

## **Lagenorhynchus cruciger (Quoy & Gaimard, 1824)**

English: Hourglass dolphin

German: Stundenglas-Delphin

Spanish: Delfín cruzado

French: Dauphin crucigère

Family Delphinidae

### **1. Description**

Hourglass dolphins are rather stocky, with a large, re-curved dorsal fin. The tail stock is often keeled. Body length ranges from 142 to 187 cm, and males and females are of equal size. Body mass reaches 90 – 100 kg (Goodall, 2009). Colouration is mainly black or dark with two elongated white areas covering the flanks, in some animals joined with a fine white line, giving it its common name. The forward patch extends onto the face above the eye (Goodall, 2009).

### **2. Distribution**

<http://www.iucnredlist.org/apps/redlist/details/11144/0/rangemap>

*Distribution of Lagenorhynchus cruciger: cold waters of the Southern Hemisphere, predominantly between 45° and 65°S, i.e. fairly near the pack-ice (Hammond et al. 2008; © IUCN).*

The hourglass dolphin is the only small delphinid that is commonly observed south of the Antarctic Convergence. It is probably circumpolar in pelagic waters of the Subantarctic and Antarctic zones; south of the Subtropical Convergence; most records fall between 45°S and 65°S (Rice, 1998).

In the South Atlantic, there are no sightings southeast of the Antarctic Peninsula: The largest concentration of sightings has been in the Drake Passage, an area with considerable ship traffic in summer. Most sightings of these dolphins were in an area north and south of the Antarctic Convergence between South America and Macquarie Island (Goodall, 1997). Single records as far north as Valparaiso, off the coast of Chile at 33° 40'S, 74° 55'W and at 36° in the South Atlantic seem to be exceptional (Carwardine, 1995; Goodall, 2009). The southernmost sighting is 67°38'S, 179° 57 'E in the South Pacific (Brownell and Donahue, 1999 and refs. therein; Goodall, 1997).

### **3. Population size**

Kasamatsu and Joyce (1995) combined data gathered in sighting surveys conducted from 1976/77 to 1987/88 to produce an abundance estimate of 144,300 for waters south of the Antarctic Convergence. This still seems to be the best population estimate to date (Goodall, 2009; Hammond et al. 2008).

## 4. Biology and Behaviour

**Habitat:** Normally seen far out to sea, *L. cruciger* has also been observed in fairly shallow water near the Antarctic Peninsula and off southern South America. It occurs within 160 km of the ice edge in some areas in the southern part of its range (Carwardine, 1995; Jefferson et al. 1993). The species seems to prefer surface water temperatures between 0.6°-13°C (mean 4.8°C; Goodall, 1997) or even down to -0.3°C (Goodall 2009). Although oceanic, sightings are often near islands and banks. High observer effort, i.e. in the Drake Passage, reflected in high sighting rates (Goodall 2009).

**Behaviour:** This is a boisterous swimmer capable of speeds exceeding 12 knots. It rides bow-waves and stern-waves of fast boats and ships, swimming with long, low, leaps. From a distance, this undulating motion makes it look like a swimming penguin. It will also swim alongside slow vessels. When swimming fast, hourglass dolphins may travel very close to the surface, without actually leaving the water, creating a great deal of spray when rising to breathe (Carwardine, 1995).

**Schooling:** Groups tend to be small, which is unusual for a small oceanic delphinid. Although herds of up to 100 have been seen, groups of 1 to 14 are more common (Brownell and Donahue, 1999 and refs. therein). Hourglass dolphins have been encountered with several other species of cetaceans, and may associate with fin whales, sei whales, southern bottlenose whales, Arnoux's beaked whales, killer whales, long-finned pilot whales, and southern right whale dolphins (Carwardine, 1995).

**Food:** Prefers fish (e.g. the myctophid *Krefflichia andersonii*), squid (Onychoteuthidae and Euploteuthidae) and crustaceans. Feeding often takes place in large aggregations of sea birds and other cetaceans and in plankton and krill slicks (Goodall et al. 1997; Goodall, 2009; Reid et al. 2000).

## 5. Migration

Goodall (1997) reported that in the South American sector of the Antarctic and Subantarctic there were no sightings from May to September, probably a reflection of observer effort. From September to February, 480 hourglass dolphins were counted around the Falkland Islands between September and February, but none were seen in July or August (White et al. 1999). The range of the species thus probably shifts north and south with the seasons (Carwardine, 1995).

## 6. Threats

**Direct catch:** It is likely that their numbers are at or near original levels. There has never been any systematic exploitation (Jefferson et al. 1993). One scientific specimen was collected during commercial whaling operations, and several other specimens have been collected during research cruises (Brownell and Donahue, 1999).

**Incidental catch:** At least one hourglass dolphin was incidentally caught in an experimental Japanese drift net fishery for squid around 53°13'S, 106°20'W (Brownell and Donahue, 1999). Goodall et al. (1997) and Goodall (2009) report on 4 known casualties in net fisheries in the South Pacific.

**Tourism:** Increased tourist activity from southern South America to the Antarctic Peninsula should produce increased awareness and further sightings of this species.

## 7. Remarks

Range states (Hammond et al. 2008):

Antarctica; Argentina; Australia; Chile; Falkland Islands (Malvinas); French Southern Territories (the) (Crozet Is., Kerguelen); New Zealand; South Africa (Marion-Prince Edward Is.); South Georgia and the South Sandwich Islands

IUCN status: “Least concern” (Hammond et al. 2008). Not listed by CMS. The species is listed in Appendix II of CITES.

This is a poorly known species with a flexible range, which seems to be influenced in its extent by the seasons. Vagrants off Chile suggest that *L. cruciger* may follow cold currents farther North. More information on abundance, area of higher concentrations, home range size, the effect of climate on movements and migrations is needed. For South American populations, see also recommendations in Hucke-Gaete (2000) in Appendix 1.

## 8. Sources

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© Boris Culik (2010) Odontocetes. The toothed whales: “*Lagenorhynchus cruciger*”.

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