

# Review of strandings of *Delphinus delphis* and *Stenella coeruleoalba* (Mammalia: Cetacea, Delphinidae) in the Netherlands between 1850 and 2005

Kompanje, E.J.O., 2005 - Review of strandings of *Delphinus delphis* and *Stenella coeruleoalba* (Mammalia: Cetacea, Delphinidae) in the Netherlands between 1850 and 2005 - DEINSEA 11: 179 - 203 [ISSN 0923-9308]. Published 29 December 2005

This article presents an annotated list of all known strandings of common dolphins *Delphinus delphis* LINNAEUS, 1758 and striped dolphins *Stenella coeruleoalba* (MEYEN, 1833) from the coast of The Netherlands. Between circa 1850 and 2005, 50 well documented reports and 36 insufficiently documented reports of a dead common dolphin and five well-documented reports of a dead, and two records of a living striped dolphin have become known. All well documented cases are either documented by skeletons and/or skulls or other remains kept in natural history collections, or by photographs or drawings of the stranded dolphin. The insufficiently documented cases are only known from verbal or written description by the finder. All skeletal material, specimens preserved in spirit, drawings, autopsy reports and photographs were examined by the author.

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Keywords: Cetacea, *Delphinus delphis*, *Stenella coeruleoalba*, common dolphin, striped dolphin, strandings, the Netherlands

## INTRODUCTION

Between circa 1850 and December 2005, 86 records of a dead common dolphin *Delphinus delphis* LINNAEUS, 1758 (Fig. 1) and seven records (5 dead, 2 living) of striped dolphin *Stenella coeruleoalba* (MEYEN, 1833) (Fig. 2) found on the coast of the Netherlands have become known. The most recent stranding of a common dolphin dates back to 2003. The last striped dolphin stranded in 2004. Especially between 1920 and 1950, the number of common dolphins found on the beaches of the Netherlands increased, commonly related to the changes in water temperatures of the southern North Sea (e.g. Van Bree 1977). The striped dolphin is a rare straggler in the North Sea, entering the North Sea from the Atlantic

Ocean from the south through the English Channel as well as from the north. Strandings of striped dolphins are common on the Atlantic coasts of the United Kingdom and Ireland, but are rare on the North Sea coasts. The first record for the Netherlands was in April 1967.

This article (1) reviews all known strandings of these two species from the coast of the Netherlands, (2) presents all known information on the documented strandings and (3) provides an analysis of the fluctuations in the number of stranded common dolphins based on the data presented here. Similar reviews of *Orcinus orca* and *Tursiops truncatus* in the Netherlands have been published (Kompanje 1999, 2001, 2005).

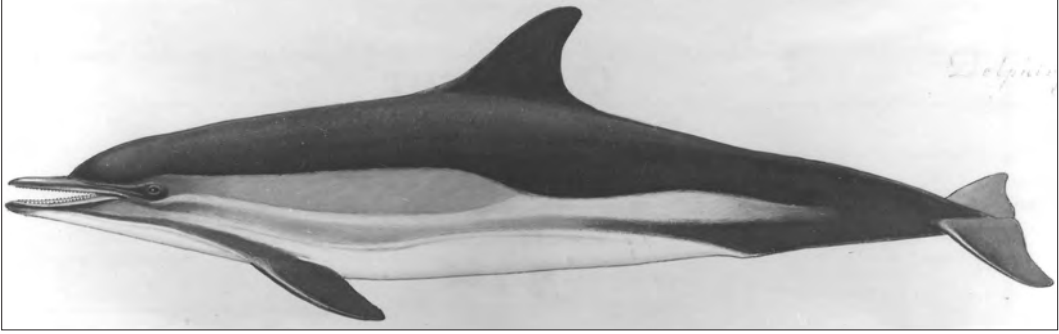


Figure 1 *Delphinus delphis*, adult male (case 9), stranded 12 February 1928, between Noordwijk aan Zee and Zandvoort (RMNH 1653). [illustration (oil painting): R. van Assen, archives Naturalis]

## METHODS AND MATERIAL

The primary source of the analysis of strandings of cetaceans is the Dutch cetacean stranding archives, kept in Naturalis, the National Museum of Natural History (RMNH), Leiden, the Netherlands and the Dutch stranding reports published in the zoological literature. Other sources are archives, osteological collections and the collections of specimens preserved in spirit, kept in natural history museums and private collections in the Netherlands (for a list of museum acronyms used, see Appendix 4). Every report of a stranding of a common dolphin or striped dolphin found in the archives and/or in published stranding lists, or specimens in collections was verified as to identification and reliability when physical proof was lacking. When reliable evidence of correct identification was found, the case is

added to the 'Chronological list of well documented strandings of *Delphinus delphis* in the Netherlands' (Appendix 1) and is described and discussed in the chronological overview below. This evidence can be (1) a clear photograph of the stranded dolphin or recognisable parts of it, (2) detailed drawings of the dolphin or parts of it by the finder, (3) skeletal remains kept in collections, (4) recognisable soft parts or organs of the dolphin preserved in spirit and kept in collections, or (5) a detailed written, unambiguous description given by the finder. All cases lacking these kinds of evidence (even reported findings given by experienced finders) were added to the 'Chronological list of published cases of strandings of *Delphinus delphis* in the Netherlands without evidence of correct identification' (Appendix 3).



Figure 2 *Stenella caeruleoalba*, juvenile male (case 1), stranded 15 April 1967, Oterdum (RMNH 19621). [illustration (oil painting): R. van Assen, archives Naturalis]

## The overview

The ‘Chronological overview of well documented strandings of *Delphinus delphis*’ is divided in three periods: period 1: before 1920; period 2: between 1920 and 1950 and period 3: between 1950 and 2005. The reason for this division is as follows. In period 1 (before 1920) strandings were only documented incidentally, many were probably missed because of lack of interest in stranded cetaceans. Period 2 (1920 - 1950) represents the period with most reports of dead common dolphins. Period 3 (1951 - 2004) represent a period of incidental findings. Interest in stranded cetaceans by (amateur) biologists like dr A.B. van Deinse, J.P. Strijbos, dr E.D. van Oort, prof. dr E.J. Slijper, Jac. Viergever (before the second World War) and dr P.J.H. van Bree, dr C. Smeenk (after the second World War), rose. A good network for reporting of a stranding was developed by dr A.B. van Deinse in the period 1920 and 1960. During the second world war (1940 - 1945) access to most of the Dutch beaches was prohibited, hence many stranded cetaceans were unnoticed and kept unreported in that period. After 1970, due to a better network and improved communications, probably not a single stranded cetacean remained unnoticed. Only strandings from the Wadden Sea islands Ameland and Schiermonnikoog and the Groningen coast are insufficiently known.

## CHRONOLOGICAL OVERVIEW OF WELL DOCUMENTED STRANDINGS OF *DELPHINUS DELPHIS*

### PERIOD 1: before 1920 THE EARLY RECORDS

From this period, only five records of strandings of *Delphinus delphis* are known, all five are reliable. Little is known of the circumstances of stranding and condition of the dolphins.

#### Case 1: before 1870

Subadult, female, TL c. 160 cm. This record is first mentioned by Herklots (1866) and illustrated by Schlegel in his monograph on Dutch Mammals [Natuurlijke Historie van Nederland.

De Zoogdieren] (1870: 83, plate 10). This dolphin was, according to Schlegel, found ‘many years ago on the Dutch coast’ [“...en verdwaalt somtijds ook in de Noordzee, zoo als het door ons afgebeelde, voor vele jaren aan de kust van Holland gestrande voorwerp bewijst.”]. Van Oort (1918: 56) mentioned a stuffed and mounted skin of a *Delphinus delphis* from the Dutch coast, which was according to Schlegel ‘stranded years ago on the Dutch coast’ [“...volgens opgave van Schlegel, jaren geleden aan onze kust gestrand....”]. Most probably this stuffed dolphin is the *Delphinus* that was illustrated by Schlegel in 1870. The stuffed skin, still in a reasonable state, is kept in the collection of Naturalis.

Literature: Herklots 1866: 247; Schlegel 1870: 83, plate 10; Jentink 1892: 200; Van Oort 1918: 56; Van Deinse 1931: 254-255; Viergever 1940: 187; Van Deinse 1946: 166-167; Schulz 1970: 181

#### Case 2: before 1860

Age, sex and TL unknown. A mandible of *Delphinus delphis* was found in 1860 during excavations in the harbour (‘Oude haven’, nabij het Kraanplein) of Zierikzee, Province of Zeeland. The mandible is still in the collection of the Gemeentelijke Musea Zierikzee and bears catalogue number GMZ 333 (pers. comm. Peter Priester, curator Gemeentelijke Musea Zierikzee).

Literature: Van Deinse 1931: 255

#### Case 3: spring 1903

Adult, sex and TL unknown. Found near Durgerdam, north of Amsterdam. Skull in Zoölogisch Museum Amsterdam (ZMA 7315). Not mentioned in any published list.

#### Case 4: 1912

Adult, sex unknown, TL unknown. Found at Noordwijk aan Zee, province of Zuid-Holland. The complete mounted skeleton was in the Erasmiaans Gymnasium Rotterdam (where dr A.B. van Deinse stored his collection), but is now part of the collection of the

Natuurhistorisch Museum Rotterdam (NMR 9990-00166). Not mentioned in any published list.

#### **Case 5: 'October 1917'**

Age, sex and TL unknown. A right mandible with 48 tooth sockets was found on the beach at Noordwijk aan Zee, province of Zuid Holland or at Kamperlandse duinen, Beveland, province of Zeeland by mr Ribbink and was sent to A.B. van Deinse. Noordwijk aan Zee is the place of stranding given by Van Deinse (1931). But in the collection of the Natuurhistorisch Museum Rotterdam is a right mandible of *Delphinus delphis* found by mr Ribbink in October 1917 (NMR 9990-00202), with a label stating 'Kamperlandse duinen, Beveland, province of Zeeland' as place of stranding. It is unknown which locality is correct. Van Deinse does not mention this case in his 1946 overview.

Literature: Van Deinse 1931: 255

### **PERIOD 2: between 1920 and 1950 A PERIOD OF SIGNIFICANT INCREASE**

#### **Case 6: 15 March 1925**

Adult, sex unknown, TL unknown. This specimen was found along the Dutch coast (exact locality unknown). The incomplete mounted skeleton was rediscovered in 2003, with other important historical cetacean material (see Sliker 2003), in the collection of the 'Rotterdamsch Lyceum', a secondary school in Rotterdam, the Netherlands, where it was deposited by dr A.B. van Deinse. On the label the date 15 March 1925 is given. The skeleton is now in the collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-01378).

Literature: Sliker 2003: 32

#### **Case 7: 25 November 1926**

Adult, lactating female, TL 230 cm. This dolphin was found on the island of Texel, near de Koog, province of Noord Holland. The

complete unmounted skeleton is in the collection of the Zoölogisch Museum Amsterdam (ZMA 2499). Some organs were preserved in spirit for the collection of the Zoölogisch Laboratorium, Leiden. The vagina and part of the uterus (preserved in alcohol 70%) are now kept in the collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-01459).

Literature: Strijbos 1928: 385; Strijbos 1931; Van Deinse 1931: 255; Van Deinse 1946: 166-167; Schulz 1970: 181

#### **Case 8: 1 December 1926**

Adult, female. Found at Kamperland, Noord Beveland, province of Zeeland. The complete skeleton is in the collection of Naturalis (RMNH 2590). Not mentioned by Van Deinse in his review in 1946.

Literature: Broekema 1983: 71

#### **Case 9: 12 February 1928**

Adult, male, TL 213 cm. This dolphin was found on the beach between Noordwijk aan Zee and Zandvoort, province of Zuid Holland (Fig. 3). The complete mounted skeleton is in Naturalis (RMNH 1653). Detailed drawing of the teeth (Fig. 4), a drawing of the complete skeleton (Fig. 5) and a painting of the dead dolphin (Fig. 1) are in the archives of Naturalis. Several photographs of the dead dolphin on the beach are also in the archives of Naturalis.

Literature: Strijbos 1928: 381-386; van Oort 1928: 16; Strijbos 1931; Van Deinse 1931: 255; Van Deinse 1946: 166-167; Schulz 1970: 181; Broekema 1983: 70

#### **Case 10: 4 March 1928**

Adult, sex unknown, TL 185 cm. Found in decomposed state on the beach (near beach marker 42) between Castricum and Egmond aan Zee, province of Noord Holland. The largest part of the skeleton was collected by J.P. Strijbos and sent to A.B. van Deinse, who prepared the skeleton for the collection of the Erasmiaans Gymnasium in Rotterdam. Later he donated it to the Rijksmuseum voor



Figure 3 *Delphinus delphis*, adult male (case 9), stranded 12 February 1928, between Noordwijk aan Zee and Zandvoort (RMNH 1653). Complete specimen on the beach, with J.P. Strijbos on the left. [photo: J.P. Strijbos, archives Naturalis]

Natuurlijke Historie (RMNH 1655), now Naturalis. The 14 teeth that Van Deinse kept in his private collection are now in the collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-01454). One photograph showing J.P. Strijbos working on the dead dolphin is in

the archives of Naturalis.

Literature: Strijbos 1928b; Strijbos 1928c; 396; Van Oort 1928; 16,18; Strijbos 1931; Van Deinse 1931; 255; Van Deinse 1946; 166-167; Schulz 1970: 181; Broekema 1983: 70

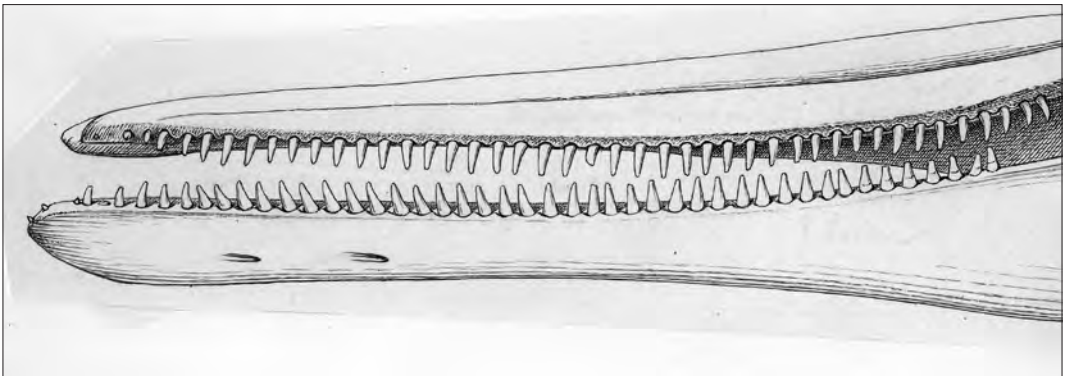


Figure 4 *Delphinus delphis*, adult male (case 9), stranded 12 February 1928, between Noordwijk aan Zee and Zandvoort (RMNH 1653). Detailed drawing of the mandibles with dentition. [illustration: R.van Assen, archives Naturalis]

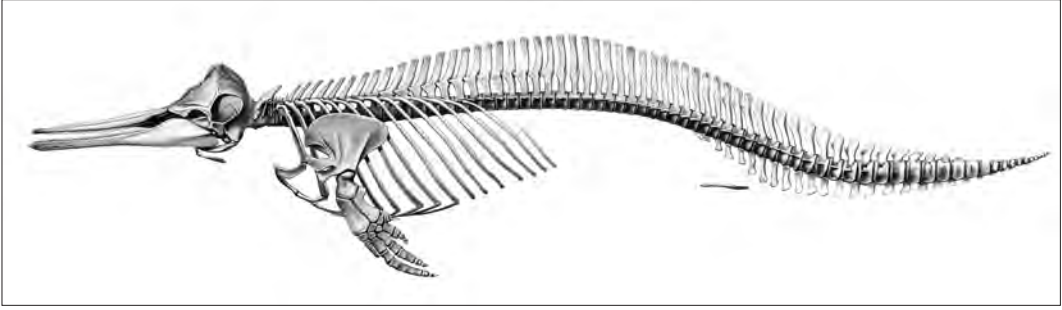


Figure 5 *Delphinus delphis*, adult male (case 9), stranded 12 February 1928, between Noordwijk aan Zee and Zandvoort (RMNH 1653). Drawing of the complete skeleton. [illustration: R.van Assen, archives Naturalis]

### Case 11: 3 October 1931

Adult, pregnant female, TL 220 cm. Found dead on the beach near Den Hoorn, at beach marker 11, Texel, province of Noord Holland by H. Kraai (Fig. 6). The dolphin was pregnant of two almost full-grown fetuses. The complete mounted skeleton and the fetuses were collected for the collection of Naturalis (skeleton RMNH 2012). The two preserved fetuses are now untraceable in the collection of Naturalis, and most probably are lost for science. One tooth was sent to dr A.B. van Deirse for his private collection. This tooth is now in the collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-01456). Several photographs made by J.P. Strijbos are in the archives of Naturalis. This specimen was illustrated in IJsseling & Scheygrond (1949: plate 62-63).

Literature: Kraai 1931; Strijbos 1931; Strijbos 1931b;

Strijbos 1933; Van Deirse 1933: 11; Van Deirse 1946: 166-168; IJsseling & Scheygrond 1949: plaat 62-63; Schulz 1970: 181; Broekema 1983: 71

### Case 12: January 1932

Adult, male, TL 230 cm. This dolphin was found in decomposed state on Terschelling, province of Friesland near beach marker 8 by dr J.W. van Dieren. The skull (without mandibles) and pelvic bones were collected and sent to Van Deirse. A drawing made by Van Dieren was also sent to Van Deirse. The skull and pelvic bones are in the collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-00201). On the original label beach marker 14 is given as place of stranding.

Literature: Van Deirse 1933: 15-16; Schulz 1970: 181; Kompanje 1991: 22-23



Figure 6 *Delphinus delphis*, adult pregnant female (case 11), stranded 3 October 1931 near Den Hoorn, Island of Texel (RMNH 2012). The complete specimen on the beach. [photo: by J.P. Strijbos, archives Naturalis]

**Case 13: 25 Juni 1932**

Adult, female, TL 215 cm. This specimen was found on the beach south of Katwijk aan Zee, province of Zuid Holland. Only the pelvic bones were collected and are in the collection of Naturalis. They are without doubt of a common dolphin. One rather primitive drawing made by J. Kreukniet is in the archives of Naturalis. It was identified and described in Van Deirse (1933, 1946) and Schultz (1970) as *Tursiops truncatus*, but the tooth count and morphology of the pelvic bones, clearly attribute these remains to *Delphinus delphis* (Kompanje 2001).

Literature: Van Deirse 1933; 17; Van Deirse 1946; 174-175; Schultz 1970: 187; Kompanje 2001: 209

**Case 14: 1 November 1933**

Adult, male, TL 243 cm. Found freshly dead on the beach at Wijk aan Zee, province of Zuid

Holland (Fig. 7). Four different photographs by J.P. Strijbos at the archives of Naturalis. Humerus, radius, ulna and one pelvic bone are in the collection of Naturalis (RMNH 27315). A small jar with whale oil extracted from this dolphin, from the former collection of dr A.B. van Deirse, is in collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-01440). Skull is in the Zoölogisch Museum Amsterdam (ZMA 11.469). Schulz (1970) mentioned that the fin is in the collection of the ZMA. Slijper (1936) described the axial musculature of this specimen.

Literature: Van Deirse 1933b; Strijbos 1933b; Slijper 1936: 8, 225-230, 258-259, 262-263; Van Deirse 1946: 166-167, 168-169; Schulz 1970: 181

**Case 15: 18-20 August 1934**

Adult, female, 186 cm. Found on the beach south of Zandvoort, province of Noord Holland



Figure 7 *Delphinus delphis*, adult male (case 14), stranded 1 November 1933, Wijk aan Zee (RMNH 27315). Picture of the head. [photo: J.P. Strijbos, archives Naturalis]

by J.P. Strijbos. Skull (without mandibles) and pelvic bones in the collection of Naturalis (RMNH 2285). Three photographs in the archives of Naturalis.

Literature: Van Deinse 1946: 166-167, 169; Broekema 1983: 71

#### Case 16: 20 August 1934

Adult, female, TL 210 cm. Found on the beach at Ouddorp, province of Zuid Holland. Three teeth, skull and the left scapula were collected by Mr A. Loeff. The skull got lost during the Second World War. Two photographs of the dolphin on the beach are in the archives of Naturalis. The three tooth, right mandible, left scapula and pelvic bones are in the collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-00203). A humerus of a female *Delphinus delphis* (TL of this dolphin 210 cm) in the collection of the Natuurhistorisch Museum Rotterdam (NMR 998900036) probably also concerns this stranding.

Literature: Van Deinse 1946: 166-167, 169

#### Case 17: 23 August 1934

Adult, female, TL 186 cm. Found on the beach at Zandvoort, province of Noord Holland by

J.P. Strijbos. Three photographs of the dead dolphin in the archives of Naturalis. Schulz (1970) gives 18 August as date of stranding. Possibly the same as case 15.

Literature: Schulz 1970: 181

#### Case 18: 14-15 October 1934.

Subadult, female, TL 145 cm. Was caught off Zandvoort, province of Noord Holland. Skeleton was collected for a private collection (Museum de Tonijn, Th. Mol, Amsterdam), now in Zoölogisch Museum Amsterdam (ZMA 8010). A photograph of a tooth in the archives of Naturalis proved the correct identification.

Literature: Van Deinse 1946: 166-167, 169

#### Case 19: 17-19 November 1934

Juvenile, sex unknown, TL 132 cm (TL 129 cm in Van Deinse 1946: 166). Found on the beach south of Zandvoort, province of Noord Holland, beach marker 69 (Fig. 8). Found by A. van der Most van Spijk. Complete skeleton in Naturalis. A photograph and notes by J.P. Strijbos in the archives of Naturalis

Literature: Van Deinse 1946: 166-167, 169; Schulz 1970: 181



Figure 8 *Delphinus delphis*, juvenile, sex unknown (case 19), stranded 17 November 1934, south of Zandvoort. Complete specimen on the beach. [photo: J.P. Strijbos, archives Naturalis]



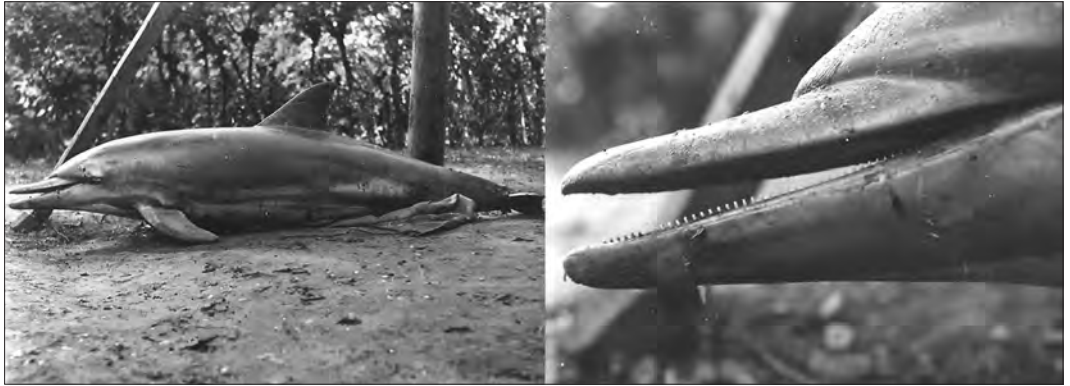


Figure 9 *Delphinus delphis*, adult male (case 20), stranded 19-20 August 1935, Texel (ECOMARE B2 18). Complete specimen and detail of the mandibles. [photo's: archives Naturalis]

### Case 20: 19-20 Augustus 1935

Adult, male, TL 182 cm, weight 69,5 kg. Beached alive on Texel, province of Noord Holland, beach marker 17 (Fig. 9). Was subsequently killed by a veterinarian by injecting 150 cc strychnine. Three photographs of the dead dolphin are in the archives of Naturalis. A cast was made of the complete specimen, but it got lost in 1961-1962. The incomplete skeleton and 164 teeth are at present in Ecomare, 'Centrum voor Wadden en Noordzee', De Koog, Texel, bearing collection nr B2 18 [old number 86], (pers. comm. Arthur Oosterbaan). Van Deirse (1946) and Schulz (1970) give 18 September 1935 and beach marker 19 as date and place of stranding. Some teeth in the Zoölogisch Museum Amsterdam (ZMA 13.403).

Literature: Van Deirse 1946: 166-167, 169; Schulz 1970: 181

### Case 21: 1 December 1936

Adult, female, TL 230 cm. Found at Wissekerke, Noord Beveland, province of Zeeland. The complete skeleton is in Naturalis (RMNH 2590). A photograph and detailed correspondence are in the archives of Naturalis.

Literature: Van Deirse 1946: 166-167, 169; Schulz 1970: 181; Broekema 1983: 71

### Case 22: 1938

Adult, sex unknown, TL unknown. Was found on Vlieland, province of Friesland, by dr F.H. Hoeksema. The skull is in the collection of the Zoölogisch Museum Amsterdam (ZMA 2701)

### Case 23: 22 August 1940

Adult, female, TL 200 cm. Found on the beach at Renesse, Schouwen, province of Zeeland, at beach marker 12 (Fig. 10). The skull and pelvic bones were collected by Jac. Viergever. The skull could not be traced; the pelvic bones are in the collection of Naturalis (RMNH 5926). Four photographs of the dolphin on the beach by Jac. Viergever are in the archives of Naturalis.

Literature: Viergever 1940: 187; Van Deirse 1946: 166-167, 170; Schulz 1970: 181

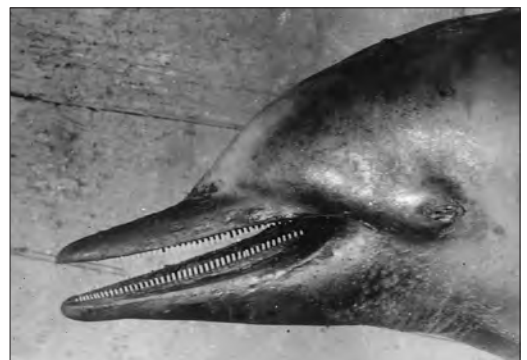


Figure 10 *Delphinus delphis*, adult female (case 23), stranded 22 August 1940, Renesse, Schouwen (RMNH 5926). Picture of the head. [photo: J.Viergever; archives Naturalis]



Figure 11 *Delphinus delphis*, adult male (case 24), stranded 23 August 1940, Wissekerke, Noord-Beveland (RMNH 4235). The complete specimen guarded by the Lord-Mayor of Wissekerke (right, with pipe), the local police chief (in uniform) and two unknown spectators. [photo: archives Naturalis]

#### **Case 24: 23 August 1940**

Adult, male, TL 215 cm. Found on the beach at Wissekerke, Noord Beveland, province of Zeeland (Fig. 11). Complete mounted skeleton in Naturalis (RMNH 4235). A small jar with whale oil extracted from this dolphin, from the former collection of dr A.B. van Deinse, is in collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-01441). Detailed notes and six different photographs are in the archives of Naturalis.

Literature: Van Deinse 1946: 166-167, 169-170; Schulz 1970: 181; Broekema 1983: 71

#### **Case 25: 25 August 1940**

Adult, male, TL 230 cm. Found at Noordwelle, Schouwen, province of Zeeland by J. Viergever, who collected the skull and pelvic bones. The skull is untraceable; the pelvic bones are in the collection of Naturalis (RMNH 5927). Two photographs by Jac. Viergever of the dolphin

on the beach are in the archives of Naturalis.

Literature: Viergever 1940: 187; Van Deinse 1946: 166-167; Schulz 1970: 181

#### **Case 26: 15 September 1940**

Adult, male, TL c. 210 cm. Found at Noordwijk aan Zee, province of Zuid Holland. Skull collected, now in Naturalis (RMNH 4251).

Literature: Van Deinse 1946: 166-167; Schulz 1970: 181; Broekema 1983: 71

#### **Case 27: 3 November 1940**

Subadult, female, TL c. 200 cm. Found at Renesse, Schouwen, province of Zeeland. Skull and pelvic bones were collected by Jac. Viergever. The skull is untraceable; the pelvic bones are in the collection of Naturalis (RMNH 5925).

Literature: Van Deinse 1946: 166-167; Schulz 1970: 181



Figure 12. *Delphinus delphis*, adult male (case 28), stranded 7 August 1941, Noordwijk aan Zee (RMNH 4517). Complete specimen on the beach. [photo's: A. van der Most van Spijk, archives Naturalis]

### Case 28: 7 August 1941

Adult, male, TL 251 cm. Found on the beach at Noordwijk aan Zee, province of Zuid Holland by A. van der Most van Spijk (Fig. 12 & 13). Complete skeleton is kept in Naturalis (RMNH 4517). Several photographs are in the archives of Naturalis.

Literature: Van Deirse 1946: 166-167, 170; Schulz 1970: 181; Broekema 1983: 71

### Case 29: 13-14 August 1941

Adult, sex unknown, TL 203 cm. Found on the beach at Noordwijk aan Zee, province of Zuid Holland, between beach markers 83 and 84 by A. van der Most van Spijk. Complete skeleton resides in Naturalis (RMNH 4514). One photograph of the dead dolphin on the beach in the archives of Naturalis.

Literature: Van Deirse 1946: 166-167, 170; Schulz 1970: 181; Broekema 1983: 71

### Case 30: 25 August 1941

Age, sex and TL unknown. Found on the beach at Scheveningen, province of Zuid Holland. Eight vertebrae in Naturalis (RMNH 4598).

Literature: Van Deirse 1946: 166-167, 170; Schulz 1970: 181

### Case 31: 3-4 September 1941

Adult, male, 222 cm. Found at Noordwijk aan Zee, province of Zuid Holland. Mounted skeleton in collection of Naturalis (RMNH 4580). Detailed measurements in Van Deirse 1946: 170.

Literature: Van Deirse 1946: 166-167, 170; Schulz 1970: 181; Broekema 1983: 71

### Case 32: 12 September 1943

Age, sex and TL unknown. Found at Noordwijk aan Zee, province of Zuid Holland. Skull was collected and send to Naturalis (RMNH 5867).

Literature: Van Deirse 1944: 21; Van Deirse 1946: 166-167, 170; Schulz 1970: 181; Broekema 1983: 71

### Case 33: July 1946

Adult, female (?), TL 190 cm. Found at Serooskerke, Schouwen, province of Zeeland by J. Viergever. One photograph in the archives of Naturalis.

Literature: Van Deirse 1948: 7

### Case 34: August 1946

Found at beach marker 12-13 on Texel, province of Noord Holland. One photograph in the archives of Naturalis. One tooth was send to dr A.B. van Deirse for identification. He kept



Figure 13 *Delphinus delphis*, adult male (case 28), stranded 7 August 1941, Noordwijk aan Zee (RMNH 4517). Complete specimen on a truck. [photo: A. van der Most van Spijk, archives Naturalis]

the tooth in his private collection. Now in the collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-01455).

Literature: Van Deinse 1948: 7

#### **Case 35: 4 August 1946**

Juvenile, male, TL 125 cm. Found at Noordwijk aan Zee, province of Zuid Holland. The severely damaged skull was collected and send to Naturalis (RMNH 7190).

Literature: Van Deinse 1948: 7; Broekema 1983: 71

#### **Case 36: 8 August 1946**

Adult, sex unknown, TL c. 200 cm. Found at beach marker 4 on Terschelling, province of Friesland. One mandible in Naturalis (RMNH 7192).

Literature: Van Deinse 1948: 7

#### **Case 37: 11 November 1947**

Adult, male, TL 225 cm. Found on Terschelling, province of Noord Holland. Detailed description and drawings in the archives of Naturalis

#### **PERIOD 3: between 1950 and 2005**

#### **Case 38: circa 1950**

Adult, sex unknown, TL unknown. Found on the Dutch coast, no exact locality. Rostrum and mandibles in collection of the Natuurhistorisch Museum Rotterdam (NMR 9990-00204).

#### **Case 39: 29 May 1950**

Age, sex unknown, TL c. 200 cm. Found on Texel near den Hoorn, province of Noord Holland by W.A. Hamel. One photograph in the archives of Naturalis.

Literature: Van Deinse 1951: 68

**Case 40: 26 August 1951**

Adult, sex unknown, TL 230 cm. Found north of Bergen, province of Noord Holland by A. Waalewijn. Three photographs in the archives of Naturalis.

Literature: Van Deirse 1952: 21

**Case 41: 12 December 1951**

Adult, female, TL 217 cm. Found on the beach at Schoorl, province of Noord Holland. Complete skeleton in Naturalis (RMNH 11647). Six photographs in the archives of Naturalis.

Literature: Van Deirse 1952: 21; Broekema 1983: 71

**Case 42: 28 August 1953**

Age, sex and TL unknown. Skull without mandibles found on the beach near Ter Heide, province of Zuid Holland. Skull without mandibles was send to Naturalis (RMNH 11951).

Literature: Broekema 1983: 71

**Case 43: 29 July 1955**

Adult, sex unknown, TL 230 cm. Found on the beach at Domburg, province of Zeeland. Skull,

dorsal fin, pectoral fin and tail flukes were collected and send to the Zoölogical Museum Amsterdam.

Literature: Van Deirse 1956: 128

**Case 44: 30 May (1 June) 1966**

Adult, female, TL 223 cm. found on Ameland, province of Friesland, beach marker 6 (Fig. 14). The freshly dead dolphin was measured and photographed, but not collected. Buried on the beach. Two different photographs of the dolphin on the beach, newspaper articles and detailed notes in the archives of Naturalis.

Literature: Anonymus 1966

**Case 45: 12 April 1967**

Adult, female, TL 222 cm, weight 120 kg. Found in the Lauwerszeer, province of Friesland, between Oostmahorn and Anjum. Complete skeleton in the collection of the Zoölogical Museum Amsterdam (ZMA 10.503).

Literature: Anonymus 1967; Van Utrecht & Husson 1968: 11-13, plate 2



Figure 14 *Delphinus delphis*, adult female (case 44), stranded 30 May (1 June) 1966, Ameland. Complete specimen on the beach. [photo: J. Staats, archives Naturalis]

**Case 46: 31 October 1981**

Adult, male, TL 182 cm. Found on the beach at Petten, province of Noord Holland. Complete skeleton in Naturalis (RMNH 30255). Two photographs of the dead dolphin on the beach and several newspaper articles in the archives of Naturalis.

Literature: Broekema 1983: 71

**Case 47: 9 December 1981**

Adult, sex unknown, TL unknown. Found on Texel, province of Noord Holland, at beach marker 11. Skull in collection Zoölogical Museum Amsterdam (ZMA 22.954).

**Case 48: 28-29 March 1986**

Adult, male, TL 228 cm. Found at Springergeul, Terneuzen, Westerschelde, province of Zeeland. Five photographs in the archives of Naturalis. Complete skeleton in Naturalis (RMNH 35131).

Literature: Smeenk 1989: 175, 177

**Case 49: 22 March 1992**

Adult, female, TL 181 cm. Found dead on the beach at Harlingen, province of Friesland. Skull and hyoid collected (RMNH 38323), ovaria and pelvic bones in alcohol, also in collection Naturalis.

Literature: Smeenk 1995: 101

**Case 50: 8 April 2003**

Adult, pseudo-hermaphroditism, TL 154 cm. This dolphin has been observed, photographed and filmed in the Westerschelde from November 2001 till February 2003. Found dead at Emmadorp (Hulst) in decomposed state. Complete skeleton in the collection of Naturalis. Genital slit and reproductive organs preserved in formalin. All internal organs preserved in formalin. Based on GLGs in dentine and cement this dolphin was three years old.

Literature: Matthyssen 2003

## **CHRONOLOGICAL OVERVIEW OF STRANDINGS DESCRIBED IN THE LITERATURE AS *DELPHINUS DELPHIS* BUT WITHOUT CONVINCING EVIDENCE OF CORRECT IDENTIFICATION**

This chronological overview lists all published records identified as *Delphinus delphis*, but without convincing evidence of correct identification. Most likely, these cases do represent common dolphins, but the possibility that they are in fact stranded bottlenose dolphins *Tursiops truncatus*, harbour porpoises *Phocoena phocoena* or striped dolphins *Stenella coeruleoalba* can not be ruled out. Misidentifications are easily made - even by experienced biologists (Kompanje 2001: 208-209) - especially in case of a decomposed and juvenile cadaver. Many stranded odontocetes were reported to Van Deinse as 'dolphin' or 'bruinvis' (Dutch for harbour porpoise), without certainty of the species involved. Van Deinse has proved not always to be very precise in his conclusions and identifications.

**Case 1: Summer 1930**

Sex unknown, TL 180 cm. Found on the Westerstrand of Domburg, province of Zeeland by W. Baard. Was documented by a drawing send to Van Deinse. This drawing is untraceable, it is not in the archives of Naturalis. Only mentioned by Van Deinse, no evidence.

Literature: Van Deinse 1933: 15; Van Deinse 1946: 166-167, 168; Schulz 1970: 181

**Case 2: August 1934**

Age, sex unknown, TL 100 cm. Found south of Ter Heijde, province of Zuid Holland by P. Lamberts. No evidence.

Literature: Van Deinse 1946: 166-167, 169; Schulz 1970: 181

**Case 3: August 1936**

Age, sex and TL unknown. Found between Noordwijk aan Zee and Zandvoort, province of

Noord Holland. No evidence.

Literature: Van Deinse 1946: 166-167, 169; Schulz 1970: 181

**Case 4: December 1940**

Age, sex unknown, TL 200 cm. Caught in the 'Zeeuwsche Stromen', province of Zeeland. Skeleton was collected for the Natuurmuseum Brabant, Tilburg, but is untraceable now (pers. comm. Marie-Cécile van de Wiel, curator Natuurmuseum Brabant). No evidence.

Literature: Van Deinse 1946: 166-167, 169; Schulz 1970: 181; De Smet 1974: 31-32; De Smet 1981: 15

**Case 5: 20 October 1941**

Age, sex and TL c. 200 cm. Found at Wassenaarse Slag, province of Zuid Holland. No evidence.

Literature: Van Deinse 1946: 166-167, 170; Schulz 1970: 181

**Case 6: 20 October 1941**

Age, sex and TL unknown. Found at Scheveningen, province of Zuid Holland. Was found without skull. No evidence.

Literature: Van Deinse 1946: 166-167, 170; Schulz 1970: 181

**Case 7: 28 May 1944**

Adult, female, 180 cm. Stranded alive at the bank of the Westerschelde, south of Biezelinge, Zuid Beveland, province of Zeeland. B.J.J.R. Walrecht collected the skull. After the death of mr Walrecht in 1964, the skull was sent to Naturalis, but is untraceable now. No evidence.

Literature: Van Deinse 1945: 4; Van Deinse 1946: 166-167, 170; Schulz 1970: 181; De Smet 1974: 31

**Case 8: 29 August 1945**

Age unknown, male, c. 100 cm. Found at Noordwijk aan Zee, province of Zuid Holland, by M. Bosma. No evidence.

Literature: Van Deinse 1946b: 19

**Case 9: 29 August 1945**

Age unknown, male, c. 65 cm. Found at Noordwijk aan Zee, province of Zuid Holland by M. Bosma. No evidence.

Literature: Van Deinse 1946b: 19

**Case 10: 17 July 1946**

Age, sex and TL unknown. Found on Terschelling, province of Friesland. No evidence.

Literature: Viergever 1946: 6

**Case 11: 3 August 1946**

Age, sex and TL unknown. Found at Kistersinlaag, province of Zeeland, by J. Viergever. No evidence.

Literature: Viergever 1946: 6

**Case 12: 11 August 1946**

Age unknown, male, c 150 cm. Found on the Hondsbosche Zeewering, province of Noord Holland by M.A. Vicari. No evidence.

Literature: Van Deinse 1948: 7

**Case 13: 19 August 1946**

Age unknown, male, TL unknown. Found at beach marker 21 on Terschelling, province of Friesland by G.A. Brouwer. No evidence.

Literature: Van Deinse 1948: 7

**Case 14: 20 October 1946**

Age unknown, male, 169 cm. Found at Den Helder, Huisduinen, province of Noord Holland, by dr J. Verwey. No evidence.

Literature: Van Deinse 1948: 7

**Case 15: 24 July 1947**

Adult, male, TL 220 cm. Found at Den Helder, province of Noord Holland. No evidence.

Literature: Van Deinse 1948: 23

**Case 16: 28 September 1947**

Age, sex unknown, TL 120 cm. Found at Wassenaarse Slag, province of Zuid Holland. No evidence.

Literature: Van Deinse 1948: 23

**Case 17: 8 February 1948**

Adult, sex unknown, c 200 cm. Found on the Island Rozenburg, province of Zuid Holland by K.V. Bulck. No evidence.

Literature: Van Deinse 1949: 33

**Case 18: 16-17 May 1948**

Age, sex and TL unknown. Skeleton found on Terschelling, province of Friesland, by B. van Huissteden. No evidence.

Literature: Van Deinse 1949: 33

**Case 19: 6 September 1948**

Neonate (?), sex unknown, TL 98 cm. Found at beach marker 18, near Callantsoog, province of Noord Holland, by H. Leys and K. Swennen. No evidence.

Literature: Van Deinse 1949: 33

**Case 20: 25 September 1948**

Adult, female, TL 190 cm. Found at beach marker 4 at Huisduinen, province of Noord Holland, by K. Swennen. No evidence.

Literature: Van Deinse 1949: 33

**Case 21: 6 June 1949**

Age, sex unknown, TL 150 cm. Found on Texel, province of Noord Holland, beach marker 18 by A. Mulder. No evidence.

Literature: Van Deinse 1950: 26

**Case 22: 27 July 1949**

Age, sex unknown, TL c. 100 cm. Found on

the beach at Walcheren, near Oostkapelle, province of Zeeland. No evidence.

Literature: Van Deinse 1950: 26

**Case 23: 7 August 1949**

Age, sex unknown, TL c. 135 cm. Found between beach markers 94-95, between Scheveningen and Wassenaarse slag, province of Zuid Holland. H.L. Kortekaas collected the skull and some caudal vertebrae; these skeletal parts are untraceable now. No evidence.

Literature: Van Deinse 1950: 26

**Case 24: 28 August 1949**

Age, sex unknown, TL c. 150 cm. Found at Wijk aan Zee, province of Noord Holland by A. Mulder. No evidence.

Literature: Van Deinse 1950: 26

**Case 25: 14 August 1950**

Age, sex unknown, TL c. 115 cm. Found between Domburg and Westkapelle, province of Zeeland, by H.L. Kortekaas. No evidence.

Literature: Van Deinse 1951: 68

**Case 26: 23 September 1951**

Adult, female, TL 215 cm. Found at Schoorl, province of Noord Holland. Possibly the same dolphin as case 41 (Appendix 1).

**Case 27: 11 November 1951**

Adult, sex unknown, 220 cm. Found at Kamperduin, province of Noord Holland, by J.A. te Winkel. No evidence.

Literature: Van Deinse 1952: 21

**Case 28: 1952**

Age, sex, TL and further details unknown. Only mentioned as stranding by Van Deinse (1953). No evidence.

Literature: Van Deinse 1953: 21



**Case 29: 1952**

Age, sex, TL and further details unknown. Only mentioned as stranding by Van Deirse (1953). No evidence.

Literature: Van Deirse 1953: 21

**Case 30: 14 July 1952**

Adult, sex unknown, TL 200 cm. Found at Flauwers, Kerkwerve, province of Zeeland. Only report in archives Naturalis and mentioned by Van Deirse as stranding. No evidence.

Literature: Van Deirse 1953: 21

**Case 31: 17 (?) April 1954**

Age, sex and TL unknown. Found on Terschelling, province of Friesland. No evidence.

Literature: Van Deirse 1955: 104

**Case 32: 20 July 1954**

Age and sex unknown, TL c. 150 cm. Found near beach marker 58 at IJmuiden, province of Noord Holland. Decomposed. No evidence.

Literature: Van Deirse 1955: 104

**Case 33: 1 October 1955**

Juvenile, sex unknown, TL 120 cm. Found between beach markers 97-98, between Scheveningen and Wassenaarse Slag, province of Zuid Holland, by H.L. Kortekaas. No evidence.

Literature: Van Deirse 1956: 128

**Case 34: Summer 1959**

Age, sex and TL unknown. Found at Callantsoog, province of Noord Holland. No evidence.

Literature: Van Deirse 1960: 43

**Case 35: 6 September 1959**

Adult, male, TL 230 cm. Found in advanced state of decomposition at Callantsoog, province of Noord Holland, by W.H. Dudok van Heel. No evidence.

Literature: Van Deirse 1961: 20

**Case 36: 4 October 1959**

Adult, sex unknown, TL c. 200 cm. Found on the beach at Bloemendaal, province of Noord Holland, by R. van der Valk. 84 teeth in upper jaw, 72 teeth in mandibles. No documentation of correct identification.

Literature: Van Deirse 1960: 43

**CHRONOLOGICAL OVERVIEW OF WELL DOCUMENTED STRANDINGS OF STENELLA COERULEOALBA**

**Case 1: 15 April 1967**

Juvenile, male, TL 135 cm, weight 35.9 kg. This striped dolphin was stranded at the West bank of the mouth of the Eems estuary, near Oterdum, South-East of Delfzijl, province of Groningen. This stranding represents the first (recognised) specimen of this species found on a North Sea coast. The complete mounted skeleton is in the collection of Naturalis (RMNH 19621). Several photographs (Fig. 15), several drawings of the skull (Fig. 16) and an oil painting (made by mr R. van Assen) of the complete dolphin (Fig. 2) and detailed measurements are in the archives of Naturalis. In the upper jaw 45/49 teeth, in the mandibles 46/43 teeth. Schenkkan (1973) described the anatomy of the nasal tract of this specimen.

Literature: Van Utrecht & Husson 1968: 13-16, plate 2-4; Schulz 1970: 177; Schenkkan 1973; De Smet 1983; Broekema 1983: 71

**Case 2: 11 April 1987**

Adult, female, TL 180 cm. Found on Ameland, province of Groningen, at beach marker 3. The skull of the decomposed cadaver was collected and identified as *Delphinus delphis* (Smeenk

1992: 54). Later it was identified as *Stenella*. The skull is in the collection of Naturalis (RMNH 37947).

Literature: Smeenk 1992: 54; Smeenk 2003: 47

### Case 3: 15 February 1993

Adult, male, TL 221 cm. Found at Valkenisse, Koudekerke, province of Zeeland. Several photographs are in the archives of Naturalis. Complete skeleton in the Zeeuws Biologisch Museum, Oostkapelle, province of Zeeland.

Literature: Smeenk 2003: 50

### Case 4: 25 June 1996

Adult, female, TL 173 cm. Was found on Schiermonnikoog, province of Groningen. The skeleton is in the collection of Naturalis. On the tail flukes three barnacles *Xenobalanus globicipitis* were found.

Literature: Anonymous 1996; Smeenk 1996: 34; Smeenk 2003: 56-57

### Case 5: 9 December 1997

Adult, female, TL 187 cm, 61,3 kg. Stranded alive at Renesse, province of Zeeland. The dolphin had been rehabilitated at the Netherlands Cetacean Research and Rehabilitation Center at the Harderwijk Marine Mammal Park. The dolphin's estimated age at the time of stranding was between 3 and 4 years (Kastelein & Hagedoorn 2003). It stayed at the Center for five years. Died there on 2 April 2002. Kastelein & Hagedoorn (2003) published an audiogram of this dolphin. Several tissue samples are stored at the Netherlands Cetacean Research and Rehabilitation Center at the Harderwijk Marine Mammal Park (pers. comm. Niels van Elk, 2005). Skull in Naturalis.

Literature: Smeenk 2003: 59-60; Kastelein & Hagedoorn 2003

### Case 6: 5 November 1999

Adult, male, TL 180 cm. Stranded alive at Ter Heijde, province of Zuid Holland, died shortly thereafter in the Netherlands Cetacean



Figure 15 *Stenella coeruleoalba*, juvenile male (case 1), stranded 15 April 1967, Oterdum (RMNH 19621). Complete specimen in lateral and ventral view. [photo's: archives Naturalis]

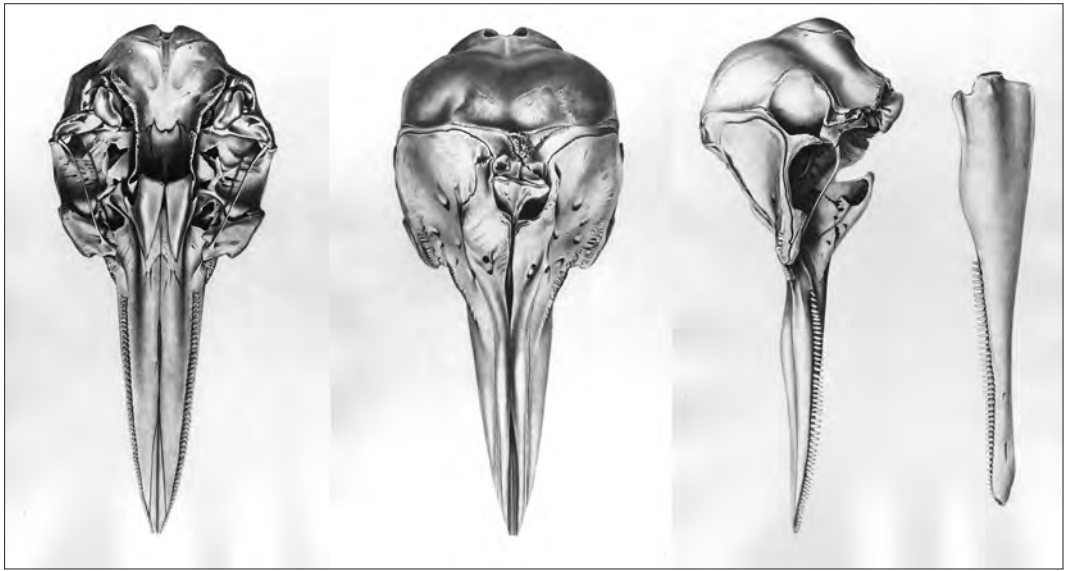


Figure 16 *Stenella coeruleoalba*, juvenile male (case 1), stranded 15 April 1967, Oterdum (RMNH 19621). Skull in dorsal, ventral and lateral view, lower mandible with dentition in lateral view. [illustrations: R. van Assen, archives Naturalis]

Research and Rehabilitation Center at the Harderwijk Marine Mammal Park. Skeleton should have been preserved there, but was untraceable in 2005.

#### **Case 7: 14 November 2004**

Adult, male, TL 168 cm. Stranded alive at the Brouwersdam, Middelplaat, province of Zeeland. Was transported to the Netherlands Cetacean Research and Rehabilitation Center at the Harderwijk Marine Mammal Park, where it subsequently died. Photographs in archives Naturalis and in archives of the Netherlands Cetacean Research and Rehabilitation Center at the Harderwijk Marine Mammal Park. Skull in the collection of Naturalis.

### **STRANDINGS ON THE COASTS OF OTHER NORTH SEA COUNTRIES**

#### **Belgium**

From the coast of Belgium, 8 strandings of *Delphinus delphis* (before 1812; 1829; 1842; 1866; 1937; 1942; 1984, 1986) and one stranding of *Stenella coeruleoalba* (1981) are known (De Smet 1974, 1981, 1983; Van Gompel 1991).

#### **Denmark**

From the coast of Denmark, three strandings and nine catches of *Delphinus delphis* (1865; 1937; 1937; 1939; 1939; 1945; 1947; 1949; 1949; 1949; 1952; 1978) and one of *Stenella coeruleoalba* (1998) are known till 1991 (Degerbøl 1935; Kinze 1995; unpublished record).

**United Kingdom** (only North Sea coasts, Channel coasts [south of and including Dover] excluded, Orkneys [North sea coasts] included) Till 1986, 30 strandings of *Delphinus delphis* are known (1914; 1914; 1921; 1926; 1932; 1935; 1936; 1937; 1937; 1937; 1937; 1937; 1937; 1938; 1943; 1944; 1947; 1952; 1952; 1956; 1962; 1962; 1969; 1970; 1971; 1971; 1972; 1973; 1977; 1985; 1998; 1999; 2000; 2000) and 12 of *Stenella coeruleoalba* 1991; 1991; 1991; 1992; 1996; 1996; 1996; 1999; 1999; 2003; 2003; 2003) (Harmer 1927; Fraser 1946; Fraser 1974; Sheldrick 1989; Sabin 2004).

#### **FINAL REMARK**

We should realise that a lot of bias ‘pollutes’ the Dutch cetacean stranding lists. Only few

dead dolphins found on the Dutch coasts stranded alive or were freshly dead. Many of the carcasses found may have been dead weeks before the stranding and could have been transported by sea streams. In the first part of the 20th century, carcasses of dead cetaceans were left on the beach for a longer period of time, than is the case today. Cetaceans may especially have been found in those early years during months and on parts of the Dutch coast, which have the largest number of visitors. Some regular reporters (like J.P. Strijbos and Jac. Viergever) had their 'favourite' beaches to visit. Neonate or juvenile common dolphins must have been remained unreported, as they

were incorrectly identified as harbour porpoises. Possibly striped dolphins are incorrectly determined as common dolphins. During the Second World War, a considerable number of dead dolphins could have been missed, making records in the period 1940-1945 incomplete.

## ACKNOWLEDGEMENTS

I thank dr Peter J.H. van Bree, Zoölogisch Museum Amsterdam; dr Chris Smeenk, Naturalis - National Museum of Natural History Leiden, mr Peter Priester, Gemeentelijke Musea Zierikzee, and mr Cees Camphuysen, NIOZ for their valuable help in compiling this article.

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Received 21 January 2005

Accepted 12 February 2005

Updated 1 December 2005

## APPENDIX I CHRONOLOGICAL LIST OF WELL DOCUMENTED STRANDINGS OF DELPHINUS DELPHIS IN THE NETHERLANDS

Case number and date of stranding	locality	evidence of correct determination
1 before 1870	Dutch coast	Lithographic plate in Schlegel (1870), stuffed skin in RMNH
2 before 1860	Zierikzee	Mandible
3 spring 1903	Dursterdam	Skull (ZMA 7315)
4 1912	Noordwijk aan Zee	Mounted skeleton (NMR 9990-00166)
5 October 1917	Noordwijk aan Zee	Mandible (NMR 9990-00202)
6 15 march 1925	Dutch coast	Incomplete skeleton (NMR 999001378)
7 25 November 1926	Texel	Skeleton (ZMA 2499), vagina on alcohol (NMR 9990-01459)
8 1 December 1926	Kamperland	Skeleton (RMNH 2590)
9 12 February 1928	Noordwijk aan Zee	Skeleton (RMNH 1653)
10 4 March 1928	Castricum	Skeleton (RMNH 1655), 14 teeth (NMR 9990-001454)
11 3 October 1931	Texel	Skeleton (RMNH 2012), tooth (NMR 9990-001456)
12 January 1932	Terschelling	Skull and pelvics (NMR 9990-00201)
13 25 June 1932	Katwijk aan Zee	Drawing (archives RMNH), pelvics (RMNH)
14 1 November 1933	Wijk aan Zee	Pectoral fin (RMNH 27315), jar oil (NMR), skull (ZMA)
15 18 August 1934	Zandvoort	Skull, pelvic bones (RMNH 2285)
16 20 August 1934	Ouddorp	Mandible, scapula, pelvics (NMR 9990-00203)
17 23 August 1934	Zandvoort	Photographs (archives RMNH)
18 14 October 1934	Zandvoort	Photograph of tooth (archives RMNH), skeleton (ZMA 8010)
19 17 November 1934	Zandvoort	Photographs (archives RMNH), skeleton RMNH
20 19-20 august 1935	Texel	Photographs (archives RMNH); incomplete skeleton (Ecomare B2 18)
21 1 December 1936	Wissekerke	Skeleton (RMNH 2590)

22 1938	Vlieland	Skull (ZMA 2701)
23 22 August 1940	Renesse	Pelvic bones (RMNH 5926), photographs (RMNH)
24 23 August 1940	Wissekerke	Skeleton (RMNH 4235), photographs (RMNH)
25 25 August 1940	Noordwelle	Pelvic bones (RMNH 5927), photographs (RMNH), jar oil (NMR)
26 15 September 1940	Noordwijk aan Zee	Skull (RMNH 4251)
27 3 November 1940	Renesse	Pelvic bones (RMNH 5925)
28 7 August 1941	Noordwijk aan Zee	Skeleton (RMNH 4517)
29 13 August 1941	Noordwijk aan Zee	Skeleton (RMNH 4514)
30 25 August 1941	cheveningen	Vertebrae (RMNH 4598)
31 3 September 1941	Noordwijk aan Zee	Skeleton (RMNH 4580)
32 12 September 1943	Noordwijk aan Zee	Skull (RMNH 5867)
33 July 1946	Serooskerke	Photograph (RMNH)
34 August 1946	Texel	Photograph (RMNH), tooth (NMR 9990-01455)
35 4 August 1946	Noordwijk aan Zee	Skull (RMNH 7192)
36 8 August 1946	Terschelling	Mandible (RMNH 7190)
37 11 November 1947	Terschelling	Detailed description and drawings (archives RMNH)
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38 circa 1950	Dutch coast	Rostrum and mandibles (NMR 9990-00204)
39 29 May 1950	Texel	Photograph (RMNH)
40 26 August 1951	Bergen	Photographs (RMNH)
41 12 December 1951	Schoorl	Skeleton (RMNH 11647), photographs (RMNH)
42 28 August 1953	Ter Heide	Skull (RMNH 11951)
43 29 July 1955	Domburg	Skull in ZMA
44 30 May 1966	Ameland	Photographs (RMNH)
45 12 April 1967	Lauwerszee	Skeleton (ZMA 10503)
46 31 October 1981	Petten	Skeleton (RMNH 30255), photographs (RMNH)
47 9 December 1981	Texel	Skull (ZMA 22954)
48 28 March 1986	Terneuzen	Skeleton (RMNH 35131), photographs (RMNH)
49 22 March 1992	Harlingen	Skull (RMNH 38323)
50 8 April 2003	Emmadorp	Skeleton, internal organs, photographs (RMNH)

## APPENDIX 2 CHRONOLOGICAL LIST OF WELL DOCUMENTED STRANDINGS OF *STENELLA COERULEOALBA* IN THE NETHERLANDS

Case number and date of stranding	locality	evidence of correct identification
1 15 April 1967	Oterdum	Skeleton (RMNH 19621), photographs, drawings, painting (RMNH)
2 11 April 1987	Ameland	Skull (RMNH 37947).
3 15 February 1993	Valkenisse	Photographs (RMNH), complete skeleton in ZBM
4 25 June 1996	Schiermonnikoog	Skeleton in RMNH
5 9 December 1997	Renesse	lived for five years at HMMP, tissue stored
6 5 November 1999	Ter Heijde	Photographs in archives RMNH, skull RMNH
7 14 November 2004	Brouwersdam	Skull in RMNH

**APPENDIX 3**  
**CHRONOLOGICAL LIST OF PUBLISHED CASES OF STRANDINGS OF**  
***DELPHINUS DELPHIS* IN THE NETHERLANDS WITHOUT EVIDENCE OF**  
**CORRECT IDENTIFICATION**

Case number and date of stranding	locality	source
1 summer 1930	Domburg	Only report by Van Deinse (1933, 1946)
2 August 1934	Ter Heijde	Only report by Van Deinse (1946)
3 August 1936	Noordwijk aan Zee	Only report by Van Deinse (1946)
4 December 1940	'Zeeuwse stromen'	Only report by Van Deinse (1946)
5 20 October 1941	Wassenaarse slag	Only report by Van Deinse (1946)
6 20 October 1941	Scheveningen	Only report by Van Deinse (1946)
7 28 May 1944	Westerschelde	Only report by Van Deinse (1945, 1946)
8 29 August 1945	Noordwijk aan Zee	Only report by Van Deinse (1946b)
9 29 August 1945	Noordwijk aan Zee	Only report by Van Deinse (1946b)
10 17 July 1946	Terschelling	Only report by Viergever (1946)
11 3 August 1946	Kistersinlaag	Only report by Viergever (1946)
12 11 August 1946	Hondsbosche Zeewering	Only report by Van Deinse (1948)
13 19 August 1946	Terschelling	Only report by Van Deinse (1948)
14 20 October 1946	Den Helder	Only report by Van Deinse (1948)
15 24 July 1947	Den Helder	Only report by Van Deinse (1948)
16 28 September 1947	Wassenaarse slag	Only report by Van Deinse (1948)
17 8 February 1948	Rozenburg	Only report by Van Deinse (1949)
18 16 May 1948	Terschelling	Only report by Van Deinse (1949)
19 6 September 1948	Callantsoog	Only report by Van Deinse (1949)
20 25 September 1948	Huisduinen	Only report by Van Deinse (1949)
21 6 June 1949	Texel	Only report by Van Deinse (1950)
22 27 July 1949	Walcheren	Only report by Van Deinse (1950)
23 7 August 1949	Scheveningen	Only report by Van Deinse (1950)
24 28 August 1949	Wijk aan Zee	Only report by Van Deinse (1950)
25 14 August 1950	Domburg	Only report by Van Deinse (1951)
26 23 September 1951	Schoorl	Only report by Van Deinse (1952)
27 11 November 1951	Kamperduin	Only report by Van Deinse (1952)
28 1952	?	Only report by Van Deinse (1953)
29 1952	?	Only report by Van Deinse (1953)
30 14 July 1952	Flauwers	Only report in archives Naturalis
31 17 April 1954	Terschelling	Only report by Van Deinse (1955)
32 20 July 1954	Ijmuiden	Only report by Van Deinse (1955)
33 1 October 1955	Scheveningen	Only report by Van Deinse (1956)
34 summer 1959	Callantsoog	Only report by Van Deinse (1960)
35 6 September 1959	Callantsoog	Only report by Van Deinse (1961)
36 4 October 1959	Bloemendaal	Only report by Van Deinse (1960)



## APPENDIX 4

List of acronyms used in this article. All institutions are located in the Netherlands.

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RMNH	Naturalis - Nationaal Natuurhistorisch Museum, Leiden (= National Museum of Natural History, formerly Rijksmuseum van Natuurlijke Historie)
ZMA	Zoölogisch Museum, Universiteit van Amsterdam
NMR	Natuurhistorisch Museum Rotterdam (formerly Natuurmuseum Rotterdam)
ECOMARE	Ecomare - Centrum voor Wadden en Noordzee, De Koog, Texel
HMMP	Harderwijk Marine Mammal Park
NCRRC	Netherlands Cetacean Research and Rehabilitation Center at the Harderwijk Marine Mammal Park
ZBM	Terra Maris (formerly Zeeuws Biologisch Museum), Oostkapelle
GMZ	Gemeentelijke Musea Zierikzee

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TL	total length
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