

MEYER ... P.P.P. ...

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

August 6, 1929

Dr. Oscar E. Sette, Director,
Fisheries Biological Station,
Woods Hole, Mass.

Dear Dr. Sette:-

I am inclosing a provisional key to the porpoises of the New England Coast which may or may not be of some assistance to you for identifying the various species. The common names of some of them more accurately describe the species than any lengthy description. On second thought I have made up a more more simplified key which may or may not work.

I certainly will appreciate any information you can furnish in regard to the breathing interval in the porpoise. I suppose Dr. Benedict has already written you that the proposed investigation has been postponed for another year.

In closing I should like to call your attention to the lack of specimens of porpoises in the National Museum from the vicinity of your station. If you would care to let the museum have the skulls or heads of such specimens as come your way, they would be very acceptable. Skeletons of most of the species are also greatly desired.

With best wishes, I remain,

Sincerely yours,

Remington Kellogg
Remington Kellogg
Division of Mammals

Woods Hole Laboratory
Manuscript Report Number

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KEY TO PORPOISES FOUND ALONG THE NEW ENGLAND COAST.

A. Head with an elongate beak; a distinct dorsal fin.

b. Teeth in each jaw about 44; truncate at tip; palate without lateral grooves; second digit longer than the third; free margin of orbital plates of maxillae more or less thickened over the orbits; their posterior margin rounded; posterior end of vomer narrow and rectangular; beak relatively short (about 54 to 55 per cent of the total length of the skull); its breadth at the middle one-sixth the length of the skull; vertebrae 60 to 65; Color - purplish gray above, fading into white on the belly, which is not spotted..... Bottle-nosed dolphin..... Tursiops truncatus
Length 8 to 11 feet

bb. Teeth in each jaw 80 to 120.

c. Palate without lateral grooves; dorsal fin high recurved; fore flipper ~~stout~~ broad; beak stout; Back, head, margin of lower jaw, fins, and tail dark purplish gray which becomes lighter on the sides and shades into the white of the lower half of the same and of the belly. Dark-colored upper half of the body and the fins spotted with white or light gray; light colored lower half of body with prominent oblong spots of dark gray; largest spots less than an inch long..... Prodelphinus plagiodon
Length 10 feet Spotted dolphin

cc. Palate with deep lateral grooves; snout narrow, sharp; dorsal and pectoral fins falcate; body slender; color black above, lighter below, with several conspicuous longitudinal bands; forehead sloping gradually, forming a wide angle with the beak; form and disposition of color markings very variable; Back, upper jaw, tail, and fins black or dark gray; underparts white or greenish white. The black area extends down upon the sides under the dorsal fin in the form of an angular projection (sometimes indistinct), the apex of which is met by the apex of the similar upward projection of the white of the under parts. Sides traversed by two elongated elliptical area of light color, the anterior and larger of which is fulvous in some and gray in others; the posterior area is gray. A black, gray, or greenish band extends from the lower jaw to the base of the pectoral fin (sometimes absent). Eye surrounded by a ring of black, from which a narrow black band extends forward to the base of the beak; end and margin of lower jaw usually black. One or two longitudinal bands of gray or greenish-gray traverse the light color of the lower parts of the sides.....
Length 10 feet..... Common dolphin..... Delphinus delphis

AA. Head with a very short beak or none; dorsal fin present or absent.

d. Teeth in both jaws persistent.

e. Teeth flattened; dorsal fin present; color plain dusky above, paler below; head sloping; jaws equal in length; mouth longer than one-half the pectoral fin; body slender; pectoral fins irregularly ovate, obtusely pointed. Head, back, dorsal, pectoral, and caudal fins, and (usually) the margin of the lower jaw dark slate color or blackish. Sides lighter, the dark color fading gradually and irregularly into the white belly. Sides sometimes tinged with pink or yellowish. The dark color of the margin of the lower jaw often extends backward as an irregular broad band reaching half way to the pectoral. A narrow dark line also extends from the corner of the mouth to the anterior base of the pectoral fin. common in surf and near shore, ascending rivers; length 5 feet....
Puffing Pig..... Harbor porpoise, Phocaena phocaena
head more or less rounded and globular

ee. Teeth terete.

f. Dorsal fin well developed

g. Teeth in each jaw 44 to 46; dorsal fin falcate; Sides with broad stripes of white and yellow; forehead gradually sloping; beak very short, a mere rim; a depression between it and forehead ~~and~~ on each side of head; dorsal fin high and recurved, and attenuated in the distal half; tail flukes large; pectoral fin broad at base and pointed; Upper jaw, forehead, back, and fins black; sides of head and body gray. On the upper part of the sides of the tail the gray color passes into dusky yellowish; lower down on the sides, below the dorsal fin, and oblong area of white. A narrow black band extends along the sides from the base of the flukes to about the line of the dorsal fin; Another line of black extends from the base of the pectoral fins to a point between the eye and the corner of the mouth; the eye is surrounded by a circle of black, from which a line extends forward to the beak; the vent is a small black area; the base of the flukes inferiorly and the adjacent margin of the tail are whitish.....
Skunk porpoise; Bay porpoise; Striped porpoise...Lagenorhynchus acutus
white sided dolphin length 10-15 feet

gg. Teeth in each jaw 16 to 24.

h. Dorsal fin of moderate height; color black; fore flipper about 4 ft. long; head almost globular; fore flipper long and narrow; teeth rather weak, none in corner of mouth; forehead protuberant; overhanging the lip in adults; dorsal fin on a long base and strongly recumbent, situated anterior to the middle of the length of the body; tail flukes large and broad; general color uniform black; a large hastate white area on the breast extending from the line of the corners of the mouth to the base of the pectoral fins; from behind this area a white band, which is much the broadest in the posterior half, extends backward along the median line to the vent; the whole white area has the general form of an arrow with its head, shaft, and feathers; common in large schools; Length up to 20 feet..Blackfish; Pilot whale..Globicephala melaena

hh. Dorsal fin very high, its height greater than length of pectoral fin;(may be 6 feet high); teeth very strong, skull massive; upper half of head, back, and fins black. Lower jaw, breast, and belly whitish. The white area forms a trident posteriorly, the central tine of which extends back to the vent, while the lateral tines extend obliquely upward and backward on the sides. A large white blotch behind the eye. A crescent-shaped area of purple extends across the median line of the back behind the dorsal fin. Up to 20 ft. or more in length..Killer.....Orcinus orca

ff. No dorsal fin; pectoral fins short; teeth few; color white throughout.
....White whale; Beluga.....Delphinapterus leucas
up to 15 feet in length.

dd. Teeth in upper jaw feeble, disappearing with age; 6 to 14 bluntish teeth in lower jaw; head rounded; dorsal fin high, situated near middle of back; Back, dorsal fin and flukes dark gray or blackish, more or less tinged with purple; pectoral fins blackish and mottled with gray; head and anterior half of body light gray, varied in hue and tinged with yellow; belly grayish white; Body marked with numerous and conspicuous light-colored, irregular, and unsymmetrically placed scratches or striae; length 15 to 20 feet; Grampus or Cowfish;
Risso's dolphin Grampus griseus

KEY TO NEW ENGLAND PORPOISES

- A. Back fin absent; color white..... Beluga.....Delphinapterus leucas
- AA. Back fin present.
- b. Teeth confined to lower jaw or apparently absent; back fin large and high, near the middle of the body; pectoral fins blackish and mottled with gray.....
.....Grampus or Cowfish..... Grampus griseus
- bb. Teeth in both jaws.
- c. Size large, 20-30 feet in adults. Teeth 8-13 in each upper and lower jaw.
- d. Forehead greatly swollen, overhanging the tip of the very short beak. Flippers narrow, almost one-fifth the total length. Color black, with a small amount of white on lower surface. Teeth, 8-12 pairs in each jaw, hardly 1/2 inch in diameter....Pilot whale.....Globicephala melaena.
- dd. Forehead not prominent. Teeth 10-12 pairs in each jaw, at least 3/4 inch in diameter. dorsal fin very high, as much as 6 feet; color conspicuously black and white (yellow); flippers broad, not pointed.....
..... Killer..... Orcinus orca
- cc. Size smaller, seldom exceeding 12 feet, usually less than 10 feet. Teeth not more than 1/2 inch in diameter, more than 18 pairs.
- HEAD WITH A VERY SHORT BEAK OR NONE.
- e. Size up to 5-1/2 feet; color plain dusky above, paler below; head sloping; beak very short, not distinguishable; teeth about 22-26 in each jaw, flattened sideways with spade-shaped crowns..Common porpoise..Phocaena phocaena
- ee. Size larger; teeth conical, the crowns not flattened sideways; ~~beak very short~~
Upper lip white. Dark color of flippers continuous with that of body, their lower margin not much curved. Teeth above 22-25 pairs in each jaw; diameter 1/4 inch....White beaked dolphin.....Lagenorhynchus albirostris
Length of body 9-10 feet; beak about 2 inches long on middle line
- Upper lip black. Flippers, with strongly curved lower margin, arising from white part of body, usually connected with dark part by a narrow dark streak. A conspicuous stripe, partly yellow and partly white, on each side, behind the back fin. Teeth about 30-34 pairs on each jaw, diameter 1/6 inch....White sided dolphin....Lagenorhynchus acutus.
- HEAD WITH AN ELONGATE BEAK *Length of body 9-10 feet.*
- ff. Palate without lateral grooves.
- g. Dark-colored upper half of body and fins spotted with white or light gray; light colored lower half of body with prominent oblong spots of dark gray, the largest less than an inch long.....Spotted dolphin. length. 10 feet; teeth. 27/34..... Prodelphinus plagiodon.
- gg. Upperparts and sides black or blackish, and unspotted; throat and belly white with exception of a narrow black band extending from eye to vent and a secondary branch given off above base of pectoral fin and running a short distance downward & backward.....Prodelphinus eufrosyne. teeth 45/44
- f. Palate with lateral grooves. ²Eye surrounded by a ring of black, from which a narrow black band extends forward to base of beak; Color above black, lighter below, with several conspicuous longitudinal bands; sides traversed by two elongated elliptical areas of light color, the anterior and larger of which is fulvous in some, gray in others; posterior area gray; a black, gray, or greenish band extends from lower jaw to base of pectoral fin; forehead sloping gradually, forming a wide angle with beak.....
Teeth 40-50 Common dolphin.....Delphinus delphis
Beak up to 6 inches on middle line; length of body 7-8 feet
- hh. Eye not encircled by ring of black; beak 54-55 per cent of total length of skull. Color purplish gray or blackish above, fading into white on belly, which is not spotted; Length up to 11 feet; Beak about 3 inches long on middle line. Teeth large, 29-22 pairs in each jaw, diameter 3/8 inch....Bottlenose porpoise....Tursiops truncatus.

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THESE SPECIES HAVE BEEN RECORDED SO RARELY,
that they are not listed in the Key.

① Lagenorhynchus albirostris:— White beaked dolphin ; Forehead (except its base), back, and fins , black; sides grayish black; belly white. Base of forehead, beak, and mandible white, more or less tinged and shaded with gray. Three irregular areas of white on each side, of which one is above base of the pectoral fin, the second below the insertion of anterior margin of the dorsal fin, and the third below the posterior margin of the same; all considerably mottled with black, gray, and brown. A similar light area in the median line of the back behind the blow-hole and another on the tail, near the insertion of the flukes; under side of fluke grayish.

Upper lip white. Dark color of flippers continuous with that of body, their lower margin not much curved. Teeth above 22-25 pairs in each jaw; diameter 1/4 inch..... White beaked dolphin..... Lagenorhynchus albirostris.

Upper lip black. Flippers, with strongly curved lower margin, arising from white part of ~~body~~ body, usually connected with dark part by a narrow dark streak. A conspicuous stripe, partly yellow and partly white, on each side, behind the back-fin. Teeth about 30-34 pairs on each jaw, diameter 1/6 inch. White sideg dolphin..... Lagenorhynchus acutus.

② Prodelphinus eufrosyne:— Snout long; dorsal fin high and falcate; pectoral fins small; Upperparts black; sides blackish; margins of jaws blackish, their extremity entirely black; throat and belly white; circumference of the eye black; A narrow black band (broadest at the extremities) from the eye to the vent, with a branch given off above the base of the pectoral fins and running a short distance downwards and backward. A band of white, broadest in the middle, separates the lateral black band from the dark color of the sides above; another and broader black band extends from the eye to the base of the pectoral fin and has along its center a white area which communicates with the white of the throat immediately below the eye; Fins black, with a narrow line of white on their anterior margin (sometimes absent). Teeth 45/44.

Dark-colored upper half of body and fins spotted with white or light gray; light colored lower half of body with prominent oblong spots of dark gray, the largest spots less than an inch long..Spotted dolphin. Prodelphinus plagiodon

Upperparts and sides black or blackish, and unspotted; throat and belly white with exception of a narrow black band extending from eye to vent and a secondary branch given off above base of pectoral fin and running a short distance downward and backward... ..Black striped long-beaked dolphin.. Prodelphinus eufrosyne