

Delphinus capensis (Long-beaked Common Dolphin)

Family: Delphinidae (Oceanic Dolphins and Killer Whales)

Order: Cetacea (Whales and Dolphins)

Class: Mammalia (Mammals)



Fig. 1. Long-beaked common dolphin, *Delphinus capensis*.

[<http://www.arkive.org/long-beaked-common-dolphin/delphinus-capensis/>, downloaded 5 September 2016]

TRAITS. The long-beaked common dolphin, *Delphinus capensis*, has distinguishing morphological features that include a moderately long beak, a gently curved dorsal fin and slender body (Fig. 1) (NMFS, 2012). It is characterised by a light and dark hour-glass coloration below the dorsal fin. A dull grey colour extends up to the tail and a dark colour runs from the lower jaw to the flipper. Part of the ventral region is distinctly white (NMFS, 2012). As regards its size, *D. capensis* exhibits sexual dimorphism with males ranging from 2.0-2.6m and females ranging from 1.9-2.3m (Perrin, 2009). They range from 80-235kg in weight (NMFS, 2012). Other features include a rounded melon (forehead bulge containing fat, used in echolocation) and blowhole (Kennedy, 2015). *D. capensis* has the highest teeth count of the delphinids; 47-67 teeth in each jaw. These help with holding on to prey (NMFS, 2012).

ECOLOGY. *Delphinus capensis* is widely distributed around the coasts of the three major oceans: Atlantic, Pacific and Indian (IUCN, 2016). It can be found where there are temperate and tropical waters up to approximately 180km from the shore (iGoTerra, 2016; IUCN, 2016). *D.*

capensis has been found off the coast of regions such as South America, North America, Africa and Asia (Fig. 2). More specifically, it is native to countries such as Venezuela and Trinidad and Tobago (IUCN, 2016; iGoTerra, 2016). Its diet appears to be diverse and dependent upon where it inhabits. Generally, this species consumes small fish such as sardines and anchovies, along with cephalopods such as squids (NMFS, 2012). Studies show that the distribution and migration patterns of common dolphins (*Delphinus* spp.) correlate with those of their prey (Balance, 2009).

Delphinus capensis tends to be found in superpods (large schools), of 100-500 individuals, but these may extend to more than 1000 individuals (Fig. 3) (NMFS, 2012; Perrin, 2009). These superpods consist of smaller groups of approximately 10-30 individuals (NMFS, 2012). Studies in California, USA, showed that both *D. capensis* and *D. delphis* co-exist in the same region particularly if there is an abundance of prey, for example in anchovies - a popular food for both species. However, slight differences in prey reduced competition between the two (Bearzi, 2005). Also, *Tursiops* spp., the bottlenose dolphins, occurred in association with *D. capensis* and *D. delphis*, except over a broader geographical region. Since *Tursiops* spp. have a different diet, competition for resources was also not observed (Bearzi, 2005).

ACTIVITY. *Delphinus capensis* is very active and energetic (NMFS, 2012). It often engages in activities that occur above the water's surface. These include breaching, a phenomenon where the animal intentionally does a leap from the water, and porpoising (Fig. 3), where the animal moves continually horizontally just beneath the water's surface, at rapid speed, while intentionally jumping out and back into the water. *D. capensis* also engages in bow-riding where it swims alongside the front part of a ship (NMFS, 2012). They also bow-ride on waves of Baleen whales (Perrin, 2009).

FORAGING BEHAVIOUR. *Delphinus capensis* near South Africa was found to be an opportunistic predator (Ambrose, 2010). The prey species consumed corresponded to the prey species abundance at the time. In winter, during the years 1974-1992, the dominant prey species consumed was sardines. However, from 2000-2009, it was chub mackerel. This corresponded to the availability of these prey species in that area. Males and females utilised resources in a similar way with no significant differences observed (Ambrose, 2010). *D. capensis* can dive at least 280m in search of food and can hold its breath for 8 minutes to feed on prey (NMFS, 2012). In terms of speed, an important feature for foraging, *D. capensis* was found to have a maximum horizontal speed of 6.7m/sec. Activities such as bow-riding increase speed with little effort (Rohr et al., 2002).

D. capensis uses a cooperative strategy when catching schools of prey (NMFS, 2012). They herd and force prey to aggregate tightly and then in turns, catch individual prey (Balance, 2009). Their sharp teeth enable them to catch a wide range of prey (Rohr et al., 2002; NMFS, 2012). Also, their large numbers of teeth and long beak, help with pursuing quick, relatively large organisms such as squid, which may school at shallow depths or migrate upwards at nights, where they serve as food for *D. capensis* (Balance, 2009). Small prey species for example *Sardinops* (sardines) and Engraulidae (anchovies) occur at shallow depths (Balance, 2009).

ECHOLOCATION AND COMMUNICATION. *D. capensis* uses echolocation to find prey (Kennedy, 2015). A high frequency sound is given out from the melon and then reflected from objects in the surroundings. The sound waves return to the lower jaw and pass through the inner ear where the prey's size, shape and location are interpreted (Kennedy, 2015). *Delphinus* spp.

(*D. capensis* and *D. delphis*) produce sound in three categories: echolocation clicks, burst pulse calls and whistles. Less whistling is done while travelling, and much more is done when foraging (Martinez et al., 2011). It is postulated that whistling while travelling might be to maintain cohesiveness, while in foraging it might be to coordinate group foraging strategy (Martinez et al., 2011).

Delphinus capensis also communicates by touch. A study of care-giving behaviour in *D. capensis* conducted by Park et al. (2013) shows adult dolphins physically support a dying conspecific, that is, a dolphin of the same species. Nine dolphins supported the sick dolphin by pushing from the side, and from beneath with their bellies, creating a raft-like formation (Fig. 4). They also used their beak to keep the sick dolphin's head afloat. Moreover, the dolphins rubbed and nudged the body of the sick dolphin, even after it appeared to show rigor mortis (Fig. 5). Care-giving behaviour is common among dolphins of other species as well (Park et al., 2013). Dolphins in general are known to engage in rubbing behaviour, with self and other conspecifics (Dudzinski et al., 2012).

As regards visual communication, cetaceans in general do not place as much dependence on sight as they do sound. Light fades quickly in water and sound travels faster in water than air, hence their dependence on echolocation. Vision however is still important for forming their tight aggregations around prey (Balance, 2009).

SEXUAL BEHAVIOUR. *D. capensis* breeds within the spring and autumn months and calving season peaks in early spring (NMFS, 2012; Chivers et al., 2015). Its gestation period is 10-11 months (NMFS, 2012). Little is known about sexual behaviour specific to *Delphinus capensis*. Generally, when dolphins mate, copulation occurs belly to belly (Dolphin Way, 2016). Chivers et al. (2015) found that sexually mature females and adult males of *D. capensis* were 2.1m and 2.4m long respectively. The newborn calf is approximately 0.8-1m in length and 10kg in weight (NMFS, 2012). Calving interval has been found to be 1-3 years (NMFS, 2012). In a particular example of care-giving to a dying conspecific, ventrum (belly) to ventrum contact of surrounding dolphins suggested some sexual display but no erections were observed (Park et al., 2013).

JUVENILE BEHAVIOUR. For *Delphinus* spp., the newborn swims near the mother's dorsal fin and rests on her as she carries it. If in danger, the calf drops beneath the mother's belly (Ocean Institute, 2016). Age at weaning (the age when the calf stops nursing and begins to eat solid food) and lactation duration are unknown to date for *Delphinus* spp. However length at independence, which is when the calf begins to swim independently of the mother, was found to be 1.5m. Calves may take two years before weaning begins (Chivers et al., 2015). Information on the calf's activity is limited. *D. capensis* has an approximate lifespan of 40 years (NMFS, 2012).

ANTIPREDATOR BEHAVIOUR. There is little information on the antipredator behaviour of *Delphinus capensis*. However, it has been postulated that aggregative behaviour evident in cetaceans is a defence strategy against predators (Balance, 2009). Common predators of cetaceans, besides humans, are killer whales and sharks. Killer whales exhibit pack-hunting behaviour; sharks can kill individual cetaceans (Balance, 2009).

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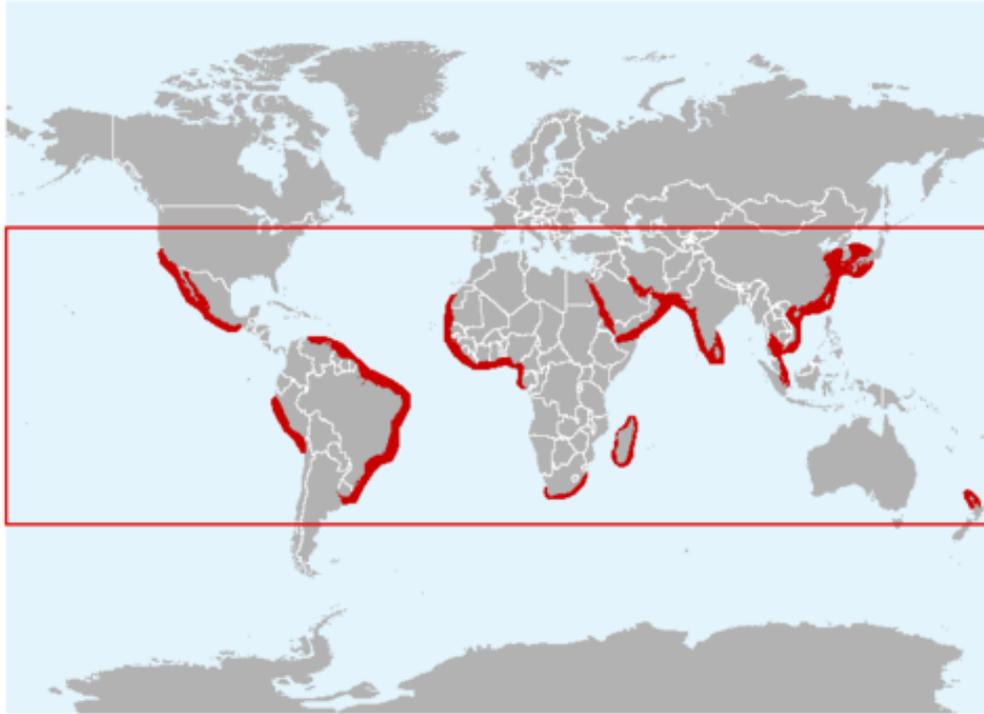


Fig. 2. *Delphinus capensis* geographic distribution.

[http://www.cms.int/reports/small_cetaceans/data/d_capensis/d_capensis.htm, downloaded 5 September 2016]



Fig. 3. Large number of *Delphinus capensis* porpoising in a superpod.

[<http://www.arkive.org/long-beaked-common-dolphin/delphinus-capensis/image-G38641.html>, downloaded 2 November 2016]

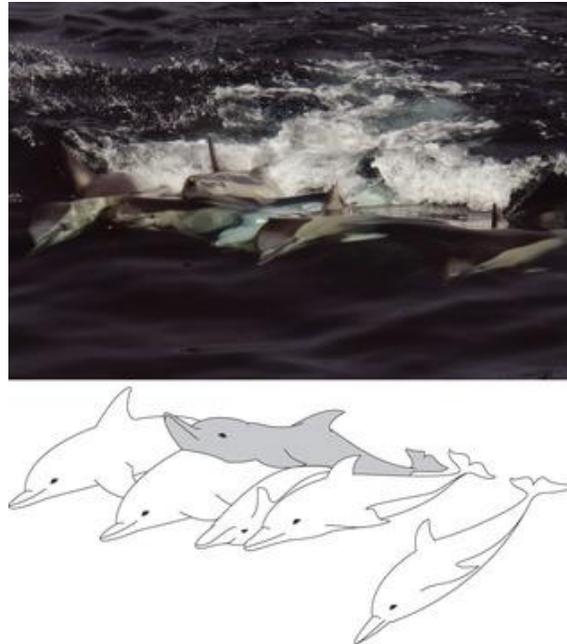


Fig. 4. *Delphinus capensis* supporting a dying conspecific (in grey) using a raft-like formation.

[Fig. 2 of Park et al., 2013]

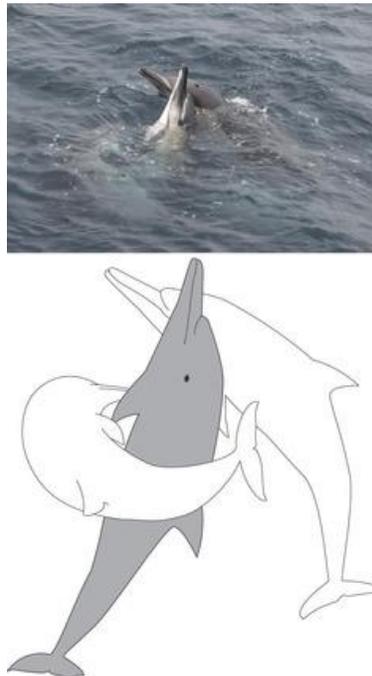


Fig. 5. *Delphinus capensis* trying to stimulate dead conspecific by nudging its head and body.

[Fig. 4 of Park et al., 2013]