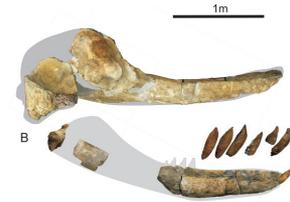




PRESS RELEASE

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Leviathan unearthed

Dutch researchers involved in discovery of a raptorial whale with the biggest bite ever

Palaeontologists of the Natural History Museums of Rotterdam, Paris, Pisa, Lima and Brussels, and of Utrecht University are involved in the discovery and the description of *Leviathan melvillei*, a Miocene raptorial whale with gigantic teeth. The official scientific description of the new (but extinct) species with the biggest bite ever, will be published on 1 July 2010 in the high-ranking scientific journal *Nature*. The sea monster probably fed itself by devouring baleen whales. The fossil has an approximate age of 12 - 13 million years, and was found in Peru.

The Natural History Museum Rotterdam will exhibit (reconstructions of) *Leviathan* later this year. Casts of the three largest teeth are on display now.

Leviathan was discovered in 2008 by Mr. Klaas Post, honorary curator of fossil mammals of the Natural History Museum Rotterdam. He stumbled over the remains during a short expedition in the Pisco-Ica desert in southern Peru. Large fragments of the skull and the lower jaws, and a number of teeth initially resembling elephants tusks, attracted the attention of the expedition team. The teeth turned out to be enormous sperm whale teeth. The skull and mandibles were reasonably well preserved. Scientists of the Natural History Museum of Lima secured the remains and then prepared them in their lab. The unique fossil will remain in Peru, in the collection of the *Museo de Historia Natural* in Lima.

The name, *Leviathan melvillei*, is chosen after the original Hebrew name (Liviyatan) for a mythical sea monster, and refers to Herman Melville, author of the novel *Moby-Dick, or The Whale*.

The fossil, of which only the 3 m long skull, the mandibles, and several teeth remain, belonged to an about 13 to 18 m long raptorial sperm whale. The teeth were gigantic: measurements showed they could reach a diameter of 12 cm and a length of over 36 cm. Nine of these teeth were found in each side of the skull, and eleven in each of the lower jaws. With this dentition, *Leviathan* was an able predator, and the hypothesis now is that it fed itself by eating the abundantly present baleen whales. The high caloric value of the fatty blubber of these baleen whales may have satisfied the nutritional needs of *Leviathan*. The sperm whale (*Physeter macrocephalus*) that now roams our oceans has a totally different choice of food and way of feeding: it feeds on squid that are taken by suction feeding at great depths. This modern sperm whale has a rather different dentition for that reason: smaller teeth in the lower jaw with the upper jaws being practically toothless. While raptors such as *Leviathan* apparently did not survive the Late Miocene climatic cooling, the lineage of modern sperm whales survived until our times feeding on a different menu.

Please refer to this *Nature* publication: Olivier Lambert, Giovanni Bianucci, Klaas Post, Christian de Muizon, Rodolfo Salas-Gismondi, Mario Urbina & Jelle Reumer, - The giant bite of a new raptorial sperm whale from the Miocene of Peru - *Nature* 466 (7302) 1 July 2010 [DOI: 10.1038/nature09067]

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