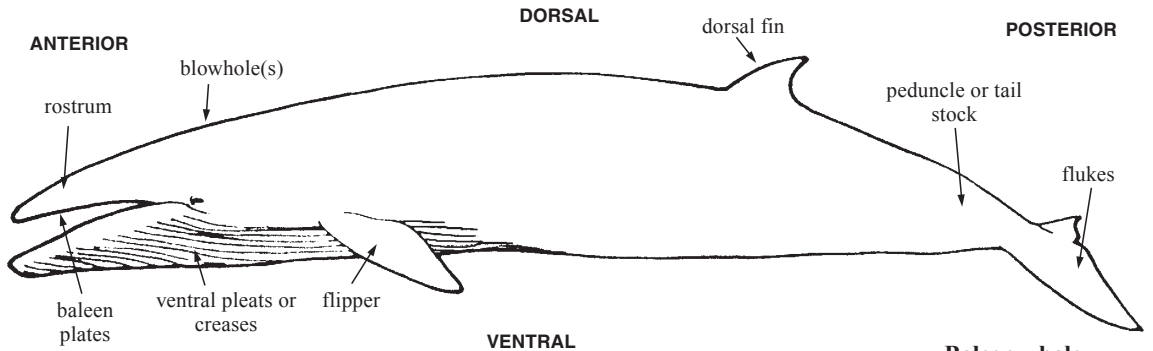


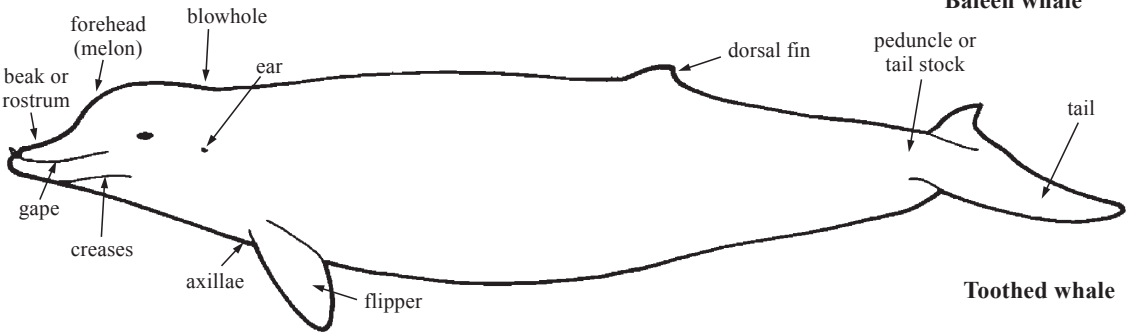
MARINE MAMMALS

by J.F. Smith, Old Dominion University, Virginia, USA (after T.A. Jefferson, S. Leatherwood, and M.A. Webber, 1993)

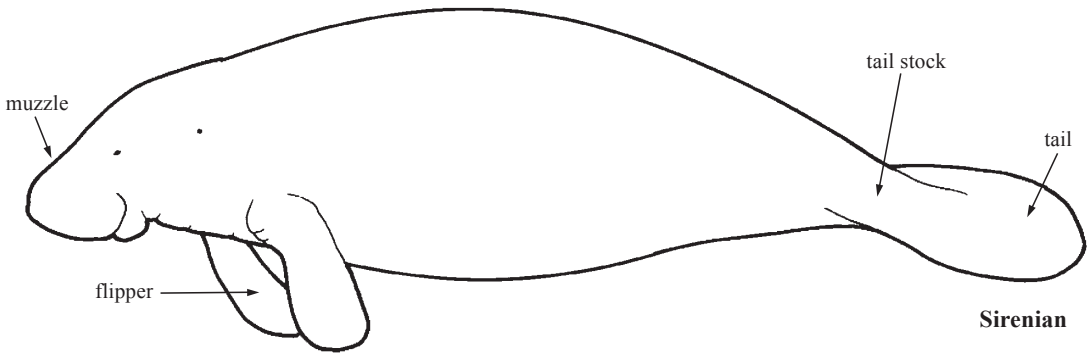
TECHNICAL TERMS



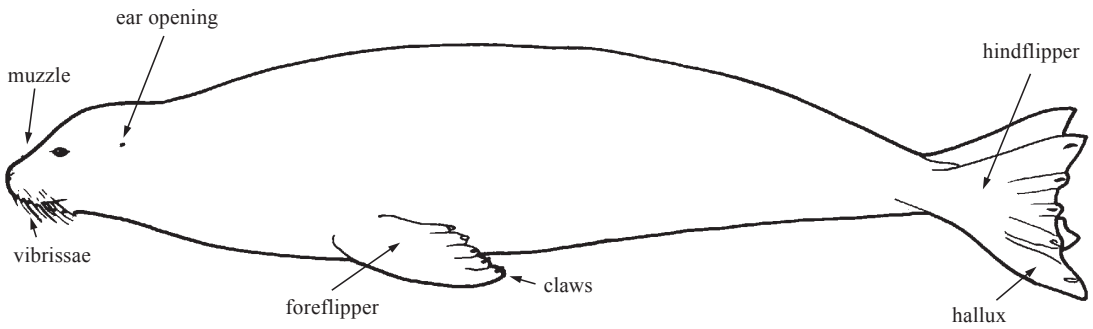
Baleen whale



Toothed whale



Sirenian



Pinniped

GENERAL REMARKS

Marine mammals refers to a diverse group of mammals that have adapted to a life in water. This group includes 3 orders (Cetacea, Sirenia, and Carnivora) and 20 families. There are about 36 species that can be found in the Western Central Atlantic. Recently, the importance of marine mammals to ecosystems has become a topic of great interest. This interest is why we have included them in this identification guide. The International Union for the Conservation (IUCN) of Nature and Natural Resource's Red List designations for many of the species are included. These IUCN designations indicate the level of threat of extinction of a species. The levels of threat are as follows: 'low risk, conservation dependent', 'vulnerable', 'endangered', and 'data deficient'. A species is considered 'endangered' if it is at risk of becoming extinct. A species is given the designation of 'data deficient' when there is not enough information on the species and/or its status to assign a level of threat.

KEY TO THE FAMILIES AND SPECIES OF CETACEA OCCURRING IN THE AREA

- 1a. Double blowhole; no teeth present; baleen plates suspended from upper jaw (Fig. 1) **(Baleen whale) → 2**
- 1b. Single blowhole; teeth present (sometimes not protruding from gums); no baleen plates (Fig. 2) **(Toothed whale) → 8**

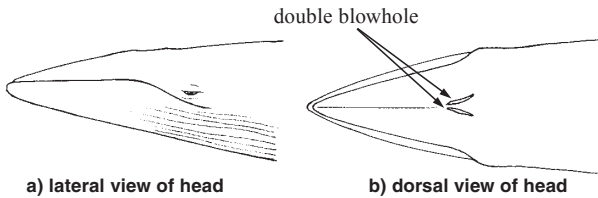


Fig. 1 Baleen whale

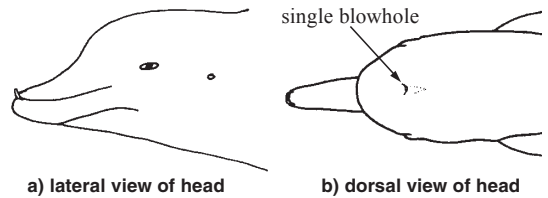


Fig. 2 Toothed whale

- 2a. Long ventral pleats absent (2 to 5 short creases or furrows may be found on throat); dorsal fin absent; upper jaw relatively arched viewed from the side; up to 17 m long (Fig. 3) ***Eubalaena glacialis***
- 2b. Long ventral pleats present; dorsal fin present; upper jaw relatively flat viewed from the side and broad viewed from the top (Fig. 4) **(Rorqual) → 3**

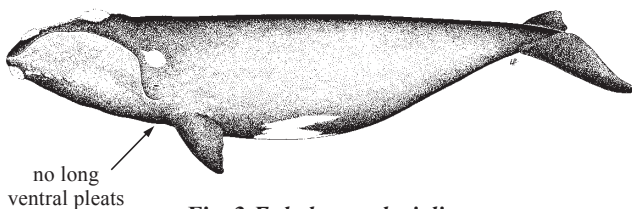


Fig. 3 *Eubalaena glacialis*

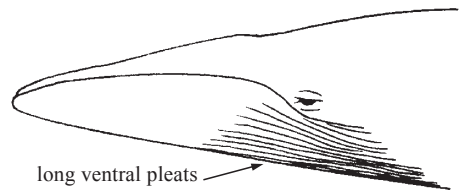


Fig. 4 Rorqual (lateral view of head)

- 3a. Ventral pleats end before navel (Fig. 5) → 4
- 3b. Ventral pleats extend to or beyond navel (Fig. 6) → 5

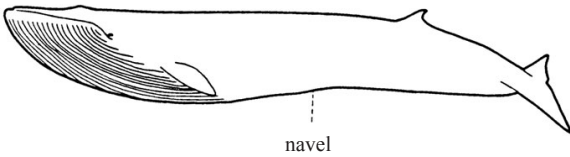


Fig. 5 lateral view

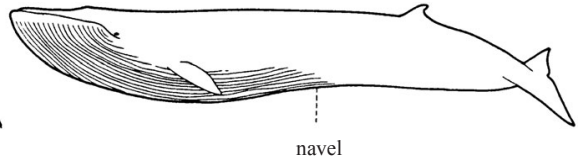


Fig. 6 lateral view

- 4a. Ventral pleats 30 to 70, longest ending before navel (often ending between flippers); 231 to 360 baleen plates with coarse bristles per side, less than 21 cm long, mostly white or yellowish white (sometimes with dark margin along outer edge); often with conspicuous white bands on upper surface of flippers; from above, head sharply pointed; maximum body length 9 m (Fig. 7) *Balaenoptera acutorostrata*
- 4b. Ventral pleats 32 to 60, longest ending past flippers but well short of navel; 219 to 402 pairs of black baleen plates with many fine whitish bristles, less than 80 cm long; flippers all dark; from side, snout slightly downturned at tip; maximum body length 16 m (Fig. 8) *Balaenoptera borealis*

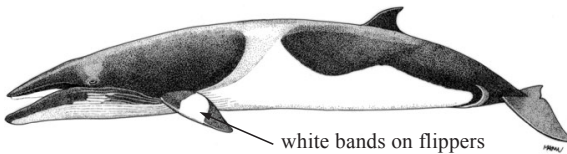


Fig. 7 *Balaenoptera acutorostrata*

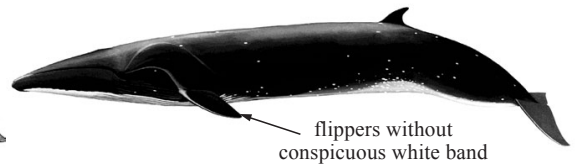


Fig. 8 *Balaenoptera borealis*

- 5a. Flippers 1/4 to 1/3 of body length, with knobs on leading edge; flukes with irregular trailing edge; less than 35 broad, conspicuous ventral pleats, longest extending at least to navel; top of head covered with knobs, 1 prominent cluster of knobs at tip of lower jaw; 270 to 400 black to olive brown baleen plates with grey bristles per side, less than 80 cm long; dorsal fin usually on a hump; maximum body length 16 m (Fig. 9) *Megaptera novaeangliae*
- 5b. Flippers less than 1/5 of body length, lacking knobs; flukes with smooth trailing edge; 40 to 100 fine ventral pleats; head lacking knobs; dorsal fin not on a hump (Fig. 10) → 6



Fig. 9 *Megaptera novaeangliae*



Fig. 10

- 6a. Three conspicuous ridges on snout; 40 to 70 ventral pleats extending to umbilicus; 250 to 370 slate grey baleen plates per side, with white to light grey fringes; head coloration symmetrical; maximum body length 16 m (Fig. 11) *Balaenoptera edeni*
- 6b. Only 1 prominent ridge on snout; 55 to 100 ventral pleats (Fig. 12) → 7

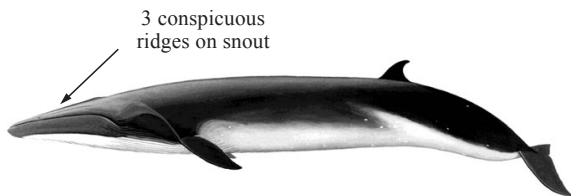


Fig. 11 *Balaenoptera edeni*

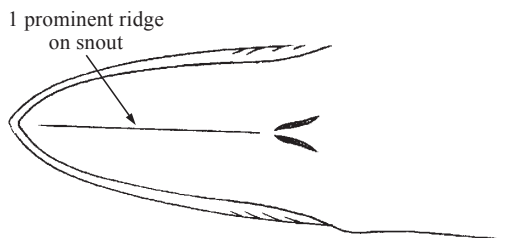


Fig. 12 dorsal view of head

- 7a. Head broad and almost U-shaped from above; dorsal fin very small (about 1% of body length) and set far back on body; 270 to 395 black baleen plates with black bristles per side (all 3 sides of each plate roughly equal in length); head coloration symmetrical; body mottled grey, with white under flippers; maximum body length 33 m (Fig. 13) . . . *Balaenoptera musculus*
- 7b. From above, head V-shaped and pointed at tip; dorsal fin about 2.5% of body length; 260 to 480 grey baleen plates with white streaks per side (front 1/3 of baleen on right side all white); head coloration asymmetrical (left side grey, much of right side white); back dark, with light streaks; belly white; maximum body length 24 m (Fig. 14). *Balaenoptera physalus*

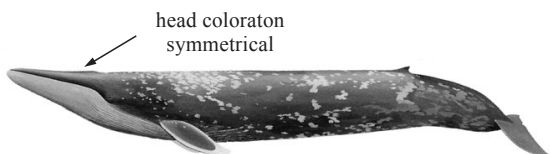


Fig. 13 *Balaenoptera musculus*

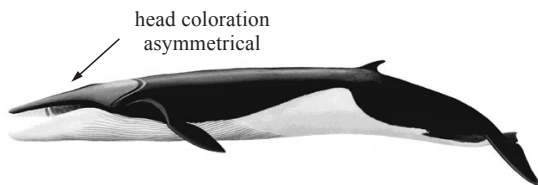


Fig. 14 *Balaenoptera physalus*

- 8a. Upper jaw extending well past lower jaw; lower jaw very narrow (Fig. 15). (Sperm whale) → 9
- 8b. Upper jaw not extending much or at all past lower jaw; lower and upper jaws about the same width (Fig. 16). → 11

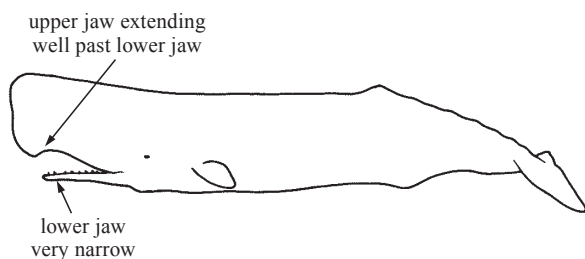


Fig. 15 Sperm whale

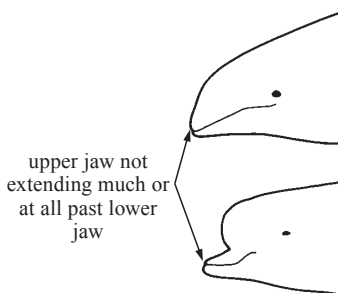


Fig. 16 lateral view of head

- 9a. Body black to charcoal grey; lips and inside of mouth white; head squarish and large, 20 to 30% of body length; short creases on throat; S-shaped blowhole at left side of front of head; low, rounded dorsal 'hump' followed by a series of crenulations along the midline; 18 to 25 heavy, peg-like teeth in each side of lower jaw, fitting into sockets in upper jaw; body 4 to 18 m (Fig. 17) *Physeter catodon*
- 9b. Head not more than 15% of body length; blowhole set back from front of head; prominent dorsal fin; 8 to 16 long, thin, sharply pointed teeth in each side of lower jaw, fitting into upper jaw sockets; body less than 4 m (Fig. 18) (*Kogia*) → 10



Fig. 17 *Physeter catodon*

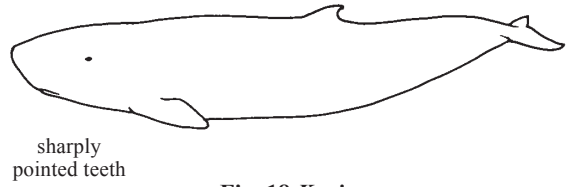


Fig. 18 *Kogia*

- 10a. Throat creases generally absent; dorsal fin short; distance from tip of snout to blowhole greater than 10.3% of total length; 12 to 16 (rarely 10 or 11) sharp teeth in each half of lower jaw; maximum body length 3.4 m (Fig. 19) *Kogia breviceps*
- 10b. Inconspicuous throat creases; dorsal fin tall; distance from tip of snout to blowhole less than 10.2% of total length; 8 to 11 (rarely up to 13) teeth in each side of lower jaw, sometimes 1 to 3 in each half of upper jaw; maximum body length 2.7 m (Fig. 20) *Kogia simus*

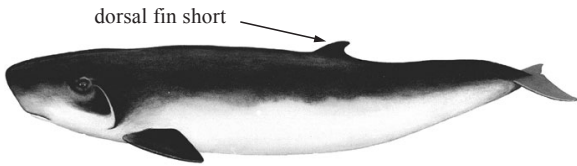


Fig. 19 *Kogia breviceps*

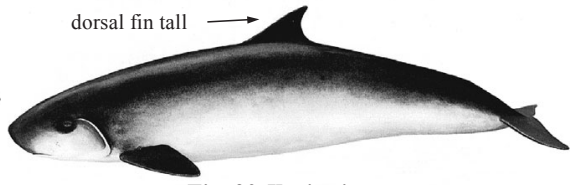


Fig. 20 *Kogia simus*

- 11a. Two conspicuous creases on throat forming a forward-pointing V; notch between flukes usually absent or indistinct; dorsal fin relatively short and far back on body → 12
- 11b. No conspicuous creases on throat; prominent median notch in flukes; dorsal fin usually tall and in middle of back → 15
- 12a. Beak indistinct; head small relative to body size; forehead slightly concave in front of blowhole; single pair of teeth directed forward and upward at tip of lower jaw (exposed only in adult males); mouthline upturned at gape; head light-coloured; maximum body length 7.5 m (Fig. 21) *Ziphius cavirostris*
- 12b. Beak prominent → 13



Fig. 21 *Ziphius cavirostris*

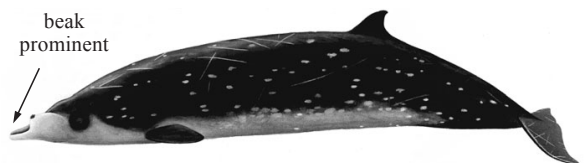


Fig. 22 *Mesoplodon densirostris*

13a. Body blue-grey above, white below, lower jaw usually light in colour; tusks of males very large, located on bony prominences near corners of mouth, and oriented slightly forward; lower jaw massive, with high arching contour (Fig. 22) *Mesoplodon densirostris*

13b. Body grey or dark grey; lower jaw not highly arched → 15

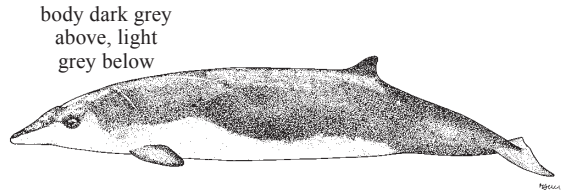
14a. Pair of small oval teeth at tip of lower jaw of adult males; body grey with dark areas around eyes (Fig. 23). *Mesoplodon mirus*

14b. Two small flattened teeth near front of lower jaw of males; body dark grey above, light grey below (Fig. 24) *Mesoplodon europaeus*



dark areas around eyes

Fig. 23 *Mesoplodon mirus*



body dark grey above, light grey below

Fig. 24 *Mesoplodon europaeus*

15a. Head blunt with no prominent beak → 16

15b. Head with prominent beak → 22

16a. Two to 7 pairs of teeth at front of lower jaw only (rarely 1 to 2 pairs in upper jaw), may be absent or extensively worn; forehead blunt with vertical crease; dorsal fin tall and dark; body grey to white, covered with scratches and splotches in adults; flippers long and sickle-shaped; maximum body length 4 m (Fig. 25) *Grampus griseus*

16b. Teeth (7 or more pairs) in both upper and lower jaws; forehead without vertical median crease → 17



forehead blunt, with crease

Fig. 25 *Grampus griseus*



forehead with crease

Fig. 26 *Orcinus orca*

17a. Flippers broad and paddle-shaped with rounded tips (Fig. 26) *Orcinus orca*

17b. Flippers long and slender with pointed or blunt tips → 18

18a. Dorsal fin low and broad-based, located on forward 1/3 of back (Pilot whale) → 19

18b. Dorsal fin near middle of back → 20

19a. Flipper length 18 to 27% of body length, with prominent 'elbow'; 8 to 13 teeth in each tooth row; maximum size to 6.3 m (Fig. 27) *Globicephala melas*

19b. Flipper length 16 to 22% of body length; 7 to 9 pairs of teeth in each tooth row; maximum body length 6.1 m (Fig. 28) *Globicephala macrorhynchus*



Fig. 27 *Globicephala melas*



Fig. 28 *Globicephala macrorhynchus*

20a. Flipper with distinct hump on leading edge; body predominantly black; no beak; 7 to 12 large teeth in each half of both jaws, circular in cross-section; maximum body length 6 m (Fig. 29) *Pseudorca crassidens*

20b. Body black or dark grey with white to light grey patch on belly; flipper lacks hump on leading edge; 8 to 25 teeth in each tooth row → 21

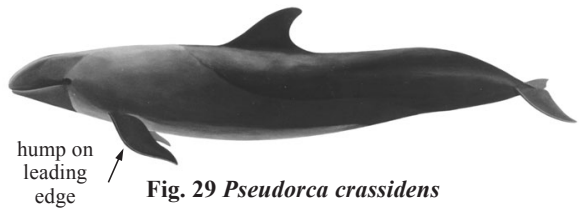


Fig. 29 *Pseudorca crassidens*

21a. Fewer than 15 teeth in each half of both jaws; flippers slightly rounded at tip; distinct dorsal cape; head rounded from above and side; maximum body length 2.6 m (Fig. 30) . . . *Feresa attenuata*

21b. More than 15 teeth per side of each jaw; flippers sharply pointed at tip; face often has triangular dark mask; faint cape that dips low below dorsal fin; head triangular from above; extremely short, indistinct beak may be present in younger animals; maximum body length 2.75 m (Fig. 31) *Peponocephala electra*

less than 15 teeth in each half of jaw



Fig. 30 *Feresa attenuata*

more than 15 teeth in each half of jaw

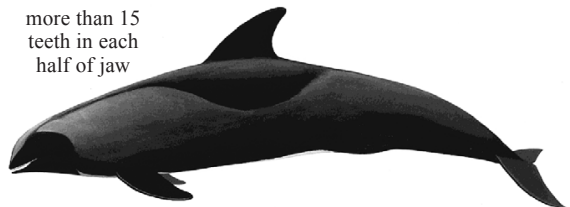


Fig. 31 *Peponocephala electra*

22a. Head long and conical; beak runs smoothly into forehead with no crease; body dark grey to black above and white below, with many scratches and splotches; narrow dorsal cape; flippers very large; 20 to 27 slightly wrinkled teeth in each half of both jaws; maximum body length 2.8 m (Fig. 32) *Steno bredanensis*

22b. Beak distinct from forehead (may not be a prominent crease between beak and melon) → 23



Fig. 32 *Steno bredanensis*

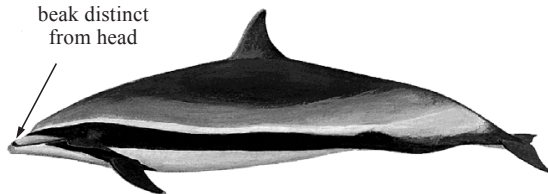


Fig. 33 *Lagenodelphis hosei*

23a. Beak very short and well defined (less than 2.5% of body length); body stocky (Fig. 33) *Lagenodelphis hosei*

23b. Beak moderate to long (greater than 3% of body length) → 24

24a. Less than 39 teeth per tooth row; colour pattern mostly uniform grey (may be lighter below) → 25

24b. Greater than 39 teeth per row; colour pattern generally with bold stripes, patches, or spots → 26

25a. Moderately robust; 20 to 26 teeth in each half of upper jaw, 18 to 24 in lower jaw (teeth may be worn or missing); body to 3.8 m; moderately long robust snout set off by distinct crease; colour dark to light grey dorsally, fading to white or even pink on belly (Fig. 34) . . . *Tursiops truncatus*

25b. In each tooth row 26 to 35 teeth; indistinct crease between melon and beak; maximum size to 2.1 m (Fig. 35) *Sotalia fluviatilis*

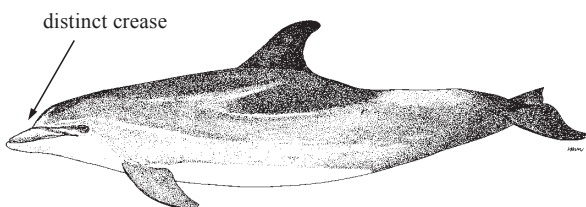


Fig. 34 *Tursiops truncatus*

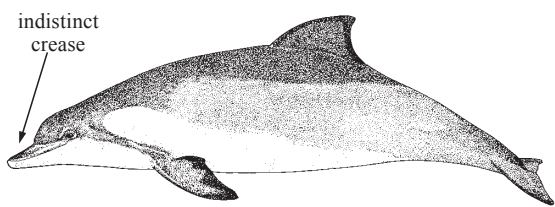


Fig. 35 *Sotalia fluviatilis*

26a. Dorsal fin erect to slightly falcate; back dark and belly white; tan to buff thoracic patch and light grey-streaked tail stock form an hourglass pattern that crosses below dorsal fin; cape forms a distinctive V below dorsal fin; stripe from chin to flipper (contacts gape in some individuals); maximum size 2.5 m; 40 to 61 teeth in each row; palate with 2 deep longitudinal grooves (Fig. 36) *Delphinus delphis*

26b. No hourglass pattern on side; palatal grooves, if present, shallow → 27

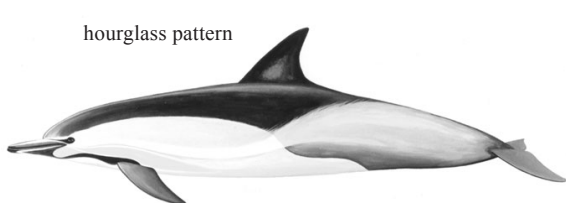


Fig. 36 *Delphinus delphis*

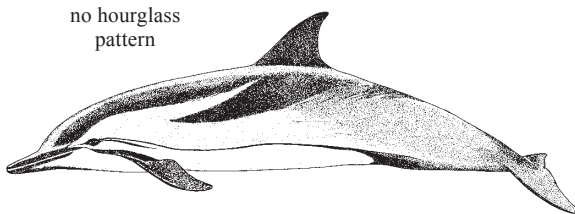


Fig. 37 *Stenella coeruleoalba*

- 27a. Colour pattern black to dark grey on back, white on belly, prominent black stripes from eye to anus and eye to flipper; light grey spinal blaze extending to below dorsal fin (not always present); shallow palatal grooves often present; 39 to 55 teeth in each row; maximum size 2.6 m (Fig. 37) *Stenella coeruleoalba*
- 27b. Usually no stripe from eye to anus → 28
- 28a. Light to heavy spotting present on dorsum of adults (on some individuals, spots may appear absent); no palatal grooves → 29
- 28b. No spotting on dorsum of adults; cape dips to lowest point at level of dorsal fin; stripe from eye to flipper; shallow palatal grooves often present → 30
- 29a. Body moderately robust, dark grey above, with white belly; light spinal blaze; slight to heavy spotting on adults (occasionally spotting nearly absent); maximum size 2.3 m; 30 to 42 teeth per row (Fig. 38). *Stenella frontalis*
- 29b. Dorsal fin narrow and falcate; dark cape that sweeps to lowest point on side in front of dorsal fin; dark stripe from gape to flipper; beak tip and lips white; adults with light to extensive spotting and grey bellies (spotting sometimes absent); 34 to 38 teeth in each half of each jaw; maximum size 2.6 m (Fig. 39) *Stenella attenuata*

body dark grey above, light grey below

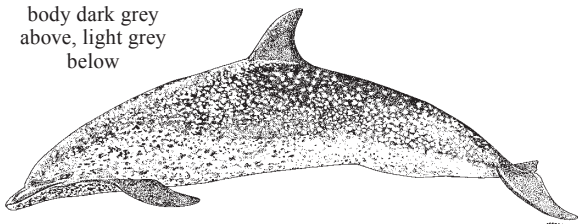


Fig. 38 *Stenella frontalis*

dark cape dorsally



Fig. 39 *Stenella attenuata*

- 30a. Body colour 3-part (dark grey cape, light grey flanks, white belly); cape dips in 2 places (above eye, and below dorsal fin); snout light grey with dark tip, dark lips, and dark line from tip to apex of melon; often, dark 'moustache' on top of beak; more robust than *Stenella longirostris*; 38 to 49 teeth in each tooth row; maximum size to 2 m (Fig. 40) *Stenella clymene*
- 30b. Dorsal fin slightly falcate to canted forward; beak exceedingly long and slender; 45 to 65 very fine sharply pointed teeth per tooth row; maximum size 2.4 m (Fig. 41) *Stenella longirostris*

38-49 teeth in each row

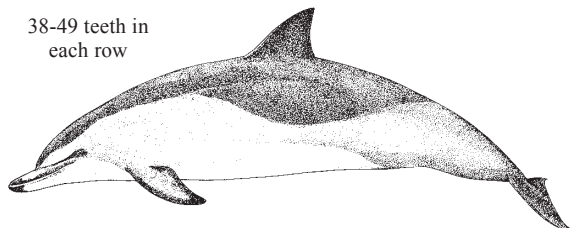


Fig. 40 *Stenella clymene*

45-65 fine, sharp teeth in each row

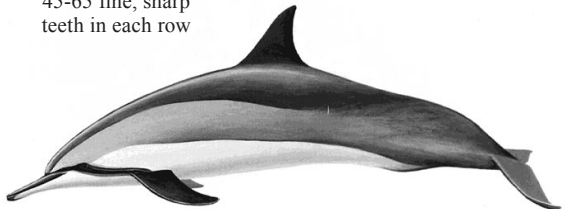


Fig. 41 *Stenella longirostris*

Key to the species of Pinnipedia occurring in the area

- 1a. Vibrissae smooth in outline; fur generally without conspicuous markings (Fig. 42) *Monachus monachus*
- 1b. Vibrissae beaded (sometimes weakly) in outline; fur generally with conspicuous spots, rings, blotches, bands, or streaks → 2

no conspicuous markings

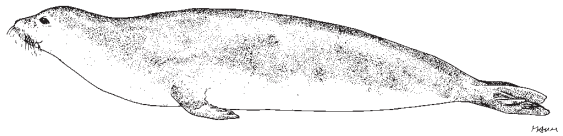


Fig. 42 *Monachus monachus*

- 2a. Markings consist of irregular, small to large, dark brown to black blotches (Fig. 43) *Cystophora cristata*
- 2b. Markings consist primarily of round to oval smaller spots (Fig. 44) *Phoca vitulina*

irregular dark blotches

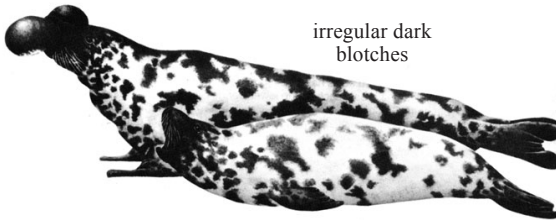


Fig. 43 *Cystophora cristata*

round to oval spots



Fig. 44 *Phoca vitulina*

List of species occurring in the area

The symbol is given when species accounts are included.

ORDER CETACEA: Whales, dolphins, and porpoises

SUBORDER MYSTICETI: Baleen whales

BALAENIDAE: Right and bowhead whales

Eubalaena glacialis (Müller, 1776).

BALAENOPTERIDAE: Rorquals

Balaenoptera acutorostrata Lacepède, 1804.

Balaenoptera borealis Lesson, 1828.

Balaenoptera edeni Anderson, 1878.

Balaenoptera musculus (Linnaeus, 1758).

Balaenoptera physalus (Linnaeus, 1758).

Megaptera novaeangliae (Borowski, 1781).

SUBORDER ODONTOCETI: Toothed whales

PHYSETERIDAE: Sperm whale

Physeter catodon Linnaeus, 1758.

KOGIIDAE: Pygmy and dwarf sperm whales

Kogia breviceps (de Blainville, 1838).

Kogia simus Owen, 1866.

ZIPHIIDAE: Beaked whales

Mesoplodon bidens (Sowerby, 1804). To 5.5 m. N Atlantic, maybe stranded, not typically in area.

- *Mesoplodon densirostris* (de Blainville, 1817).
- *Mesoplodon europaeus* Gervais, 1855.
- *Mesoplodon mirus* True, 1913.
- *Ziphius cavirostris* Cuvier, 1823.

DELPHINIDAE: Ocean dolphins

Delphinus capensis Gray, 1828. To 2.6 m. Tropical, possible in area but not recorded.

- *Delphinus delphis* Linnaeus, 1758.
- *Feresa attenuata* Gray, 1875.
- *Globicephala macrorhynchus* Gray, 1846.
- *Globicephala melas* (Traill, 1809).
- *Grampus griseus* (Cuvier, 1812).
- *Lagenodelphis hosei* Fraser, 1956.
- *Orcinus orca* (Linnaeus, 1758).
- *Peponocephala electra* (Gray, 1846).
- *Pseudorca crassidens* (Owen, 1846).
- *Sotalia fluviatilis* (Gervais, 1853).
- *Stenella attenuata* (Gray, 1846).
- *Stenella clymene* (Gray, 1850).
- *Stenella coeruleoalba* (Meyen, 1833).
- *Stenella frontalis* (Cuvier, 1829).
- *Stenella longirostris* (Gray, 1828).
- *Steno bredanensis* (Lesson, 1828).
- *Tursiops truncatus* (Montagu, 1821).

SUBORDER SIRENIA: Manatees and dugongs**TRICHECHIDAE: Manatees**

- *Trichechus manatus* Linnaeus, 1758.

ORDER CARNIVORA: Pinnipeds and other marine carnivores**SUBORDER PINNIPEDIA: Seals, sea lions, and walruses****PHOCIDAE: True seals**

- *Cystophora cristata* Erxleben, 1777.
- Monachus tropicalis* (Grey, 1850). To 2.4 m. Caribbean Sea NW to Bay of Campeche. Extinct.
- *Phoca vitulina* Linnaeus, 1758.

References

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- Würsig, B., T.A. Jefferson, and D.J. Schmidly. 2000. *The Marine Mammals of the Gulf of Mexico. No. 26. The W.L. Moody, Jr. Natural History Series*. College Station, Texas A&M University Press, 232 p.