

Well-preserved skull fossil of wolf-sized prehistoric otter reveals much

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Sugar, a North American river otter, swims in its enclosure at the Cincinnati Zoo. The ancient "badger otter" is a far cry from the modern river otters of today. AP Photo/John Minchillo

Otters are pretty cute. It's easy to forget that they use rocks to smash open shell fish. Scientists have found a fossil from an ancient wetland. The fossil shows the otter's ancient origins.

This new otter is pretty big. There is a story behind it. In 1983, paleontologists described what they thought was a new fossilized otter. Paleontologists are scientists who study fossils, which are the preserved forms of once-living organisms. They called it *Siamogale thailandica*. They based their theory on a single tooth found in Thailand. A later study suggested that the tooth was more likely from a European badger. Now, scientists know that animal's true identity.

Siamogale melilutra

There are tons of fossils in the ancient dirt of the Shuitangba coal mine in Yunnan, China. Chinese and American scientists found parts of three skeletons of a new animal. They call it *Siamogale melilutra*. There is a partly-crushed skull they uncovered that solves the mystery. *Siamogale* is definitely an otter and also kind of like a badger.

The fossils show important traits that show it was an otter. Part of the crushed skull is like an otter's, said Xiaoming Wang, of the Natural History Museum of Los Angeles. He is a paleontologist. The tooth that was found in 1983 does look a bit like a badger's. The answer is a bulky otter with a few badger traits.

It has the skull of an otter but has teeth like a badger, Wang said. That is why they are calling it *melilutra*. It is Latin for "badger-otter." Latin is an ancient language and often used for naming plants and animals. The scientists published their study in the *Journal of Systematic Palaeontology*.

From The Miocene Era

About 6 million years ago, during the Miocene era when *Siamogale* was alive, Shuitangba was a wooded wetland, says Denise Su. She is a paleoecologist from the Cleveland Museum of Natural History and helped write the paper. Paleoecologists study ancient environments. The rest of the world was getting drier and colder, says Su. This might explain why the mammals of Shuitangba are different from mammals found in other parts of the world.

In Shuitangba, some Miocene mammals survived into the Pliocene era, Su says. The Miocene and Pliocene are both ancient time periods, millions of years ago. They are used by scientists to study ancient plants and wildlife. In other words, this strange creature may have been a leftover from an earlier time period. It was saved thanks to a protected environment that stayed the same while the rest of the world changed.

Badger-Like Beast Was Bulky

Putting this all together was not easy. It also wasn't easy figuring out what the badger-otter looked like. Scientists Stuart White spent months putting together images of each fossil, like a puzzle.

What's certain is that the new beast was bulky. It weighed about 110 pounds and was about the size of a wolf. The ancient otter is larger than all living otters," Wang says. Many meat-eating mammals grew larger to get bigger prey. Wang thinks Siamogale is big for a different reason. The mammal's teeth hint that Siamogale ate shellfish like modern sea otters, Wang said. Although sea otters use rocks to crack open their food, Siamogale probably did not.

Maybe the badger-otter had not learned to use rocks, Wang said. Instead, maybe it crushed the hard shells itself. More studies may answer this ancient mystery.

Quiz

- 1 Select the sentence from the article that BEST explains why scientists were confused at first about what kind of animal Siamogale was.
- (A) They based their theory on a single tooth found in Thailand.
 - (B) There are tons of fossils in the ancient dirt of the Shuitangba coal mine in Yunnan, China.
 - (C) It has the skull of an otter but has teeth like a badger, Wang said.
 - (D) It weighed about 110 pounds and was about the size of a wolf.
- 2 Which section of the article supports the idea that Siamogale survived longer than other animals at the time because of its environment?
- (A) Introduction [paragraphs 1-2]
 - (B) "Siamogale melilutra"
 - (C) "From The Miocene Era"
 - (D) "Badger-Like Beast Was Bulky"
- 3 Which two of the following are MAIN ideas of the article?
1. *Otters are cute animals that smash open shellfish.*
 2. *A new fossil may help show the ancient origins of the modern otter.*
 3. *The Miocene era came before the Pliocene in ancient history.*
 4. *It was not easy to figure out what the Siamogale looked like and when it lived.*
- (A) 1 and 3
 - (B) 1 and 4
 - (C) 2 and 3
 - (D) 2 and 4

- 4 Which detail would be MOST important to include in a summary of the article?
- (A) Scientists discovered a fossil in 1983 but did not know what it was.
 - (B) Chinese and American scientists found tons of fossils in the Shuitangba coal mine.
 - (C) Otters often use rocks to crack open shellfish but Siamogale might not have done this.
 - (D) The new fossil is being called Siamogale melilutra because it is like a badger and an otter.