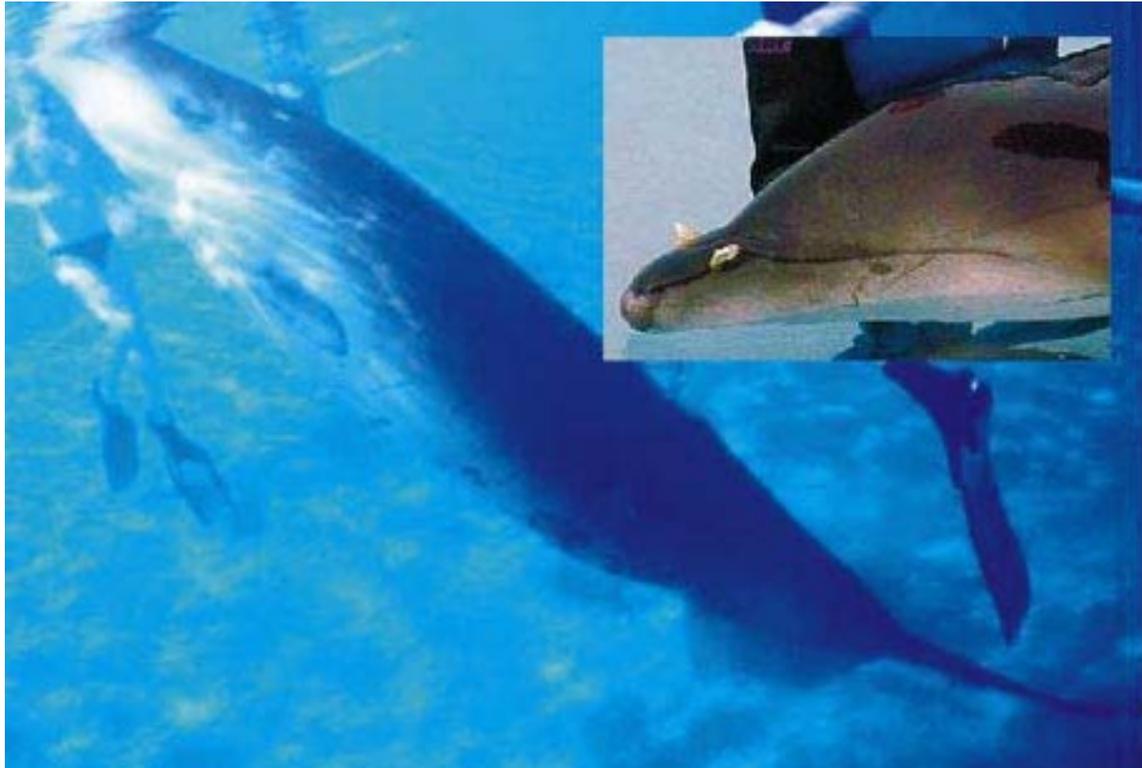


## *Mesoplodon europaeus* (Gervais' beaked whale)

Family: Ziphiidae (Beaked Whales)

Order: Cetacea (Whales and Dolphins)

Class: Mammalia (Mammals)



**Fig. 1.** Gervais' beaked whale, *Mesoplodon europaeus*

[[http://www.science.smith.edu/msi/pdf/688\\_Mesoplodon\\_europaeus.pdf](http://www.science.smith.edu/msi/pdf/688_Mesoplodon_europaeus.pdf), downloaded 31 October 2011]

**TRAITS.** *Mesoplodon europaeus* may also be called the Antillean beaked whale, Gulf-Stream beaked whale, or European beaked whale. It is dark grey-black in colour, dorsally as well as on the sides and flanks, gradually fading ventrally. Light greys and pink hues are seen ventrally. The pectoral fins and the flukes of the whale are dark grey (Norman and Mead, 2001). *M. europaeus* are medium sized, ranging up to 5.2 m long (ORCA, 2011), with a small triangular dorsal fin located two-thirds of the way down the back of the whale (Norman and Mead, 2001). They have a distinct, medium length beak from which it is commonly named. The beak seems narrow when viewed from above (ORCA, 2011). The whale's head is small compared to the body, with a shallow rising forehead that forms a small bump and indentation near the blowhole (Norman and Mead, 2001). The beaked whale seems to lack a notch on its flukes, which are wide and pointed, but instead they have a projection. *M. europaeus* has two, long V-shaped grooves ventrally located at the throat between the mandibles (Norman and Mead, 2001). Mature males

have a distinct feature of two erupted mandibular teeth, a third along from the front of the mouth (ORCA, 2011). These two teeth appear outside the closed mouth (Fig. 1). They look like tusks near the front of the rostrum (Seaton, 2002). Although these teeth protrude, there are grooves in the upper lip in which they fit. On average Gervais' beaked whales usually weigh around 1200 kg. (ORCA, 2011).

**ECOLOGY.** *Mesoplodon europaeus* inhabit oceanic waters. They are deep water creatures. The whales prefer warm temperate waters in the north and tropical waters in the south. They have been recorded from Ascension Island and the coast of the Gulf of Guinea in the south (Gillespie et al., 2009) to the English Channel as well as County Sligo in Ireland (Barnes, 2008). Stranding records are the main form of sightings. Strandings are most common along the eastern American and Caribbean coastlines from New York to Trinidad, and including the Gulf of Mexico. Reports of strandings have come from the Atlantic coast, south of the equator as far as Brazil and Ascension Island (Gillespie et al., 2009). *M. europaeus* are known to visit the waters surrounding the Bahamas (there have been six single strandings) (Gillespie et al., 2009). Two small female beaked whales came close inshore in Bull Bay, in the parish of St. Thomas, Jamaica, in 1953 where they were beached by local fishermen (Rankin, 1953).

**SOCIAL ORGANISATION.** *M. europaeus* are typically found in small groups of between 2-5 members (ORCA, 2011). They are also thought to live in pairs, and may also be found alone. The males probably use their tusks as a protective measure from predators and for intraspecific fighting. Scarring on stranded specimens, gives some indication that intraspecific fighting occurs among adult males. The social organization of Gervais' beaked whales is still mostly a mystery due to most records being from strandings.

**FORAGING BEHAVIOUR.** Beaked whales are thought make deep foraging dives (Gillespie et al., 2009). The favoured habitat of *M. europaeus* appears to be deep warm temperate and tropical waters, due to the presence of suitable prey from such habitats. The investigation of stomach contents of stranded *M. europaeus* gave evidence that they primarily eat viper fish (*Chauliodus sloani* and *Nesiarchus nasutus*), squid (*Octopoteuthis spp.*, *Mastigoteuthis spp.* and *Taonius spp.*), and deep sea shrimp (*Gnathophausia ingens*) (Wilson, 2003).

**SEXUAL BEHAVIOUR.** *M. europaeus* show sexual dimorphism (Perrin, 2011), females being larger than males. Observations of births taking place in shallow waters may be due to stranding, for example in Jamaica there was a female of length 4 m that had given birth to a calf of 2 m which was stranded as well, and on the Texan coastline a pregnant female very close to giving birth was also stranded (Mammals of Texas, 2011).

**COMMUNICATION.** Males of *M. europaeus* produce vocalizations usually at high frequency. They can produce tonal sound as high as 6 kHz. Also slow and fast clicks have been heard. The tonal sound duration is approximately 0.1 seconds. Communication and echolocation may be disrupted by man-made sounds (Gillespie et al., 2009). There is a direct link between military sonar exercises and *M. europaeus* mortality. This link was

established from a number of incidents from historical stranding databases. Military exercises that use low-mid frequency sonar have led to multiple mortalities from stranding (Gillespie et al., 2009). The databases show that NATO activity using low frequency sonar occurred around the Canaries from the mid to late 1980s, March 2000 on the Bahamas as well as in September 2002. Both the Canary Islands and the Bahamas are sites of strandings. The temporal and spatial link between mass strandings of *M. europaeus* naval exercises was first noted in 1991 (Cox et al, 2006).

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