28. A specimen in research refers to an individual organism or a sample used for study.
29. Celestial bodies include all natural objects in space such as stars planets and moons.
30. Eclipsing is a phenomenon that occurs when one object moves into the shadow of another in space.

Answer

Multiple Choice: 1. A preserved remains of ancient organisms 2. A community of living organisms and their environment 3. To control the population of prey species 4. The variety of life in the world 5. Discovery 6. Ancient life through fossils 7. A single example of a species 8. Heavenly bodies like stars and planets 9. The alignment of celestial bodies 10. To observe celestial phenomena

Gap-Fill: 11. fossil 12. ecosystem 13. thrive 14. predator 15. biodiversity 16. discovery 17. Palaeontology 18. specimen 19. celestial 20. eclipsing

Matching sentence: 1. fossil



2. ecosystem 3. thrive 4. predator 5. biodiversity 6. discovery 7. palaeontology 8. specimen 9. celestial
10. eclipsing

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