Summary

The courtship and copulation of captive *Delphinus delphis* is described, as well as interspecific relationships with *Tursiops truncatus* in captivity.

Zusammenfassung

Werbung und Paarung gefangener *Delphinus delphis* werden beschrieben, desgleichen die zwischenartlichen Beziehungen zu *Tursiops truncatus* in Gefangenschaft.

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Observations on a Minke Whale (Mammalia, Cetacea) from the Antarctic

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On board the f. f. "Willem Barendsz" of the Netherlands Whaling Company Ltd., during the season 1959–1960, we had the opportunity to make a study of a small type of the baleen whale, which showed much resemblance with the Minke Whale, *Balaenoptera acutorostrata* Lacépède, 1804 *(Balaenoptera rostrata* Fabricius, 1780). Beside

this great resemblance, however, some striking differences have also been found. Already in a number of preceding seasons some Minke Whales, showing similar differences, were caught in the Antarctic waters (Williamson, 1959). These specimens occurred in the catches of the f. f. "Balaena". They were caught in the Antarctic sector of the Indian and in the western part of the Antarctic sector of the Atlantic Ocean. The animal studied by us was caught on 17-III-1960, position 66° 55' S, 15° 15' E. This is about halfway the two positions, given by Williamson. From this it can be concluded that it is very probable that animals of this type occur in the whole Antarctic south of the Atlantic and of the Indian Ocean. About their occurrence in the Antarctic sector of the Pacific nothing is known up till now. The following description concerns external characteristics.

Balaenoptera species ♂ (sexual mature)

caught 17-III-1960; position 65° 55' S, 15° 15' E

	A	B	C	D	E
total length (tip of snout-notch of flukes)	27' 7"	841 cm		488–828 cm	582–799 cm
tip of snout-centre of eye	5' 6"	168 cm	20 %	18.3 %	15.89 %
tip of snout-centre of blowhole	3' 6"	107 cm	13 %	13.01 %	12.79 %
tip of snout-basis of dorsal fin (cranial end)	18'	549 cm	65 %	—	—
length of blowhole	12"	30.5 cm	4 %	—	—
width of blowhole	9"	23 cm	3 %	—	—
centre of eye-centre of ear	1' 5"	43 cm	5 %	5.55 %	5.18 %
centre of ear-basis of flipper	1' 7"	48 cm	6 %	—	—
length of flipper	4' 8"	141.5 cm	17 %	10.19 %	9.12 %
dorsal fin vertical heigth	1' 3"	38 cm	4.5 %	3.9 %	4.13 %
anus-notch of flukes	7' 3"	221 cm	26 %	26,23 %	26.68 %
anus-centre of reproductive aperture	1' 11"	58 cm	7 %	7.27 %	6.77 %
umbilicus-centre of reproductive aperture	3' 7"	109 cm	13 %	—	—
notch of flukes-umbilicus	—	—	46 %	46.49 %	48.04 %
flukes (tip to tip)	8' 4"	254 cm	30 %		
	½ length =		15 %	14.05 %	14.33 %

A = Length in feet and inches — B = Length in centimeters — C = Length in percentages of the total length — D = After data of Jonsgård, 1951 — E = After data of Omura & Sakiura, 1956.

The total length of this animal corresponds with the sizes, given by Williamson (1959), of the three animals described by him. From the table it appears that the sizes of the animal, studied by us, expressed as a percentage of the total length, do not greatly differ from the sizes of *B. acutorostrata* from the North Atlantic, given by Jonsgård (1951) (I). They clearly lie within the limits of widths stated by him. Omura and Sakiura (1956) have published similar data about *B. acutorostrata* caught in the North Pacific (II). These animals appear to be somewhat smaller than the animals of the same species from the North Atlantic. Of *B. acutorostrata* from the Antarctic waters not enough data of large numbers of animals are available to enable a comparison as the one given above. The only striking difference between *B. acutorostrata* and the animal described here, is the difference in length of the flipper. Of *B. acutorostrata* this length is about 10 % of the total length of the animal. For the

animal studied by us this number is 17 %. The differences in the other sizes are so small that it is hardly possible on this basis to speak of a greatly diverging type of animal. The thickness of the layer of blubber of the specimen studied by us, measured on the same places as with *Balaenoptera physalus* Linnaeus, 1758 (Slijper, 1954), is 6 cm at the dorsal side and 10. 5. cm at the ventral side. The animal studied by us lacks the white band on the outside of the flippers, which is characteristic for *B. acutorostrata* (Jonsgård, 1951; Omura and Sakiura, 1956). The outside of the flippers is of a uniform blue-grey to slate-coloured, without any sign of a band in the form of a discoloration. The inside of the flippers is cream-white. The dorsal side of the animal is also blue-grey to slate-coloured. We have compared the colours of the animal (under a 75 watt lamp) with the colours of the "Code Universel des Couleurs" (E. Seguy). The colour of the skin at the dorsal side gets nearest the colours nr 547, pl. XXXVII and nr 597, pl. XL. The colour of the ventral side gets nearest the colours nr 320, pl. XXII and nr 330, pl. XXII. A sharp distinction between the cream-coloured ventral part of the skin and the blue-grey dorsal part cannot be indicated. About halfway the flank the blue-grey grows gradually lighter to crèam-white.

The dorsal side of the flukes has the same colour as the back. The ventral side is also cream-white, except the edges, which are of a light blue-grey. The edges of the lower jaw are also of a dark colour, but in a rather narrow strip, after which a gradual change into the cream-white of the central side can be seen too. The outside of the flippers is of a somewhat lighter colour than the back of the animal.

From the external ear a light grey stripe, faintly bent in the shape of an –s–, goes in the direction of the basis of the flipper. The pigment in the epidermis of the dorsal side of this animal is more equally spread than is the case with *B. physalus*. Because of this the stripes of the skin of the dorsal side are less clear. This is also a result of the fact that the papillae on the coriumridges are smaller than with the species mentioned above. In the epidermis are scars, which – as regards both their form and their length, pigmentation and other characteristics – correspond with the scars that are found with other Cetacea (v. Utrecht, 1959). On the ventral side of the animal, from the tip of the lower jaw to about 1 foot before the umbilicus, the throat-grooves are found. The caudal border of this area is rounded. The grooves are smaller than with *B. physalus* and with *Balaenoptera borealis* Lesson, 1828 *(Balaenoptera rostrata* [Rudolphy, 1822]). Also on the ventral side of the animal, to the caudal side of the part with throat-grooves, grooves are found, which go as far as the flukes and vary in length from 5 to 20 cm. These grooves are parallel with the lengthwise axis of the animal. They lie sunken in the skin and are of a light grey colour because of slight pigmentation. It is not clear if these are scars, as they lack a number of the characteristics of scars, such as the typical pattern of pigment-lines and the variation in form and situation (v. Utrecht, 1959). The outside of the baleens, of which there are 270 in each half of the jaw, is of a dark colour. This is the case with the set of baleenplates on the left, as well on the right side. This is contrary to the observations of Williamson (1959). He states for the animals studied by him that the baleen plates on the left side of the upper jaw are of a dark colour along the whole length of the set of the plates, whereas on the right side the anterior part of the set of the plates is also of a dark colour and the posterior part of a light colour (cream), which is therefore the same phenomenon that can be observed on the sets of plates of *B. physalus*. The length of the sets of plates of the animal studied by us is 128 cm. The outside of all the baleens is of a dark colour and on the side of the oral cavity, where the horny tubes emerge from the baleen plates, of a cream colour. The dark area at the lateral edge of the baleen plates measured 37 mm at the gum, in the longest plate (30 cm long measured without the hairy fringe at the tip) at 44 cm distance of the posterior end of the

row of baleens. There is no clear distinction between the dark and the light part of the baleen plates. In the transitional area a number of alternately light and dark longitudinal bands are found, in which, from the dark part of the baleen plate to the light part, the dark bands gradually grow more narrow. Striking is the great length of the longest baleen of the set. It measures 30 cm, wheras JONSGÅRD (1951) gives 23 cm as the maximum length for *B. acutorostrata,* while he also mentions some animals of this species, which also show the dark area at the lateral edge of the baleen plates, just like the animals described by BURMEISTER (1867) and GRAY (1874). The animal described above gives a rather heavy impression, the widest part of the body lying a little behind the flippers (pectoral fins). The snout is pointed and grows rapidly wider in caudal direction. The tail is rather heavy too and lacks the blubber ridges on the dorsal and ventral side. Therefore the cross-section of it is of an oval shape and not greatly flattened as with *B. physalus.* Compared with its length this animal has large flukes.

In literature of the last century are descriptions of animals, showing some, though small, differences with *B. acutorostrata.* These animals are known by different names, a. o. *Balaenoptera bonaerensis* Burmeister, 1867 and *Balaenoptera huttoni* Gray, 1874 (=*Balaenoptera antarcticus* [Hutton, 1874] non Gray). The differences are of such a nature, however, that obviously *B. bonaerensis* is identical with *B. acutorostrata.* When comparing the data known of *B. bonaerensis, B. acutorostrata,* the animals studied by WILLIAMSON (1959) and the animal described above, it is not probable that these animals belong to different types, but rather are to be taken as varieties of the species *Balaenoptera acutorostrata* Lacépède, 1804.

Summary

We have described a small baleen whale which differs only in some points from *Balaenoptera acutorostrata* Lacépède, 1804. The white band on the flippers is lacking, because of which their whole dorsal surface has the same colour as the back of the animal, while the flippers are longer than those of the type mentioned. The longest baleen has a greater length than that of *B. acutorostrata.* All baleens of both rows have a dark lateral edge. It is supposed, the animals described by WILLIAMSON (1959), BURMEISTER (1867) and GRAY (1874) as well as the specimen described here, belong all to the same species, *B. acutorostrata,* but should be considered as variations of this species.

Zusammenfassung

Wir beschrieben einen kleinen Bartenwal, der sich in nur einzelnen Punkten von *Balaenoptera acutorostrata* unterscheidet. Die weiße Binde an den Flossen fehlt, sodaß deren Farbe gleich der des Rückens ist. Sie sind länger als die der gewöhnlichen *acutorostrata.* Die längsten Barten sind länger als die von *acutorostrata.* Alle Barten beider Seiten haben eine dunkle Seitenkante. Es scheint so, als ob sowohl die von WILLIAMSON (1959), BURMEISTER (1867) und GRAY (1874) beschriebenen Exemplare als auch das hier beschriebene Stück alle zur Art *B. acutorostrata* gehören, aber als Varietäten dieser Art anzusehen sind.

Résumé

Les auteurs décrivent une petite baleine qui ne diffère que par quelques points de *Balaenoptera acutorostrata* Lacépède, 1804. La bande blanche sur les nageoires manque; de ce fait, la surface dorsale toute entière présente la même couleur que le dos de l'animal. De plus, les nageoires sont plus longues que celles du type décrit. La baleine la plus longue a une longueur supérieure à celle de *B. acutorostrata.* Toutes les baleines des deux côtés ont un bord latéral sombre. Les auteurs supposent que les animaux décrits par WILLIAMSON (1959), BURMEISTER (1867) et GRAY (1874) aussi bien que le spécimen décrit ici, appartiennent tous à la même espèce, *B. acutorostrata,* mais devraient être considérés comme des variétés de cette espèce.

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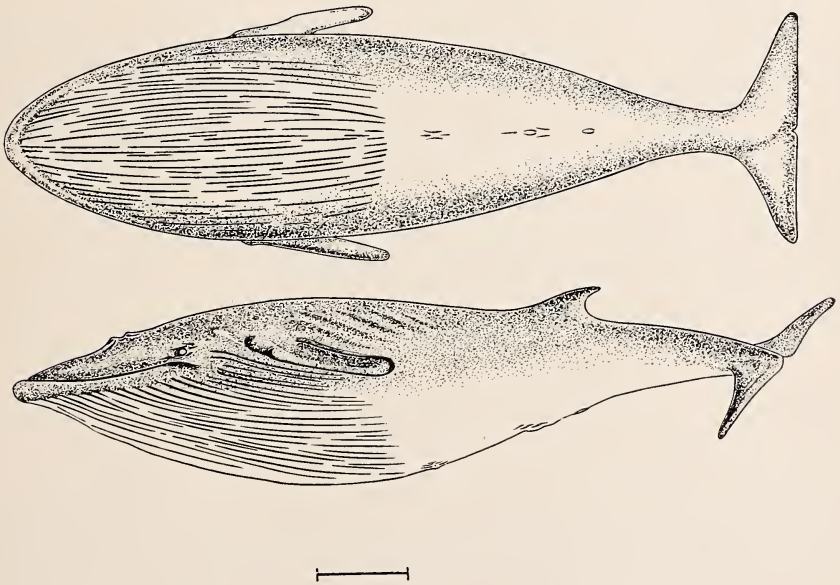

Ventral and lateral view of the specimen of *Balaenoptera acutorostrata* Lacépède, 1804 caught on 17-III-1960 in the Antarctic. — Scale: 1 m.